

Tekelec EAGLE[®] 5

Integrated Signaling System

Release 41.0

Database Administration Manual - Global Title Translation

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Patents

This product is covered by one or more of the following U.S. and foreign patents:

U.S. Patent Numbers:

5,732,213; 5,953,404; 6,115,746; 6,167,129; 6,324,183; 6,327,350; 6,456,845; 6,606,379; 6,639,981; 6,647,113; 6,662,017; 6,735,441; 6,745,041; 6,765,990; 6,795,546; 6,819,932; 6,836,477; 6,839,423; 6,885,872; 6,901,262; 6,914,973; 6,940,866; 6,944,184; 6,954,526; 6,954,794; 6,959,076; 6,965,592; 6,967,956; 6,968,048; 6,970,542; 6,987,781; 6,987,849; 6,990,089; 6,990,347; 6,993,038; 7,002,988; 7,020,707; 7,031,340; 7,035,239; 7,035,387; 7,043,000; 7,043,001; 7,043,002; 7,046,667; 7,050,456; 7,050,562; 7,054,422; 7,068,773; 7,072,678; 7,075,331; 7,079,524; 7,088,728; 7,092,505; 7,108,468; 7,110,780; 7,113,581; 7,113,781; 7,117,411; 7,123,710; 7,127,057; 7,133,420; 7,136,477; 7,139,388; 7,145,875; 7,146,181; 7,155,206; 7,155,243; 7,155,505; 7,155,512; 7,181,194; 7,190,702; 7,190,772; 7,190,959; 7,197,036; 7,206,394; 7,215,748; 7,219,264; 7,222,192; 7,227,927; 7,231,024; 7,242,695; 7,254,391; 7,260,086; 7,260,207; 7,283,969; 7,286,516; 7,286,647; 7,286,839; 7,295,579; 7,299,050; 7,301,910; 7,304,957; 7,318,091; 7,319,857; 7,327,670

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Ordering Information

Your Tekelec Sales Representative can provide you with information about how to order additional discs.

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Chapter 1

Introduction

Topics:

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- *Scope and Audience.....2*
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Chapter 1, Introduction, contains an overview of the features described in this manual, considerations when upgrading from the Global Title Translation (GTT) feature to the Enhanced Global Title Translation (EGTT) feature, general information about the database, and the organization of this manual.

Overview

The *Database Administration Manual – Global Title Translation* describes the procedures used to configure the EAGLE 5 ISS and its database to implement these features:

- Global Title Translation
- Enhanced Global Title Translation
- Variable-Length Global Title Translation
- Advanced GT Modification
- Intermediate GTT Load Sharing
- ANSI-ITU-China SCCP Conversion
- Flexible GTT Load Sharing
- Origin-Based SCCP Routing
- Hex Digit Support for GTT
- Weighted GTT Load Sharing
- Transaction-Based GTT Load Sharing.
- SCCP Loop Detection
- MO SMS B-Party Routing
- MO SMS Prepaid Intercept on B-Party
- GTT Loadsharing between ITU Network Types
- GTT Loadsharing with Alternate Routing Indicator
- Support for 16 GTT Lengths in VGTT
- Flexible Linkset Optional Based Routing (FLOBR)
- TCAP Opcode Based Routing (TOBR)

Note: Before enabling any of these features, make sure you have purchased the feature to be turned on. If you are not sure whether you have purchased the feature to be turned on, contact your Tekelec Sales Representative or Account Representative.

Note: Database administration privileges are password restricted. Only those persons with access to the command class “Database Administration” can execute the administrative functions. Refer to the *Commands Manual* for more information on command classes and commands allowed by those classes.

It is possible for two or more users to make changes to the same database element at any time during their database administration sessions. It is strongly recommended that only one user at a time make any changes to the database.

Scope and Audience

This manual is intended for database administration personnel or translations personnel responsible for configuring the EAGLE 5 ISS and its database to implement the Global Title Translation feature and the related features shown in the [Overview](#) on page 2 section.

Manual Organization

Throughout this document, the terms database and system software are used. Database refers to all data that can be administered by the user, including shelves, cards, links, routes, global title translation tables, and gateway screening tables. System software refers to data that cannot be administered by the user, including generic program loads (GPLs).

This document is organized into the following sections.

[Introduction](#) on page 1 contains an overview of the features described in this manual, considerations when upgrading from the Global Title Translation (GTT) feature to the Enhanced Global Title Translation (EGTT) feature, general information about the database, and the organization of this manual.

[Global Title Translation \(GTT\) Overview](#) on page 15 describes the Global Title Translation feature and the procedures common to both the Global Title Translation (GTT) and Enhanced Global Title Translation (EGTT) features. This chapter also describes other global title translation-based features as these features apply to both global title translation and enhanced global title translation.

[Global Title Translation \(GTT\) Configuration](#) on page 545 contains the procedures specific to configure the global title translation feature.

[Enhanced Global Title Translation \(EGTT\) Configuration](#) on page 659 contains the procedures specific to configure the enhanced global title translation feature.

[Controlled Feature Activation Procedures](#) on page 843 describes the procedures necessary to activate and deactivate features (features that require a feature access key to be activated) contained in this manual.

[MO SMS B-Party Routing Configuration Procedures](#) on page 995 describes the procedures necessary to configure the EAGLE 5 ISS to perform global title translation on the MAP B-Party digits instead of the GTT called party address of the message.

[MO SMS Prepaid Intercept on B-Party Configuration Procedures](#) on page 1039 describes the procedures necessary to configure the EAGLE 5 ISS to redirect MO SMS messages from a prepaid B-party subscriber to a specific SMSC.






CAUTION

CAUTION: If only the Global Title Translation feature is on, only the procedures in Chapters 2, 3, and Appendix A can be performed. If the Enhanced Global Title Translation feature is on, only the procedures in Chapters 2, 4, Appendixes A, B, and C can be performed.

Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 1: Admonishments

	DANGER: (This icon and text indicate the possibility of <i>personal injury</i> .)
	WARNING: (This icon and text indicate the possibility of <i>equipment damage</i> .)
	CAUTION: (This icon and text indicate the possibility of <i>service interruption</i> .)

Customer Care Center

The Tekelec Customer Care Center is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Tekelec Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

Tekelec TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

Tekelec Technical Assistance Centers are located around the globe in the following locations:

Tekelec - Global

Email (All Regions): support@tekelec.com

- **USA and Canada**

Phone:

1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

1-919-460-2150 (outside continental USA and Canada)

TAC Regional Support Office Hours:

8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Central and Latin America (CALA)**

Phone:

USA access code +1-800-658-5454, then 1-888-FOR-TKLC or 1-888-367-8552 (toll-free)

TAC Regional Support Office Hours (except Brazil):

10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

- **Argentina**

Phone:

0-800-555-5246 (toll-free)

- **Brazil**

Phone:

0-800-891-4341 (toll-free)

TAC Regional Support Office Hours:

8:30 a.m. through 6:30 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

- **Chile**

Phone:

1230-020-555-5468

- **Columbia**

Phone:

01-800-912-0537

- **Dominican Republic**

Phone:

1-888-367-8552

- **Mexico**

Phone:

001-888-367-8552

- **Peru**

Phone:

0800-53-087

- **Puerto Rico**

Phone:

1-888-367-8552 (1-888-FOR-TKLC)

- **Venezuela**

Phone:

0800-176-6497

- **Europe, Middle East, and Africa**

- **Signaling**

Phone:

+44 1784 467 804 (within UK)

TAC Regional Support Office Hours:

8:00 a.m. through 7:00 p.m. (GMT), Monday through Friday, excluding holidays

- **Software Solutions**

Phone:

+33 3 89 33 54 00

TAC Regional Support Office Hours:

8:00 a.m. through 7:00 p.m. (GMT), Monday through Friday, excluding holidays

- **Asia**

- **India**

Phone:

+91 124 436 8552 or +91 124 436 8553

TAC Regional Support Office Hours:

10:00 a.m. through 7:00 p.m. (GMT plus 5 1/2 hours), Monday through Saturday, excluding holidays

- **Singapore**

Phone:

+65 6796 2288

TAC Regional Support Office Hours:

9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

Emergency Response

In the event of a critical service situation, emergency response is offered by the Tekelec Customer Care Center 24 hours a day, 7 days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with an EAGLE 5 ISS that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical problems affect service and/or system operation resulting in:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions

- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity / traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with the Tekelec Customer Care Center.

Related Publications

For information about additional publications that are related to this document, refer to the *Related Publications* document. The *Related Publications* document is published as a part of the *Release Documentation* and is also published as a separate document on the Tekelec Customer Support Site.

Documentation Availability, Packaging, and Updates

Tekelec provides documentation with each system and in accordance with contractual agreements. For General Availability (GA) releases, Tekelec publishes a complete EAGLE 5 ISS documentation set. For Limited Availability (LA) releases, Tekelec may publish a documentation subset tailored to specific feature content or hardware requirements. Documentation Bulletins announce a new or updated release.

The Tekelec EAGLE 5 ISS documentation set is released on an optical disc. This format allows for easy searches through all parts of the documentation set.

The electronic file of each manual is also available from the Tekelec Customer Support site (support.tekelec.com). This site allows for 24-hour access to the most up-to-date documentation, including the latest versions of Feature Notices.

Printed documentation is available for GA releases on request only and with a lead time of six weeks. The printed documentation set includes pocket guides for commands and alarms. Pocket guides may also be ordered separately. Exceptions to printed documentation are:

- Hardware or Installation manuals are printed without the linked attachments found in the electronic version of the manuals.
- The Release Notice is available only on the Customer Support site.

Note: Customers may print a reasonable number of each manual for their own use.

Documentation is updated when significant changes are made that affect system operation. Updates resulting from Severity 1 and 2 PRs are made to existing manuals. Other changes are included in the documentation for the next scheduled release. Updates are made by re-issuing an electronic file to the customer support site. Customers with printed documentation should contact their Sales Representative for an addendum. Occasionally, changes are communicated first with a Documentation Bulletin to provide customers with an advanced notice of the issue until officially released in the documentation. Documentation Bulletins are posted on the Customer Support site and can be viewed per product and release.

Maintenance and Administration Subsystem

The Maintenance and Administration Subsystem (MAS) is the central management point for the EAGLE 5 ISS. The MAS provides user interface, maintenance communication, peripheral services, alarm processing, system disk interface, and measurements. Management and redundancy are provided by use of two separate subsystem processors.

The MAS resides on two separate sets of Maintenance and Administration Subsystem Processor (MASP) cards and a Maintenance Disk and Alarm card (collectively referred to as control cards). The control cards are located in slots 1113 through 1118 of the EAGLE 5 ISS control shelf. The control cards can be either E5-based cards or legacy cards.

Note: In normal operation, the E5-based control cards and the legacy control cards cannot be mixed in one EAGLE 5 ISS control shelf.

Legacy Control Cards

The legacy set of EAGLE 5 ISS control cards consists of the following cards:

- Two MASP card sets; each set contains the following two cards:
 - A General Purpose Service Module II (GPSM-II) card
 - A Terminal Disk Module (TDM) card
- One Maintenance Disk and Alarm (MDAL) card

General Purpose Service Module II (GPSM-II) Card

Each GPSM-II card contains the Communications Processor and the Applications Processor and provides connections to the IMT bus. The card controls the maintenance and database administration activity and performs both application and communication processing. GPSM-II cards are located in slots 1113 and 1115 of the control shelf.

Terminal Disk Module (TDM) Card

Each TDM card provides the Terminal Processor for the 16 I/O ports, and interfaces to the Maintenance Disk and Alarm (MDAL) card. The TDM card also distributes Composite Clocks and High Speed Master clocks throughout the EAGLE 5 ISS, and distributes Shelf ID to the EAGLE 5 ISS. Each TDM card contains one fixed disk drive that is used to store primary and backup system databases, measurements, and Generic Program Loads (GPLs). The TDM cards are located in slots 1114 and 1116 of the control shelf.

Maintenance Disk and Alarm (MDAL) Card

The MDAL card processes alarm requests and provides fan control. There is only one MDAL card in a control card set. Critical, major, and minor system alarms are provided for up to 6 individual frames. In addition to the 3 system alarms, the MDAL card provides the system audible alarm. The MDAL card provides control of fans on a per-frame basis and allows for each fan relay to be set individually. The MDAL card contains a removable cartridge drive; the removable cartridge is used for installing new software; backing up the system software, the application software, and the database; and for downloading data for off-line processing. The MDAL card is located in slots 1117 and 1118 of the control shelf.

E5-based Control Cards

The E5-based set of EAGLE 5 ISS control cards consists of the following cards:

- Two Maintenance and Administration Subsystem Processor cards (E5-MASP) cards. Each dual-slot E5-MASP card is made up of the following two modules:
 - Maintenance Communication Application Processor (E5-MCAP) card
 - Terminal Disk Module (E5-TDM) card
- One Maintenance Disk and Alarm card (E5-MDAL card)

Maintenance Communication Application Processor (E5-MCAP) Card

The E5-MCAP card contains the Communications Processor and Applications Processor and provides connections to the IMT bus. The card controls the maintenance and database administration activity and performs both application and communication processing. E5-MCAP cards are located in slots 1113 and 1115 of the control shelf.

Each E5-MCAP card contains two USB ports. One latched USB port is used with removable flash media ("thumb drives"), and one flush-mounted USB port is used with a plug-in "credit card" flash drive. The removable media drive is used to install and back up customer data. The credit card drive is used for upgrade and could be used for disaster recovery.

Terminal Disk Module (E5-TDM) Card

The E5-TDM card provides the Terminal Processor for the 16 I/O ports, and interfaces to the Maintenance Disk and Alarm (E5-MDAL) card and fixed disk storage. The E5-TDM card also distributes Composite Clocks and High Speed Master clocks throughout the EAGLE 5 ISS, and distributes Shelf ID to the EAGLE 5 ISS. Each E5-TDM card contains one fixed SATA drive that is used to store primary and backup system databases, measurements, and Generic Program Loads (GPLs). E5-TDM cards are located in slots 1114 and 1116 of the control shelf.

Maintenance Disk and Alarm (E5-MDAL) Card

The E5-MDAL card processes alarm requests and provides fan control. There is only one E5-MDAL card in a control card set. Critical, major, and minor system alarms are provided for up to 6 individual frames. In addition to the 3 system alarms, the E5-MDAL card provides the system audible alarm. The E5-MDAL card provides control of fans on a per-frame basis, and allows for each fan relay to be set individually. The E5-MDAL card does not contain a removable cartridge drive; drives for removable media are located on the E5-MCAP card. The E5-MDAL card is located in slots 1117 and 1118 of the control shelf.

EAGLE 5 ISS Database Partitions

The data that the EAGLE 5 ISS uses to perform its functions are stored in two separate areas: the fixed disk drives, and the removable cartridge. The following sections describe these areas and data that is stored on them. These areas and their partitions are shown in [Figure 1: EAGLE 5 ISS Database Partitions \(Legacy Control Cards\)](#) on page 9 and [Figure 2: EAGLE 5 ISS Database Partitions \(E5-Based Control Cards\)](#) on page 10.

Figure 1: EAGLE 5 ISS Database Partitions (Legacy Control Cards)

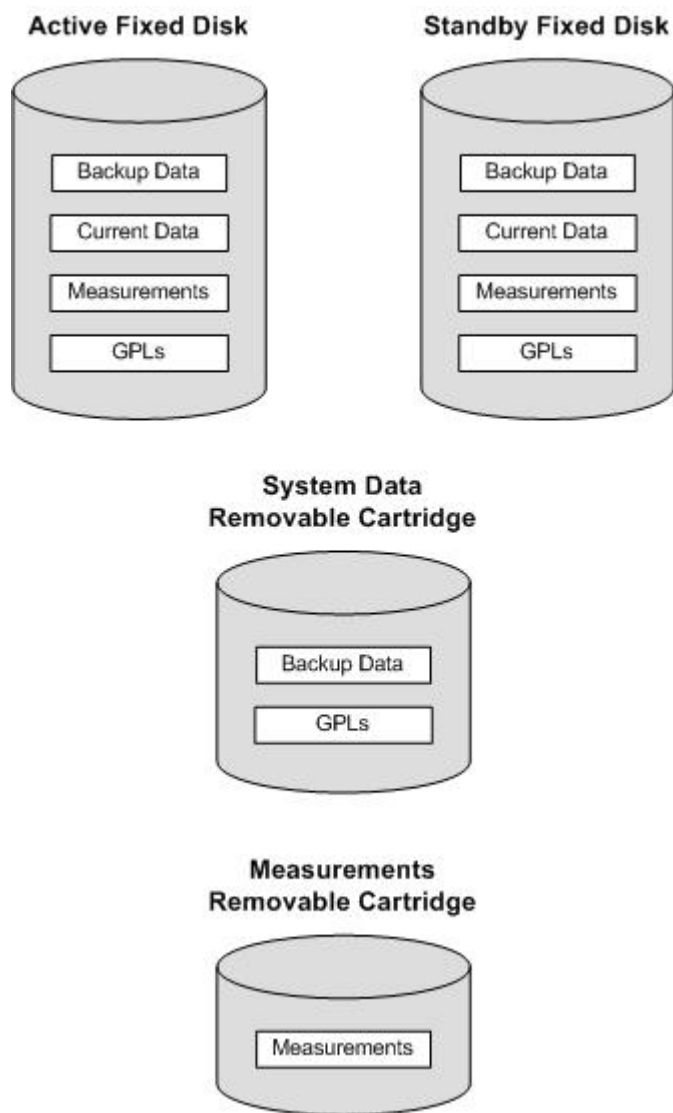
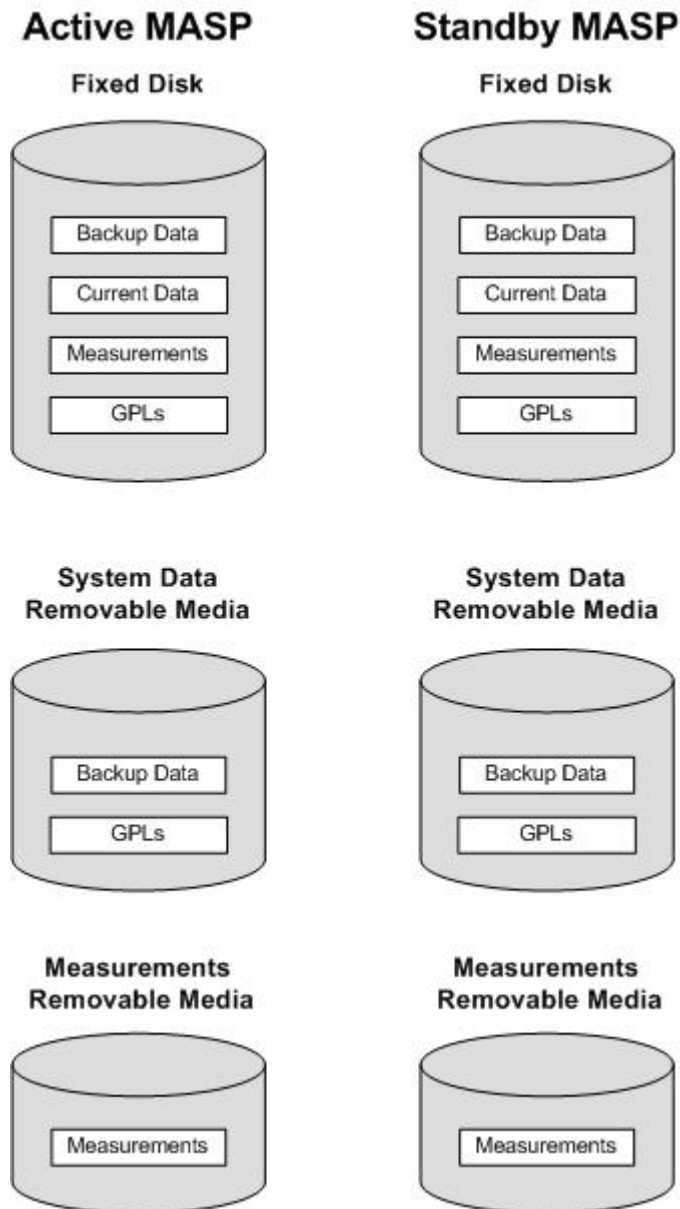


Figure 2: EAGLE 5 ISS Database Partitions (E5-Based Control Cards)



Fixed Disk Drive

There are two fixed disk drives on the EAGLE 5 ISS. The fixed disk drives contain the “master” set of data and programs for the EAGLE 5 ISS. The two fixed disk drives are located on the terminal disk modules (TDMs). Both disks have the same files. The data stored on the fixed disks is partially replicated on the various cards in the EAGLE 5 ISS. Changes made during database administration sessions are sent to the appropriate cards.

The data on the fixed disks can be viewed as four partitions.

- Current partition
- Backup partition

- Measurements partition
- Generic program loads (GPLs) partition

The data which can be administered by users is stored in two partitions on the fixed disk, a current database partition which has the tables which are changed by on-line administration, and a backup database partition which is a user-controlled copy of the current partition.

All of the on-line data administration commands effect the data in the current partition. The purpose of the backup partition is to provide the users with a means of rapidly restoring the database to a known good state if there has been a problem while changing the current partition.

A full set of GPLs is stored on the fixed disk, in the GPL partition. There is an approved GPL and a trial GPL for each type of GPL in this set and a utility GPL, which has only an approved version. Copies of these GPLs are downloaded to the EAGLE 5 ISS cards. The GPL provides each card with its functionality. For example, the `ss7ansi` GPL provides MTP functionality for link interface modules (LIMs).

Measurement tables are organized as a single partition on the fixed disk. These tables are used as holding areas for the measurement counts.

Removable Cartridge or Removable Media

The removable cartridge is used with the legacy MDAL control card in card location 1117. The removable media is used with the E5-MCAP card portion of the E5-MASP in card locations 1113 and 1115.

The removable cartridge or removable media is used for two purposes.

- To hold an off-line backup copy of the administered data and system GPLs
- To hold a copy of the measurement tables

Because of the size of the data stored on the fixed disk drives on the TDMs, a single removable cartridge or removable media cannot store all of the data in the database, GPL and measurements partitions.

To use a removable cartridge or removable media to hold the system data, it must be formatted for system data. To use a removable cartridge or removable media to hold measurements data, it must be formatted for measurements data. The EAGLE 5 ISS provides the user the ability to format a removable cartridge or removable media for either of these purposes. A removable cartridge or removable media can be formatted on the EAGLE 5 ISS by using the `format-disk` command. More information on the `format-disk` command can be found in the *Commands Manual*. More information on the removable cartridge or removable media drives can be found in the *Hardware Manual - EAGLE 5 ISS*.

Additional and preformatted removable cartridges or removable media are available from the [Customer Care Center](#) on page 4.

Locate Product Documentation on the Customer Support Site

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into the Tekelec Customer Support site and locate a document.

Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the Tekelec **new** Customer Support site at support.tekelec.com.

Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.

2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.

Chapter 2

Global Title Translation (GTT) Overview

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- [Enhanced Global Title Translation Feature.....20](#)
- [Variable-length Global Title Translation Feature.....24](#)
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Chapter 2, Global Title Translation (GTT) Overview, describes the Global Title Translation feature and the procedures common to both the Global Title Translation (GTT) and Enhanced Global Title Translation (EGTT) features. This chapter also describes the features shown in the [Overview](#) on page 2 section.

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- *Configuring the ANSI to ITU-N SCCP Conversion Option.....531*
- *Configuring an SCCP Test Message.....534*

Introduction

This chapter describes the Global Title Translation (GTT) and the Enhanced Global Title Translation (EGTT) features and these optional add-on features: the Variable-length Global Title Translation feature, the Global Title Modification feature, the Intermediate GTT Load Sharing feature, and the ANSI-ITU-China SCCP Conversion feature. This chapter also contains the procedures that are common to configuring either the Global Title Translation (GTT) or the Enhanced Global Title Translation (EGTT) features.

To find out about the differences between the Global Title Translation (GTT) feature and the Enhanced Global Title Translation (EGTT) feature, refer to the [Upgrading from Global Title Translation \(GTT\) to Enhanced Global Title Translation \(EGTT\)](#) on page 73 section.



CAUTION

CAUTION: The Enhanced Global Title Translation (EGTT) feature overrides the Global Title Translation (GTT) feature when the EGTT feature is enabled with the `chg-feat:egtt=on` command. The override causes an automatic update of the database and the rejection of GTT feature commands when entered. Be careful not to enable the EGTT feature accidentally when enabling the GTT feature. Once a feature is enabled, it cannot be disabled.

Note:

1. Before enabling the Global Title Translation (GTT) feature, make sure you have purchased this feature. If you are not sure whether you have purchased the GTT feature, contact your Tekelec Sales Representative or Account Representative.
2. The GTT feature has to be enabled but not configured for the Enhanced Global Title Translation (EGTT) feature. For more details on configuring the EGTT feature, refer to [Enhanced Global Title Translation \(EGTT\) Configuration](#) on page 659.

Global Title Translation Feature

The Global Title Translation (GTT) feature is designed for the signaling connection control part ((SCCP) of the SS7 protocol. The EAGLE 5 ISS uses this feature to determine to which service database to send the query message when a Message Signaling Unit (MSU) enters the EAGLE 5 ISS and more information is needed to route the MSU.

If an MSU enters the EAGLE 5 ISS and more information is needed to route the MSU, the SCCP of the SS7 protocol sends a query to a service database to obtain the information. The EAGLE 5 ISS uses the GTT feature for the SCCP to determine which service database to send the query messages to. These service databases are also used to verify calling card numbers and credit card numbers. The service databases are identified in the SS7 network by a point code and a subsystem number.

The GTT feature uses global title address (GTA) information to determine the destination of the MSU. The translation type (TT) indicates which global title translation table is used to determine the routing to a particular service database. Each global title translation table includes the point code (pc) of the node containing the service database, the subsystem number (ssn) identifying the service database on that node, and a routing indicator (ri). The routing indicator determines if

further global title translations are required. GTA and TT are contained in the called party address (CDPA) field of the MSU.

The global title translation feature changes the destination point code and the origination point code in the routing label. The global title information is not altered. The routing label is changed to indicate the new destination point code retrieved from the global title translation and the origination point code is set to the EAGLE 5 ISS's point code.

Depending on how the global title translation data is configured, the routing indicator, the subsystem number, or the translation type in the called party address may also be changed by the global title translation feature. *Figure 3: ANSI and ITU MSU Fields affected by the Global Title Translation Feature* on page 18 shows the message fields, the gray shaded areas in *Figure 3: ANSI and ITU MSU Fields affected by the Global Title Translation Feature* on page 18, affected by global title translation.

Figure 3: ANSI and ITU MSU Fields affected by the Global Title Translation Feature

ANSI MSU (ANSI Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA Length Address Indicator (x x xxxx x x) Subsystem Point Code (NCM NC NI)	CDPA Length Address Indicator (x RI xxxx xx) Subsystem Point Code (NCM NC NI) Address (Translation Type) (Digits)
		DPC NCM NC NI	OPC NCM NC NI		
		SLS xx			

ITU-I MSU (ITU International Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA Length Address Indicator (x x xxxx x x) Subsystem Point Code (ID AREA ZONE)	CDPA Length Address Indicator (x RI xxxx xx) Subsystem Point Code (ID AREA ZONE) Address (Translation Type) (Digits)
		DPC ID AREA ZONE	OPC ID AREA ZONE		
		SLS xx			

14-Bit ITU-N MSU (14-Bit ITU National Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA Length Address Indicator (x x xxxx x x) Subsystem Point Code (NPC)	CDPA Length Address Indicator (x RI xxxx xx) Subsystem Point Code (NPC) Address (Translation Type) (Digits)
		DPC NPC	OPC NPC		
		SLS xx			

24-Bit ITU-N MSU (24-Bit ITU National Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA Length Address Indicator (x x xxxx x x) Subsystem Point Code (SP SSA MSA)	CDPA Length Address Indicator (x RI xxxx xx) Subsystem Point Code (SP SSA MSA) Address (Translation Type) (Digits)
		DPC MSA SSA SP	OPC MSA SSA SP		
		SLS xx			

The GTT feature allows global title translation on global title addresses of fixed length. There are three optional add-on features that enhance the functionality of the global title translation feature:

- The Variable-length Global Title Translation feature (VGTT) feature allows global title translation on global title addresses of varying length. For more information on this feature, refer to [Variable-length Global Title Translation Feature](#) on page 24 .

- The Advanced GT Modification feature allows the EAGLE 5 ISS to modify other fields of an MSU in addition to the translation type when the MSU requires further global title translation and the translation type is to be replaced. For more information about this feature, refer to the section [Advanced GT Modification Feature](#) on page 26.
- The ANSI-ITU-China SCCP Conversion Feature converts SCCP messages between the ANSI and ITU formats. For more information about this feature, refer to the section [ANSI-ITU-China SCCP Conversion Feature](#) on page 27.

The EAGLE 5 ISS supports:

- 269,999, 400,000, or 1,000,000 global title translations. The system default is 269,999 global title translations. This quantity can be increased to 400,000 by enabling the feature access key for part number 893-0061-01, or to 1,000,000 by enabling the feature access key for part number 893-0061-10. For more information on enabling these feature access keys, refer to the [Enabling the XGTT Table Expansion Feature](#) on page 859 procedure.
- a maximum of 200,000 global title translations assigned to a translation type.
- 512 translation types, 256 translation types for ANSI MSUs, and 256 translation types for ITU MSUs.
- 1024, 2000, or 3000 remote point codes (mated applications), with up to 10 subsystems at each point code. The system default is 1024 mated applications. This quantity can be increased to 2000 by enabling the feature access key for part number 893-0077-01, or to 3000 by enabling the feature access key for part number 893-0077-10. For more information on enabling these feature access keys, refer to the [Enabling the XMAP Table Expansion Feature](#) on page 867 procedure.

The GTT feature requires one of the following cards:

- Database Services Module (DSM)
- EAGLE 5-Service Module 4GB (E5-SM4G)

For more information on these cards, refer to the [Adding a Service Module](#) on page 94 procedure or to the *Hardware Manual* - EAGLE 5 ISS .

Enhanced Global Title Translation Feature

The Enhanced Global Title Translation (EGTT) feature is designed for the signaling connection control part (SCCP) of the SS7 protocol. The EAGLE 5 ISS uses this feature to determine to which service database to send the query message when a Message Signaling Unit (MSU) enters the EAGLE 5 ISS and more information is needed to route the MSU.

If an MSU enters the EAGLE 5 ISS and more information is needed to route the MSU, the SCCP of the SS7 protocol sends a query to a service database to obtain the information. The EAGLE 5 ISS uses the EGTT feature for the SCCP to determine which service database to send the query messages to. The service databases are identified in the SS7 network by a point code and a subsystem number.

The EGTT feature uses global title information (GTI) to determine the destination of the MSU. The EAGLE 5 ISS supports ANSI GTI format 2 and ITU GTI formats 2 and 4. The GTI is contained in the called party address (CDPA) field of the MSU. For ITU GTI format 4, the GTI is made up of the Numbering Plan (NP), Nature of Address Indicator (NAI), and Translation Type (TT) selectors.

The EGTT feature allows global title translation on global title addresses of fixed length. There are three optional add-on features that enhance the functionality of the enhanced global title translation feature:

- The Variable-length Global Title Translation feature (VGTT), allows global title translation on global title addresses of varying length. For more information on this feature, refer to [Variable-length Global Title Translation Feature](#) on page 24 .
- The Advanced GT Modification feature allows the EAGLE 5 ISS to modify other fields of an MSU in addition to the translation type when the MSU requires further global title translation and the translation type is to be replaced. For more information about this feature, refer to the section [Advanced GT Modification Feature](#) on page 26.
- The ANSI-ITU-China SCCP Conversion Feature converts SCCP messages between the ANSI and ITU formats. For more information about this feature, refer to the section [ANSI-ITU-China SCCP Conversion Feature](#) on page 27.

The EGTT feature requires one of the following cards:

- Database Services Module (DSM)
- EAGLE 5-Service Module 4GB (E5-SM4G)

For more information on these cards, refer to the [Adding a Service Module](#) on page 94 procedure or to the *Hardware Manual - EAGLE 5 ISS* .

Inclusion of SSN in the CDPA

When the obtained translation data contains a subsystem, the translated SSN is placed in the SCCP CDPA before the message is sent to the next node. However, when no SSN is present in the CDPA, this insertion applies to ITU messages only. ANSI messages that do not contain an SSN in the CDPA will be rejected. [Figure 4: ANSI and ITU MSU Fields affected by the Enhanced Global Title Translation Feature](#) on page 21 shows the message fields, the gray shaded areas in [Figure 4: ANSI and ITU MSU Fields affected by the Enhanced Global Title Translation Feature](#) on page 21, affected by enhanced global title translation.

Figure 4: ANSI and ITU MSU Fields affected by the Enhanced Global Title Translation Feature

ANSI MSU (ANSI Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA	CDPA
		DPC NCM NC NI	OPC NCM NC NI	Length Address Indicator (x x xxxx x x) Subsystem Point Code (NCM NC NI)	Length Address Indicator (x RI xxxx xx) Subsystem Point Code (NCM NC NI) Address (Translation Type) (Digits)

ITU-I MSU (ITU International Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA	CDPA
		DPC ID AREA ZONE	OPC ID AREA ZONE	Length Address Indicator (x x xxxx x x) Subsystem Point Code (ID AREA ZONE)	Length Address Indicator (x RI xxxx xx) Subsystem Point Code (ID AREA ZONE) Address (TT NAI NP Digits)

14-Bit ITU-N MSU (14-Bit ITU National Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA	CDPA
		DPC NPC	OPC NPC	Length Address Indicator (x x xxxx x x) Subsystem Point Code (NPC)	Length Address Indicator (x RI xxxx xx) Subsystem Point Code (NPC) Address (TT NAI NP Digits)

24-Bit ITU-N MSU (24-Bit ITU National Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label		CGPA	CDPA
		DPC MSA SSA SP	OPC MSA SSA SP	Length Address Indicator (x x xxxx x x) Subsystem Point Code (SP SSA MSA)	Length Address Indicator (x RI xxxx xx) Subsystem Point Code (SP SSA MSA) Address (TT NAI NP Digits)

Inclusion of OPC in the CGPA

When an ITU unitdata (UDT) message does not have a point code (PC) present in the CGPA, and the CGPA route indicator (RI) is set to "Route on SSN", the EGTT feature will insert the OPC from the Message Transfer Part (MTP) routing label into the CGPA before sending the message to the next node. The insertion does not apply to ANSI GTT processing.

Deletion of GT

The EGTT feature allows a Global Title (GT) in the CDPA to be deleted. For example, when the result of a GTT performed by the EAGLE 5 ISS is set to "Route on SSN", there may be some end nodes that do not want to receive the GT information in the CDPA. The enhancement provides an option on a per translation basis (for both ANSI and ITU) to allow the GT to be deleted (ent-gta:gta=000:ri:ssn:ccgt=yes command). The option is not valid when the result of the GT is the EAGLE 5 ISS's point code and local SSN.

New Commands

The EGTT feature introduces three new command sets:

- GTTSET commands
 - ENT-GTTSET – Enter GTT Set
 - CHG-GTTSET – Change GTT Set
 - DLT-GTTSET – Delete GTT Set
 - RTRV-GTTSET – Retrieve GTT Set
- GTTSEL commands
 - ENT-GTTSEL – Enter GTT Selector
 - CHG-GTTSEL – Change GTT Selector
 - DLT-GTTSEL – Delete GTT Selector
 - RTRV-GTTSEL – Retrieve GTT Selector
- GTA commands
 - ENT-GTA – Enter Global Title Address
 - CHG-GTA – Change Global Title Address
 - DLT-GTA – Delete Global Title Address
 - RTRV-GTA – Retrieve Global Title Address

GTT Set Commands

The GTT Set commands are used to provision new sets of GTTs, linking GTT Selector (-GTTSEL) and Global Title Address (-GTA) commands. This set of commands provides greater flexibility when provisioning the type of messages that require Global Title Translation. There are no SEAS equivalents for these commands.

GTT Selector Commands

The GTT Selector commands are used to provision new selectors for global title translation. Together with the GTT Set commands, these commands replace the Translation Type (-TT) commands, providing greater flexibility when provisioning the type of messages that require Global Title Translation. There are no SEAS equivalents for these commands.

GTA Commands

GTA commands are used to provision GTTs using the new selectors for GTT.

The EAGLE 5 ISS supports

- a maximum of 950 GTT sets
- a maximum of 200,000 global title addresses per GTT set
- 269,999, 400,000, or 1,000,000 global title addresses. The system default is 269,999 global title addresses. This quantity can be increased to 400,000 by enabling the feature access key for part number 893-0061-01, or to 1,000,000 by enabling the feature access key for part number 893-0061-10. For more information on enabling these feature access keys, refer to the [Enabling the XGTT Table Expansion Feature](#) on page 859 procedure.
- a maximum of 100,000 GTT selectors
- 1024, 2000, or 3000 remote point codes (mated applications), with up to 10 subsystems at each point code. The system default is 1024 mated applications. This quantity can be increased to 2000 by enabling the feature access key for part number 893-0077-01, or to 3000 by enabling the feature access key for part number 893-0077-10. For more information on enabling these feature access keys, refer to the [Enabling the XMAP Table Expansion Feature](#) on page 867 procedure.

Variable-length Global Title Translation Feature

A translation type or GTT set can contain global title addresses of varying length. If the Variable-length Global Title Translation (VGTT) feature is turned on with the `chg-feat` command, a translation type or GTT set contain up to 10 different length global title addresses. If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on with the `enable-ctrl-feat` and `chg-ctrl-feat` commands, a translation type or GTT set can contain up to 16 different length global title addresses. The Support for 16 GTT Lengths in VGTT feature cannot be enabled and turned on unless the VGTT feature is turned on.

The length of the global title address is only limited by the range of values for the `gta` and `egta` parameters of either the `ent-gtt` and `chg-gtt` commands, if only the GTT feature is turned on, or the `ent-gta` and `chg-gta` commands, if the EGTT feature is turned on, and by the global title addresses already assigned to the translation type or GTT set. The length of a global title address is from 1 to 21 digits, or 1 to 21 hexadecimal digits if the Hex Digit Support for GTT feature is enabled. The `ndgt` parameter of the `ent-tt` or `ent-gttset` command has no effect on the length of the global title address and cannot be used. If the `ndgt` parameter is specified with the `ent-tt` or `ent-gttset` command and the VGTT feature is on or the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, the `ent-tt` or `ent-gttset` command is rejected with this message.

E4011 Cmd Rej: NDGT parameter is invalid for VGTT

As global title addresses of different lengths are assigned to a specific translation type, these lengths are displayed in the NDGT field of the `rtrv-tt` command output, as shown in the following example.

```
rlghncxa03w 09-05-25 09:57:31 GMT EAGLE5 41.0.0
TYPEA      TTN      NDGT
1          lidb      6, 12, 15
2          c800      10
3          d700      6

ALIAS      TYPEA
50         3
65         3

TYPEI      TTN      NDGT
```

105	itudb	8
ALIAS	TYPEI	
7	105	
TYPEN	TTN	NDGT
120	dbitu	7
ALIAS	TYPEN	
8	120	

If the global title addresses are assigned to a GTT set, these lengths are displayed in the NDGT field of the `rtrv-gttset` command output, as shown in the following example.

```
rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
lidx       ansi    3, 7, 10
t800       ansi    6
si000      itu     15
imsi       itu     15
abcd1234   itu     12
```

In the `rtrv-tt` output example, the ANSI translation type 1 contains three different length global title addresses; global title addresses containing 6 digits, 12 digits, and 15 digits.

In the `rtrv-gttset` example, the GTT set `lidx` contains three different length global title addresses; global title addresses containing 3 digits, 7 digits, and 10 digits.

When the VGTT feature is on, and the last global title address of a particular length is deleted for the specified translation type or GTT set, then that length is no longer supported. That length is not displayed in the NDGT field of the `rtrv-tt` or the `rtrv-gttset` output. For example, if the last 6-digit global title address is deleted from ANSI translation type 1 (from the previous example), the NDGT field of the `rtrv-tt` command shows only the numbers 12 and 15 in the NDGT field indicating that ANSI translation type 1 contains only 12- and 15-digit global title addresses. If the last 7-digit global title address is deleted from GTT set `lidx` (from the previous example), the NDGT field of the `rtrv-gttset` command shows only the numbers three and 10 in the NDGT field indicating that GTT set `lidx` contains only 3- and 10-digit global title addresses.

If the translation type has the maximum number of different length global title addresses assigned to it, and another global title address is specified for the translation type, the length of the global title address being added to the translation type must be the same as one of the lengths already assigned to the translation type. If the length of the global title address is not one of the lengths shown in the `rtrv-tt` output, the `ent-gtt` command is rejected with this message.

```
E4007 Cmd Rej: Exceeding max GTA Lengths supported per TT
```

If the GTT set has the maximum number of different length global title addresses assigned to it, and another global title address is specified for the GTT set, the length of the global title address being added to the GTT set must be the same as one of the lengths already assigned to the GTT set. If the length of the global title address is not one of the lengths shown in the `rtrv-gttset` output, the `ent-gta` command is rejected with this message.

```
E4008 Cmd Rej: Exceeding max GTA Lengths supported per GTTSET
```

If the translation type or GTT set has less than the maximum number of different length global title addresses assigned to it, and another global title address is specified for the translation type or GTT set, the length of the global title address can be from one to 21 digits and does not have to match the length of the other global title addresses assigned to the translation type or the GTT set.

If the VGTT feature is off, shown the entry `VGTT = off` in the `rtrv-feat` output, the global title address length must be equal to the number of digits specified by the given translation type or GTT set. The length of the global title address can be verified with the `rtrv-tt` or `rtrv-gttset` command.

The VGTT and the Support for 16 GTT Lengths in VGTT features require that a service module is installed in the EAGLE 5 ISS. [Table 20: Service Module and Feature Combinations](#) on page 94 shows the type of service modules that can be used depending on which features are on or enabled.

Advanced GT Modification Feature

This feature allows the EAGLE 5 ISS to modify other fields of an MSU in addition to the translation type when the MSU requires further global title translation and the translation type is to be replaced.

The numbering plan, nature of address indicator, and the prefix or suffix digits, but not both the prefix and suffix digits, in the called party address or calling party address portion of outbound MSUs can be changed with this feature to make the MSU more compatible with the network that the MSU is being sent to and to ensure that the MSU is routed correctly. These changes are made after the global title translation process, but before the MSU is routed to its destination.

This feature requires that service modules are installed in the EAGLE 5 ISS. [Table 20: Service Module and Feature Combinations](#) on page 94 shows the type of service modules that can be used depending on which features are on or enabled.

For the EAGLE 5 ISS to be able to make these changes to the called party address or calling party address portion of the MSU, the one of the Advanced GT Modification features shown in the following list must be enabled with the `enable-ctrl-feat` command.

- 893021801 - AMGTT - provides GT modification to both the called party address and the calling party address of SCCP messages. This part number can be specified only if no Advanced GT Modification feature is currently enabled.
- 893021802 - AMGTT CdPA Only - provides GT modification to the called party address of SCCP messages only. This feature and its part number is shown in the `rtrv-ctrl-feat` output only if the MGTT feature from previous releases was turned on when the Eagle 5 ISS was upgraded to the release containing the Advanced GT Modification feature. This part number cannot be specified with the `enable-ctrl-feat` command.
- 893021803 - AMGTT CgPA Upgrade - provides GT modification to the calling party address and called party address of SCCP messages. This part number can be specified only if the AMGTT CdPA Only feature (part number 893021802) is enabled.

Perform the [Activating the Advanced GT Modification Feature](#) on page 946 procedure to enable the Advanced GT Modification feature.

After the Advanced GT Modification feature has been enabled, the parameters shown in the following list must be specified with either the `ent-gtt` or `chg-gtt` commands (for the GTT feature), or either the `ent-gta` or `chg-gta` commands (for the EGTT feature) to modify the calling party address or called party address of the SCCP message.

- `nnp` – The new numbering plan
- `nnai` – The new nature of address indicator
- `npdd` – The number of digits to be deleted from the beginning of the Global Title Address digits (the prefix digits)

- *npds* – The digits that are being substituted for the prefix digits
- *nsdd* – The number of digits to be deleted from the end of the Global Title Address digits (the suffix digits)
- *nsds* – The digits that are being substituted for the suffix digits
- *cggmod* - The calling party GT modification indicator. This parameter specifies whether or not calling party global title modification is required. This parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled. The *cggmod* parameter can also be specified for when provisioning a linkset to indicate that calling party global title modification is required for SCCP traffic on the linkset.

To use these parameters, perform one of these procedures:

- [Adding a Global Title Translation](#) on page 561
- [Changing a Global Title Translation](#) on page 614
- [Adding Global Title Address Information](#) on page 727
- [Changing Global Title Address Information](#) on page 787 .

Intermediate GTT Load Sharing Feature

This feature allows GTT traffic between multiple nodes to be load shared when intermediate global title translation (routing indicator in the message is GT) is being performed. A mated relay node (MRN) group is provisioned in the database to identify the nodes that the traffic is load shared with, and the type of routing, either dominant, load sharing, or combined dominant/load sharing. This load sharing is performed after intermediate global title translation is performed on the message. For more information, refer to [Provisioning MRN Entries](#) on page 367 .

ANSI-ITU-China SCCP Conversion Feature

Since some ANSI and ITU SCCP parameters are incompatible in format or coding, this feature provides a method for the EAGLE 5 ISS to convert these SCCP parameters in UDT and UDTS messages. Other types of SCCP messages (for example, XUDTS) are not supported and are discarded.

A specialized SCCP/TCAP conversion, introduced in EAGLE 5 ISS release 22.2 and used only in the Korean market, does not support this feature. The ANSI-ITU-China SCCP Conversion feature cannot be used with the EAGLE 5 ISS release 22.2 SCCP and TCAP Conversion features.

The ANSI-ITU-China SCCP Conversion feature provides a generic capability to correctly format and decode/encode these SCCP messages:

- UDT and UDTS messages - includes SCMG messages, which are a specialized form of UDT messages
- MTP routed SCCP messages
- GT routed SCCP messages.

This feature also provides SCCP management (SCMG) across network type boundaries. For example, concerned signaling point codes for a mated application may be of a different network type than the primary point code of the mated application.

Advanced GT Modification

The Advanced GT Modification feature allows the deletion or substitution of digits from the beginning (prefix digit modification) or the end (suffix digit modification) of the global title address in either the called party address or the calling party address of the MSU. Prefix and suffix digit modifications are mutually exclusive on a GTT (if the Advanced GT Modification feature is enabled and the EGTT feature is not on) or GTA (if the EGTT feature is on and Advanced GT Modification feature is enabled) entry. If the Advanced GT Modification feature is enabled, each GTT or GTA entry can specify either prefix or suffix digit modification, but not both. Refer to [Advanced GT Modification Feature](#) on page 26 for more information on the Advanced GT Modification feature.

ANSI-ITU-China SCCP Conversion Feature Configuration

This feature requires that service modules are present in the EAGLE 5 ISS. [Table 20: Service Module and Feature Combinations](#) on page 94 shows the type of service modules that can be used depending on which features are on or enabled.

The ANSI-ITU-China SCCP Conversion feature must be enabled with the `enable-ctrl-feat` command, and turned on with the `chg-ctrl-feat` command. Perform [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 to enable and turn on the ANSI-ITU-China SCCP Conversion feature.

The concerned signaling point code (CSPC) group configuration has been changed to allow CSPC groups to contain ANSI (`pc/pca`), ITU-I or ITU-I spare (`pci`), and either 14-bit ITU-N or 14-bit ITU-N spare (`pcn`), or 24-bit ITU-N (`pcn24`) point codes. A CSPC group cannot contain both 14-bit and 24-bit ITU-N point codes. Concerned signaling point code groups are configured in [Adding a Concerned Signaling Point Code](#) on page 116.

The format of the point codes in the CSPC group assigned to a mated application, specified with the `grp` parameter, must be the same as the primary point code specified with the `ent-map` or `chg-map` commands only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types, and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. Mated applications are configured in these procedures:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262
- [Changing a Mated Application](#) on page 330.

The conversion of ANSI and ITU SCCP messages is performed according to the options in the STP Options table, and by the entries contained in the default GT conversion table.

There are five options in the STP Options table that control how this feature works.

`:cnvcgda` – The CGPA point code in ANSI SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.

:cnvcgdi – The CGPA point code in ITU-I SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.

:cnvcgdn – The CGPA point code in ITU-N SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.

:cnvcgdn24 – The CGPA point code in ITU-N24 SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.

:gtcnvdf1t – SCCP messages are routed using system defaults when an appropriate entry is not found in the Default GT Conversion Table.

The values for these options are either yes or no. If these options are set to yes, the actions defined by these options will be performed. These options are configured using the `chg-stpopts` command in .

The Default GT Conversion Table contains the following items:

- The direction that the conversion takes place: ANSI to ITU, ITU to ANSI, or both directions.
- The global title indicator types being converted.
 - ANSI GTI type 2 to ITU GTI type 2
 - ANSI GTI type 2 to ITU GTI type 4
- The ANSI translation type
- The ITU translation type
- The numbering plan
- The nature of address indicator

The Default GT Conversion Table also provides for the provisioning of prefix or suffix address digit modification (refer to the [Advanced GT Modification](#) on page 28 and the [Advanced GT Modification Feature](#) on page 26). The Default GT Conversion Table is configured using either the `ent-gtcnv` command to add new entries to the Default GT Conversion Table (refer to the [Adding a GT Conversion Table Entry](#) on page 467), or the `chg-gtcnv` command to change existing entries in the Default GT Conversion Table (refer to the [Changing a GT Conversion Table Entry](#) on page 483).

The called party/calling party address indicator bit that is used when performing ANSI to ITU-N SCCP conversion is configured with the `chg-sccpopts` command. Perform [Configuring the ANSI to ITU-N SCCP Conversion Option](#) on page 531 to select which called party/calling party address indicator bit will be used.

Without the ANSI-ITU-China SCCP Conversion feature enabled, the domain of a GTT set must be the same as the domain of the GTI value of the GTT selectors. For example, an ANSI GTT set can be assigned to only ANSI GTT selectors and an ITU GTT set can be assigned to only ITU GTT selectors. When the ANSI-ITU-China SCCP Conversion feature is enabled a GTT set to be assigned to GTT selectors in both domains. This accomplished by creating a GTT set with the network domain of CROSS, a cross-domain GTT set. This allows the provisioning a single cross-domain GTT set with one set of GTA data and assign the cross-domain GTT set to multiple GTT selectors, regardless of their domain. The result is a GTT set that contains GTA data that can be used to translate both ANSI and ITU messages. Provisioning of the cross-domain GTT set is performed with the `ent-gttset` command. The EAGLE 5 ISS can contain more than one cross-domain GTT set. If the domain of the GTT set is either ANSI or ITU, the domain of a GTT set must be the same as the domain of the GTT selector. The domain of the GTT set can be changed from an ANSI GTT set or ITU GTT set to a cross-domain GTT set using the `chg-gttset` command. The EGTT feature

must be turned on and the ANSI-ITU-China SCCP Conversion feature must be enabled to provision a cross-domain GTT set.

Alias Point Codes

For MTP routed SCCP messages, the message's DPC, OPC and CDPA must have alias point codes. The message's DPC, which is an alias, is converted to its true point code. The OPC is converted to its alias of the same network type as the DPC's true point code. If the message contains a CGPA PC, either it must have an alias of the same network type as the new DPC, or the Discard CGPA PC option for the original network type must be on.

For SCCP messages which receive GTT by the EAGLE 5 ISS, the message's DPC, OPC and CDPA are not converted and thus may not need alias point codes. The message's DPC is a result of GTT translation does not need conversion. The OPC is the EAGLE 5 ISS's OPC of the same network type as the DPC's network. If the message contains a CGPA PC, either it must have an alias of the same network type as the new DPC, or the Discard CGPA PC option for the original network type must be on.

For through-switched SCCP management messages, the message's DPC, OPC, and affected point code must have an alias of the destination network type.

For EAGLE 5 ISS originated SCCP messages, a mated application's PC(s) must have aliases of the same network types as the concerned point code group's PC(s).

Alias point codes are configured using the "Adding a Destination Point Code" procedure, for adding a new destination point code with an alias point code, or the "Changing a Destination Point Code" procedure, for changing the alias point code value for an existing destination point code. The "Adding a Destination Point Code" and "Changing a Destination Point Code" procedures are found in Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7*.

Support of SCCP XUDT Messages

The Support of SCCP XUDT Messages feature allows the global title translation feature and the following SCCP services to process XUDT messages.

- G-FLEX – supported for segmented or non-segmented XUDT messages. G-Flex Map Layer Routing only supports non-segmented XUDT messages.
- INP – Message Relay service supports segmented and non-segmented XUDT messages. Call related query service (INP-QS) only supports non-segmented XUDT messages.
- G-PORT MNP - XUDT response generation (that is, XUDT SRI_ack), when an XUDT SRI message is received, is supported if the SRI is not segmented. G-PORT treats any segmented message (SRI or non-SRI) as a non-SRI message and message relay is performed on the message. G-PORT Message Relay is supported for all non-SRI messages, including segmented and non-segmented, Class 0 and Class 1.
- A-PORT MNP - XUDT response generation, when an XUDT LocationRequest message is received, is supported if the XUDT message is not segmented. A-PORT treats any segmented message as a non-LocationRequest message and message relay is performed on the message. A-PORT Message Relay is supported for all non-LocationRequest messages, including segmented and non-segmented, Class 0 and Class 1.

- EAGLE 5 ISS's IS-41 to GSM Migration - XUDT response generation, when an XUDT/ GSM SRI, XUDT GSM SRI_for_SM, XUDT IS-41 LocationRequest, and XUDT IS-41 SMSRequest is received is supported if the message received by the EAGLE 5 ISS is not segmented. If the messages are segmented, the EAGLE 5 ISS performs message relay.
- GSM MAP Screening/Enhanced GSM MAP Screening - GSM MAP Screening (GMS) and Enhanced GSM MAP Screening (EGMS) supports screening on non-segmented XUDT messages, but does not support screening on segmented XUDT messages. If a segmented XUDT message is received on a linkset which has GMS or EGMS activated, GMS/EGMS is bypassed for that message, even if the parameters in the message match the provisioned screening rules. The SCCP processing of the message continues.
- Intermediate GTT Loadsharing - Class 0 and Class 1 SCCP XUDT messages are supported.
- Prepaid SMS Intercept (PPSMS) supports only non-segmented XUDT messages.
- MNP Check for MO SMS (MNPSMS) supports only non-segmented XUDT messages.

The following features do not support this feature:

- North American Local Number Portability (LNP)
- ANSI-ITU SCCP Conversion
- GSM Equipment Identity Register (EIR)

XUDT messages can be screened by Gateway Screening and all gateway screening stop actions can be applied to XUDT messages.

In-Sequence Delivery of Class 1 UDT Messages

The In-Sequence Delivery of Class 1 UDT Messages provides for the sequencing for both UDT and XUDT Class 1 MSUs. All UDT/XUDT Class 1 messages are routed out of the EAGLE 5 ISS in the same order that they were received by the EAGLE 5 ISS. To enable the sequencing of UDT/XUDT Class 1 messages, the `class1seq` parameter value of the `chg-sccpopts` command is set to `on`.

When the `class1seq` parameter value is `on`, load sharing of these messages is performed in the dominant mode, overriding the load sharing configuration in the MAP and MRN tables. Delivering the UDT/XUDT Class 1 ITU messages in sequence is guaranteed only if the `randsls` parameter value of the `chg-stpopts` command is either `off` or `class0`. If you wish to guarantee delivering these messages in sequence, the `class1seq=on` and the `randsls=all` parameters should not be used together in the EAGLE 5 ISS. The value of the `randsls` parameter is shown in the `rtrv-stpopts` command.

When the `class1seq` parameter value is `off`, load sharing of the UDT/XUDT Class 1 messages is performed using the load sharing configuration in the MAP and MRN tables. The delivery of the UDT/XUDT Class 1 messages in sequence is not guaranteed.



CAUTION

CAUTION:

If the `randsls` parameter value of the `chg-stpopts` command is `all`, thus activating the Random SLS feature for ITU Class 1 SCCP messages, the UDT/XUDT Class 1 messages are not delivered in sequence. To ensure that Class 1 UDT/XUDT messages are delivered in sequence, the `randsls` parameter value should be set to either `off` or `class0`.

**CAUTION:**

However, if the `randsls` parameter value of the `chg-stpopts` command is `all`, Class 1 UDT/XUDT messages are load shared across equal cost destinations by the Weighted SCP Load Balancing and Intermediate Global Title Load Sharing (IGTTLS) features. If the `randsls` parameter value of the `chg-stpopts` command is either `off` or `class0`, load sharing for all Class 1 SCCP messages is supported only in the dominant mode.

If the messages are not in the correct sequence when they arrive at the EAGLE 5 ISS, they are not delivered to the next node in the correct sequence. The EAGLE 5 ISS does not perform message re-sequencing for messages that are received out of sequence, because the EAGLE 5 ISS is a transit node. Message re-sequencing is the responsibility of the originating and destination nodes.

GT-routed Class 0 UDT/XUDT messages are not sequenced, therefore, the EAGLE 5 ISS does not guarantee routing these messages out of the EAGLE 5 ISS in the same order that they were received.

Flexible GTT Load Sharing

Flexible GTT Load Sharing provides more flexible GTT load sharing arrangements for GTT traffic. There are two parts to Flexible GTT Load Sharing; Flexible Intermediate GTT Load Sharing applied to GTT traffic requiring intermediate global title translation, and Flexible Final GTT Load Sharing applied to traffic requiring final global title translation. Flexible Intermediate GTT Load Sharing and Flexible Final GTT Load Sharing are discussed in the following sections.

Flexible Intermediate GTT Load Sharing

Flexible Intermediate GTT Load Sharing provides more flexible GTT load sharing arrangements for GTT traffic requiring intermediate global title translation (the routing indicator in the message is GT) than the load sharing arrangements provided by the Intermediate GTT Load Sharing feature. For the EAGLE 5 ISS to perform Flexible Intermediate GTT Load Sharing, the Flexible GTT Load Sharing and Intermediate GTT Load Sharing features must be enabled and turned on.

With the Intermediate GTT Load Sharing feature enabled and turned on and the Flexible GTT Load Sharing feature not enabled, the EAGLE 5 ISS load shares post-GTT destinations when intermediate global title translation is being performed through the use of the MRN table. The destination point codes in the MRN table can appear in the MRN table only once. The MRN table contains groups of point codes with a maximum of 32 point codes in each group. This arrangement allows only one set of relationships to be defined between a given point code and any other point codes in the MRN group. All global title addresses in the GTT table that translate to a point code in the given MRN group will have the same set of load sharing rules applied.

For example, the following point codes and relative cost values are provisioned in the MRN table.

PC	RC
005-005-005	10
006-001-001	10
006-001-002	10
006-001-003	10
006-001-004	10
006-001-005	10

006-001-006	10
006-001-007	10

When the point code in the intermediate global title translation is translated to 005-005-005, all traffic routed using the global title addresses in the global title translations containing this point code are load shared equally, no matter what the global title address is.

With the Intermediate GTT Load Sharing and the Flexible GTT Load Sharing features are enabled and turned on, allowing Flexible Intermediate GTT Load Sharing to be performed, the intermediate GTT load sharing arrangements are determined by:

- the MRN set assigned to the global title translation.
- the translated point code in the message assigned to the global title translation.
- the global title address in the message assigned to the global title translation.

When a global title address in a global title translation is translated to a point code, the MRN set assigned to the global title translation, and containing the translated point code, determines how load sharing is applied to the traffic for this global title translation.

An MRN set is a group of point codes in the MRN table defining the GTT load sharing rules that are applied to a global title translation. The method of load sharing is determined by the relative cost (RC) value assigned to each point code in the MRN set. There are three types of load sharing that can be performed: dominant, load shared, or combined dominant/load shared.

All the point codes in a dominant MRN set have different relative cost values. The translated point code in the message is the preferred point code that the message is routed on. The relative cost value assigned to the preferred point code does not have to be the lowest value in the MRN set. All traffic is routed to the preferred point code, if it is available. If the preferred point code becomes unavailable, the traffic is routed to highest priority alternate point code that is available. When the preferred point code becomes available again, the traffic is then routed back to the preferred point code.

All the point codes in a load shared MRN set have the same relative cost value. Traffic is shared equally between the point codes in this type of MRN set.

A combined dominant/load shared MRN set is a combination of the dominant and load sharing MRN sets. At least one of the point codes in this MRN set has the same relative cost value as the relative cost value as the primary point code. The rest of the point codes in this MRN set have a different relative cost value that is higher than the value of the primary point code, but the relative cost values assigned to these point codes are the same. The traffic is shared equally between the point codes with the lowest relative cost values. If these point codes become unavailable, the traffic is routed to the other point codes in the MRN set and shared equally between these point codes.

With the Flexible GTT Load Sharing feature enabled, the same point code can be assigned to multiple MRN sets. The relative cost value of this point code in each MRN set can be different.

For example, the point code 002-002-002 is assigned to three MRN sets. In MRN set 1, point code 002-002-002 is the primary point code in a dominant MRN set with a relative cost value of 10. In MRN set 2, point code 002-002-002 is one of eight point codes in a load shared MRN set, each with a relative cost value of 20. In MRN set 3, point code 002-002-002 is assigned the relative cost value of 30 in a combined dominant/load shared MRN set whose primary point code is 004-004-004 with a relative cost value of 20.

MRN set 1 is assigned to a global title translation containing the global title address of 9195551212. When the point code in this intermediate global title translation is translated to 002-002-002, point code 002-002-002 handles all the traffic for this intermediate global title translation until it becomes

unavailable. When point code 002-002-002 becomes unavailable, the next point code in this dominant MRN set handles the traffic until this point code becomes unavailable, or until point code 002-002-002 becomes available again.

MRN set 2 is assigned to a global title translation containing the global title address of 8285551212. When the point code in this intermediate global title translation is translated to 002-002-002, the traffic for this intermediate global title translation is shared equally among all members of the MRN set.

MRN set 3 is assigned to a global title translation containing the global title address of 3365551212. When the point code in this intermediate global title translation is translated to 002-002-002, the traffic for this intermediate global title translation is shared equally among all members of the MRN set with the relative cost value of 20. When all of these point codes become unavailable, the traffic is shared equally among all the point codes with the relative cost value of 30, including point code 002-002-002.

By allowing a point code to be assigned to multiple MRN sets, and by assigning an MRN set to a specific global title address, different load sharing arrangements can be made based on the global title address of the global title translation and the translated point code.

The same MRN set can be assigned to multiple global title translations.

For the EAGLE 5 ISS to perform Flexible Intermediate GTT Load Sharing, the Flexible GTT Load Sharing feature must be enabled with the `enable-ctrl-feat` command, and turned on with the `chg-ctrl-feat` command. Perform the [Activating the Flexible GTT Load Sharing Feature](#) on page 881 procedure to enable and turn on the Flexible GTT Load Sharing feature. The Intermediate GTT Load Sharing feature must also be enabled with the `enable-ctrl-feat` command, and turned on with the `chg-ctrl-feat` command. Perform the [Activating the IGTTLS feature](#) on page 845 procedure to enable and turn on the Intermediate GTT Load Sharing feature.

The Flexible GTT Load Sharing feature can also be turned off with the `chg-ctrl-feat` command. If the Flexible GTT Load Sharing feature is turned off, and the Intermediate GTT Load Sharing feature enabled and turned on, provisioning for Flexible Intermediate GTT Load Sharing can be performed with the `ent-mrn`, `dlt-mrn`, `chg-mrn`, and `rtrv-mrn` commands. The EAGLE 5 ISS will not perform Flexible Intermediate GTT Load Sharing on GTT traffic requiring intermediate global title translation. Perform the [Turning the Flexible GTT Load Sharing Feature Off](#) on page 890 procedure to turn off the Flexible GTT Load Sharing feature.

Flexible Final GTT Load Sharing

Flexible Final GTT Load Sharing provides more flexible GTT load sharing arrangements for GTT traffic requiring final global title translation (the routing indicator in the message is SSN) than the load sharing arrangements provided by the mated applications without the Flexible GTT Load Sharing feature enabled. For the EAGLE 5 ISS to perform Flexible Final GTT Load Sharing, the Flexible GTT Load Sharing feature must be enabled and turned on.

With the Flexible GTT Load Sharing feature not enabled, the EAGLE 5 ISS load shares post-GTT destination point codes and subsystems when final global title translation is being performed by using the mated application (MAP) table. The destination point codes and subsystems in the MAP table can appear in the MAP table only once. The MAP table contains groups of point codes with a maximum of 32 point codes and subsystems in each group. This arrangement allows only one set of relationships to be defined between a given point code and subsystem and any other point codes and subsystems in the MAP group. All global title addresses in the GTT table that translate to a point code and subsystem in the given MAP group will have the same set of load sharing rules applied.

For example, the following point codes, subsystems, and relative cost values are provisioned in the MAP table.

PCA	Mate	PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO
005-005-005			251	10	SHR	---	---	grp01		OFF
	006-001-001		254	10	SHR	---	---	grp01		OFF
	006-001-002		254	10	SHR	---	---	grp01		OFF
	006-001-003		254	10	SHR	---	---	grp01		OFF
	006-001-004		254	10	SHR	---	---	grp01		OFF
	006-001-005		254	10	SHR	---	---	grp01		OFF
	006-001-006		254	10	SHR	---	---	grp01		OFF
	006-001-007		254	10	SHR	---	---	grp01		OFF

When the point code and subsystem in the final global title translation is translated to 005-005-005, subsystem 251, all traffic routed using the global title addresses in the final global title translations containing this point code and subsystem are load shared equally, no matter what the global title address is.

With the Flexible GTT Load Sharing feature enabled and turned on, allowing Flexible Final GTT Load Sharing to be performed, the GTT load sharing arrangements are determined by:

- the MAP set assigned to the final global title translation.
- the translated point code and subsystem.
- the global title address in the message assigned to the global title translation.

When a global title address in a final global title translation is translated to a point code and subsystem, the MAP set assigned to the final global title translation containing the translated point code and subsystem, determines how load sharing is applied to the traffic for this final global title translation.

An MAP set is a group of point codes and subsystems in the MAP table defining the GTT load sharing rules that are applied to a final global title translation. The method of load sharing is determined by the relative cost (RC) value assigned to each point code and subsystem in the MAP set. There are four types of load sharing that can be performed: solitary, dominant, load shared, or combined dominant/load shared.

A solitary MAP set contains only one point code and subsystem and no mate point codes and subsystems. Traffic can be routed only to this point code and subsystem.

All the point codes in a dominant MAP set have different relative cost values. The translated point code and subsystem in the message is the preferred point code and subsystem that the message is routed on. The relative cost value assigned to the preferred point code and subsystem does not have to be the lowest value in the MAP set. All traffic is routed to the preferred point code and subsystem, if it is available. If the preferred point code and subsystem become unavailable, the traffic is routed to highest priority alternate point code and subsystem that is available. When the preferred point code and subsystem become available again, the traffic is then routed back to the preferred point code and subsystem.

All the point codes and subsystems in a load shared MAP set have the same relative cost value. Traffic is shared equally between the point codes and subsystems in this type of MAP set.

A combined dominant/load shared MAP set is a combination of the dominant and load sharing MAP sets. At least one of the point codes and subsystems in this MAP set has the same relative cost value as the relative cost value as the primary point code and subsystem. The rest of the point codes and subsystems in this MAP set have a different relative cost value that is higher than the value of the primary point code and subsystem, but the relative cost values assigned to these point

codes and subsystems are the same. The traffic is shared equally between the point codes and subsystems with the lowest relative cost values. If these point codes and subsystems become unavailable, the traffic is routed to the other point codes and subsystems in the MAP set and shared equally between these point codes and subsystems.

With the Flexible GTT Load Sharing feature enabled, the same point code and subsystem can be assigned to multiple MAP sets. The relative cost value of this point code and subsystem in each MAP set can be different.

For example, the point code 002-002-002, subsystem 254, is assigned to three MAP sets. In MAP set 1, point code 002-002-002, subsystem 254, is the primary point code and subsystem in a dominant MAP set with a relative cost value of 10. In MAP set 2, point code 002-002-002, subsystem 254, is one of eight point codes and subsystems in a load shared MAP set, each with a relative cost value of 20. In MAP set 3, point code 002-002-002, subsystem 254, is assigned the relative cost value of 30 in a combined dominant/load shared MAP set whose primary point code and subsystem is 004-004-004, subsystem 200, with a relative cost value of 20.

MAP set 1 is assigned to a global title translation containing the global title address of 9195551212. When the point code and subsystem in this final global title translation is translated to 002-002-002, subsystem 254, this point code and subsystem handles all the traffic for this final global title translation until it becomes unavailable. When point code 002-002-002, subsystem 254, becomes unavailable, the next point code and subsystem in this dominant MAP set handles the traffic until this point code and subsystem become unavailable, or until point code 002-002-002, subsystem 254, becomes available again.

MAP set 2 is assigned to a global title translation containing the global title address of 8285551212. When the point code and subsystem in this final global title translation is translated to 002-002-002, subsystem 254, the traffic for this final global title translation is shared equally among all members of the MAP set.

MAP set 3 is assigned to a global title translation containing the global title address of 3365551212. When the point code and subsystem in this final global title translation is translated to 002-002-002, subsystem 254, the traffic for this final global title translation is shared equally among all members of the MAP set with the relative cost value of 20. When all of these point codes and subsystems become unavailable, the traffic is shared equally among all the point codes and subsystems with the relative cost value of 30, including point code 002-002-002, subsystem 254.

By allowing a point code and subsystem to be assigned to multiple MAP sets, and by assigning an MAP set to a specific global title address, different load sharing arrangements can be made based on the global title address of the global title translation and the translated point code and subsystem.

The same MAP set can be assigned to multiple global title translations.

For the EAGLE 5 ISS to perform Flexible Final GTT Load Sharing, the Flexible GTT Load Sharing feature must be enabled with the `enable-ctrl-feat` command, and turned on with the `chg-ctrl-feat` command. Perform the [Activating the Flexible GTT Load Sharing Feature](#) on page 881 procedure to enable and turn on the Flexible GTT Load Sharing feature.

The Flexible GTT Load Sharing feature can also be turned off with the `chg-ctrl-feat` command. If the Flexible GTT Load Sharing feature is turned off, provisioning for Flexible Final GTT Load Sharing can be performed with the `ent-map`, `dlt-map`, `chg-map`, and `rtrv-map` commands. The EAGLE 5 ISS will not perform Flexible Final GTT Load Sharing on GTT traffic requiring final global title translation. Perform the [Turning the Flexible GTT Load Sharing Feature Off](#) on page 890 procedure to turn off the Flexible GTT Load Sharing feature.

Origin-Based SCCP Routing

The Origin-Based SCCP Routing feature provides additional options for routing SCCP messages. Without the Origin-Based SCCP Routing feature enabled, the routing of SCCP messages is based only on the called party address fields in the message. With the Origin-Based SCCP Routing feature enabled, SCCP messages can be routed based on the called party address (CdPA), the calling party address (CgPA), CgPA point code, CgPA subsystem number, or originating point code (OPC) fields in the message.

Origin-Based SCCP Routing provides three modes of global title translation:

- CdPA global title translation
- CgPA global title translation
- Advanced CdPA global title translation.

The CgPA global title translation and Advanced CdPA global title translation modes are performed only if the Origin-Based SCCP Routing feature is enabled and turned on. The CdPA global title translation mode is performed whether or not the Origin-Based SCCP Routing feature is enabled and turned on.

The CdPA global title translation mode is based on the CdPA global title address, translation type, and global title indicator in the incoming message. If the global title indicator value in the message is 4, the CdPA numbering plan and nature of address indicator is also used in the CdPA global title translation mode.

The CgPA global title translation mode is based on the following parameters in the incoming message:

- CgPA global title address, translation type, global title indicator, and subsystem number in the incoming message. If the global title indicator value in the message is 4, the CgPA numbering plan and nature of address indicator is also used in the CgPA global title translation mode.
- CgPA point code, translation type, global title indicator, and subsystem number in the incoming message. If the global title indicator value in the message is 4, the CgPA numbering plan and nature of address indicator is also used in the CgPA global title translation mode.

The Advanced CdPA global title translation mode is based on these parameters in the incoming message:

- The CdPA global title address
- The CgPA global title address, or CgPA point code, or Selector ID. If the Selector ID is used in the Advanced CdPA global title translation mode, the CgPA translation type and CgPA global title indicator are also used in the Advanced CdPA global title translation mode if the CgPA global title indicator value is not 0. If the CgPA GTI value is 0, then the CGPC GTT set name shown in either the DFLTCGPCASN field (for an ANSI message) of the `rtrv-sccpopts` output, or the DFLTCGPCISN field (for an ITU message) of the `rtrv-sccpopts` output is used to determine the global title translation performed on the message.
- The CgPA subsystem number
- The OPC from the MTP Routing Label
- The CdPA translation type
- The CdPA global title indicator

- If the global title indicator value in the message is 4, the CdPA numbering plan and nature of address indicator is also used in the Advanced CdPA global title translation mode and in the CgPA global title translation mode.

GTT Mode Hierarchy

The GTT mode hierarchy determines the preference of GTT modes used by the global title translation process on an incoming message. The global title translation process starts with the first GTT mode of the GTT hierarchy. If the translation was found there, the global title translation process is stopped. If the translation was not found in this first GTT mode, the global title translation process tries to find a translation in the next GTT mode of the hierarchy. The GTT mode hierarchies are shown in the following list.

1. CdPA only
2. Advanced CdPA, CdPA
3. CgPA, Advanced CdPA, CdPA
4. Advanced CdPA, CgPA, CdPA
5. Advanced CdPA, CdPA, CgPA
6. CgPA, CdPA
7. CdPA, CgPA
8. CgPA only.

For example, GTT hierarchy 3 (CgPA, Advanced CdPA, CdPA) is selected for the global title translation process. When an incoming message is processed, the CgPA global title translation information is searched first, starting with a search in GTT selector table for CgPA selectors. If no match is found, the advanced CdPA global title translation information is searched next, including a search in GTT selector for CdPA selectors. If no match is found, the CdPA global title translation information is searched. If a match is still not found, the message is handled as a failed GTT lookup and the appropriate action is taken. When a match is found, the global title translation process is stopped and the message is processed according to the global title translation routing data.

The GTT mode hierarchy can be configured on a system wide basis and on a per linkset basis. The system wide option is configured using the `df1tgttmode` parameter of the `chg-sccpopts` command and is used to define the default GTT mode hierarchy value for all linksets by default. Each linkset can be configured to use one of the GTT mode hierarchies using the `gttmode` parameter of either the `ent-ls` or `chg-ls` command. The linkset option overrides the system default GTT mode value for only that linkset. If the `gttmode` parameter is not specified for a specific linkset, the system default GTT mode hierarchy is assigned to the linkset.

CdPA GTT Mode

The GTT functionality in previous releases of the EAGLE 5 ISS is now the CdPA GTT mode. The CdPA translation type and global title indicator in the incoming messages are used to select the GTT table (GTT set) used to process the message. If the global title indicator value in the message is 4, the CdPA numbering plan and nature of address indicator are also used to select the GTT table used to process the message. Once the GTT table is selected, the CdPA global title address determines how the message is translated.

Advanced CdPA GTT Mode

The Advanced CdPA GTT mode provides greater flexibility to route SCCP messages. The following types of translations can be performed.

- CdPA GTA translation, along with either one or both of the following types of translations:
- CgPA GTA or CgPA point code translation identified by a pre-provisioned GTT set in the CdPA translation or by a search in GTT selector table using the SELID value from the CdPA translation along with other CgPA selectors, with or without a subsequent CgPA subsystem number translation. The CgPA GTA, CgPA point code, and SELID translations are mutually exclusive.
- OPC translation, with or without a subsequent CgPA subsystem number translation.

The translations are executed in a predefined order as displayed in the previous list and cannot be changed.

You can choose which of the following additional translations can be applied on top of the mandatory CdPA GTA translation:

- CgPA GTA translation only
- CgPA GTA and CgPA subsystem number translation
- CgPA point code translation only
- CgPA point code and CgPA subsystem number translation
- Translation based on the SELID
- CgPA GTA and OPC translation
- CgPA GTA, OPC, and CgPA subsystem number translation
- CgPA point code and OPC translation
- CgPA point code, OPC, and CgPA subsystem number translation
- SELID and OPC translation
- SELID, OPC, and CgPA subsystem number translation
- OPC translation only.
- OPC and CgPA subsystem number translation

Note: The CdPA global title indicator is always validated before GTT starts processing SCCP messages. The CgPA global title indicator is not validated, which means, that when a subsequent lookup in the Advanced CdPA GTT mode is based on the SELID value, the attempt to find a CgPA GTT set in GTT selector table may fail because of an invalid or unsupported CgPA global title indicator in the incoming message.

CgPA GTT Mode

The CgPA GTT mode offers two options for translating and routing SCCP messages, the CgPA GTA translation with or without a subsequent CgPA subsystem number translation, or the CgPA point code translation with or without a subsequent CgPA subsystem number translation search. The CgPA GTA and CgPA point code are mutually exclusive.

When CgPA global title translation performs a lookup in the GTT selector table, two new selectors, the CgPA subsystem number and SELID, are always members of the selectors. If CgPA global title translation performs a lookup in the GTT selector table as a part of Advanced CdPA global title translation because the SELID is specified in the CdPA entry, the only GTT selector match that will be found is the entry with this particular SELID. If CgPA global title translation performs a lookup in the GTT selector table in the CgPA GTT mode, the only GTT selector match that will be found is the entry with the SELID value equal to NONE.

The CgPA subsystem number for GTT selector lookups is used differently. If the MSU contains a CgPA subsystem number, then the first and the best match that will be found is the entry with this particular CgPA subsystem number. If the MSU does not have a CgPA subsystem number

or if the match for a specific CgPA subsystem number was not found, CgPA global title translation attempts to find a GTT selector entry with the CgPA subsystem number equal to ANY, along with the rest of the selectors.

If the CgPA GTI value is 0, then the CGPC GTT set name shown in either the DFLTCGPCASN field (for an ANSI message) of the `rtrv-sccpopts` output, or the DFLTCGPCISN field (for an ITU message) of the `rtrv-sccpopts` output is used to determine the global title translation performed on the message. The DFLTCGPCASN and DFLTCGPCISN fields are provisioned using the `chg-sccpopts` command in the [Changing the Default GTT Mode Options](#) on page 835 procedure.

Note: The CdPA global title indicator is always validated before global title translation starts processing SCCP messages, even when the GTT mode is CgPA and the CdPA data is not used by global title translation. The CgPA global title indicator is not validated, which means, that the attempt to find a CgPA GTT set in the GTT selector table may fail because of an invalid or unsupported CgPA global title indicator in the incoming MSU.

Interaction with the Advanced GT Modification Feature

Any kind of SCCP translation (CdPA GTA, CgPA GTA, CgPA PC, OPC, SSN) can be provisioned with Advanced GT Modification data. This Advanced GT Modification data will be applied to a CdPA GTA if it exists, or to a CgPA GTA if it exists. If the CdPA or CgPA part of the message under translation does not contain a GTA, the Advanced GT Modification data from this translation will be ignored. The CgPA GTA is modified only if it is provisioned in a CdPA GTA set. If the CgPA GTA is provisioned in a CgPA GTA set, the CgPA GTA is not modified. The only exception to this is discussed in the [Interaction with the ANSI-ITU-China SCCP Conversion Feature](#) on page 40 section.

Interaction with the ANSI-ITU-China SCCP Conversion Feature

When the ANSI-ITU-China SCCP Conversion feature attempts to perform a global title translation lookup on the CgPA in the message, the GTT hierarchy of the incoming linkset is ignored. The EAGLE 5 ISS performs a CdPA only global title translation using the CgPA data. The selectors from the CgPA part are used to find a CdPA GTA set in the GTT selector table, and the CgPA global title address is used to find a translation in the CdPA GTA set.

Interaction with MPS-based features

The messages from the MPS-based services are processed by global title translation using the GTT mode assigned to the linkset on which these messages arrived at the EAGLE 5 ISS.

GTT for EAGLE 5 ISS-generated MSUs

UDTS messages and responses generated by the EAGLE 5 ISS and the required global title translation are processed in the CdPA GTT mode only.

Wildcard Provisioning for the OPC and CgPA Point Code

Origin-Based SCCP Routing allows for the use of wildcards (asterisks) as values for an ANSI OPC or ANSI CgPA point code.

For example, the point code value 12-* indicates that any ANSI point code containing with the network indicator value 12, regardless of the network cluster and network cluster member values in the ANSI point code, is considered a match.

The point code value 12-34-* indicates that any ANSI point code containing the network indicator value 12 and the network cluster value 34, regardless of the network cluster member value in the ANSI point code, is considered a match.

When searches for ANSI point codes are performed, the search order tries to find the best possible match. For example, the incoming message contains the ANSI point code 12-24-25. The search mechanism first searches for the point code value 12-34-25 in the global title translation tables. If that search fails, the search mechanism searches for the point code value 12-34-* in the global title translation tables. If that search fails, the search mechanism searches for the point code value 12-*-* in the global title translation tables.

An ANSI OPC or ANSI CgPA point code value containing all asterisks is not allowed. Asterisks cannot be used for ITU point codes.

The Cluster Routing and Management Diversity or Network Routing features do not have to be turned on to use asterisks for the ANSI OPC or ANSI CgPA point code value.

Provisioning the Origin-Based SCCP Routing Feature

To provision the Origin-Based SCCP Routing feature, perform these steps.

1. Turn the GTT and EGTT features on using the `chg-feat` command. Add the required DSMs or E5-SM4G cards to the database using the `ent-card` command. Perform [Adding a Service Module](#) on page 94.
2. Enable the Origin-Based SCCP Routing feature using the `enable-ctrl-feat` command. Perform [Activating the Origin-Based SCCP Routing Feature](#) on page 892.

Note: The Origin-Based SCCP Routing feature can be turned on in this step using the `chg-ctrl-feat` command. If the Origin-Based SCCP Routing feature is not turned on in this step, provisioning for the Origin-Based SCCP Routing feature can still be performed. When the provisioning is completed, the Origin-Based SCCP Routing feature can be turned on. The Origin-Based SCCP Routing feature will not work until the feature is turned on either in this step or step 9.

3. Change the system wide default GTT mode, if desired, using the `chg-sccpopts` command. Perform [Changing the Default GTT Mode Options](#) on page 835.
4. Provision the required destination point codes, linksets, signaling links, and routes, by performing these procedures in the *Database Administration Manual - SS7*.
 - Destination Point Codes – Adding a Destination Point Code procedure in the *Database Administration Manual - SS7*.
 - Linksets – Perform one of these procedures depending on the type of linkset.
 - SS7 Linkset – Adding an SS7 Linkset procedure in the *Database Administration Manual - SS7*
 - IP Gateway Linkset – Configuring an IPGWx Linkset procedure in the *Database Administration Manual - IP7 Secure Gateway*

Note: If you wish to use a GTT mode hierarchy for the linkset other than the system default GTT mode hierarchy, specify the `gttmode` parameter when provisioning the linkset.

 - Signaling Links – Perform one of these procedures depending on the type of signaling link.

- A low-speed SS7 signaling link – Adding an SS7 Signaling Link procedure in the *Database Administration Manual - SS7*
 - An E1 signaling link – Adding an E1 Signaling Link procedure in the *Database Administration Manual - SS7*
 - A T1 signaling link – Adding a T1 Signaling Link procedure in the *Database Administration Manual - SS7*
 - An ATM signaling link – Adding an ATM High-Speed Signaling Link procedure in the *Database Administration Manual - SS7*
 - An IP signaling link – Adding an IP Signaling Link procedure in the *Database Administration Manual - IP7 Secure Gateway*
 - Routes – Perform one of these procedures in the *Database Administration Manual - SS7* depending on the type of route.
 - A route containing an SS7 DPC – Adding a Route Containing an SS7 DPC procedure
 - A route containing a cluster point code – Adding a Route Containing a Cluster Point Code procedure
 - A route containing an IPGWx Linkset – Adding a Route Containing an IPGWx Linkset procedure
5. Provision the required GTT sets using the `ent-gttset` command. Perform [Adding a GTT Set](#) on page 660 .
 6. Provision the required GTT translations using the `ent-gta` command. Perform [Adding Global Title Address Information](#) on page 727 .

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `ent-gta` command are too long to fit on the `ent-gta` command line, perform the `chg-gta` command to complete adding the GTA entry. If the parameters and values specified with the `chg-gta` command are too long to fit on the `chg-gta` command line, perform the `chg-gta` command as many times as necessary to complete the GTA entry.
 7. Provision the required GTT selectors using the `ent-gttset` command. Perform [Adding a GTT Selector](#) on page 690 .
 8. Change the default ANSI CGPC GTT set name or default ITU CGPC GTT set name, if desired, using the `chg-sccopts` command. Perform [Changing the Default GTT Mode Options](#) on page 835.
 9. Turn the Origin-Based SCCP Routing feature on using the `chg-ctrl-feat` command. Perform [Activating the Origin-Based SCCP Routing Feature](#) on page 892.

Hex Digit Support for GTT

The Hex Digit Support for GTT feature, when enabled, allows the EAGLE 5 ISS to process incoming messages that contain either decimal (0-9) or hexadecimal digits (0-9, a-f, A-F) in the global title address in the called party address field of the messages.

If the Hex Digit Support for GTT feature is enabled and the Origin-Based SCCP Routing feature is enabled and turned on, the EAGLE 5 ISS can process messages containing decimal or hexadecimal digits in the global title address in either the calling party address or the called party address fields of the messages, depending on the GTT hierarchy that is used to process the messages. For more

information on the Origin-Based SCCP Routing feature, refer to the [Origin-Based SCCP Routing](#) on page 37 section.

With the Hex Digit Support for GTT feature enabled, hexadecimal digits can be specified for the gta and egta parameters of the ent-gtt, chg-gtt, ent-gta, and chg-gta commands. If the Advanced GT Modification feature is enabled, hexadecimal digits can be specified for the values of the prefix and suffix deletion digit parameters (npds and nsds) of the ent-gtt, chg-gtt, ent-gta, and chg-gta commands. For more information on the Advanced GT Modification feature, refer to the [Advanced GT Modification Feature](#) on page 26 section.

If the ANSI-ITU-China SCCP Conversion feature is enabled, hexadecimal digits can be specified for the values of the prefix and suffix deletion digit parameters (npds and nsds) of the ent-gtcnv or chg-gtcnv commands. For more information on the ANSI-ITU-China SCCP Conversion feature, refer to the [ANSI-ITU-China SCCP Conversion Feature](#) on page 27 section.

After the Hex Digit Support for GTT feature is enabled, any existing range entries for global title addresses are treated as a range of hexadecimal values instead of a range of decimal values. For example, the database contains an entry that contains the range of global title addresses from 20 to 30. With the Hex Digit Support for GTT feature not enabled, this translation would match MSUs containing the global title addresses 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, and 30. With the Hex Digit Support for GTT feature enabled, this translation would match MSUs containing the global title addresses 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 2A, 2B, 2C, 2D, 2E, 2F, and 30. Translations containing a single entry for the global title address are not changed.

If you wish to have different translated data for hexadecimal digits, the existing range entry can be split into 3 entries as follows in [Table 2: Hex Digit Range Example](#) on page 43.

Table 2: Hex Digit Range Example

GTA=20	EGTA=29	with existing translation data
GTA=2A	EGTA=2F	with user specified translation data
GTA=30		with existing translation data

Hexadecimal digits cannot be used as a value for the gta parameter for the ent-gws-redirect and chg-gws-redirect commands.

Hexadecimal digits can be used as values for GSM MAP screening entries only if the Enhanced GSM MAP Screening feature is enabled.

Provisioning the Hex Digit Support for GTT Feature

To provision the Hex Digit Support for GTT feature, perform these steps.

1. Turn the GTT feature on using the chg-feat command. Add the required service modules to the database using the ent-card command. Perform the [Adding a Service Module](#) on page 94 procedure. If Enhanced Global Title Translation will be used, turn the EGTT feature on using the chg-feat command.
2. Enable the Hex Digit Support for GTT feature using the enable-ctrl-feat command. Perform the [Activating the Hex Digit Support for GTT Feature](#) on page 902 procedure.

Note: Once this feature is enabled, the feature is also turned on. The chg-ctrl-feat cannot be used to turn this feature on. Once this feature is enabled, the feature cannot be turned off.

3. Provision the required destination point codes, linksets, signaling links, and routes, by performing these procedures.
 - Destination Point Codes - Adding a Destination Point Code procedure in the *Database Administration Manual - SS7*.
 - Linksets - Perform one of these procedures depending on the type of linkset.
 - SS7 Linkset - Adding an SS7 Linkset procedure in the *Database Administration Manual - SS7*
 - IP Gateway Linkset - Configuring an IPGWx Linkset procedure in the *Database Administration Manual - IP7 Secure Gateway*
 - Signaling Links - Perform one of these procedures depending on the type of signaling link.
 - A low-speed SS7 signaling link - Adding an SS7 Signaling Link procedure in the *Database Administration Manual - SS7*
 - An E1 signaling link - Adding an E1 Signaling Link procedure in the *Database Administration Manual - SS7*
 - A T1 signaling link - Adding a T1 Signaling Link procedure in the *Database Administration Manual - SS7*
 - An ATM signaling link - Adding an ATM High-Speed Signaling Link procedure in the *Database Administration Manual - SS7*
 - An IP signaling link - Adding an IP Signaling Link procedure in the *Database Administration Manual - IP7 Secure Gateway*
 - Routes - Perform one of these procedures in the *Database Administration Manual - SS7* depending on the type of route.
 - A route containing an SS7 DPC - Adding a Route Containing an SS7 DPC procedure
 - A route containing a cluster point code - Adding a Route Containing a Cluster Point Code procedure
 - A route containing an IPGWx Linkset - Adding a Route Containing an IPGWx Linkset procedure

Note: If only the GTT feature was turned on in step 1, perform steps 4 and 5. If the EGTT feature was turned on in step 1, skip steps 4 and 5 and perform steps 6, 7, and 8.

4. Provision the required translation types using the `ent-tt` command. Perform the [Adding a Translation Type](#) on page 546 procedure.
5. Provision the required global title translations using the `ent-gtt` command. Perform the [Adding a Global Title Translation](#) on page 561 procedure.

Note: After the required global title translations have been provisioned in step 5, skip steps 6, 7, and 8.

6. Provision the required GTT sets using the `ent-gttset` command. Perform the [Adding a GTT Set](#) on page 660 procedure.
7. Provision the required GTT translations using the `ent-gta` command. Perform the [Adding Global Title Address Information](#) on page 727 procedure.

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `ent-gta` command are too long to fit on the `ent-gta` command line, perform the `chg-gta` command to complete adding the GTA entry. If the parameters

and values specified with the `chg-gta` command are too long to fit on the `chg-gta` command line, perform the `chg-gta` command as many times as necessary to complete the GTA entry.

8. Provision the required GTT selectors using the `ent-gtt sel` command. Perform the [Adding a GTT Selector](#) on page 690 procedure.

Weighted GTT Load Sharing

The default behavior of the EAGLE 5 ISS for performing load sharing between nodes with the same relative cost is to perform the load sharing in a round-robin fashion. A limitation of this design is that all destinations have equal processing power and should receive an equal load. However, as new hardware is added to load-sharing groups, the load-sharing groups may have different processing capabilities. Customization of the load-sharing group would allow the traffic load to be distributed on the individual characteristics of each destination.

Another default behavior of the EAGLE 5 ISS is to route traffic to a load-shared group if any member of that group with the relative cost value is available. Depending on the traffic, this can overwhelm and congest a node, even though other nodes at different relative cost values could have handled the traffic.

Both of these scenarios can be solved with the Weighted GTT Load Sharing feature, which allows unequal traffic loads to be provisioned in mated application (MAP) and mated relay node (MRN) load sharing groups.

The MAP and MRN load sharing groups can be MAP or MRN load sharing groups without the Flexible GTT Load Sharing enabled, or MAP or MRN sets with the Flexible GTT Load Sharing feature enabled. Weighted GTT Load Sharing can be applied to only load shared or combined dominant/load shared MAP or MRN groups, and cannot be applied to solitary mated applications, or dominant MAP or MRN groups.

This feature also allows provisioning control over load sharing groups so that if insufficient capacity within the load sharing group is available, the load sharing group is not used.

Weighted GTT Load Sharing provides two controls for GTT traffic distribution through either the MAP or MRN groups:

- Individual weighting for each entity in a relative cost (RC) group
- In-Service threshold for each RC group

An RC group is a group of entries in either a MAP group or an MRN group that have the same relative cost value. An entity is either a point code entry in the MRN table or a point code and subsystem number entry in the MAP table.

A MAP group or MRN group can also be referred to as an entity set.

Weighted GTT Load Sharing can be applied to only load shared or combined dominant/load shared MAP or MRN groups, and cannot be applied to solitary mated applications, or dominant MAP or MRN groups.

Individual Weighting

Individual weighting is a method for assigning a different load capacity to each member of an RC group. Each entity is assigned a weight from 1 to 99 and receives a percentage of the traffic equal to its weight relative to the RC group's total weight. To calculate the percentage of traffic that a

particular entity receives within its RC group (assuming all nodes are active and available for traffic), use the following equation:

$$\% \text{ of traffic for the entity} = (\text{weight value assigned to the entity} / \text{RC group weight}) \times 100\%$$

Note: With round-robin load-sharing, there is a concept of the preferred entity. The preferred entity is the outcome of GTT. It is the first entity used for load-sharing after initialization, and is the primary entity for Class 1 SCCP Sequenced traffic. When weights are applied, no entity has any preference over another based on GTT information. Distribution is based on the RC group chosen by GTT, not the specific entity.

Individual Weighting Example

Table 3: RC Group Weight Example on page 46 shows how weighting affects traffic delivery. Entity A has a weight of 40 and the total RC group weight is 110, entity A receives 36% of the traffic. Entity C has a weight of 10 and receives only 9% of the traffic for this group. The total group weight is the sum of the individual weight values assigned to each entity in the group.

Note: In order to maintain 100% for the RC group, some rounding may occur. This rounding error will always be $\pm 1\%$.

Table 3: RC Group Weight Example

Entity	RC	Weight	RC Group Weight	Percentage of Traffic
A	10	40	110	$(40 / 110) * 100\% = 36\%$
B	10	30		$(30 / 110) * 100\% = 27\%$
C	10	10		$(10 / 110) * 100\% = 9\%$
D	10	30		$(30 / 110) * 100\% = 28\%$

If all entities in an RC group have the same weight, the outbound traffic pattern provides equal distribution. For weighted load shared or weighted combined load shared MRN or MAP groups with In-Sequence Class 1 SCCP option on, In-Sequence Class 1 SCCP traffic is routed using the provisioned data as the initial method of routing and dynamic data (if the entity selected by provisioned data is prohibited) as the secondary method of routing. This allows all Class 1 traffic to be delivered to the same destination, and the traffic routing is affected unless the original destination changes status. If Transaction-Based GTT Load Sharing is not turned on, then the Weighted GTT Load Shared MSU Key is used. This provides a consistent MSU Key for the Class 1 SCCP traffic based on MTP parameters.

An MSU Key is a value calculated from parameters of an MSU that allows the MSU to be assigned to an entity within an RC group. An MSU Key always maps to the same entity until there is a status change to the MAP or MRN group.

In-Service Threshold

The in-service threshold defines the minimum percentage of weight that must be available for an RC group to be considered available. If the percentage of the available weight is less than the in-service threshold, then the entire RC group is considered unavailable for traffic. If the percentage

of the available weight is equal to or greater than the in-service threshold, then the RC group is considered available, and traffic can be sent to any available entity in the RC group. The in-service threshold helps to prevent congestion when only a small portion of the RC group is available.

The in-service threshold has an initial value of 1%, and has a range of values from 1% to 100%. Current round-robin load sharing has an in-service threshold value of 1%, where if any entity in an RC group is available, it is always used.

The group weight that must be available to carry traffic (the required group weight) is determined by multiplying the total group weight (the sum of the individual weight values assigned to each entity in the group) by the in-service threshold value, expressed as a percentage. For example, if the RC group weight is 110, and the in-service threshold is 75%, the required group weight is 82.

An RC group can be in one of three states: Available, Prohibited, and Threshold-Prohibited. These states are determined by comparing the required RC group weight to the weight of the entities that are actually available for traffic, the entity available weight.

If the state of the entity in the RC group is Available, the entity available weight is the weight value assigned to the entity. If the state of the entity in the RC group is either Congested or Prohibited, the entity available weight is 0. The sum of all entity available weights in the RC group is the RC group available weight. [Table 4: RC Group In-Service Threshold States](#) on page 47 shows how the states of the RC group are determined.

Table 4: RC Group In-Service Threshold States

RC Group State	Description
Available	The RC group available weight is greater than or equal to the Required RC group weight. Traffic can be routed to the RC group in all circumstances.
Prohibited	All entities in the RC group are prohibited (the RC group Available Weight = 0). No traffic can be routed to this RC group.
Threshold-Prohibited	<p>At least one entity in the RC group is not prohibited, but RC group available weight is less than the required RC group weight. Even if the RC group available weight is 0, if one entity is congested, then the state of the RC group is Threshold-Prohibited. Normally, no traffic is routed to this RC group.</p> <p>The Transaction-based GTT Load Sharing and the SCCP Class 1 Sequencing features may route traffic to this group if the primary node is congested. Instead of moving this transaction-based traffic to another node and then back quickly when the congestion abates, routing will continue to the primary node.</p>

In-Service Threshold Example

In the example shown in [Table 5: In-Service Threshold Example](#) on page 48, the RC group consisting of entities A, B, C, and D does not have sufficient available weight for the group (70 is less than 82), and therefore the RC group is considered Threshold-Prohibited. This RC group is unavailable for traffic.

The RC group consisting of entities E and F does have sufficient available weight for the group, and the RC group is considered Available.

The RC group consisting of entities G and H is Prohibited, since both entities G and H are Prohibited.

The RC group consisting of entities I and J is Threshold-Prohibited, since entity I is Congested. In order for the RC group status to be Prohibited, all entities in the RC group must be Prohibited. Non-Transaction-Based GTT Load Sharing traffic is not routed to the RC group.

If the Transaction-Based GTT Load Sharing feature is enabled and turned on, or SCCP Class 1 Sequencing is used, then traffic can be routed to entity I if that is the primary entity for the traffic (traffic would be routed if entity I was Available).

Table 5: In-Service Threshold Example

Entity	RC	Weight	RC Group Weight	In-Service Threshold	Required RC Group Weight	Entity Status	Entity Available Weight	RC Group Available Weight	RC Group In-Service Threshold Status
A	10	40	110	75%	82	Available	40	70	Threshold - Prohibited
B	10	30				Prohibited	0		
C	10	10				Prohibited	0		
D	10	30				Available	30		
E	20	30	40	100%	40	Available	30	40	Available
F	20	10				Available	10		
G	30	20	70	50%	35	Prohibited	0	0	Prohibited
H	30	50				Prohibited	0		
I	40	25	50	50%	25	Congested	0	0	Threshold - Prohibited
J	40	25				Prohibited	0		

Load-Sharing Groups

Weighted GTT Load-Sharing can be applied to only load shared mated application or MRN groups, or combined dominant/load shared mated application or MRN groups.

A load shared MAP or MRN group is a MAP or MRN group containing entries whose RC (relative cost) values are equal.

When Weighted GTT Load Sharing is applied to load shared MAP or MRN groups, traffic is distributed among the entities according to:

- Entity Status – traffic is only routed to an entity if the entity is considered Available.
- Entity Available Weight – the entity receives a percentage of the traffic determined by its weight relative to the total available weight of the RC group.
- RC group status - refer to [Table 4: RC Group In-Service Threshold States](#) on page 47.
- Available RC group weight – The sum of all entity available weights in the RC group.

LOAD Shared Table shows an example of Weighted GTT Load Sharing applied to a load shared MAP or MRN group.

Table 6: Load Shared Group with Weighted GTT Load Sharing Example

Entity	RC	Weight	RC Group Weight	In-Service Threshold	Required RC Group Weight	Entity Status
A	10	40	110	50%	55	Available
B	10	30				Prohibited
C	10	10				Available
D	10	30				Available
Entity	Entity Available Weight	RC Group Available Weight	RC Group In-Service Threshold Status	MAP or MRN Group Status	Current Load %	
A	40	80	Available	Available	50%	
B	0				0	
C	10				13%	
D	30				37%	

All entities in the load shared group are in the same RC group, so if the RC group is unavailable for traffic, all traffic is discarded.

A combined dominant/load shared MAP or MRN group is a MAP or MRN group containing a minimum of two entries whose RC (relative cost) values are equal and a minimum of one entry whose RC value is different.

When Weighted GTT Load Sharing is applied to combined dominant/load shared MAP or MRN groups, traffic is distributed among the entities according to:

- Entity Status – traffic is only routed to an entity if the entity is considered Available.
- Entity Available Weight – the entity receives a percentage of the traffic determined by its weight relative to the total available weight of the RC group.
- RC group status - refer to [Table 4: RC Group In-Service Threshold States](#) on page 47.
- Available RC group weight – The sum of all entity available weights in the RC group.
- MRN or MAP Group Status – the MRN or MAP group must be considered Available in order to route traffic

Combined TABLE shows an example of a weighted combined load shared group.

Based on the results of global title translation, traffic is routed to one of the RC groups in the weighted combined load shared group. If that RC group is unavailable for traffic, the RC group with the next highest cost that is available for traffic is used to route the traffic. If a higher cost RC group is being used to route traffic, and a lower cost RC group becomes available, the lower cost RC group is then used to route the traffic.

The status of the combined dominant/load shared group is based on the status of the RC groups that make up the combined dominant/load shared group. If the status of any RC group is Available, then the status of the combined dominant/load shared group is Available. If no RC group is available for traffic, but the status of at least one of the RC groups is Threshold-Prohibited, then the status of the combined dominant/load shared group is Threshold-Prohibited. If the status of all the RC groups is Prohibited, then the status of the combined dominant/load shared group is prohibited.

Table 7: Combined Dominant/Load Shared Group with Weighted GTT Load Sharing Example

Entity	RC	Weight	RC Group Weight	In-Service Threshold	Required RC Group Weight	Entity Status
A	10	40	110	75%	82	Available
B	10	30				Prohibited
C	10	10				Prohibited
D	10	30				Available
E	20	30	40	100%	40	Available
F	20	10				Available
G	30	10	10	1%	1	Available
Entity	Entity Available Weight	RC group Available Weight	RC group In-Service Threshold Status	MRN or MAP Group Status	Current Load %	

Entity	RC	Weight	RC Group Weight	In-Service Threshold	Required RC Group Weight	Entity Status
A	40	70	Threshold - Prohibited	Available	0	
B	0				0	
C	0				0	
D	30				0	
E	30	40	Available		75%	
F	10				25%	
G	10	10	Available		100%	
Note: The Current Load % column shows the percentage of traffic each entity in the RC group handles.						

MSU Routing under Congestion

For Transaction-Based GTT Load Sharing or SCCP Class 1 Sequenced traffic, the original destination of the traffic must be maintained under congestion. Diverting traffic during congestion can lead to invalid transaction states, and the originator is not informed of any problem. If a congested node is selected, then traffic is routed to that node. If the message is discarded, then a UDTs is generated so the originator is informed of a problem. If the node is prohibited, then the selection of an alternate node is acceptable. This action is equivalent to the action performed when the `mrc=no` parameter is specified with either the `ent-map` or `chg-map` commands.

For all other traffic, rerouting this traffic away from a congested node is acceptable, since no sequencing or state information needs to be maintained. This can be accomplished by considering a congested entity as Unavailable (thus, its available weight is 0). The congested node receives no traffic. The state of the RC group may transition from Available to Threshold-Prohibited. This action is equivalent to the action performed when the `mrc=yes` parameter is specified with either the `ent-map` or `chg-map` commands.

Provisioning the Weighted GTT Load Sharing Feature

To provision the Weighted GTT Load Sharing feature, perform these steps.

1. Turn the GTT and EGTT features on using the `chg-feat` command. Add the required DSMs or E5-SM4G cards to the database using the `ent-card` command. Perform [Adding a Service Module](#) on page 94.
2. Enable the Weighted GTT Load Sharing feature using the `enable-ctrl-feat` command and turn the Weighted GTT Load Sharing feature on using the `chg-ctrl-feat` command. Perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910.
3. Provision load shared or combined dominant/load shared MRN groups with the `ent-mrn` and `chg-mrn` commands. To provision the MRN groups, the Intermediate GTT Load Sharing feature must be enabled with the `enable-ctrl-feat` command and turned on with the `chg-ctrl-feat` command. Perform [Activating the IGTTLS feature](#) on page 845. Once the Intermediate GTT Load Sharing feature is enabled and turned on, perform [Provisioning MRN Entries](#) on page 367.

4. Provision load shared or combined dominant/load shared MAP groups with the `ent-map` and `chg-map` commands. Perform one of these procedures:
 - [Provisioning a Solitary Mated Application](#) on page 133.
 - [Provisioning a Dominant Mated Application](#) on page 165 .
 - [Provisioning a Load Shared Mated Application](#) on page 217 .
 - [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262 .

Transaction-Based GTT Load Sharing

Transaction-Based GTT Load Sharing allows messages with the same transaction parameters (TCAP, SCCP, MTP, or ENHMTP parameters) to be routed to the same destination within an entity set. An entity set is a group of entities that are used to determine the proper destination of a post-GTT message. This group of entities can be one of the following:

- A mated application (MAP) group
- A mated relay node (MRN) group
- A mated application set (MAPSET), if the Flexible GTT Load Sharing feature is enabled
- A mated relay node set (MRNSET), if the Flexible GTT Load Sharing feature is enabled.

This feature applies to the following types of SCCP messages:

- UDT/UDTS class 0 messages
- UDT/UDTS class 1 messages
- XUDT/XUDTS class 0 messages
- XUDT/XUDTS class 1 messages.

UDT/UDTS and XUDT/XUDTS messages are loadshared using a key derived from these elements in the message.

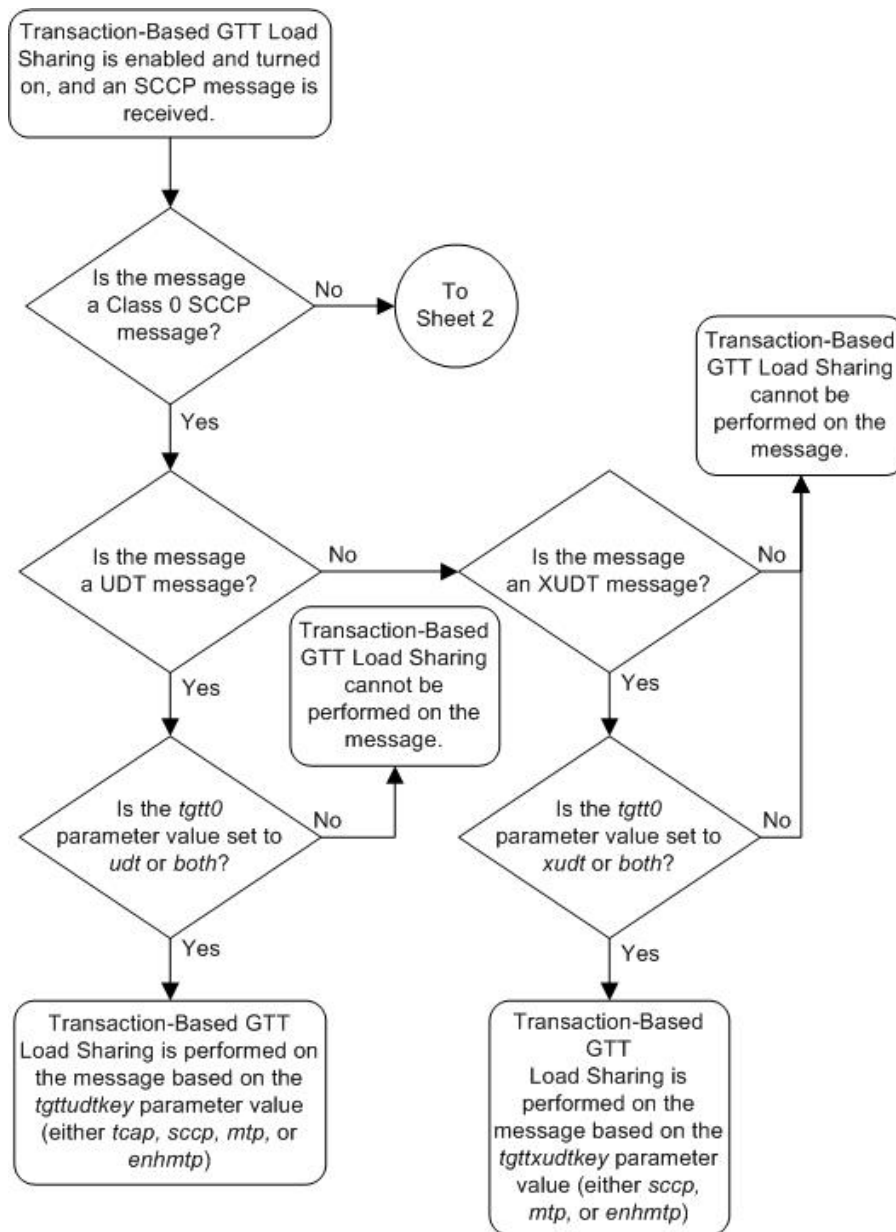
- MTP parameters - the first 3 bytes of the incoming OPC and 1 byte of the SLS.
- SCCP parameters - the last 4 bytes of the global title address field of the called party address.
- TCAP parameter - the TCAP Transaction ID in the messages.
- Enhanced MTP parameter - a combination of the SLS and the incoming OPC values.

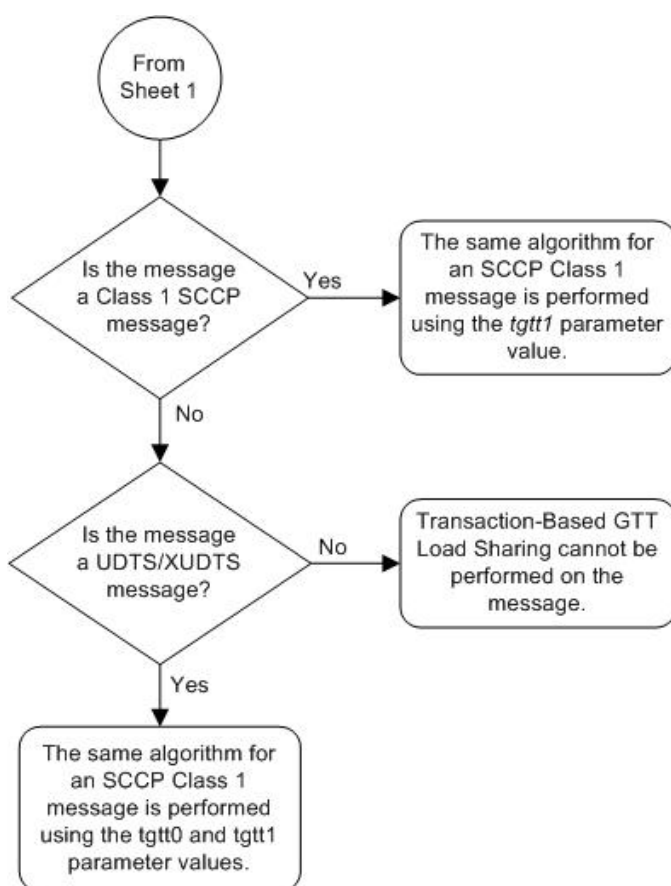
The parameters used for Transaction-Based GTT Load Sharing are selected using the `chg-sccpopts` command. These parameters are:

- `:tgtt0` – enable or disable Transaction-Based GTT Load Sharing for SCCP Class 0 UDT, UDTS, XUDT, or XUDTS messages.
- `:tgtt1` – enable or disable Transaction-Based GTT Load Sharing for SCCP Class 1 UDT, UDTS, XUDT, or XUDTS messages.
- `:tgttudtkey` – the Transaction Parameter for the incoming UDT or UDTS messages.
- `:tgtxudtkey` – the Transaction Parameter for the incoming XUDT or XUDTS messages.

[Figure 5: Transaction-Based GTT Load Sharing SCCP Options](#) on page 52 describes how the Transaction-Based GTT Load Sharing SCCP options are used.

Figure 5: Transaction-Based GTT Load Sharing SCCP Options





For more information on provisioning the Transaction-Based GTT Load Sharing option parameters, refer to the [Changing the Transaction-Based GTT Load Sharing Options](#) on page 507 procedure.

Only load shared and combined dominant/load shared entity sets are used to determine the routing for messages that are processed by the Transaction-Based GTT Load Sharing feature.

Using a load shared entity set, the entire entity set is a part of one RC group and the messages are load-shared based on the Transaction Parameter in the entities in the entity set. If none of the entities in the entity set are available for routing, then the message is discarded and a UDTs/XUDTS message is generated if "Return on Error" is set in the SCCP message. A UIM is generated indicating that the message has been discarded.

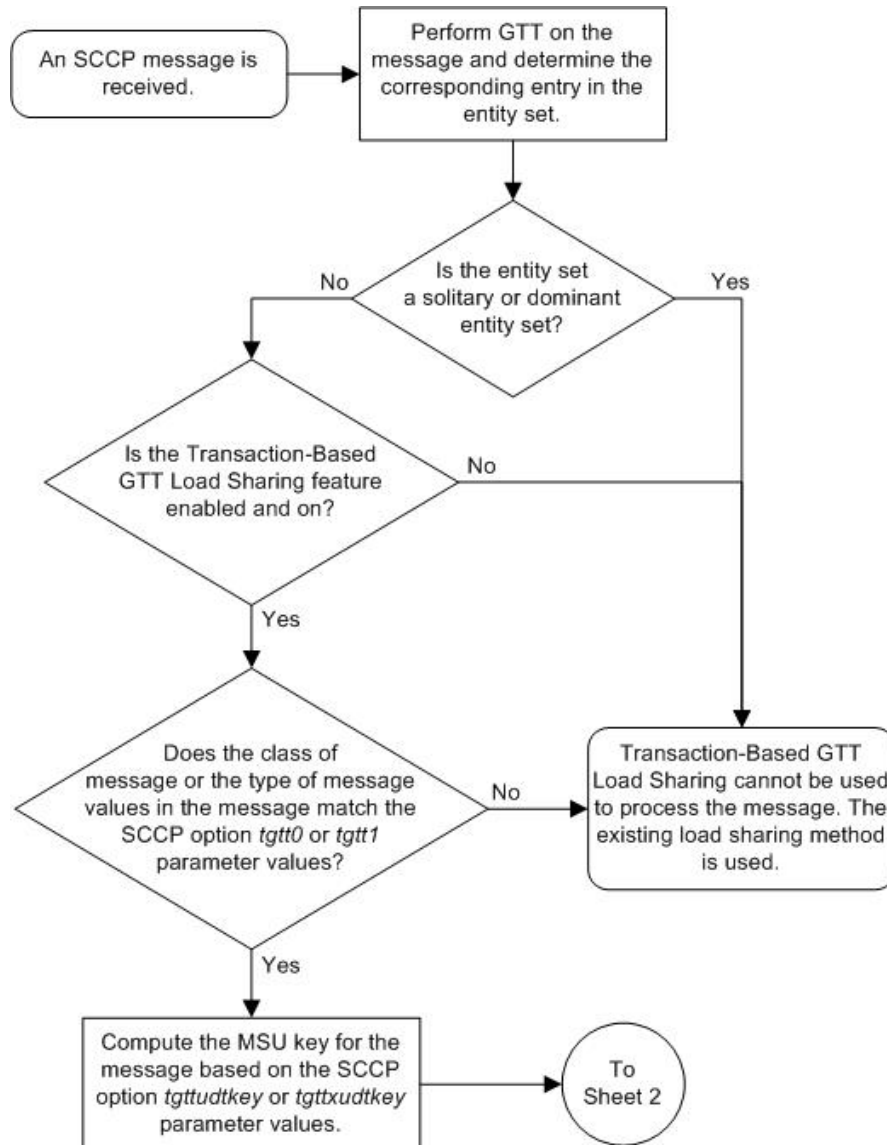
Using a combined dominant/load shared entity set, the RC group containing the point code, or point code and SSN, obtained as a result of the global title translation process is used to determine how the message is routed. If none of the entities in this RC group are available for routing, the next higher cost RC group is chosen. This is repeated until an entity in an entity set is available for routing. When an entity is found that is available for routing, the message is routed according to the criteria in that entity. If none of the entities in the entity set are available for routing, the message is discarded. A UDTs/XUDTS message is generated if "Return on Error" is set in the SCCP message. A UIM is generated indicating that the message has been discarded.

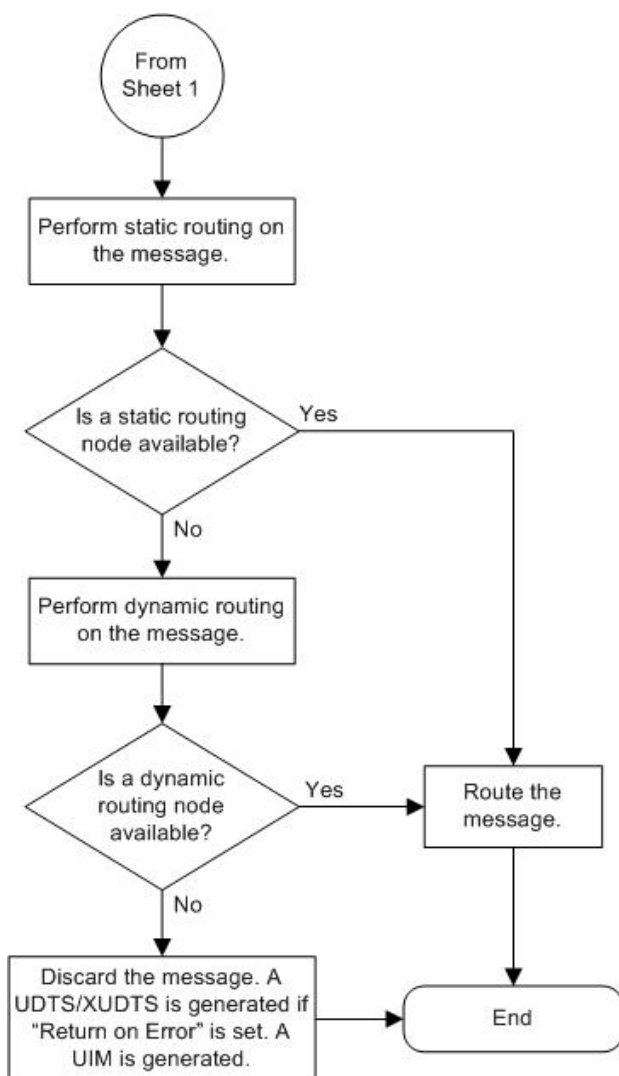
Once the MSU key is generated, it is passed to the Weighted GTT Load Sharing mode entity sets to determine how the message will be routed. If the Weighted GTT Load Sharing feature is active and weights have been assigned to the entity set, the Weighted GTT Load Sharing feature

uses these weights to determine how to route the message. If no weights have been assigned to the entity set, then each RC group in the entity set is considered to be equally weighted.

Static routing is performed on all the messages that the Transaction-Based GTT Load Sharing feature has assigned an MSU key. Static routing always assigns an MSU key to the same node within an RC group. If static routing does not provide an available entity for routing the message, dynamic routing is used to find an available entity for routing the message. [Figure 6: Message Routing using Transaction-Based GTT Load Sharing](#) on page 55 illustrates this process.

Figure 6: Message Routing using Transaction-Based GTT Load Sharing





Provisioning the Transaction-Based GTT Load Sharing Feature

To provision the Transaction-Based GTT Load Sharing feature, perform these steps.

1. Turn the GTT and EGTT features on using the `chg-feat` command. Add the required DSMs or E5-SM4G cards to the database using the `ent-card` command. Perform the [Adding a Service Module](#) on page 94 procedure.
2. Enable the Transaction-Based GTT Load Sharing feature using the `enable-ctrl-feat` command. Perform the [Activating the Transaction-Based GTT Load Sharing Feature](#) on page 919 procedure.

Note: The Transaction-Based GTT Load Sharing feature can be turned on in this step using the `chg-ctrl-feat` command. If the Transaction-Based GTT Load Sharing feature is not turned on in this step, provisioning for the Transaction-Based GTT Load Sharing feature can still be performed. When the provisioning is completed, the Transaction-Based GTT Load Sharing feature can be turned on. The Transaction-Based GTT Load Sharing feature will not work until the feature is turned on either in this step or step 4.

3. Change the Transaction-Based GTT Load Sharing options, if desired, using the `chg-sccpopts` command. Perform the [Changing the Transaction-Based GTT Load Sharing Options](#) on page 507 procedure.
4. Turn the Transaction-Based GTT Load Sharing feature on using the `chg-ctrl-feat` command. Perform the [Activating the Transaction-Based GTT Load Sharing Feature](#) on page 919 procedure.

SCCP Loop Detection

This feature detects SCCP looping of UDT/UDTS and XUDT/XUDTS messages. The SCCP Loop Detection feature requires a feature access key (FAK) for part number 893-0165-01 to enable the feature.

Normally, an STP sends GTT messages to the capability point codes (CPCs) of mated nodes for load sharing. However, approach can result in SCCP looping if the destination point code is the same as the originating point code or the point code of any intermediate in the network.

This looping can be resolved by eliminating the use of CPCs and verifying at an intermediate STP whether the OPC of the incoming MSU is the same as the true point code (TPC) of the DPC after GTT. However, CPCs are often used to implement LNP in addition to the SCCP.

The SCCP Loop Detection feature resolves the looping issue by providing a correlation between the MTP-designated TPCs/secondary point codes (SPCs) and the CPCs for all concerned STPs.

The SCCP Loop Detection feature is provisioned by configuring the Loopset Table and adding a loopset to a to a Global Title Translation.

The loopset commands define the correlation between MTP-designated point codes and the capability point codes of the STPs that detect SCCP looping. The GTT commands allow the administration, deletion, and retrieval of loopset table entries for a particular Global Title Translation.

The SCCP Loop Detection feature operates in Regular or Discard modes. In the Regular (default) mode, the SCCP Loop Detection Feature generates a UIM when it detects SCCP looping but does not discard the MSU. This UIM allows the operator to capture and verify MSUs throughout the system for SCCP looping. In the Discard mode, the SCCP Loop Detection feature generates a UIM when it detects SCCP looping and discards the MSU.

Provisioning the SCCP Loop Detection Feature

1. Enable the SCCP Loop Detection feature using the `enable-ctrl-feat` command. Perform the [Activating the SCCP Loop Detection Feature](#) on page 929 procedure.

Note: The SCCP Loop Detection feature can be turned on in this step using the `chg-ctrl-feat` command. If the SCCP Loop Detection feature is not turned on in this step, provisioning for the SCCP Loop Detection feature can still be performed. When the provisioning is completed, the SCCP Loop Detection feature can be turned on. The SCCP Loop Detection feature will not work until the feature is turned on in this step.

2. Provision the loopset table using the `ent-loopset` command. Perform the [Adding a Loopset](#) on page 510 procedure.
3. Add a loopset to the global title translation using the `ent-gtt` or `ent-gta` commands. Perform [Adding a Global Title Translation](#) on page 561 or [Adding Global Title Address Information](#) on page 727 .

Flexible Linkset Optional Based Routing

Flexible Linkset Optional Based Routing allows the EAGLE 5 ISS to route GTT traffic based on the incoming link set and to route GTT traffic based on a variety of parameters (MTP, SCCP and TCAP depending on features that are enabled and turned on) in a flexible order on a per-translation basis.

Flexible Linkset Optional Based Routing can be used with or without the Origin-Based SCCP Routing or the TCAP Opcode Based Routing features. Flexible Linkset Optional Based Routing can be enabled and turned on only if the EGTT feature is turned on. If only the Flexible Linkset Optional Based Routing is enabled and turned on, the name of the incoming linkset that will help to determine how the GTT traffic is routed can be provisioned in the GTT selectors. If the Origin-Based SCCP Routing feature or the TCAP Opcode Based Routing feature is used with the Flexible Linkset Optional Based Routing feature, the name of the incoming linkset can be provisioned along with the provisioning for the Origin-Based SCCP Routing or the TCAP Opcode Based Routing features. [Table 8: GTT Set Type and GTT Selector Combinations](#) on page 58 shows the type of GTT sets that can be provisioned for GTT selectors based on the features that are enabled and turned on.

Table 8: GTT Set Type and GTT Selector Combinations

Feature Combinations	GTT Set Types for CdPA GTT Selectors	GTT Set Types for CgPA GTT Selectors
EGTT Only	CdPA GTA	Not Applicable
Origin-Based SCCP Based Routing Only	CdPA GTA	CgPA GTA, CgPA GTA
Flexible Linkset Optional Based Routing Only	CdPA GTA	CdPA GTA
Flexible Linkset Optional Based Routing and TCAP Opcode Based Routing	CdPA GTA, Opcode, CdPA SSN	CdPA GTA, Opcode, CdPA SSN
Flexible Linkset Optional Based Routing and Origin-Based SCCP Based Routing	CdPA GTA, CgPA GTA, CgPA SSN, CgPA Point Code, OPC	CdPA GTA, CgPA GTA, CgPA SSN, CgPA Point Code, OPC
Flexible Linkset Optional Based Routing, Origin-Based SCCP Based Routing, and TCAP Opcode Based Routing	CdPA GTA, CgPA GTA, CgPA SSN, CgPA Point Code, OPC, Opcode, CdPA SSN	CdPA GTA, CgPA GTA, CgPA SSN, CgPA Point Code, OPC, Opcode, CdPA SSN

Linkset Based Routing

After the Flexible Linkset Optional Based Routing feature enabled and turned on, Eagle 5 ISS considers the incoming link set as part of the GTT selection process for performing global title translation. If EAGLE 5 ISS receives MSUs with the same routing information on different link sets, it has the flexibility to route them based on different GTT rules. This also applies to the

messages that fall through to GTT after being processed by MPS based services on the EAGLE 5 ISS. The incoming link set of the original MSU is used for these messages.

MSUs generated by the EAGLE 5 ISS that require global title translation are handled differently since they do not have a valid incoming link set. A separate set of GTT selector entries can be provisioned for these MSUs.

A separate set of GTT selector entries can be provisioned for messages generated by the EAGLE 5 ISS.

Flexible Linkset Optional Based Routing GTT Hierarchies

The Flexible Linkset Optional Based Routing feature introduced four more GTT hierarchies in addition to the GTT hierarchies used for the Origin-Based SCCP Routing feature. These hierarchies are shown in [Table 9: GTT Hierarchies](#) on page 59. These GTT hierarchies are available only when the corresponding feature is enabled, and turned on if necessary. All the GTT hierarchies are available when both the Origin-Based SCCP Routing and the Flexible Linkset Optional Based Routing features are enabled, and turned on if necessary. The GTT hierarchy can be provisioned on a link set basis or a system wide basis. The default GTT hierarchy is CdPA only.

Table 9: GTT Hierarchies

EGTT Turned On Only	Origin-Based SCCP Routing Enabled Only	Flexible Linkset Optional Based Routing (FLOBR) Enabled and Turned On Only	Origin-Based SCCP Routing Enabled and Flexible Linkset Optional Based Routing Enabled and Turned On
CdPA only	CdPA only Advanced CdPA, CdPA CgPA, Advanced CdPA, CdPA Advanced CdPA, CdPA, CgPA CgPA, CdPA CdPA, CgPA CgPA only	CdPA only FLOBR CdPA only FLOBR CgPA only FLOBR CgPA, FLOBR CdPA FLOBR CdPA, FLOBR CgPA	CdPA only Advanced CdPA, CdPA CgPA, Advanced CdPA, CdPA Advanced CdPA, CdPA, CgPA CgPA, CdPA CdPA, CgPA CgPA only FLOBR CdPA only FLOBR CgPA only FLOBR CgPA, FLOBR CdPA FLOBR CdPA, FLOBR CgPA

When a Flexible Linkset Optional Based Routing GTT hierarchy is provisioned on a link set, the translations do not have to be searched in a predetermined fashion as is done for the Origin-Based

SCCP Routing GTT hierarchies (a specific translation can only point to specific GTT sets and the CgPA SSN translation is the terminating point of the search). As long as a translation points to another GTT set/SELID, the search continues and this can lead to infinite searching. The number of searches is limited to seven GTT sets to keep the search from going on forever.

Fallback Option

A fallback option can be provisioned for each translation that tells the EAGLE 5 ISS how to route an MSU under the these conditions:

- Routing when the subsequent search failed in the Flexible Linkset Optional Based Routing feature.
- Routing when the same GTT set type is referred to more than once.
- Limiting the number of database searches for the Flexible Linkset Optional Based Routing feature.

The fallback option can be configured on a system wide basis and on a per-translation basis. The system wide option is configured using `dfltfallback` parameter of the `chg-sccpts` command and is used to define the default value ("No") for all translations by default. Each translation may then be configured to use one of the fallback values. The fallback option is configured with the `fallback` parameter of the `ent-gta` or `chg-gta` commands. The `fallback` parameter has these values.

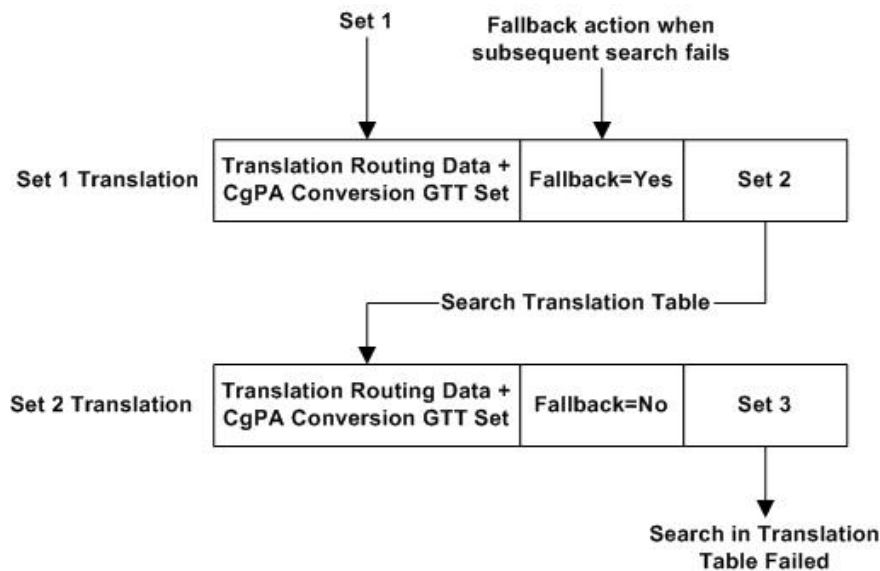
- `sysdflt` - use the `dfltfallback` parameter value of the `chg-sccpts` command for the translation.
- `yes` - global title translation is performed based on the last matched entry.
- `no` - global title translation fails and the MSU is discarded.

The per-translation option overrides the system default just for that translation. The Origin-Based SCCP Routing hierarchies do not use the fallback option.

Routing when the Subsequent GTT Set Search Failed

In this example, Set 1 is used to start the search. The matching translation in Set 1 points to Set 2. The matching translation in Set 2 points to Set 3 and there is no matching translation found in Set 3. Since the fallback option for the matched translation in Set 2 set to No, the MSU is discarded.

Figure 7: Action When the Subsequent Translation Search Fails

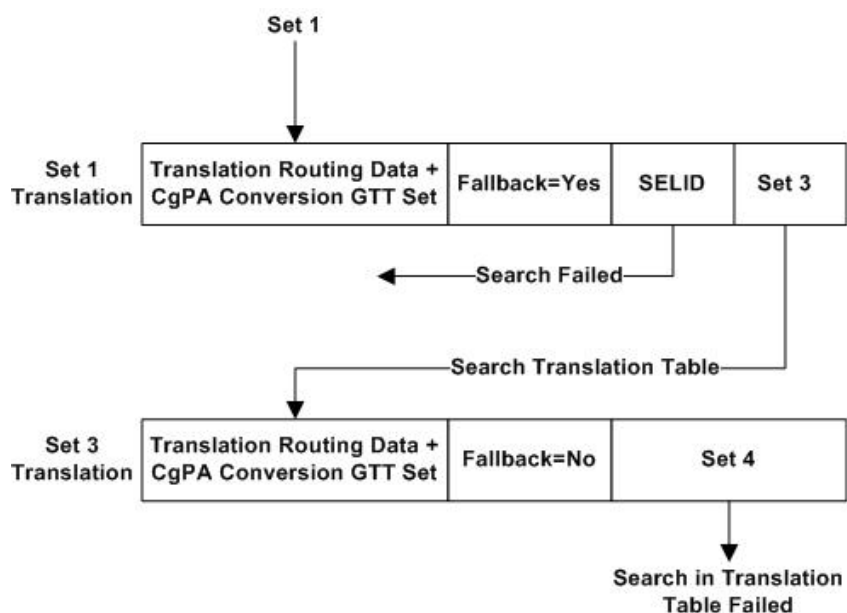


If the matching translation is not found in Set 2 (Set 2 Translation in [Figure 7: Action When the Subsequent Translation Search Fails](#) on page 60 is not found) and since the fallback option value in the Set 1 Translation is set to Yes, the MSU is routed based on the routing data in the Set 1 Translation. If the matching translation in Set 2 does not contain any GTT set/SELID combination (the Set 3 GTT set as shown in [Figure 7: Action When the Subsequent Translation Search Fails](#) on page 60 is not provisioned), then the fallback option is ignored and the MSU is routed based on routing data in the Set 2 Translation. If the matching translation in Set 1 is not found, then the MSU is discarded.

Routing When the Subsequent Search for the SELID Fails

In this example, Set 1 is used to start the search. The matching translation in Set 1 (for example, a CdPA SSN/Opcode/CdPA GTA translation) contains SELID/Set 2 and also Set 3 (in this case Set 3 is an OPC GTT set).

Figure 8: Action When the Subsequent SELID Search Fails

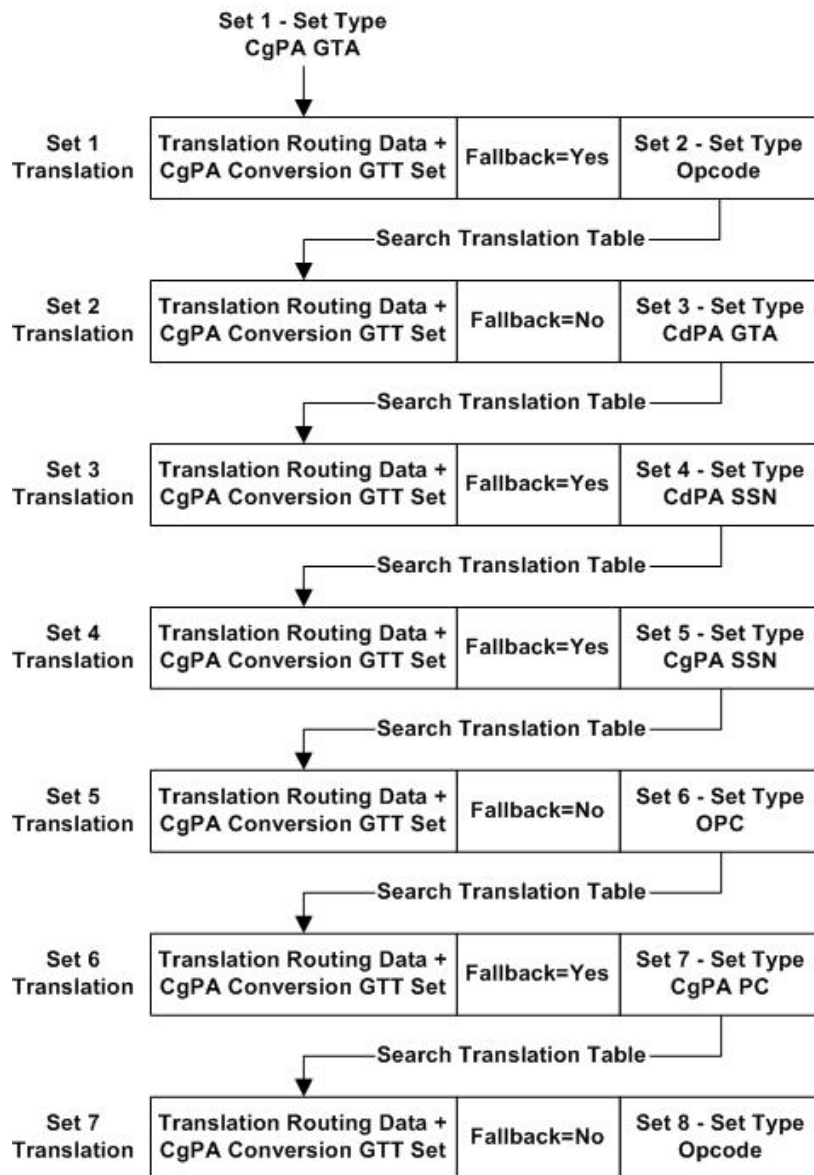


If a matching GTT selector is not found when the Set 1 Translation contains an SELID, the search continues searching for the matching translation in Set 3. If a matching translation is found in Set 3 and no matching translation is found in Set 4, the fallback option No in the Set 3 Translation is performed and the MSU is discarded. If a matching GTT selector is not found when the Set 1 Translation contains an SELID and a matching translation is not found in Set 3, the fallback option Yes in the Set 1 Translation is performed and the MSU is routed based on the routing data in the Set 1 Translation. If a GTT selector with an SELID results in a GTT set type that is already referred to, the action based on the fallback option in the Set 1 Translation is performed.

Routing When the Same GTT Set Type is Referred To More than Once

When the Flexible Linkset Optional Based Routing feature is enabled and turned on, and since any translation can point to any other GTT set (except to the same GTT set type) or the CdPA/CgPA SELID, it is possible that the same GTT set type can be referred to more than once in that chain (as indicated in [Figure 9: Action When the Same GTT Set Type is Referred to More Than Once](#) on page 62). This condition can be detected at run time, but can't be prevented while provisioning. At run time when same set type is referred more than once, the GTT processing is stopped and the action that is performed is based on the fallback option in the last matched translation. This logic is not applicable for the CGPA/CDPA SELID. That means the CGPA/CDPA SELID can be referred to more than once during the search process as long as number of searches are limited to seven. Since the same set type is not searched more than once, this also prevents the infinite searching for a matching translation. Since there are only CdPA GTA, CgPA GTA, CgPA PC, OPC, CdPA SSN, CgPA SSN, Opcode GTT set types, no more than seven GTT set types are searched to find a matching translation.

Figure 9: Action When the Same GTT Set Type is Referred to More Than Once

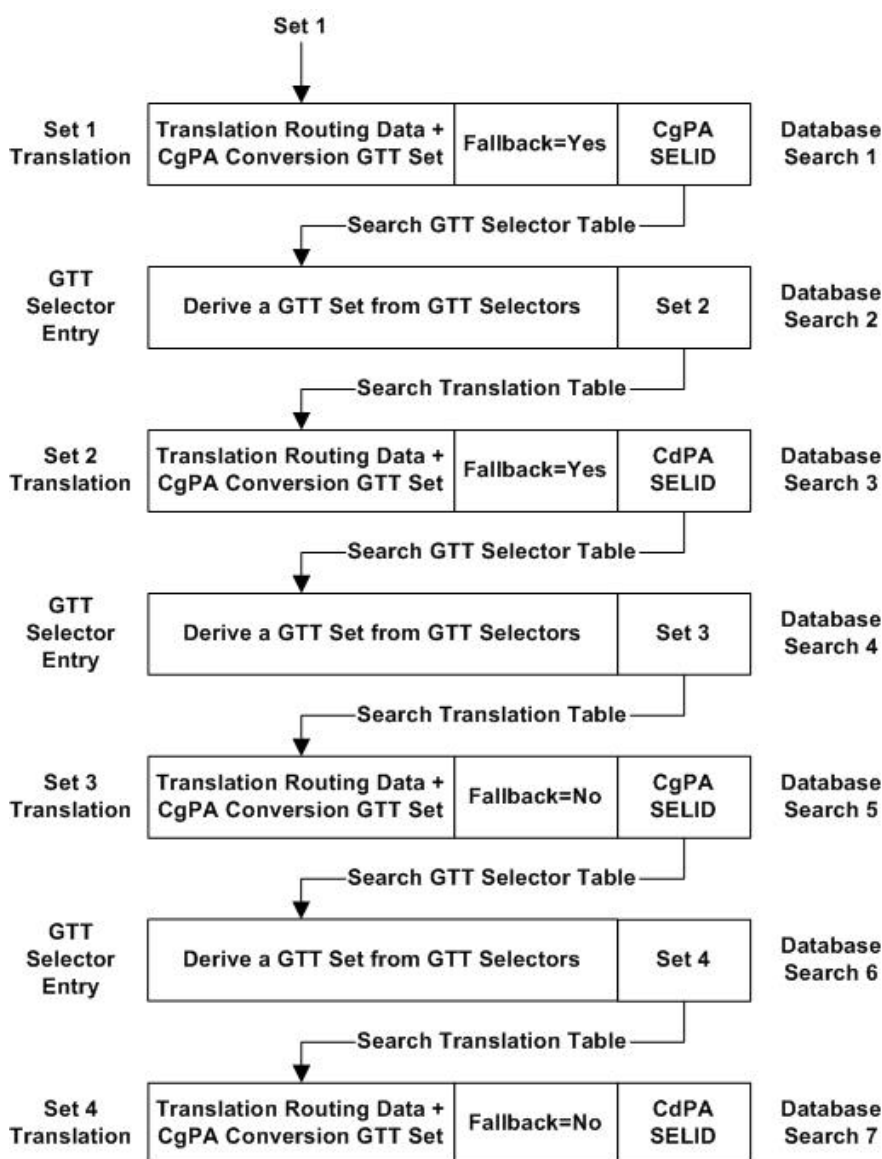


In [Figure 9: Action When the Same GTT Set Type is Referred to More Than Once](#) on page 62, since the Opcode GTT set type is already searched (Set 2), a matching translation is not found in Set 8. Since the last matched translation is found in Set 7 and the fallback option is set to No, the MSU is discarded. UIM 1413-GTT(FLOBR) failure: duplicate set type is generated to describe the condition. In [Figure 9: Action When the Same GTT Set Type is Referred to More Than Once](#) on page 62, if the Set 7 Translation does not contain any GTTSET/SELID (if Set 8 is not provisioned in the Set 7 Translation), the MSU is routed based on the routing data in the Set 7 Translation. In [Figure 9: Action When the Same GTT Set Type is Referred to More Than Once](#) on page 62, if the Set 7 Translation was not found and since the fallback option in the Set 6 Translation is set to Yes, the MSU is routed based on the data in the Set 6 Translation.

Limiting the Number of Database Searches for the Flexible Linkset Optional Based Routing Feature

The number of database searches is limited to seven when the Flexible Linkset Optional Based Routing feature is enabled and turned on. This includes searching the GTT selector table when a translation contains the CgPA SELID or CdPA SELID parameter.

Figure 10: Limiting the Number of Database Searches



As shown in [Figure 10: Limiting the Number of Database Searches](#) on page 64, when a translation contains the CdPA SELID or CgPA SELID, the search in the GTT selector table is also counted toward the maximum seven searches. After completing seven searches, if the search is terminated because of the maximum seven search criteria, the action defined in the last matched Set 4 Translation fallback option (in this case No) is performed and MSU is discarded. UIM 1412 - GTT (FLOBR) failure: max search depth is generated to describe the condition. After completing seven searches, if the last matched translation contains no GTT set/SELID data (if the CdPA SELID data is not provisioned in the Set 4 Translation), the MSU is routed based on the routing data in the Set 4 Translation. The first GTT selector search when the GTT functionality is

selected (deriving Set 1 in [Figure 10: Limiting the Number of Database Searches](#) on page 64) is not counted toward the maximum seven search criteria.

GTT for MSUs Generated by the EAGLE 5 ISS

The EAGLE 5 ISS performs global title translation on some messages generated by itself. These messages are sent in response to queries received by local subsystems. SCCP UDTs and XUDTs messages also fall under this category. Global title translation is performed to find the destination for the responses when the SCCP calling party address in query messages is Route-on-GT. Since there is no valid incoming link set for messages generated by the EAGLE 5 ISS, a special set of GTT selector entries are used when the Flexible Linkset Optional Based Routing feature is enabled and turned on. The `eaglegen=yes` parameter in the `ent-/dlt-/chg-/rtrv-gttset` commands is used to provision a GTT selector for messages generated by the EAGLE 5 ISS. If the `eaglegen=no` parameter is specified for a GTT selector, the GTT selector is not provisioned for messages generated by the EAGLE 5 ISS.

When the `eaglegen=yes` parameter is specified for a GTT selector,

- Any CgPA related parameters, the linkset name, and SELID parameters cannot be specified.
- The Flexible Linkset Optional Based Routing feature must be enabled and turned on.
- A GTT set with the CdPA GTA set type must be specified.
- A dummy link set name `Eagle-Gen` is in the `rtrv-gttset` command output.

If the GTT set name assigned to a GTT selector for messages generated by the EAGLE 5 ISS is changed with the `chg-gttset` command, the new GTT set must be a CdPA GTT set.

If no match is found in the GTT selector entries that contain the `eaglegen=yes` parameter, the entries with LSN value ANY are searched. If a matching entry is still not found, for GTI=4 entries, the GTT set with CdPA set type for NP and NAI values Default are returned. For GTI=2 entries, a match not found message is returned. The Flexible Linkset Optional Based Routing feature hierarchies do not apply for GTT selectors provisioned for messages generated by the EAGLE 5 ISS and the CDPA Only GTT mode is used for such translations.

GTT Selector Key

[Table 10: GTT Selector Key](#) on page 65 defines the keys into GTT selector table based on the feature combination. If a feature supports specific parameters and that feature is not enabled or turned, if necessary, then default values for these parameters are entered into the database.

Table 10: GTT Selector Key

Feature Combination	Selector Type	GTI, Domain, TT, (NP and NAI if the GTII/GTIN/GTIN24=4)	CgPA SSN	SELID	Linkset Name
EGTT	CdPA Only	X	-	-	-
Origin-Based SCCP Routing	CdPA	X	-	-	-
	CgPA	X	X	X	-
Flexible Linkset Optional Based Routing	CdPA	X	-	X	X
	CgPA	X	-	X	X
Origin-Based SCCP Routing and Flexible	CdPA	X	-	X	X

Feature Combination	Selector Type	GTI, Domain, TT, (NP and NAI if the GTII/GTIN/GTIN24=4)	CgPA SSN	SELID	Linkset Name
Linkset Optional Based Routing	CgPA	X	X	X	X
Messages generated by the EAGLE 5 ISS	CdPA only	X	-	-	X

Searching Order in the GTT Selector Table with the Flexible Linkset Optional Based Routing Feature

The searching order for CgPA and CdPA GTT selectors when the Flexible Linkset Optional Based Routing feature is enabled and turned on are shown in these tables.

- [Table 11: CdPA GTT Selector Keys](#) on page 66
- [Table 12: CgPA GTT Selector Keys](#) on page 66
- [Table 9: GTT Hierarchies](#) on page 59

Table 11: CdPA GTT Selector Keys

Priority	GTI, Domain, TT, (NP and NAI if the GTII/GTIN/GTIN24=4)	Linkset Name	SELID	CdPA GTT Selector Found or Not Found
1	Exact	Exact	Exact	If a CdPA GTT set is provisioned for the GTT selector keys, the GTT selector is considered found. Otherwise, the GTT selector is not found. See the Note.
2	Exact	Any	Exact	
Note: If an Origin-Based SCCP Routing GTT hierarchy is being used the CdPA GTT set must be a CDGTA GTT set and the CgPA GTT set must be either a CCGTA or CGPC GTT set. If a Flexible Linkset Optional Based Routing feature GTT hierarchy is being used, any GTT set type can be used.				

Table 12: CgPA GTT Selector Keys

Priority	GTI, Domain, TT, (NP and NAI if the GTII/GTIN/GTIN24=4)	Linkset Name	SELID	CgPA SSN	CgPA GTT Selector Found or Not Found
1	Exact	Exact	Exact	Exact	If a CgPA GTT set is provisioned for the GTT selector keys, the GTT selector is considered found. Otherwise, the GTT selector is not found. See the Note.
2	Exact	Exact	Exact	Any	
3	Exact	Any	Exact	Exact	
4	Exact	Any	Exact	Any	
Note: If an Origin-Based SCCP Routing GTT hierarchy is being used the CdPA GTT set must be a CDGTA GTT set and the CgPA GTT set must be either a CCGTA or CGPC GTT set. If a Flexible					

Priority	GTI, Domain, TT, (NP and NAI if the GTII/GTIN/GTIN24=4)	Linkset Name	SELID	CgPA SSN	CgPA GTT Selector Found or Not Found
Linkset Optional Based Routing feature GTT hierarchy is being used, any GTT set type can be used.					

Table 13: Messages Generated by the EAGLE 5 ISS GTT Selector Keys

Priority	GTI, Domain, TT, (NP and NAI if the GTII/GTIN/GTIN24=4)	Linkset Name	Messages Generated by the EAGLE 5 ISS GTT Selector Found or Not Found
1	Exact	Eagle=Gen	If a CdPA GTT set with the CDGTA GTT set type is provisioned for the GTT selector keys, the GTT selector is considered found. Otherwise, the GTT selector is not found. See the Note.
2	Exact	Any	
3	For GTI=4, the GTT set with the values Default for the NP and NAI parameters.	Any	
Note: If an Origin-Based SCCP Routing GTT hierarchy is being used the CdPA GTT set must be a CDGTA GTT set and the CgPA GTT set must be either a CCGTA or CGPC GTT set. If a Flexible Linkset Optional Based Routing feature GTT hierarchy is being used, any GTT set type can be used.			

Hardware Requirements

To enable the Flexible Linkset Optional Based Routing feature E5-SM4G cards must be provisioned in the database. Any DSMs must be replaced by the E5-SM4G cards.

Provisioning the Flexible Linkset Optional Based Routing Feature

To provision the Flexible Linkset Optional Based Routing feature, perform these steps.

1. Turn the GTT and EGTT features on using the `chg-feat` command. Add the required E5-SM4G cards to the database using the `ent-card` command. Perform [Adding a Service Module](#) on page 94.
2. Enable and turn on the Flexible Linkset Optional Based Routing feature using the `enable-ctrl-feat` and the `chg-ctrl-feat` commands. Perform [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976.
3. Provision the required GTT sets using the `ent-gttset` command. Perform [Adding a GTT Set](#) on page 660.
4. Provision the required GTT translations using the `ent-gta` command. Perform [Adding Global Title Address Information](#) on page 727.
5. Provision the required GTT selectors using the `ent-gttset` command. Perform [Adding a GTT Selector](#) on page 690.
6. Change the default fallback option, if desired, using the `chg-sccpopts` command. Perform [Changing the Default GTT Mode Options](#) on page 835.

TCAP Opcode Based Routing

TCAP Opcode Based Routing allows the EAGLE 5 ISS to route messages based on their operation codes. When the TCAP Opcode Based Routing feature is enabled and turned on, this information contained in the TCAP portion of messages is used for performing global title translation.

- To perform global title translation on ITU messages.
 - Message Type / Package Type
 - Application Context Name
 - Operation Code
- To perform global title translation on ANSI messages.
 - Package Type
 - Operation Code Family
 - Operation Code Specifier

TCAP Opcode Based Routing requires that the Flexible Linkset Optional Based Routing feature is enabled and turned on. TCAP Opcode Based Routing can be used with or without the Origin-Based SCCP Routing feature. If the Origin-Based SCCP Routing feature is not enabled, only the CdPA GTA, Opcode, and CdPA SSN GTT sets can be provisioned. The provisioning for the Flexible Linkset Optional Based Routing feature can also be performed. If the Origin-Based SCCP Routing feature is enabled, the Opcode and CdPA SSN GTT sets can be provisioned along with the GTT sets that can be provisioned for the Origin-Based SCCP Routing feature. [Table 8: GTT Set Type and GTT Selector Combinations](#) on page 58 shows the type of GTT sets that can be provisioned for GTT selectors based on the features that are enabled and turned on.

TCAP Decoding

As part of the TCAP Opcode Based Routing feature, the EAGLE 5 ISS attempts to decode TCAP portion of all UDT/UDTS/Unsegmented XUDT/Unsegmented XUDTS queries coming to service modules for global title translation. Messages are decoded only if a TOBR Opcode Quantity is enabled. The objective of this decoder is not to validate the correctness of the message but simply to obtain the required TCAP data. The message is validated only for the encoding rules that are required to successfully decode the required TCAP information. In general, Tag-Length-Value encoding is validated; unsupported Tag values are skipped if they are encountered, unless a specific Tag order is expected. If the decoding fails, global title translation is still performed on the message using some default values for the TCAP data that denote their absence in the message. The TCAP Opcode Based Routing feature supports the following messages.

- ITU TCAP Message/Package Types
 - Begin
 - Continue
 - End
 - Abort
 - Unidirectional
- ANSI TCAP Message/Package Types
 - Unidirectional

- Query With Permission
- Query Without Permission
- Response
- Conversation With Permission
- Conversation Without Permission
- Abort

Other message/package types are treated as an unknown message type and are not proceed with the decoding. This is not considered an error, because many non-TCAP SCCP messages are processed by the EAGLE 5 ISS. For these messages, the TCAP data is not used for routing. If an opcode translation set is encountered while performing global title translation, the opcode translation set is considered as a “translation not found” in that set. Note: Such messages are routed based on last matched translation depending on its fallback option. Refer to [Flexible Linkset Optional Based Routing](#) on page 58 for more details on the fallback option.

The application context name (ACN) is used for all supported ITU TCAP messages except Abort messages. No attempt to retrieve the ACN is made for Abort messages. All other supported messages may have a Dialog portion containing Dialogue Request / Unidirectional Dialogue / Dialogue Response PDU, from which the ACN is retrieved. If no Dialog portion is detected, then the ACN is assumed to be NONE. The TCAP Opcode Based Routing feature attempts to find the operation code (opcode) in all supported ITU TCAP messages except Abort. These messages must contain Invoke or Return Result (Last or Not Last) as the first component. If not, the opcode is assumed to be NONE.

The TCAP Opcode Based Routing feature attempts to find the Operation Family and Specifier in all supported ANSI TCAP messages (except Abort) containing an INVOKE component. For all other messages, the Family and Opcode values are assumed to be NONE. Unless otherwise specified, the TCAP length fields are validated because all formats of the TCAP lengths (short, long, and indefinite) are supported for ITU TCAP messages. Indefinite form of lengths are not supported for ANSI TCAP messages. However, the primitive elements in ITU or ANSI TCAP messages are allowed to have long format or indefinite lengths. In the long format, the TCAP Opcode Based Routing feature does not allow a field length of more than two bytes. This limitation is considered acceptable because:

- The SCCP data portion for UDT(S) /Unsegmented XUDT(S) messages is a 1-byte length field. It has a maximum value of 255 bytes.
- All TCAP lengths of 255 bytes or less can be encoded with a 2-byte length field.

At any point of time during the decoding process, if it is found that the current position in TCAP message is extending beyond the SCCP data portion length, the decoder process stops.

TCAP Opcode Based Routing GTT Sets

The TCAP Opcode Based Routing feature introduces two new GTT Sets, Opcode and CdPA SSN, with set types opcode and cdssn. The CdPA SSN GTT set behaves like a CgPA SSN GTT set. The opcode GTT set supports translations for ANSI and ITU opcodes.

TOBR Opcode Quantities

To provision a TCAP Opcode Based Routing entry for global title translation, a TOBR opcode quantity must be enabled with the `enable-ctrl-feat` command. These are the quantities that can be enabled.

- 3 opcode translations (part number : 893027901)
- 6 opcode translations (part number : 893027902)

- 12 opcode translations (part number : 893027903)
- 24 opcode translations (part number : 893027904)
- 48 opcode translations (part number : 893027905)
- 96 opcode translations (part number : 893027906)
- 1 million opcode translations (part number : 893027907) - the GTT translation table capacity is controlled by the XGTT Table Expansion feature.

GTT Translations

The GTT translations provisioned for the TCAP Opcode Based Routing feature can also be provisioned for these features.

- Advanced GT Modification
- Variable Length Global Title Translation
- SCCP Loop Detection
- Intermediate GTT Load Sharing
- ANSI-ITU-China SCCP Conversion
- Flexible GTT Load Sharing

TCAP Opcode Based Routing Feature Translations with an ANSI Opcode

The key for ANSI opcode translations is the ANSI opcode specifier, the ANSI TCAP Package Type, and the Family (part of ANSI TCAP opcode field). The ANSI opcode specifier values can be 0 to 255, None, and * (any opcode specifier value). The value none indicates the absence of the opcode in the incoming MSU. The ANSI TCAP Package Type values are Unidirectional, Query with Permission, Query without Permission, Response, Conversation with Permission, Conversation without Permission, Abort, and Any. The Family value can be 0 to 255, None, and * (any family value). While provisioning, when ANSI TCAP Package type is specified as Abort, then the ANSI opcode specifier and Family values must be none. Since the opcode specifier and family values exist together in the incoming MSU, both values in the translation must be none if either value is specified as none.

Search Order for the TCAP Opcode Based Routing Feature Translations with an ANSI Opcode

Table 14: Search Order for the TCAP Opcode Based Routing Feature Translations with an ANSI Opcode on page 70 shows the searching order for The TCAP Opcode Based Routing feature translations with an ANSI opcode. The ANSI opcode translations are matched to ANSI MSUs.

Table 14: Search Order for the TCAP Opcode Based Routing Feature Translations with an ANSI Opcode

Priority	TCAP Package Type	ANSI Opcode	Family
1	Exact (package type value)	Exact (the value none or a number)	Exact (the value none or a number)
2	Exact	Exact	Any
3	Exact	Any	Exact
4	Exact	Any	Any
5	Any	Exact	Exact
6	Any	Exact	Any

Priority	TCAP Package Type	ANSI Opcode	Family
7	Any	Any	Exact
8	Any	Any	Any

TCAP Opcode Based Routing Feature Translations with an ITU Opcode

The key for ITU opcode translations is the ITU opcode, the ITU TCAP Package Type, and the application context name (ACN). The ITU opcode values can be 0 to 255, None, and * (any opcode value). The value none indicates the absence of the opcode in the incoming MSU. The ITU TCAP Package Type values are Begin, End, Continue, Abort, Unidirectional, and Any. The ACN value can be 1 to 7 bytes - the value of each byte is from 0 to 255, none and Any. The none value indicates the absence of the ACN value in the incoming MSU. Though the VGTT feature is not supported for opcode GTT set, different digit length ACNs for the opcode GTT set can be provisioned. While provisioning, when ITU TCAP Package type is specified as Abort, then the ITU opcode and ACN values must be none. An ACN value cannot contain a mixture numbers, the value none, or the value Any. [Table 15: Valid and Invalid ACN Values](#) on page 71 shows the valid and invalid values for the ACN.

Table 15: Valid and Invalid ACN Values

ACN Value	Does The TCAP Opcode Based Routing Feature Support this ACN?	Information
Bytes 1-2-3-4-5	Yes	The remaining bytes are treated as None.
Bytes 1-2-3-4-5-6-7	Yes	
Byte 1	Yes	The remaining bytes are treated as None.
None	Yes	All the bytes are treated as None.
Any	Yes	All the bytes are treated as Any.
Byte 1-none-Byte 2	No	
Byte 1-any-Byte 3-Byte4	No	
Any-Byte1	No	
None-Any-Byte1	No	

Search Order for the TCAP Opcode Based Routing Feature Translations with an ITU Opcode

[Table 16: Search Order for the TCAP Opcode Based Routing Feature Translations with an ITU Opcode](#) on page 72 shows the search order for the TCAP Opcode Based Routing feature translations with an ITU opcode when the TCAP Opcode Based Routing feature is enabled and turned on. The ITU opcode translations are only matched to ITU MSUs. If any MSU contains a 7-byte ACN value, an attempt is made to match the 7-byte ACN values with the values in the database. If a match is not found, no attempt is made to match any 6-/5-/4-/3-/2-/1-byte ACN values in the database. An

attempt is made to match to any ACN=ANY entries in the database, if these entries are provisioned in the database.

Table 16: Search Order for the TCAP Opcode Based Routing Feature Translations with an ITU Opcode

Priority	TCAP Package Type	ANSI Opcode	ACN
1	Exact (package type value)	Exact (the value none or a number)	Exact (the value none or a number)
2	Exact	Exact	Any
3	Exact	Any	Exact
4	Exact	Any	Any
5	Any	Exact	Exact
6	Any	Exact	Any
7	Any	Any	Exact
8	Any	Any	Any

TCAP Segmentation SMS Support Phase 2

An objective of the TCAP Opcode Based Routing feature is to allow EAGLE 5 ISS to route segmented TCAP SMS messages in the same manner as non-segmented TCAP messages are routed. This would mean routing all TCAP SMS messages within a particular transaction to the same place. Routing rules based on the opcode are used to route messages for special application handling. These rules work well for non-segmented TCAP messages. However they do not work well for segmented TCAP messages, because the initial BEGIN message does not contain an opcode. These messages must be identified for special routing based on other criteria. The TCAP Opcode Based Routing feature achieves this discrimination by allowing the EAGLE 5 ISS to route messages based on the TCAP Opcode and Dialogue portion information in the message. The EAGLE 5 ISS uses the Application Context Name from the Dialogue portion to route the TCAP Begin messages without the component portion (and without the operation code). The same routing rules to route messages with an ACN and opcode, an ACN only, or an opcode only value can be used. GSM SMS messages work particularly well in this solution, because there is a 1 to 1 correspondence between the ACN and opcode values.

Hardware Requirements

To enable the TCAP Opcode Based Routing feature E5-SM4G cards must be provisioned in the database. Any DSMs must be replaced by the E5-SM4G cards.

Provisioning the TCAP Opcode Based Routing Feature

To provision the TCAP Opcode Based Routing feature, perform these steps.

1. Turn the GTT and EGTT features on using the `chg-feat` command. Add the required E5-SM4G cards to the database using the `ent-card` command. Perform [Adding a Service Module](#) on page 94.
2. Enable and turn on the TCAP Opcode Based Routing feature using the `enable-ctrl-feat` and the `chg-ctrl-feat` commands. Perform [Activating the TCAP Opcode Based Routing Feature](#) on page 985. To enable and turn on the TCAP Opcode Based Routing feature, the Flexible Linkset

Optional Based Routing feature must be enabled and turned on. The status of the Flexible Linkset Optional Based Routing feature is verified when [Activating the TCAP Opcode Based Routing Feature](#) on page 985 is performed.

3. Enable a TOBR Opcode Quantity using the `enable-ctrl-feat` command. Perform [Enabling a TOBR Opcode Quantity](#) on page 990.
4. Provision the required GTT sets using the `ent-gttset` command. Perform [Adding a GTT Set](#) on page 660.
5. Provision the required GTT translations using the `ent-gta` command. Perform [Adding Global Title Address Information](#) on page 727.
6. Provision the required GTT selectors using the `ent-gttset` command. Perform [Adding a GTT Selector](#) on page 690.

Upgrading from Global Title Translation (GTT) to Enhanced Global Title Translation (EGTT)

The Enhanced Global Title Translation (EGTT) feature provides enhancements to existing global title translation functions and automatically updates the database when the EGTT feature is turned on. Turning on the EGTT feature overrides the Global Title Translation (GTT) feature. This section provides a high-level summary of feature enhancements, the upgrade process, and upgrade considerations for the GTT and EGTT features.

Note: Before upgrading to and/or turning on a new feature, make sure you have purchased the feature to be upgraded to and/or turned on. If you are not sure whether you have purchased the feature, contact your Tekelec Sales Representative or Account Representative.

Enhancements

The Enhanced Global Title Translation (EGTT) feature provides enhancements to existing global title translation functions:

- Increased number of selectors
- For ITU networks, addition of the translated subsystem number (SSN) in the called party address (CDPA) when octet is not equipped
- For ITU networks, inclusion of the originating point code (OPC) in the calling party address (CGPA)
- Capability to delete the global title (GT) in the called party address (CDPA)
- GTAs can be added offline to the EAGLE 5 ISS if the GTT set has not yet been assigned to a GTT selector.
- Aliasing is replaced by assigning multiple GTT selectors to an existing GTT set.
- Automatic upgrade of the database when the EGTT feature is turned on.

Upgrade Considerations

Enabling the Enhanced Global Title Translation (EGTT) feature overrides the Global Title Translation (GTT) feature. The GTT Selector, GTT Set, and GTA commands replace the Translation Type (-TT) and Global Title Translation (-GTT) commands, which are no longer accepted and create error messages when entered. The SEAS equivalent of these commands will be maintained, mapping to ANSI with GTI of 2.

The following commands will be rejected when the EGTT feature is turned on:

- ENT-TT – Enter Translation Type
- CHG-TT – Change Translation Type
- DLT-TT – Delete Translation Type
- RTRV-TT – Retrieve Translation Type
- ENT-GTT – Enter Global Title Translation
- CHG-GTT – Change Global Title Translation
- DLT-GTT – Delete Global Title Translation
- RTRV-GTT – Retrieve Global Title Translation

Note: When the EGTT feature is turned on, all data previously provisioned with the obsolete commands will be maintained.

The following commands will be turned on when the EGTT feature is turned on:

- ENT-GTTSET – Enter GTT Set
- CHG-GTTSET – Change GTT Set
- DLT-GTTSET – Delete GTT Set
- RTRV-GTTSET – Retrieve GTT Set
- ENT-GTTSEL – Enter GTT Selector
- CHG-GTTSEL – Change GTT Selector
- DLT-GTTSEL – Delete GTT Selector
- RTRV-GTTSEL – Retrieve GTT Selector
- ENT-GTA – Enter Global Title Address
- CHG-GTA – Change Global Title Address
- DLT-GTA – Delete Global Title Address
- RTRV-GTA – Retrieve Global Title Address

GTT Set Commands

GTT Set commands are used to provision new sets for global title translation, linking GTT Selector (-GTTSEL) and Global Title Address (-GTA) commands. This set of commands provides greater flexibility when provisioning the type of messages that require global title translation. There are no SEAS equivalents for these commands.

GTT Selector Commands

GTT Selector commands are used to provision new selectors for global title translation. Together with the GTT Set commands, they replace the Translation Type (-TT) commands, providing greater flexibility when provisioning the type of messages that require global title translation. There are no SEAS equivalents for these commands.

GTA Commands

GTA commands are used to provision GTTs using the new selectors for GTT. These commands replace the Global Translation Type (-GTT) commands.

Upgrade Process

When existing systems are upgraded from the GTT feature to the EGTT feature, the GTT_TBT table is converted to the GTT Selector and GTT Set tables using the data present in the GTT_TBT table. Set names are automatically picked for each entry in the GTT_TBT table, unless a TT Name is already provided. ANSI translation types are converted as is and given the GTI of 2. ITU translation types are converted to use two separate entries, one with the GTI of 2 and the other with the GTI of 4. During the conversion, DFLT (default) is assigned to the NP and NAI parameters for the GTI 4 entries. These values can then be changed to more specific values with the `ent-gttset` command.

Aliases versus Selectors

One of the important differences between the GTT and EGTT features is the more flexible creation and use of “aliases”, which are replaced by selectors in the EGTT feature. Global title translation data can be built before bringing it into service and the service to existing global titles remains uninterrupted by allowing selector values to be changed instead of having to be deleted.

The flexibility in assigning selectors to sets of global title translation data is shown in [Table 17: Use of Aliases in GTT Selector Table](#) on page 75 in the reuse of the selector for `setint000`. In this example, you can break up GTT selectors into more specific entries (other than `dfлт`) without having to delete the entire GTT data set for a selector.

GTT data can be built without being used until a link is added to a selector (specifying GTTSN with the `CHG-GTTSEL` command). At the same time, selectors can be changed without affecting existing global titles.

[Table 17: Use of Aliases in GTT Selector Table](#) on page 75 shows an alias entry, GTII=4, TT=0, NP=E164, NAI=INTL, added to the same GTT set `setint000` as several other selectors.

Table 17: Use of Aliases in GTT Selector Table

GTIA	TT	NP	NAI	GTTSN
2	1	---	---	setans001
2	9	---	---	lidb
2	10	---	---	t800
2	253	---	---	t800
GTII	TT	NP	NAI	GTTSN
4	0	DFLT	DFLT	setint000
2	0	---	---	setint000
4	9	DFLT	DFLT	IMSI
2	9	---	---	IMSI
4	18	DFLT	DFLT	IMSI
2	18	---	---	IMSI
4	0	E164	INTL	setint000

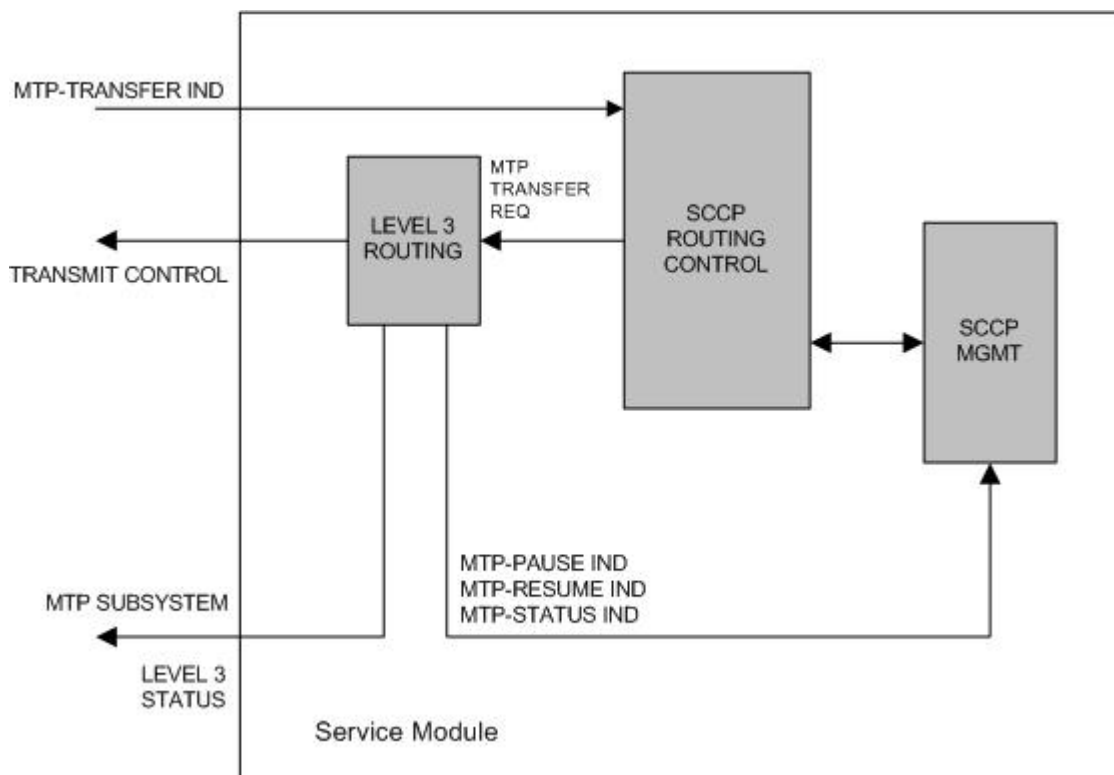
SCCP Overview

The signaling connection control part (SCCP) is divided into two functions:

- SCCP Routing Control
- SCCP Management

[Figure 11: Logical View of SCCP Subsystems](#) on page 76 shows the relationship of these two functions.

Figure 11: Logical View of SCCP Subsystems



SCCP Routing Control

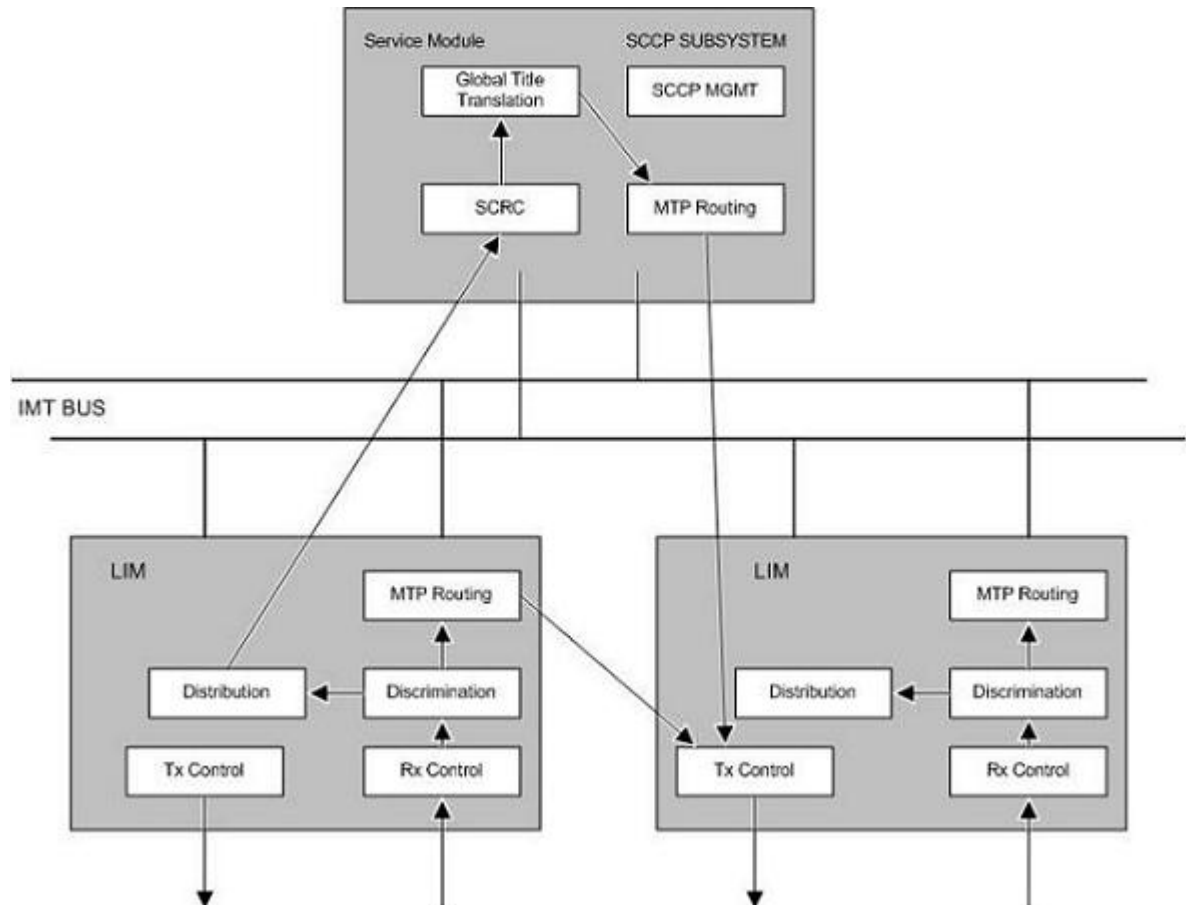
SCCP routing control receives messages from other nodes in the network via the MTP-Transfer indication.

A load balancing function assigns each LIM to a service module to distribute the SCCP traffic among the available service modules. When a LIM receives an SCCP message that is destined for the EAGLE 5 ISS, it sends the message to the service module assigned to that LIM. If that LIM does not have a service module assigned to it, the LIM discards the SCCP message. If no service modules are equipped or available, the SCCP message is discarded and the LIM transmits a User Part Unavailable MSU to the sending node.

When a LIM receives an SCCP message that is destined for another node, the LIM performs MTP routing and the SCCP message is not sent to the service module. [Figure 12: SCCP Message Flow](#)

[through the EAGLE 5 ISS](#) on page 77 shows the message flow for an SCCP message destined for the EAGLE 5 ISS and for an SCCP message destined for another node.

Figure 12: SCCP Message Flow through the EAGLE 5 ISS



When SCCP receives a message from MTP, it checks the routing indicator in the called party address. There are two types of routing shown by the called party address routing indicator.

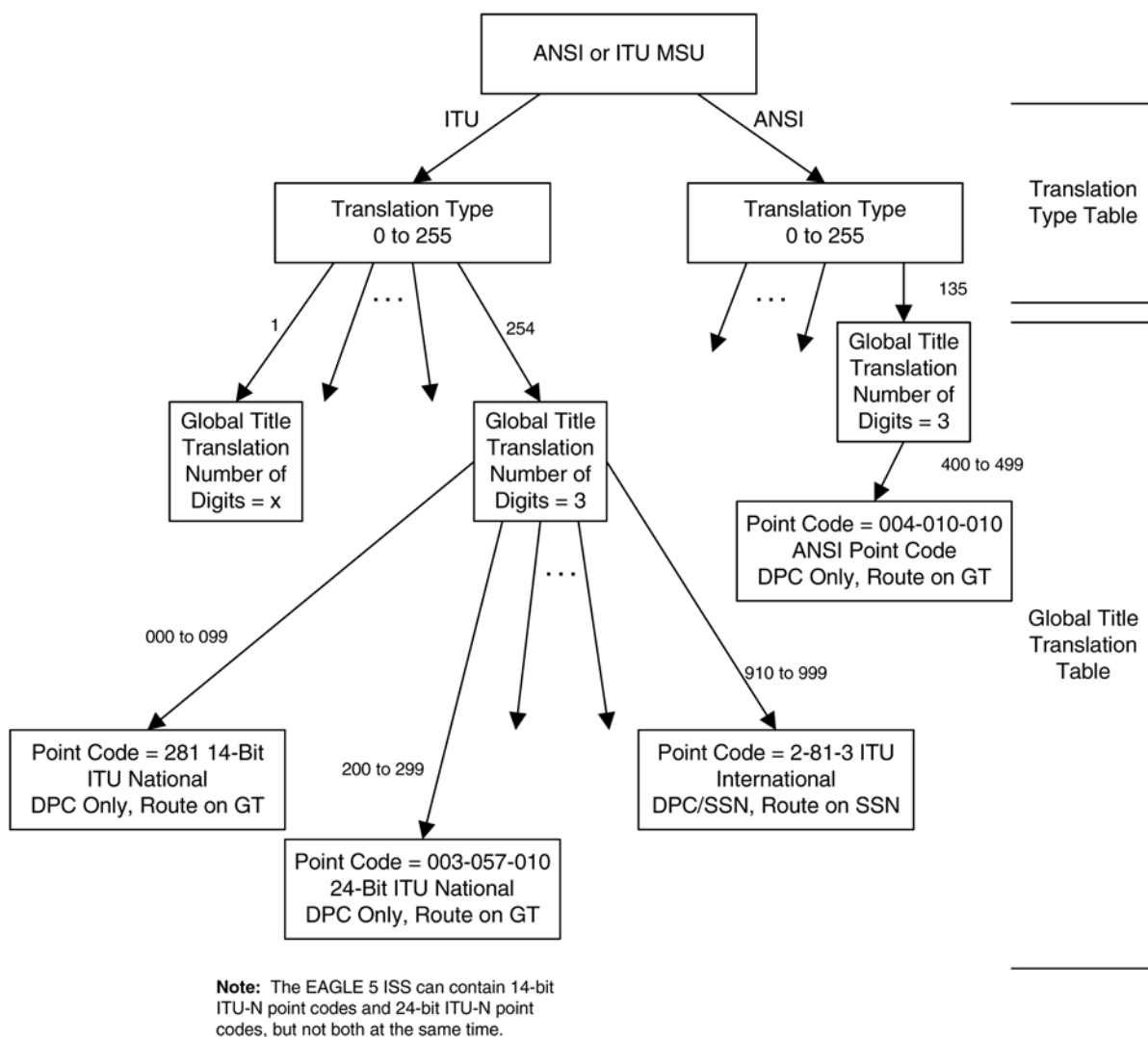
1. Subsystem (ssn) – This indicates the message is destined for a subsystem at this node. For the EAGLE 5 ISS, the only valid local subsystem is SCCP management (ssn = 1). If the LNP feature is enabled, the EAGLE 5 ISS contains an LNP subsystem which can be numbered from 2 to 255. The LNP subsystem number can be configured with the Adding a Subsystem Application procedure in the *LNP Feature Activation Guide*.
2. Global Title (gt) – This indicates that global title translation is required. The EAGLE 5 ISS performs the translation, determines the new DPC for the message, and routes the message to that DPC.

Global Title Translation Function

Interaction with the Global Title Translation (GTT) Feature

The SCCP routing function control uses two tables to perform global title translation: the translation type table and the global title translation table. [Figure 13: Example of Using Translation Type and Global Title Translation Tables](#) on page 78 shows how these tables are organized.

Figure 13: Example of Using Translation Type and Global Title Translation Tables



The translation type table is used by SCCP to determine which global title translation table to access. This allows translation tables to be customized to the type of translations that need to be performed, (for example, 6 digit, 800, etc.). The translation block is accessed by using the translation type in the called party address and the network type of the MSU (ANSI or ITU) as an index within the table. Each entry points to the start of a global title translation table.

The translation type table is configured by the `ent-tt` command. For more information on the `ent-tt` command, refer to the *Commands Manual*.

Each translation type entry in the translation type table contains these fields:

- name of translation type (optional) (8 bytes)
- number of digits (1 byte)
- alias translation type (2 bytes)
- pointer to translation table (4 bytes)
- network type (1 byte)

The global title translation table is used by SCCP to map a global title address to an SS7 network address so that the SCCP message can be routed to its destination. The global title translation table is configured by the `ent-gtt` or `chg-gtt` commands. For more information on the `ent-gtt` or `chg-gtt` commands, refer to the *Commands Manual*.

Each global title translation entry in the global title translation table contains these fields:

- Global title address low value (up to 21 digits) (11 bytes)
- Global title address high value (up to 21 digits) (11 bytes)
- Destination point code (may be an ANSI, ITU national, or ITU international point code) (4 bytes)
- Field that contains either a subsystem number (for route on SSN translation results only) (1 byte) or a new translation type (for new GT translation result only) (1 byte)
- Translation result consisting of one of these conditions (1 byte):
 - Translate on the DPC only, route on GT (subsequent global title translation required)
 - Translate on the DPC only, route on SSN
 - Translate on the DPC and SSN, route on GT (subsequent global title translation required)
 - Translate on the DPC and SSN, route on SSN
 - Translate on new GT (subsequent global title translation required)

The translation result determines what data in the message is replaced. The DPC in the routing label is always replaced after the SCCP message is translated. If a point code exists in the called party address, it is also replaced. The subsystem number or the translation type in the called party address can be replaced, but neither have to be replaced. The routing indicator in the called party address can be set to "route on SSN," or can remain set to "route on GT." [Table 18: MSU Fields Modified by Global Title Translation](#) on page 79 shows which fields in the MSU are modified for each translation result.

Table 18: MSU Fields Modified by Global Title Translation

Translation result	Routing Label DPC replaced	CDPA SSN replaced	CDPA routing indicator replaced	CDPA translation type replaced	CDPA PC replaced (if it already exists)
Translate on DPC only, route on GT	yes	no	no – remains set to route on GT	Can be replaced (See note)	yes
Translate on DPC only, route on SSN	yes	no	yes – set to route on SSN	no	yes

Translation result	Routing Label DPC replaced	CDPA SSN replaced	CDPA routing indicator replaced	CDPA translation type replaced	CDPA PC replaced (if it already exists)
Translate on DPC and SSN, route on GT	yes	yes	no – remains set to route on GT	no	yes
Translate on DPC and SSN, route on SSN	yes	yes	yes – set to route on SSN	no	yes
Translate on new GT	yes	no	no – remains set to route on GT	yes	yes
Note: The CDPA translation type can be replaced when translating on the DPC only and routing on GT only if the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is not enabled when translating on the DPC only and routing on GT, the CDPA translation type cannot be replaced.					

Route on GT

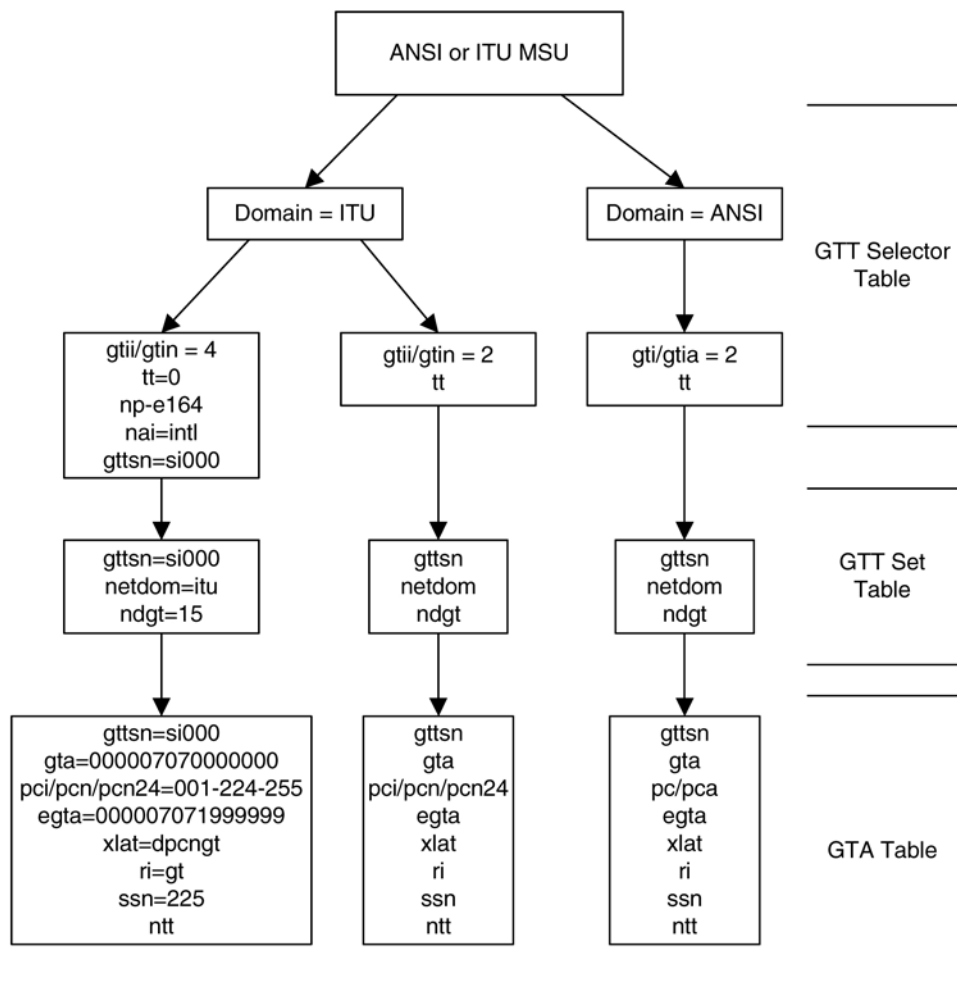
The “Route on GT” translate indicator (subsequent global title translation required) represents the need for a second translation after the initial one.

This need is indicated by the routing bit being set to “route on GT.” In this case, the remote point code table is not checked for status of the subsystem number. Instead, the MSU is sent directly to MTP for routing to the translated point code. If the point code is inaccessible, the MSU is discarded, and a UDTs (unitdata service) message is generated if the return on error option is set.

Interaction with the Enhanced Global Title Translation (EGTT) Feature

The SCCP routing function control uses three tables to perform global title translation: the GTT Selector table, the GTT Set table, and the global title address (GTA) table. The GTT Set table together with the GTT Selector table is used by the SCCP to determine which GTA table to access. This allows translation tables to be customized to the type of translations that need to be performed.

Figure 14: Example of Using GTT Selector, GTT Set, and GTA Tables



The GTT Set table is configured by the `ent-gttset` command; the GTT Selector table is configured by the `ent-gttset1`. For more information on this command, refer to the *Commands Manual*.

Each GTT Set table contains these fields:

- GTT Set name
- Network domain name
- Number of digits

Each GTT Selector table contains these fields:

- GTT Set name
- The global title indicator (GTI). The GTI defines the domain as
 - `gti` and `gtia` (ANSI) with GTI=2
 - `gtii` (ITU international) with GTI=2 or GTI=4, and
 - `gtin` (ITU national) with GTI=2 or GTI=4.

The global title indicator is made up of the:

- name of the global title translation type (TT); and the
- numbering plan (NP) or numbering plan value (NPV) if GTI=4; and the
- nature of address indicator (NAI) or nature of address indicator value (NAIV) if GTI=4.

Note: Both the numbering plan and nature of address indicator parameters can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter.

The GTA table is used by the SCCP to map a global title address to an SS7 network address so that the SCCP message can be routed to its destination. The GTA table is configured by the `ent-gta` or `chg-gta` commands. For more information on the `ent-gta` or `chg-gta` commands, refer to the *Commands Manual*.

Each global title address entry in the GTA table contains these fields:

- GTT Set name
- Start of the global title address (up to 21 digits)
- End of the global title address (up to 21 digits)
- Destination point code (may be an ANSI, ITU national, or ITU international point code)
- Translated subsystem number
- Translate indicator
- Cancel Called Global Title indicator
- Routing indicator (translation results)
 - Translate on the DPC only, route on GT (subsequent global title translation required)
 - Translate on the DPC only, route on SSN
 - Translate on the DPC and SSN, route on GT (subsequent global title translation required)
 - Translate on the DPC and SSN, route on SSN
 - Translate on new GT (subsequent global title translation required)

The translation result determines what data in the message is replaced. The DPC in the routing label is always replaced after the SCCP message is translated. If a point code exists in the called party address, it is also replaced. The subsystem number or the translation type in the called party address can be replaced, but neither have to be replaced. The routing indicator in the called party address can be set to "route on SSN" or can remain set to "route on GT." [Table 19: MSU Fields Modified by Enhanced Global Title Translation](#) on page 82 shows which fields in the MSU are modified for each translation result.

Table 19: MSU Fields Modified by Enhanced Global Title Translation

Translation result	Routing Label DPC replaced	CDPA SSN modified	CDPA routing indicator replaced	CDPA translation type replaced	CDPA PC replaced (if it already exists)	GT Deleted
Translate on DPC only, route on GT	yes	no	no – remains set to route on GT	Can be replaced (See note)	yes	no

Translation result	Routing Label DPC replaced	CDPA SSN modified	CDPA routing indicator replaced	CDPA translation type replaced	CDPA PC replaced (if it already exists)	GT Deleted
Translate on DPC only, route on SSN	yes	no	yes – set to route on SSN	no	yes	yes
Translate on DPC and SSN, route on GT	yes	yes	no – remains set to route on GT	no	yes	no
Translate on DPC and SSN, route on SSN	yes	yes	yes – set to route on SSN	no	yes	yes
Translate on new GT	yes	no	no – remains set to route on GT	yes	yes	no
Note: The CDPA translation type can be replaced when translating on the DPC only and routing on GT only if the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is not enabled when translating on the DPC only and routing on GT, the CDPA translation type cannot be replaced.						

Route on GT

The “Route on GT” translate indicator (subsequent global title translation required) represents the need for a second translation after the initial one.

This need is indicated by routing being set to “route on GT.” In this case, the remote point code table is not checked for status of the subsystem number. Instead, the MSU is sent directly to MTP for routing to the translated point code. If the point code is inaccessible, the MSU is discarded, and a UDTS (unitdata service) message is generated if the return on error option is set.

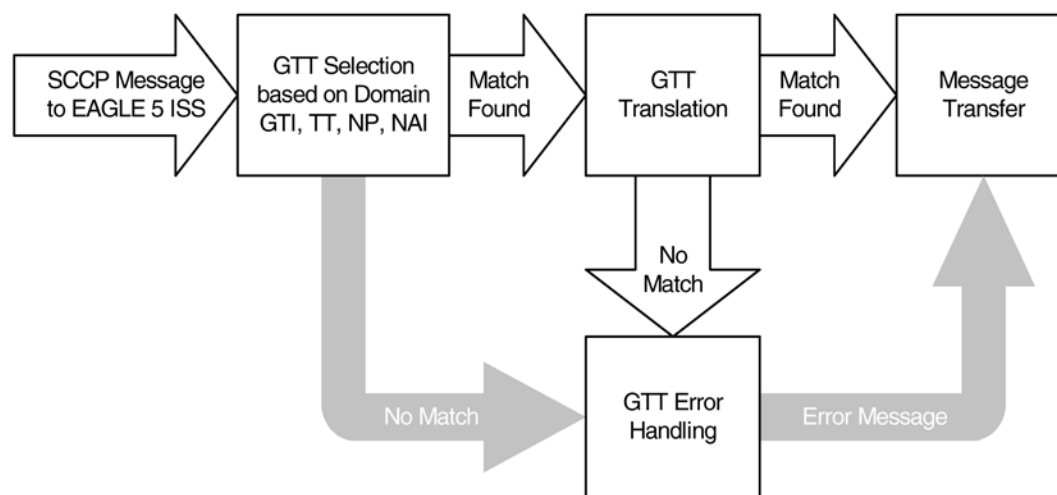
1. If an MSU enters the EAGLE 5 ISS and more information is needed to route the MSU (route-on-gt), the signaling connection control part (SCCP) of the SS7 protocol sends a query to a service database to obtain the information. The EAGLE 5 ISS uses the Enhanced Global Title Translation (EGTT) feature of SCCP to determine which service database to send the query messages to.
2. The EGTT feature uses global title information (GTI) to determine the destination of the MSU. The GTI is contained in the called party address (CDPA) field of the MSU. For `gt.i=4`, the GTI is made up of the Numbering Plan (NP), Nature of Address Indicator (NAI), and Translation Type (TT) selectors.

3. The EGTT feature does a Selector Table lookup based on the selector information extracted. If a match is found, then EGTT is performed on the message. If no match is found in the selector table for this entry, then EGTT performs SCRC error handling on the message.
4. The EGTT feature decodes the GTAI digits and compares the GTAI length with the fixed number of digits specified in the `ndgt` parameter of the `ent-gtt sel` command and expected by the translator. If the number of digits received in the CDPA is more than the number of digits specified in the `ndgt` parameter, then the EGTT feature considers the leading `ndgt` digits to perform the translation. If the number of digits received in the CDPA is less than the number of digits specified in the `ndgt` parameter, then EGTT discards the message and initiates the SCRC error handling.

Note: If the optional Variable-length Global Title Translation (VGTT) feature is enabled, the EGTT feature allows enhanced global title translation on global title addresses of varying length. For more information about this feature, refer to [Variable-length Global Title Translation Feature](#) on page 24 .

5. The EGTT feature uses the number of digits received in the CDPA to perform the Translation Table lookup. If a match is found in the database, the translation data associated with this entry is used to modify the message and the resultant message is routed to the next node. If the CDPA GTAI digits are not found in the database, then standard SCRC error handling is performed on this message. Refer to [Figure 15: EGTT Process](#) on page 84.

Figure 15: EGTT Process



Route on SSN

The “Route on SSN” translate indicator indicates that the point code and SSN is the final destination for the MSU. In this case, the remote point code table is checked to determine the status of the point code and the subsystem number. If the point code or subsystem is unavailable and a backup point code and subsystem is available, the MSU is routed to the backup. Routing to the point codes or subsystems is based upon the data in the remote point code table. There can be up to 31 backup point codes and subsystems assigned to the primary point code and subsystem, thus forming a mated application (MAP) group.

The routing to these backup point codes is based on the relative cost values assigned to the backup point codes. The lower the relative cost value is, the higher priority the point code and subsystem has in determining the routing when the primary point code and subsystem is unavailable. The

relative cost value of the primary point code and subsystem is defined by the `rc` parameter of the `ent-map` or `chg-map` commands. The relative cost value of backup point codes and subsystems is defined by the `materc` parameter of the `ent-map` or `chg-map` commands.

There are four routing possibilities for a point code and subsystem number:

- Solitary – there is no backup point code and subsystem for the primary point code and subsystem.
- Dominant – a group of backup point codes and subsystems exists for the primary point code and subsystem. All the point codes and subsystems in this group have different relative cost values, with the primary point code and subsystem having the lowest relative cost value. All traffic is routed to the primary point code and subsystem, if it is available. If the primary point code and subsystem becomes unavailable, the traffic is routed to highest priority backup point code and subsystem that is available. When the primary point code and subsystem becomes available again, the traffic is then routed back to the primary point code and subsystem.
- Load sharing – a group of backup point codes and subsystems is defined for the primary point code and subsystem. All the point codes and subsystems in this group have the same relative cost value. Traffic is shared equally between the point codes and subsystems in this group.
- Combined dominant/load sharing – a group that is a combination of the dominant and load sharing groups. A combined dominant/load shared group is a group that contains a minimum of two RC (relative cost) values that are equal and a minimum of one RC value that is different. The traffic is shared between the point codes with the lowest relative cost values. If these point codes and subsystems become unavailable, the traffic is routed to the other point codes and subsystems in the group and shared between these point codes and subsystems.

For each point code, the user has the option of setting the `mrc` (message reroute on congestion) parameter. The `mrc` parameter, as well as the other data in the remote point code table, is set with the `ent-map` or `chg-map` commands. For more information on the `ent-map` or `chg-map` commands, refer to the *Commands Manual*.

If the `mrc` parameter is set to `no`, and the primary point code is congested, the MSU is discarded, even if a backup point code and subsystem is available. If the `mrc` parameter is set to `yes`, and the primary point code is congested, the MSU is routed to the backup point code and subsystem, if it is available. The default value for the `mrc` parameter is `no` if the primary point code is an ITU national or international point code, and `yes` if the primary point code is an ANSI point code.

SCCP Management

SCCP management is responsible for rerouting signaling traffic when network failures or congestion conditions occur.

MTP network management informs SCCP of any changes in point code routing status. Changes in subsystem status are updated by using the subsystem allowed and subsystem prohibited procedures of SCCP management.

SCCP management updates the status of point codes and subsystems. Also, SCCP management broadcasts subsystem allowed and prohibited messages to concerned nodes. The EAGLE 5 ISS supports a broadcast list of up to 96 concerned nodes for each subsystem. This list is configured with the `ent-cspc` command. For more information on the `ent-cspc` command, refer to the *Commands Manual*.

For ANSI primary point codes, if the backup point code and subsystem are adjacent when the subsystem becomes prohibited or allowed, these messages are sent to the backup subsystem before routing any messages to it:

- Subsystem prohibited or allowed message
- Subsystem backup routing or subsystem normal routing message

These messages are not required in ITU networks, so if the primary point code is either an ITU national or international point code, these messages are not sent.

Translation Type Mapping

Certain SCCP messages contain a called party address parameter that contains a translation type field. The translation type field indicates the type of global title processing the EAGLE 5 ISS must perform. The values used within any particular network may be different than the standardized values that are defined for internetwork applications.

The translation type mapping feature maps standardized internetwork translation type values to intranetwork translation type values used within any particular network. This feature also maps intranetwork translation type values to standardized internetwork translation type values.

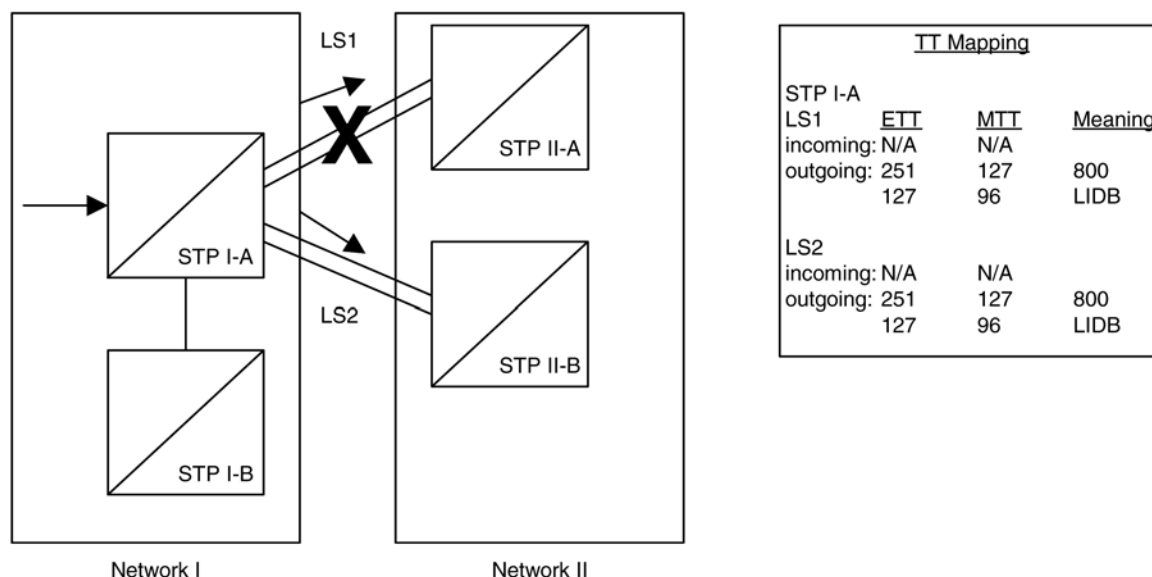
The only SCCP messages that are affected by translation type mapping are UDT and XUDT messages, received or transmitted, whose global title indicator is 0010 (ANSI/ITU) or 0100 (ITU). The translation type will be modified for these messages regardless of whether the destination point code in the MTP routing label is an EAGLE 5 ISS point code and regardless of the SCCP CdPA routing indicator value. Other messages that contain the called party address parameter are not affected. For example, UDTS messages are assumed to be MTP routed and need not be examined. XUDTS messages are either MTP routed or use one translation type value indicating global title to point code translation and should not be mapped.

Translation type mapping is performed on each LIM in the linkset. Incoming translation type mapping is performed on linksets bringing messages into the EAGLE 5 ISS, and is performed before the global title translation function, the gateway screening function, or the MSU copy function associated with the STPLAN feature. Outgoing translation type mapping is performed on linksets carrying messages out of the EAGLE 5 ISS to other destinations, and is performed after the global title translation function, the gateway screening function, or the MSU copy function associated with the STPLAN feature.

When outgoing translation type mapping is configured and the MSU is copied for the STPLAN feature, the copied MSU is mapped. This is done because the mapped translation type may have a different meaning in the local network, causing the MSU to be interpreted incorrectly.

When outgoing translation type mapping is configured and the MSU must be re-routed due to a changeback or signaling link failure, the re-routed MSU could be double mapped. This is a limitation since re-screening or re-translating (with possible incorrect results) can occur by performing the global title translation and gateway screening functions on the mapped MSU. [Figure 16: An Example of Double Translation Type Mapping](#) on page 86 shows an example of a translation type that is double mapped.

Figure 16: An Example of Double Translation Type Mapping



In [Figure 16: An Example of Double Translation Type Mapping](#) on page 86, MSUs on the outgoing linkset LS1 containing the existing translation type (ETT) 251 are mapped to translation type 127 (MTT). MSUs on the outgoing linkset LS2 containing the existing translation type 127 are mapped to translation type 96. Linkset LS1 fails and the traffic is re-routed on linkset LS2. Any outgoing traffic that was on linkset LS1 containing the translation type 251 has been changed to translation type 127. When this traffic is re-routed on linkset LS2, the translation type of the messages that was changed to 127 remains 127 and is not changed back to 251. When the messages are sent over linkset LS2, the existing translation type 127 is changed to translation type 96. This is an example of double mapping a translation type. In this example, the messages leaving network 1 on linkset LS1 were mapped to translation type 127, an “800” translation type. Because of double mapping, that translation type was changed to 96, a “LIDB” translation type. These messages can be routed to the wrong subsystem database; or if gateway screening is configured to screen for these messages, these messages could be discarded before they leave network 1, and network 2 would never receive them.

To help prevent this from happening, configure the incoming traffic on the linkset to map the mapped translation type of the outgoing traffic on that linkset (MTT) to the existing translation type for outgoing traffic on that linkset (ETT). In this example, for incoming traffic on linksets LS1 and LS2, map the existing translation type 127 (the mapped translation type for outgoing traffic on these linksets) to the mapped translation type 251 (the existing translation type for outgoing traffic on these linksets). When linkset LS1 fails, the incoming messages on linkset LS2 containing translation type 127, including those that were mapped to 127 on linkset LS1 and are now being rerouted, are now mapped to translation type 251. When these messages become outgoing messages on linkset LS2, those messages containing translation type 251 are mapped to translation type 127 instead of 96. These messages can then continue to be routed to the proper subsystem database. If gateway screening is configured to screen for and discard messages with translation type 96, the rerouted messages are not effected by the results of the translation type mapping.

If the database transport access feature is being used, and the MSU encapsulated by the gateway screening redirect function contains a translation type that must be mapped on an incoming basis, the encapsulated MSU contains the mapped translation type. The translation type of the new MSU is obtained from the gateway screening redirect table.

The EAGLE 5 ISS supports 64 translation type mappings for each linkset. This includes both incoming and outgoing translation type mappings. Since the EAGLE 5 ISS supports a total of 1024 linksets, the total number of translation type mappings that can be configured in the EAGLE 5 ISS is 65,536.

The translation type mapping information is configured in the database using the `ent-ttmap`, `chg-ttmap`, `dlt-ttmap`, and `rtrv-ttmap` commands.

GTT Configuration

The following procedures describe the steps needed to add, remove, or change global title translation (GTT) data in the database.

Note: The Global Title Translation (GTT) feature must be purchased before enabling the features with the `chg-feat:gtt=on` command. If you are not sure whether you have purchased the GTT feature, contact your Tekelec Sales Representative or Account Representative.

The items configured in this section are:

- Service modules
- Translation type mapping
- Concerned signaling point codes
- Mated applications
- Mated relay nodes.
- GT conversion table entries for the ANSI-ITU-China SCCP Conversion feature
- Loopsets for the SCCP Loop Detection feature.

To configure the global title translation feature, translation types and global title translations must also be configured. The procedures to configure translation types and global title translations are located in [Global Title Translation \(GTT\) Configuration](#) on page 545.

The procedures shown in this chapter use a variety of commands. If more information on these commands is needed, refer to the *Commands Manual* to find the required information.

There must be SS7 routes to the nodes referenced by the global title translation entities in the database. Perform one of the Adding a Route procedures in the *Database Administration Manual – SS7* to configure these routes.

The following is a brief description of the global title translation entities. These global title translation entities must be configured in the order that they are shown.

1. The GTT feature must be turned on with the `chg-feat:gtt=on` command. Verify this with the `rtrv-feat` command.

Note: Once the Global Title Translation (GTT) feature is enabled with the `chg-feat` command, it cannot be disabled.

The GTT feature must be purchased before enabling this feature. If you are not sure whether you have purchased the GTT feature, contact your Tekelec Sales Representative or Account Representative.

2. A service module must be configured in the database with the `ent-card` command. A service module can be one of these cards: DSM or E5-SM4G. The DSM or E5-SM4G is specified with the `type=dsm` and `appl=vsccp` parameters of the `ent-card` command. See [Table 20: Service](#)

[Module and Feature Combinations](#) on page 94 for the required cards. The card configuration can be verified with the `rtrv-card` command.

3. A translation type must be defined in the database. Verify this with the `rtrv-tt` command. If the necessary translation types are not in the database, add them with the `ent-tt` command. The translation type is used by the `ent-gtt` command and defines the length of the global title address.

If the Variable-length Global Title Translation (VGTT) feature is being used, it must be enabled with the `chg-feat:vgtt=on` command. Verify this with the `rtrv-feat` command. Refer to [Variable-length Global Title Translation Feature](#) on page 24 for more information on this feature.

Note: Once the Variable-length Global Title Translation (VGTT) feature is enabled with the `chg-feat` command, it cannot be disabled.

The VGTT feature must be purchased before enabling this feature. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

4. The translation type can be mapped to another translation type. This is a function of the translation type mapping feature. The translation type mapping feature maps standardized internetwork translation type values to intranetwork translation type values used within any particular network. This feature also maps intranetwork translation type values to standardized internetwork translation type values. Enter the `rtrv-ttmap` command to verify that the necessary translation type mapping information is in the database. Enter the necessary translation type mapping information in the database using the `ent-ttmap` command.
5. The concerned signaling point code broadcast groups must be defined in the database. These groups define the point codes that receive subsystem allowed and subsystem prohibited status messages about a particular global title translation node. These messages are broadcast from SCCP management. Verify that these groups are in the database with the `rtrv-cspc` command. If these groups are not in the database, add them with the `ent-cspc` command.
6. The mated applications must be defined in the database. The mated applications are the point codes and subsystem numbers of the service databases along with parameters describing the routing between replicated pairs of service databases. Verify the mated application information in the database with the `rtrv-map` command. If the necessary mated application information is not in the database, add the necessary information with the `ent-map` command.

If the XMAP Table Expansion feature is to be used to increase the number of mated application entries in the mated application table to either 2000 or 3000 entries, the XMAP Table Expansion feature must be enabled with the `enable-ctrl-feat` command. Verify the status of the XMAP Table Expansion feature with the `rtrv-ctrl-feat` command.

The mated applications provide load sharing of the traffic between replicated pairs of service databases. The Flexible GTT Load Sharing feature provides more flexible load sharing capabilities for final global title translations (global title translation containing the routing indicator value SSN) than the mated applications can provide without the Flexible GTT Load Sharing feature enabled. With this feature enabled, MAP sets are provisioned. These MAP sets are assigned to global title translations. See the [Flexible Final GTT Load Sharing](#) on page 34 section for more information on using the Flexible GTT Load Sharing feature with mated applications.

Load sharing based on the transaction parameters of the message can be performed if the Transaction-Based GTT Load Sharing feature is enabled and turned on. See the [Transaction-Based](#)

[GTT Load Sharing](#) on page 52 section for more information on using the Transaction-Based GTT Load Sharing feature.

Load sharing based on the weight assigned to an individual entities in a load sharing MAP group can be performed if the Weighted GTT Load Sharing feature is enabled and turned on. Refer to the [Weighted GTT Load Sharing](#) on page 45 section for more information on using the Weighted GTT Load Sharing feature.

7. The global title translation data must be defined in the database. This data is used to determine the destination of the service database that needs to be queried for additional routing information. Verify this with the `rtrv-gtt` command. If the necessary global title translation information is not in the database, add it with the `ent-gtt` command.

If the Advanced GT Modification feature is being used, it must be enabled with the `enable-ctrl-feat` command. Verify this with the `rtrv-ctrl-feat` command. Refer to the [Advanced GT Modification Feature](#) on page 26 section for more information on this feature.

Note: Once the Advanced GT Modification feature is enabled, it cannot be disabled.

If the XGTT Table Expansion feature is to be used to increase the number of mated application entries in the mated application table to either 400,000 or 1,000,000 entries, the XGTT Table Expansion feature must be enabled with the `enable-ctrl-feat` command. Verify the status of the XGTT Table Expansion feature with the `rtrv-ctrl-feat` command.

The ANSI-ITU-China SCCP Conversion feature provides a means to perform SCCP conversion between ANSI MSUs and ITU MSUs. To perform this conversion, the ANSI-ITU-China SCCP Conversion feature must be enabled with the `enable-ctrl-feat` command, and turned on with the `chg-ctrl-feat` command. Verify the status of the ANSI-ITU-China SCCP Conversion feature with the `rtrv-ctrl-feat` command. Entries must be also configured in the GT conversion table with the `ent-gtcnv` command. The content of the GT conversion table can be verified with the `rtrv-gtcnv` command.

The global title address (`gta` and `egta`) values for the global title translation, and the prefix (`npds`) and suffix (`nsds`) values specified for the global title translation and for entries in the GT conversion table can be decimal digits (0-9) or hexadecimal digits (0-9, a-f, A-F). Hexadecimal digits can be specified only if the Hex Digit Support for GTT feature is enabled. Verify the status of the Hex Digit Support for GTT feature with the `rtrv-ctrl-feat` command. See the [Hex Digit Support for GTT](#) on page 42 section for more information on this feature.

The SCCP Loop Detection feature provides a method for detecting SCCP looping. With this feature enabled, loopsets are provisioned. These loopsets are assigned to Global Title Translations. See the [SCCP Loop Detection](#) on page 57 section for more information on using the SCCP Loop Detection feature with Global Title Translations.

8. The mated relay node groups can be defined in the database if the Intermediate GTT Load Sharing feature is to be used. Verify this with the `rtrv-mrn` command. If the necessary global title translation information is not in the database, add it with the `ent-mrn` command.

The Intermediate GTT Load Sharing (IGTTLS) feature must be enabled with the `enable-ctrl-feat` and `chg-ctrl-feat` commands. Verify this with the `rtrv-ctrl-feat` command. Refer to the [Intermediate GTT Load Sharing Feature](#) on page 27 section for more information on this feature.

The Flexible GTT Load Sharing feature provides more flexible load sharing capabilities for intermediate global title translations (global title translation containing the routing indicator value GT) than the Intermediate GTT Load Sharing feature can provide. With this feature enabled, MRN sets are provisioned. These MRN sets are assigned to global title translations.

See the [Flexible Intermediate GTT Load Sharing](#) on page 32 section for more information on using the Flexible GTT Load Sharing feature with mated relay node groups.

Load sharing based on the transaction parameters of the message can be performed if the Transaction-Based GTT Load Sharing feature is enabled and turned on. See the [Transaction-Based GTT Load Sharing](#) on page 52 section for more information on using the Transaction-Based GTT Load Sharing feature.

Load sharing based on the weight assigned to an individual entities in a load sharing MRN group can be performed if the Weighted GTT Load Sharing feature is enabled and turned on. See the [Weighted GTT Load Sharing](#) on page 45 section for more information on using the Weighted GTT Load Sharing feature.

EGTT Configuration

To configure the enhanced global title translation feature, GTT sets, GTT selectors and global title address information must also be configured in addition to the service modules, translation type mapping, concerned signaling point codes, mated applications, mated relay nodes, and GT conversion table entries for the ANSI-ITU-China SCCP Conversion feature shown in the [GTT Configuration](#) on page 88 section. The procedures to configure GTT sets, GTT selectors and global title address information are located in [Enhanced Global Title Translation \(EGTT\) Configuration](#) on page 659.

The following is a brief description of the enhanced global title translation entities. These entities must be configured in the order that they are shown.

1. The Enhanced Global Title Translation (EGTT) feature must be turned on with the `chg-feat:egtt=on` command. The Global Title Translation (GTT) must be on before the EGTT feature can be turned on. Verify this with the `rtrv-feat` command.

Note: Once the Enhanced Global Title Translation (EGTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The EGTT feature must be purchased before turning on the feature. If you are not sure whether you have purchased the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

2. A service module must be configured in the database with the `ent-card` command. A service module can be either a DSM, or E5-SM4G. The DSM or E5-SM4G is specified with the `type=dsm` and `appl=vsccp` parameters of the `ent-card` command. See [Table 20: Service Module and Feature Combinations](#) on page 94 for the required cards. The card configuration can be verified with the `rtrv-card` command.
3. A global title translation (GTT) set must be defined in the database. Verify this with the `rtrv-gttset` command. If the necessary GTT set is not in the database, add it with the `ent-gttset` command.

If the Variable-length Global Title Translation (VGTT) feature is being used, it must be turned on with the `chg-feat:vgtt=on` command. Verify this with the `rtrv-feat` command. Refer to [Variable-length Global Title Translation Feature](#) on page 24 for more information on this feature.

Note: Once the Variable-length Global Title Translation (VGTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The VGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

4. A translation type must be defined in the database. Verify this with the `rtrv-gttsel` command. If the necessary translation types are not in the database, add them with the `ent-gttsel` command. The translation type is used by the `ent-gta` command and defines the length of the global title address.
5. The translation type can be mapped to another translation type. This is a function of the translation type mapping feature. The translation type mapping feature maps standardized internetwork translation type values to intranetwork translation type values used within any particular network. This feature also maps intranetwork translation type values to standardized internetwork translation type values. Enter the `rtrv-ttmap` command to verify that the necessary translation type mapping information is in the database. Enter the necessary translation type mapping information in the database using the `ent-ttmap` command.
6. The mated applications must be defined in the database. The mated applications are the point codes and subsystem numbers of the service databases along with parameters describing the routing between replicated pairs of service databases. Verify the mated application information in the database with the `rtrv-map` command. If the necessary mated application information is not in the database, add the necessary information with the `ent-map` command.

If the XMAP Table Expansion feature is to be used to increase the number of mated application entries in the mated application table to either 2000 or 3000 entries, the XMAP Table Expansion feature must be enabled with the `enable-ctrl-feat` command. Verify the status of the XMAP Table Expansion feature with the `rtrv-ctrl-feat` command.

The mated applications provide load sharing of the traffic between replicated pairs of service databases. The Flexible GTT Load Sharing feature provides more flexible load sharing capabilities for final global title translations (global title translation containing the routing indicator value SSN) than the mated applications can provide without the Flexible GTT Load Sharing feature enabled. With this feature enabled, MAP sets are provisioned. These MAP sets are assigned to global title translations. Refer to the [Flexible Final GTT Load Sharing](#) on page 34 section for more information on using the Flexible GTT Load Sharing feature with mated applications.

Load sharing based on the transaction parameters of the message can be performed if the Transaction-Based GTT Load Sharing feature is enabled and turned on. Refer to the [Transaction-Based GTT Load Sharing](#) on page 52 section for more information on using the Transaction-Based GTT Load Sharing feature.

7. The concerned signaling point code broadcast groups must be defined in the database. These groups define the point codes that receive subsystem allowed and subsystem prohibited status messages about a particular global title translation node. These messages are broadcast from SCCP management. Verify that these groups are in the database with the `rtrv-cspc` command. If these groups are not in the database, add them with the `ent-cspc` command.
8. The global title address data must be defined in the database. This data is used to determine the destination of the service database that needs to be queried for additional routing information. Verify this with the `rtrv-gta` command. If the necessary global title address information is not in the database, add it with the `ent-gta` command.

If the Advanced GT Modification feature is being used, it must be enabled with the `enable-ctrl-feat` command. Verify this with the `rtrv-ctrl-feat` command. Refer to the [Advanced GT Modification Feature](#) on page 26 section for more information on this feature.

Note: Once the Advanced GT Modification feature is enabled, it cannot be disabled.

The XGTT Table Expansion feature is used to increase the number of entries in the GTT table to either 400,000 or 1,000,000 entries, the XGTT Table Expansion feature must be enabled with the `enable-ctrl-feat` command. Verify the status of the XGTT Table Expansion feature with the `rtrv-ctrl-feat` command.

The ANSI-ITU-China SCCP Conversion feature provides a means to perform SCCP conversion between ANSI MSUs and ITU MSUs. To perform this conversion, the ANSI-ITU-China SCCP Conversion feature must be enabled with the `enable-ctrl-feat` command, and turned on with the `chg-ctrl-feat` command. Verify the status of the ANSI-ITU-China SCCP Conversion feature with the `rtrv-ctrl-feat` command. Entries must be also configured in the GT conversion table with the `ent-gtcnv` command. The content of the GT conversion table can be verified with the `rtrv-gtcnv` command.

The global title address (`gta` and `egta`) values specified for the `ent-gta` and `chg-gta` commands, and the prefix (`npds`) and suffix (`nsds`) values specified for the `ent-gta` and `chg-gta` commands and for entries in the GT conversion table can be decimal digits (0-9) or hexadecimal digits (0-9, a-f, A-F). Hexadecimal digits can be specified only if the Hex Digit Support for GTT feature is enabled. Verify the status of the Hex Digit Support for GTT feature with the `rtrv-ctrl-feat` command. See the [Hex Digit Support for GTT](#) on page 42 section for more information on this feature.

The SCCP Loop Detection feature provides a method for detecting SCCP looping. With this feature enabled, loopsets are provisioned. These loopsets are assigned to Global Title Translations. See the [SCCP Loop Detection](#) on page 57 section for more information on using the SCCP Loop Detection feature with Global Title Translations.

9. The mated relay node groups can be defined in the database if the Intermediate GTT Load Sharing feature is to be used. Verify this with the `rtrv-mrn` command. If the necessary global title translation information is not in the database, add it with the `ent-mrn` command.

The Intermediate GTT Load Sharing (IGTTLS) feature must be enabled with the `enable-ctrl-feat` and `chg-ctrl-feat` commands. Verify this with the `rtrv-ctrl-feat` command. Refer to the [Intermediate GTT Load Sharing Feature](#) on page 27 section for more information on this feature.

The Flexible GTT Load Sharing feature provides more flexible load sharing capabilities for intermediate global title translations (global title translation containing the routing indicator value GT) than the Intermediate GTT Load Sharing feature can provide. With this feature enabled, MRN sets are provisioned. These MRN sets are assigned to global title translations. Refer to the [Flexible Intermediate GTT Load Sharing](#) on page 32 section for more information on using the Flexible GTT Load Sharing feature with mated relay node groups.

Load sharing based on the transaction parameters of the message can be performed if the Transaction-Based GTT Load Sharing feature is enabled and turned on. Refer to the [Transaction-Based GTT Load Sharing](#) on page 52 section for more information on using the Transaction-Based GTT Load Sharing feature.

Load sharing based on the weight assigned to an individual entities in a load sharing MRN group can be performed if the Weighted GTT Load Sharing feature is enabled and turned on. Refer to the [Weighted GTT Load Sharing](#) on page 45 section for more information on using the Weighted GTT Load Sharing feature.

Adding a Service Module

This procedure is used to add a service module to support the Global Title Translation or Enhanced Global Title Translation feature to the database using the `ent-card` command.

A service module can be one of these cards.

- DSM 1G
- DSM 2G
- DSM 3G
- DSM 4G
- E5-SM4G

The card that is used as a service module depends on the GTT related features that are being used and the features that will be enabled after this procedure is performed. The features or feature combinations shown in [Table 20: Service Module and Feature Combinations](#) on page 94 show the type of card that must be installed in the EAGLE 5 ISS to meet the minimum EAGLE 5 ISS performance requirements. E5-SM4G cards can be used in place of DSMs, when the feature combination requires DSMs. If the LNP feature is enabled for a quantity greater than 192 million numbers, E5-SM4G cards cannot be used as service modules. The features that are currently being used by the EAGLE 5 ISS are shown in the `rtrv-feat` or `rtrv-ctrl-feat` command outputs.

Table 20: Service Module and Feature Combinations

Card	Features
E5-SM4G	Any of these features: <ul style="list-style-type: none"> • E5-SM4G Throughput Capacity • Support for 16 GTT Lengths in VGTT • Flexible Linkset Optional Based Routing
DSM 1G, DSM 2G, DSM 3G, DSM 4G	Any of these features: <ul style="list-style-type: none"> • Enhanced GSM MAP Screening • G-FLEX • V-FLEX • G-Port • INP • PPSMS • ELAP Configuration feature and any LNP Telephone Number Quantity (See Note 1) . Refer to the <i>LNP Feature Activation Guide</i> for the minimum requirements for service modules used with the LNP feature. • XGTT Table Expansion for 1,000,000 GTT entries • Equipment Identity Register (EIR) • Flexible GTT Load Sharing • IDP Screening for Prepaid • Prepaid IDP Query Relay • Origin-Based SCCP Routing

Card	Features
	<ul style="list-style-type: none"> • Hex Digit Support for GTT • A-Port - must be 4 gigabyte DSMs (DSM 4G) • IS41 GSM Migration • Weighted GTT Load Sharing • Transaction-Based GTT Load Sharing • ANSI-41 INP Query - must be 4 gigabyte DSMs (DSM 4G) • TINP • MO SMS B-Party Routing • TIF Number Portability • TIF SCS Forwarding • TIF Simple Number Substitution • ATI Number Portability Query (ATINP) • GSM MAP Screening <p>or</p> <p>GTT and EGTT (if the Enhanced Global Title Translation feature is on) in combination with at least 2 of these features:</p> <ul style="list-style-type: none"> • Variable-Length Global Title Translation (VGTT) • Advanced GT Modification (with or without the ANSI-ITU-China SCCP Conversion feature) • IGTTLs • XGTT Table Expansion enabled for 400,000 GTT entries • XMAP Table Expansion enabled for either 3000 or 2000 MAP table entries

The DSM or E5-SM4G can be inserted only in the odd numbered card slots of the control or the extension shelf. Slots 09 and 10 of each shelf contains either the HMUX or HIPR card, thus the DSM or E5-SM4G cannot be inserted in slot 09 and 10. The DSM or E5-SM4G can be inserted in the control shelf, but only in slots 01, 03, 05, 07 and 11. The DSM or E5-SM4G occupies two card slots, so the even numbered card slot adjacent to the odd numbered slot where the DSM or E5-SM4G has been inserted must be empty, as shown in [Table 21: DSM Card Locations](#) on page 95. The DSM or E5-SM4G is connected to the network through the odd numbered card slot connector. The E5-SM4G requires two HIPR cards in the shelf where it is installed.

Table 21: DSM Card Locations

Location of the DSM	Empty Card Location	Location of the E5-SM4G	Empty Card Location
Slot 01	Slot 02	Slot 11	Slot 12
Slot 03	Slot 04	Slot 13	Slot 14
Slot 05	Slot 06	Slot 15	Slot 16

Location of the DSM	Empty Card Location	Location of the E5-SM4G	Empty Card Location
Slot 07	Slot 08	Slot 17	Slot 18

The `ent-card` command uses these parameters.

`:loc` – The location of the card being added to the database.

`:type` – The type of card being added to the database. The value of this parameter is `dsm`.

`:appl` – The application software that is assigned to the card. The value of this parameter is `vscpp`.

`:force` – Allow the LIM to be added to the database even if there are not enough service modules to support the number of LIMs in the EAGLE 5 ISS. This parameter does not apply to configuring service modules and should not be used.

The shelf to which the card is to be added, must already be in the database. This can be verified with the `rtrv-shlf` command. If the shelf is not in the database, perform the Adding a Shelf procedure in the *Database Administration Manual – System Management*.

The card cannot be added to the database if the specified card location already has a card assigned to it.

Note: If you want to add an E5-SM4G card as the service module, verify the temperature threshold settings for the E5-SM4G card by performing the "Changing the High-Capacity Card Temperature Alarm Thresholds" procedure in the *Database Administration Manual - SS7*.

1. Verify that the GTT feature is on, by entering the `rtrv-feat` command. If the GTT feature is on, the GTT field should be set to on. For this example, the GTT feature is off.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, refer to the `rtrv-feat` command description in the *Commands Manual*.

Note: If the GTT feature is on, shown by the entry `GTT = on` in the `rtrv-feat` command output in this step, continue the procedure with [Step 3](#) on page 97.

2. Turn the global title translation feature on by entering this command.

```
chg-feat:gtt=on
```

Note: Once the Global Title Translation (GTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The GTT feature must be purchased before turning it on. If you are not sure whether you have purchased the GTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` has successfully completed, this message should appear.

```
rlghncxa03w 07-05-25 09:57:41 GMT EAGLE5 37.0.0
CHG-FEAT: MASP A - COMPLTD
```

The EAGLE 5 ISS can contain a maximum of 32 service modules, either DSMs or E5-SM4Gs. The EAGLE 5 ISS can perform a maximum of 52,700 SCCP transactions per second. To perform a maximum of 52,700 SCCP transactions per second, the EAGLE 5 ISS must be configured

according to [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97.

Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements

Features that Cannot be Enabled		
LNP	EIR	G-Port
INP	ANSI-41 INP Query	A-Port
IS41 GSM Migration	G-Flex	TINP
V-Flex	ATINP	TIF Number Portability
TIF SCS Forwarding	TIF Simple Number Substitution	
Card Requirements		
All service modules must be DSMs or E5-SM4G cards.		

If you plan to enable any of the features shown in [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97, the EAGLE 5 ISS can contain a maximum of 25 service modules. Continue the procedure with [Step 5](#) on page 99.

If you plan to provision 26 to 32 service modules after performing this step, continue the procedure with [Step 5](#) on page 99.

The EAGLE 5 ISS can support a maximum of 150,000 SCCP transactions per second, for GTT traffic only, or a maximum of 75,000 transactions per second for EPAP-based traffic. To achieve this level of performance, the E5-SM4G Throughput Capacity feature must be enabled and all the service modules must be E5-SM4G cards. For more information about enabling the E5-SM4G Throughput Capacity feature, refer to the [Activating the E5-SM4G Throughput Capacity Feature](#) on page 939 procedure. Continue the procedure with [Step 5](#) on page 99.

- To provision 26 to 32 service modules, none of the features shown in [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97 can be enabled. Display the status of the features in the database by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007701	off	----
Large System # Links	893005910	on	2000
HC-MIM SLK Capacity	893012707	on	64

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If any of the features shown in [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97 are enabled, a maximum of 25 service modules can be provisioned.

If none of the features shown in [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97 are enabled, a maximum of 32 service modules can be provisioned.

4. Verify the number of service modules in the EAGLE 5 ISS by entering the `rept-stat-sccp` command. The number of service modules is shown in the SCCP Cards Configured field of the `rept-stat-sccp` output. This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0

SCCP Cards Configured=5 Cards IS-NR=5
```

CARD	VERSION	PST	SST	AST	MSU USAGE	CPU USAGE
2101	113-002-001	IS-NR	Active	-----	47%	81%
2103	113-002-001	IS-NR	Active	-----	34%	50%
2111	113-002-001	IS-NR	Active	-----	21%	29%
2115	113-002-001	IS-NR	Active	-----	35%	52%
2117	113-002-001	IS-NR	Active	-----	40%	71%

```
SCCP Service Average MSU Capacity = 36% Average CPU Capacity = 56%
Command Completed.
```

Note: The `rept-stat-sccp` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rept-stat-sccp` command, refer to the `rept-stat-sccp` command description in the *Commands Manual*.

The EAGLE 5 ISS can contain a maximum of 32 service modules, either DSMs or E5-SM4Gs. The EAGLE 5 ISS can perform a maximum of 52,700 SCCP transactions per second. To perform a maximum of 52,700 SCCP transactions per , the EAGLE 5 ISS must be configured according to [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97.

If the `rept-stat-sccp` output shows that there are 32 service modules configured, this procedure cannot be performed. This is the maximum number of service modules that can be configured.

The EAGLE 5 ISS can support a maximum of 150,000 SCCP transactions per second, for GTT traffic only, or a maximum of 75,000 transactions per second for EPAP-based traffic. To achieve this level of performance, the E5-SM4G Throughput Capacity feature must be enabled and all the service modules must be E5-SM4G cards. For more information about enabling the E5-SM4G Throughput Capacity feature, refer to the procedure [Activating the E5-SM4G Throughput Capacity Feature](#) on page 939.

If you plan to enable any of the features shown in [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97, the EAGLE 5 ISS can contain a maximum of 25 service modules. Continue the procedure with [Step 5](#) on page 99.

If the `rept-stat-sccp` output shows that there are 25 service modules configured, and any of the features shown in [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97 are enabled (shown in the `rtrv-ctrl-feat` output in [Step 3](#) on page 97), or you plan to enable any of the features shown in [Table 22: 52,7000 SCCP Transactions per Second Configuration Requirements](#) on page 97, this procedure cannot be performed. This is the maximum number of service modules that can be configured.

5. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command to verify that the card location for the new service module is not provisioned. This is an example of the possible output.

Note: Cards should be distributed throughout the EAGLE 5 ISS for proper power distribution. Refer to the *Installation Manual - EAGLE 5 ISS* for the shelf power distribution.

This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME      LINK SLC LSET NAME      LINK SLC
1102   TSM         GLS
1113   GPSP        EOAM
1114   TDM-A
1115   GPSP        EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
1201   LIMDS0      SS7ANSI    sp2             A      0      sp1             B      0
1203   LIMDS0      SS7ANSI    sp3             A      0
1204   LIMDS0      SS7ANSI    sp3             A      1
1206   LIMDS0      SS7ANSI    nsp3            A      1      nsp4            B      1
1216   DCM          STPLAN
1308   LIMDS0      SS7ANSI    sp6             A      1      sp7             B      0
1314   LIMDS0      SS7ANSI    sp7             A      1      sp5             B      1
1317   DCM          STPLAN
2101   DSM          VSCCP
2103   DSM          VSCCP
2111   DSM          VSCCP
2115   DSM          VSCCP
2117   DSM          VSCCP
```

If you wish to install a DSM, continue the procedure with [Step 7](#) on page 99.

If you wish to install an E5-SM4G card, continue the procedure with [Step 6](#) on page 99.

6. Verify that HIPR cards are installed at card locations 9 and 10 in the shelf where the E5-SM4G card will be installed. Enter this command.

```
rept-stat-gpl:gpl=hipr
```

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:40:26 GMT EAGLE5 37.0.0
GPL     CARD      RUNNING      APPROVED      TRIAL
HIPR    1109      126-002-000 126-002-000 126-003-000
HIPR    1110      126-002-000 126-002-000 126-003-000
HIPR    1209      126-002-000 126-002-000 126-003-000
HIPR    1210      126-002-000 126-002-000 126-003-000
HIPR    1309      126-002-000 126-002-000 126-003-000
HIPR    1310      126-002-000 126-002-000 126-003-000
HIPR    2109      126-002-000 126-002-000 126-003-000
HIPR    2110      126-002-000 126-002-000 126-003-000
Command Completed
```

If HIPR cards are installed at card locations 9 and 10 in the shelf where the E5-SM4G card will be installed, continue the procedure with [Step 7](#) on page 99.

If HIPR cards are not installed in the shelf where the E5-SM4G card will be installed, refer the *Installation Manual - EAGLE 5 ISS* and install the HIPR cards. Once the HIPR cards have been installed, continue the procedure with [Step 7](#) on page 99.

7. Verify that the service module has been physically installed into the proper location according to the feature requirements shown in [Table 20: Service Module and Feature Combinations](#) on page

94. [Table 20: Service Module and Feature Combinations](#) on page 94 shows the type of service module that is required based on the GTT-related features that are currently being used (also shown in the `rtrv-feat` output in [Step 1](#) on page 96 as being on, and in the `rtrv-ctrl-feat` output in [Step 3](#) on page 97 as being enabled) and any features that will be enabled after this procedure is performed.

**CAUTION**

CAUTION: If the versions of the flash GPLs on the service module do not match the flash GPL versions in the database when the service module is inserted into the card slot, UAM 0002 is generated indicating that these GPL versions do not match. If UAM 0002 has been generated, perform the alarm clearing procedure for UAM 0002 in the *Unsolicited Alarm and Information Messages Manual* before proceeding with this procedure.

8. Add the service module to the database using the `ent-card` command. For this example, enter this command.

```
ent-card:loc=1301:type=dsm:appl=vsccp
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-25 09:57:51 GMT EAGLE5 37.0.0
ENT-CARD: MASP A - COMPLTD
```

9. Verify the changes using the `rtrv-card` command with the card location specified. For this example, enter this command.

```
rtrv-card:loc=1301
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:58:31 GMT EAGLE5 37.0.0
CARD   TYPE      APPL      LSET NAME      LINK SLC LSET NAME      LINK SLC
1301   DSM        VS CCP
```

10. Put the card in service using the `rst-card` command with the card location specified in [Step 8](#) on page 100. For this example, enter this command.

```
rst-card:loc=1301
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 08:21:07 GMT EAGLE5 36.0.0
Card has been allowed.
```

Note: If the EGTT feature is on, shown by the entry `EGTT = on` in the `rtrv-feat` command output in [Step 1](#) on page 96, or if the EGTT feature is off and will not be turned on in this procedure, continue the procedure with [Step 12](#) on page 101.

11. Turn the enhanced global title translation feature on by entering this command.

Note: Once the Enhanced Global Title Translation (EGTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The EGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

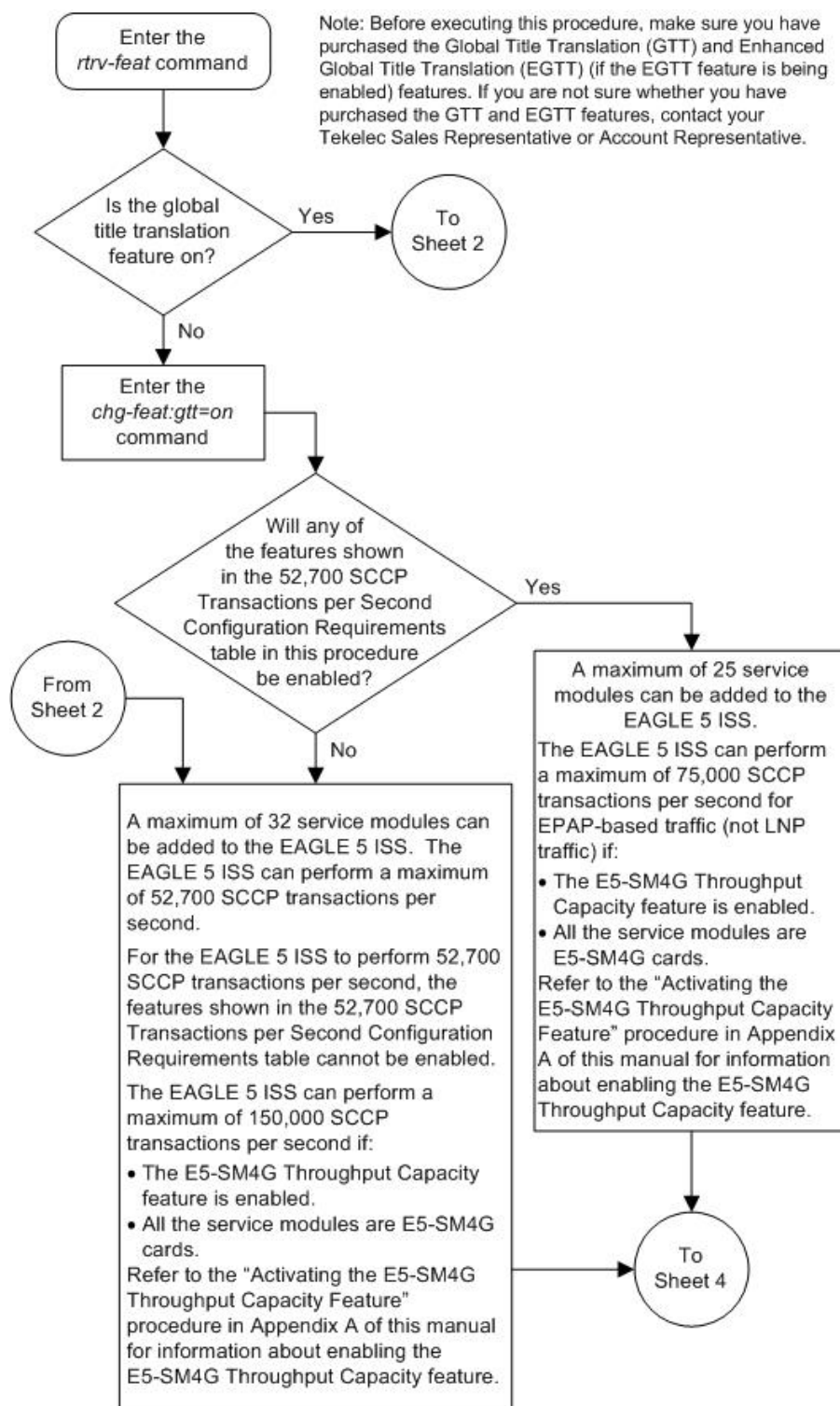
When the `chg-feat` has successfully completed, this message should appear.

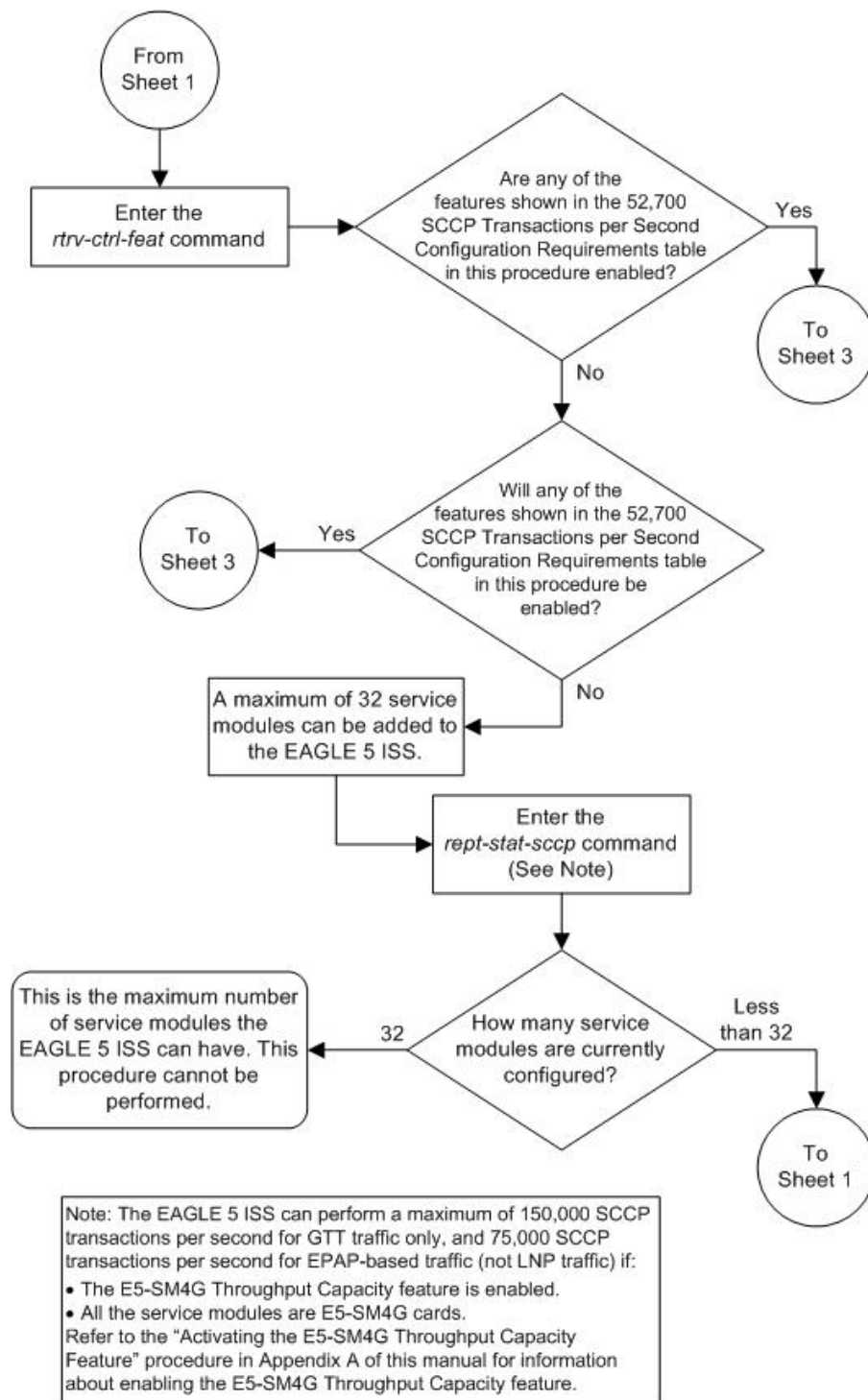
```
rlghncxa03w 07-05-25 09:57:41 GMT EAGLE5 37.0.0  
CHG-FEAT: MASP A - COMPLTD
```

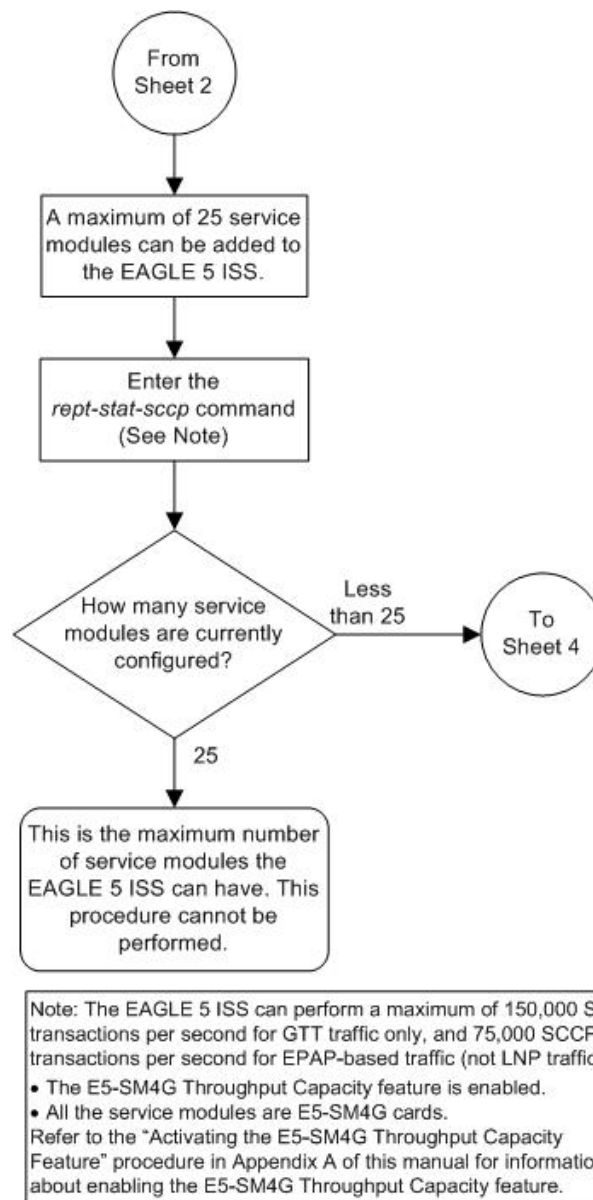
12. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

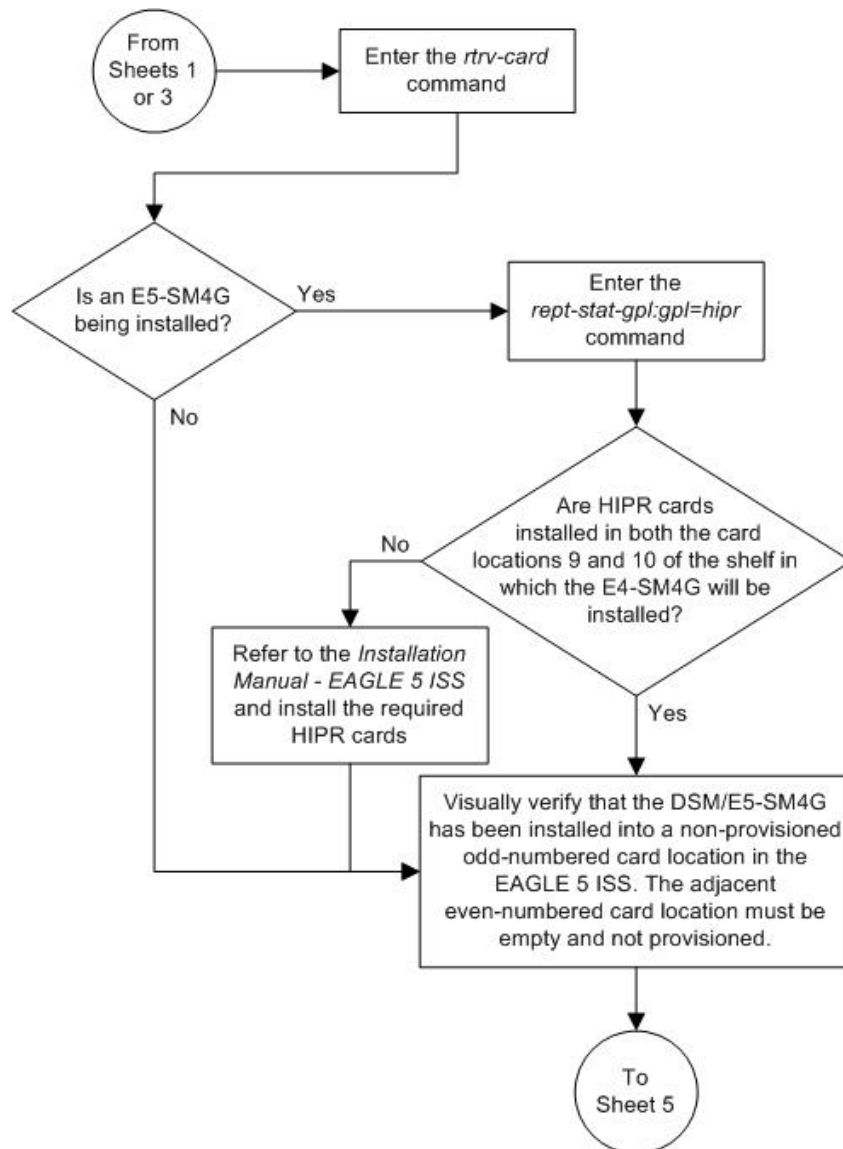
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

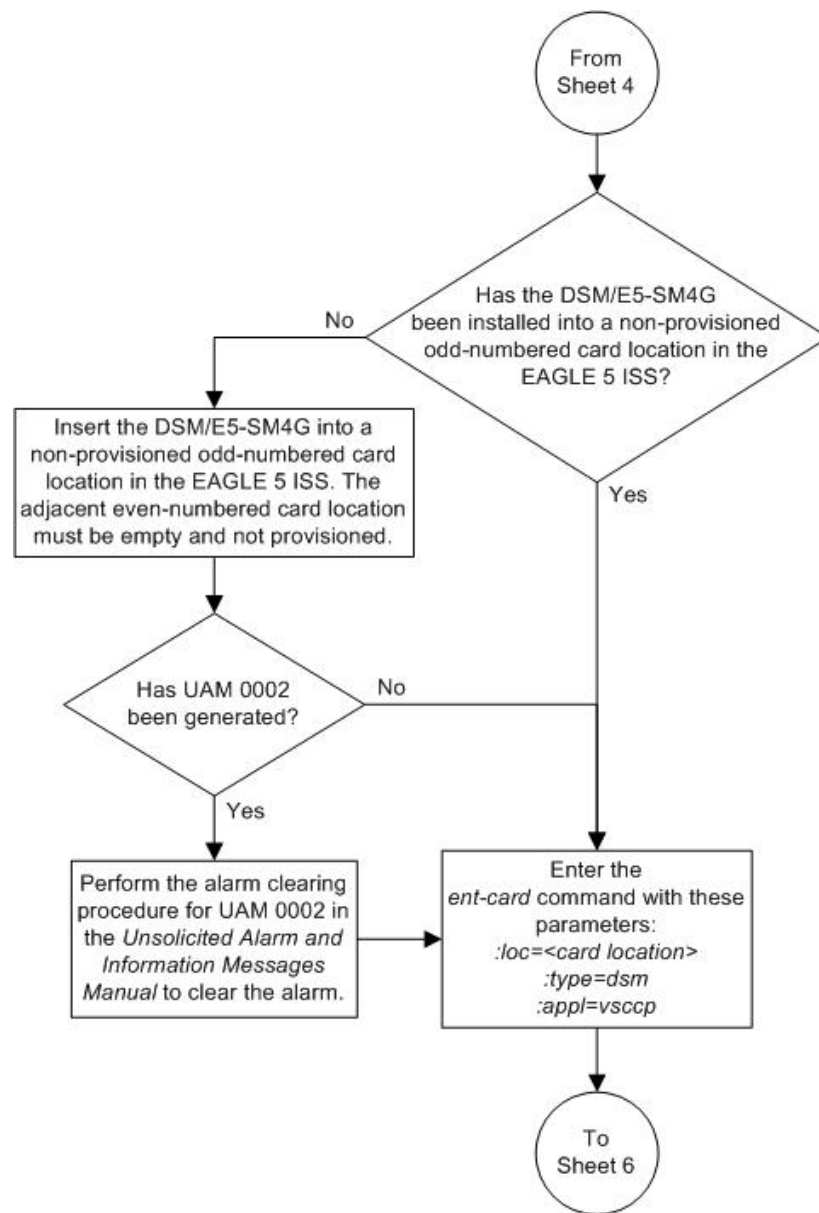
Figure 17: Adding a Service Module

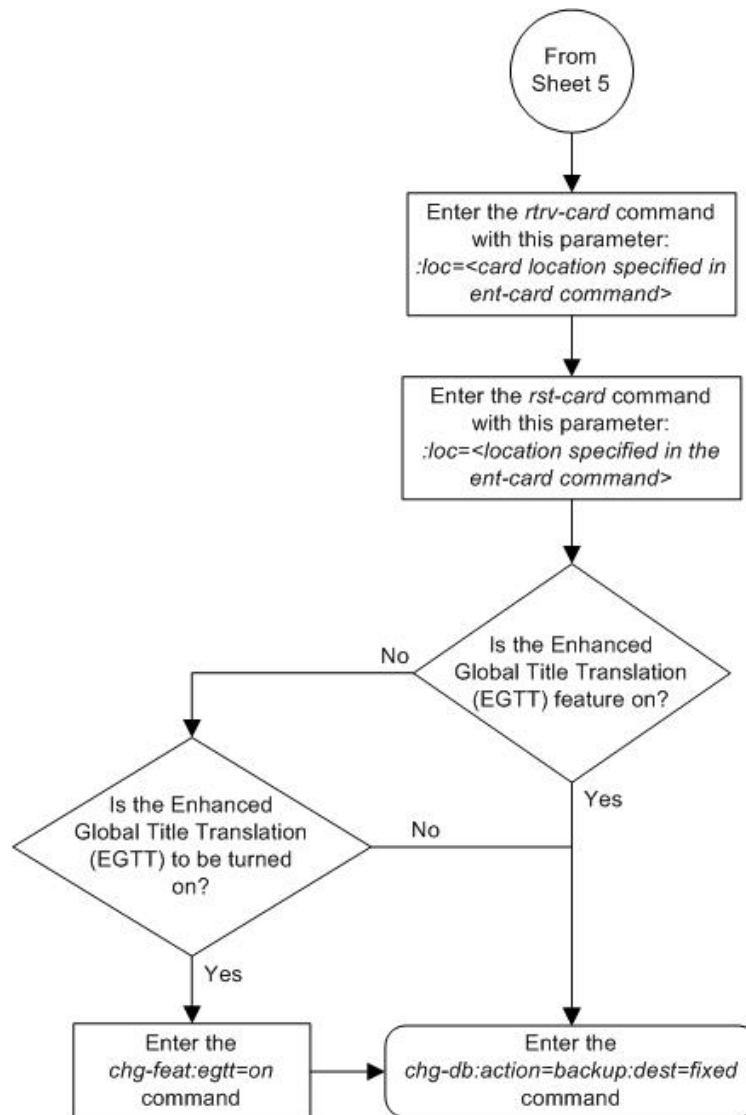












Removing a Service Module

This procedure is used to remove a service module, used by global title translation, from the database using the *dlt-card* command. The card cannot be removed if it does not exist in the database.



CAUTION

CAUTION: If the service module is the last service module in service, removing this card from the database will cause global title translation traffic to be lost.

The examples in this procedure are used to remove the service module in card location 1204.

1. Display the status of the service modules by entering the *rept-stat-sccp* command.

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:57:31 GMT EAGLE5 36.0.0
CARD
VERSION          PST          SST          AST          MSU USAGE  CPU USAGE
-----
2101  113-002-001  IS-NR          Active      -----    47%       81%
2103  113-002-001  IS-NR          Active      -----    34%       50%
2111  113-002-001  IS-NR          Active      -----    21%       29%
2115  113-002-001  IS-NR          Active      -----    35%       52%
2117  113-002-001  IS-NR          Active      -----    40%       71%
-----
SCCP Service Average MSU Capacity = 36%      Average CPU Capacity = 56%
Command Completed.
```

Note: The `rept-stat-sccp` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rept-stat-sccp` command, refer to the `rept-stat-sccp` command description in the *Commands Manual*.

2. Remove the card from service using the `rmv-card` command and specifying the card location.

If the service module to be inhibited is the only service module in service, the `force=yes` parameter must also be specified. The cards that are in service are shown by the entry IS-NR in the PST field in the output in [Step 1](#) on page 107. For this example, enter this command.

```
rmv-card:loc=1204
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-25 09:57:41 GMT EAGLE5 36.0.0
Card has been inhibited.
```

3. Remove the card from the database using the `dlt-card` command.

The `dlt-card` command has only one parameter, `loc`, which is the location of the card. For this example, enter this command.

```
dlt-card:loc=1204
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-25 09:57:51 GMT EAGLE5 36.0.0
DLT-CARD: MASP A - COMPLTD
```

4. Verify the changes using the `rtrv-card` command specifying the card that was removed in [Step 3](#) on page 108.

For this example, enter this command.

```
rtrv-card:loc=1204
```

When this command has successfully completed, this message should appear.

```
E2144 Cmd Rej: Location invalid for hardware configuration
```

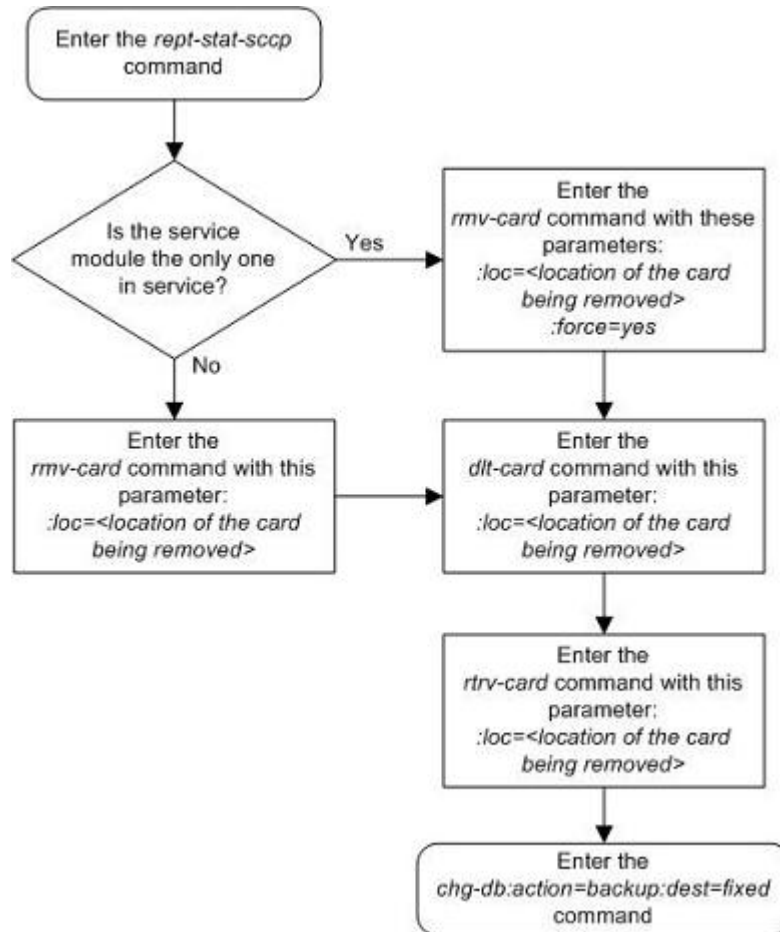
5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
```

BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
 BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
 BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

Figure 18: Removing a Service Module



Adding a Mapped SS7 Message Translation Type

This procedure is used to add a mapped SS7 message translation type to the database. The mapped translation type is added to the database using the `ent-ttmap` command and is assigned to an ANSI SS7 linkset.

The `ent-ttmap` command uses these parameters.

:lsn – the name of the linkset.

:io – is translation type mapping to be performed on SS7 messages received in the linkset (incoming linkset) or on SS7 messages sent on the linkset (outgoing linkset).

:ett – the translation type contained in the SS7 message before that translation type is mapped.

:mtt – the translation type that the value of the `ett` parameter is mapped to.

The examples in this procedure are used to map the SS7 message translation type 250 to the translation type 001 for any incoming messages on linkset lsn01.

Canceling the RTRV-LS Command

Because the `rtrv-ls` command used in this procedure can output information for a long period of time, the `rtrv-ls` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-ls` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-ls` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-ls` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-ls` command was entered, from another terminal other than the terminal where the `rtrv-ls` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the mapped translation types in the database using the `rtrv-ttmap` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
LSN      IO  ETT  MTT
nc001    I   047  032
nc001    I   128  055
nc001    I   238  128
nc001    I   254  016
nc001    O   016  254
nc001    O   128  238
```

2. Display the linksets in the database using the `rtrv-ls` command. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0

LSN      APCA  (SS7)  SCRNL3T SLT      GWS GWS GWS
lsal     240-020-000 scr1  1   1  yes a   1   off off off no  off
lsa2     240-030-000 scr2  1   2  no  c   3   on  on  on yes off
lsa3     240-040-000 scr3  1   3  yes c   5   off off off yes off
lsn01    240-050-000 scr4  1   3  yes c   5   off off off yes off
nc001    240-060-000 scr5  1   3  yes c   5   off off off yes off

LSN      APCI  (SS7)  SCRNL3T SLT      GWS GWS GWS
lsi1     1-111-1   scr1  1   1  yes a   1   off off off --- ---
lsi2     1-111-2   scr2  1   2  no  c   3   on  on  on --- ---
lsi3     1-111-3   scr3  1   3  yes c   5   off off off --- ---

LSN      APCN  (SS7)  SCRNL3T SLT      GWS GWS GWS
lsn1     11111   scr1  1   1  yes a   1   off off off --- off
lsn2     11112   scr2  1   2  no  c   3   on  on  on --- off
```



```
lsn3          11113          scr3  1    3  yes c    5    off off off ---    off
Link set table is ( 11 of 1024)  1% full
```

If the required linkset is not in the database, perform the “Adding an SS7 Linkset” procedure in the *Database Administration Manual - SS7* and add the linkset..

3. Add the mapped translation type to the database using the `ent-ttmap` command. For this example, enter this command.

```
ent-ttmap:lsn=lsn01:io=i:ett=001:mtt=250
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-25 09:57:51 GMT  EAGLE5 37.0.0
ENT-TTMAP: MASP A - COMPLTD

TTMAP table for lsn01 is (1 of 64) 1% full
```

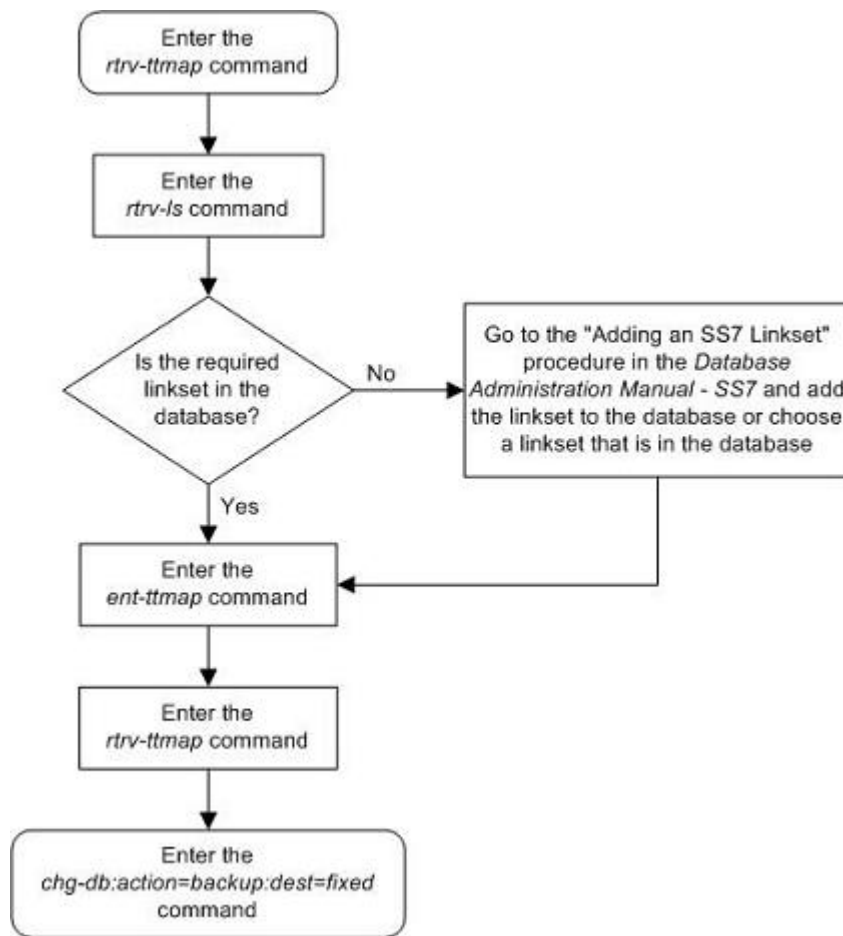
4. Verify the changes using the `rtrv-ttmap` command. This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:58:31 GMT  EAGLE5 37.0.0
LSN      IO  ETT  MTT
lsn01    I   001  250
nc001    I   047  032
nc001    I   128  055
nc001    I   238  128
nc001    I   254  016
nc001    O   016  254
nc001    O   128  238
```

5. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 19: Adding a Mapped SS7 Message Translation Type



Removing a Mapped SS7 Message Translation Type

This procedure is used to remove a mapped SS7 message translation type from the database using the `dlt-ttmap` command.

The `dlt-ttmap` command uses these parameters.

`:lsn` – the name of the linkset.

`:io` – is translation type mapping to be performed on SS7 messages received in the linkset (incoming linkset) or on SS7 messages sent on the linkset (outgoing linkset).

`:ett` – the translation type contained in the SS7 message before that translation type is mapped.

The examples in this procedure are used to remove the translation type 016 for any outgoing messages on linkset `nc001`.

1. Display the mapped translation types in the database using the `rtv-ttmap` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
LSN      IO  ETT  MTT
lsn01    I   001  250
nc001    I   047  032
nc001    I   128  055
nc001    I   238  128
nc001    I   254  016
nc001    O   016  254
nc001    O   128  238
```

2. Add the mapped translation type to the database using the `dlt-ttmap` command.

For this example, enter this command.

```
dlt-ttmap:lsn=nc001:io=o:ett=016
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-25 09:57:41 GMT EAGLE5 37.0.0
DLT-TTMAP: MASP A - COMPLTD
TTMAP table for nc001 is (5 of 64) 8% full
```

3. Verify the changes using the `rtrv-ttmap` command.

This is an example of the possible output.

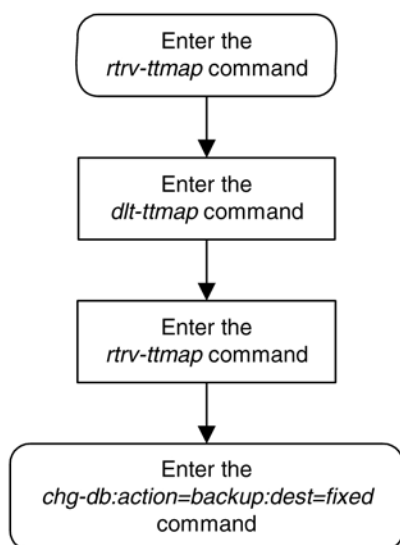
```
rlghncxa03w 07-05-25 09:57:51 GMT EAGLE5 37.0.0
LSN      IO  ETT  MTT
lsn01    I   001  250
nc001    I   047  032
nc001    I   128  055
nc001    I   238  128
nc001    I   254  016
nc001    O   128  238
```

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 20: Removing a Mapped SS7 Message Translation Type



Changing a Mapped SS7 Message Translation Type

This procedure is used to change a mapped SS7 message translation type in the database using the `chg-ttmap` command.

The `chg-ttmap` command uses these parameters.

`:lsn` – the name of the linkset.

`:io` – is translation type mapping to be performed on SS7 messages received in the linkset (incoming linkset) or on SS7 messages sent on the linkset (outgoing linkset).

`:ett` – the translation type contained in the SS7 message before that translation type is mapped.

`:mtt` – the translation type that the value of the `ett` parameter is mapped to.

Only the mapped translation type (`mtt`) can be changed with this procedure. To change the `lsn`, `io`, or `ett` values, the mapped translation type entry has to be removed from the database using the [Removing a Mapped SS7 Message Translation Type](#) on page 112 procedure, then re-entered with the new `lsn`, `io`, or `ett` values using the [Adding a Mapped SS7 Message Translation Type](#) on page 109 procedure.

The examples in this procedure are used to change the mapped translation type 250, being mapped for translation type 001 for incoming messages on linkset `lsn01` to mapped translation type 255.

1. Display the mapped translation types in the database using the `rtrv-ttmap` command. This is an example of the possible output.

```

rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
LSN      IO  ETT  MTT
lsn01    I   001  250
nc001    I   047  032
nc001    I   128  055
nc001    I   238  128
nc001    I   254  016
  
```

```
nc001    O    016  254
nc001    O    128  238
```

2. Change the mapped translation type in the database using the `chg-ttmap` command. For this example, enter this command.

```
chg-ttmap:lsn=lsn01:io=i:ett=001:mtt=255
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-25 09:57:41 GMT  EAGLE5 37.0.0
CHG-TTMAP: MASP A - COMPLTD

TTMAP table for lsn01 is (1 of 64) 1% full
```

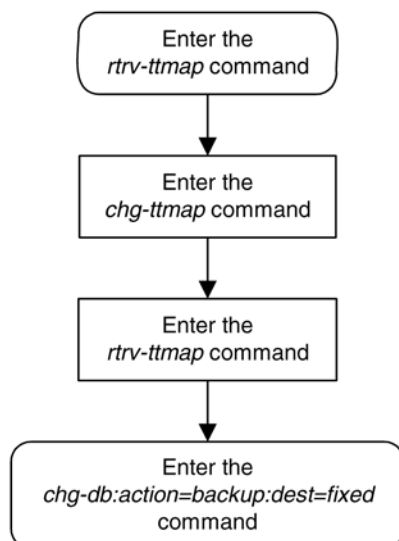
3. Verify the changes using the `rtrv-ttmap` command. This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:57:51 GMT  EAGLE5 37.0.0
LSN      IO   ETT  MTT
lsn01    I    001  255
nc001    I    047  032
nc001    I    128  055
nc001    I    238  128
nc001    I    254  016
nc001    O    016  254
nc001    O    128  238
```

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 21: Changing a Mapped SS7 Message Translation Type



Adding a Concerned Signaling Point Code

This procedure is used to add a concerned signaling point code (CSPC) group to the database using the `ent-cspc` command.

The `ent-cspc` command uses these parameters.

`:grp` – The name of the concerned signaling point code group that contains the point codes that should be notified of the subsystem status.

`:pc/pca/pci/pcn/pcn24` – The point code of the signaling point that is to be in the concerned signaling point code group, either an ANSI point code (`pc/pca`), ITU-I or ITU-I spare point code (`pci`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`pcn`), or a 24-bit ITU-N (`pcn24`) point code.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

Note: The EAGLE 5 ISS can contain 14-bit ITU-N point codes or 24-bit ITU-N point codes, but not both at the same time.

The examples in this procedure are used to add the concerned signaling point code (CSPC) groups shown in [Table 23: Concerned Signaling Point Code Configuration Table](#) on page 116.

Table 23: Concerned Signaling Point Code Configuration Table

CSPC Broadcast Group Name	Concerned Signaling Point Code
grp05	002-002-002
	008-008-008
grp10	008-008-008
	009-009-009
grp15	002-002-002
	009-009-009

The CSPC cannot be in the database for the indicated group.

The point code must exist in the routing table and cannot already exist in the specified group. Verify that the point code is in the routing table by entering the `rtrv-rte` command with the point code. If the point code is an ANSI point code, it must be a full point code. The route must contain a minimum of one active signaling link.

The word “none” cannot be used to name a CSPC group.

The database can contain a maximum of 2550 CSPC groups. Each CSPC group can contain a maximum of 96 concerned signaling point codes.

The mated point codes in the mated application table will not automatically receive CSPC broadcasts unless each mated point code is contained in a CSPC group. A mated application group can contain up to 32 entries, a primary point code and up to 31 mated point codes. Each mated point code in a mated application group can be assigned to a different CSPC group.

The first point code entered for a CSPC group defines the network type for the CSPC group. If the first point code entered for a particular CSPC group is an ANSI point code (*pc* or *pca*), then that CSPC group is an ANSI CSPC group and only ANSI point codes can be added to it. If the first point code in the CSPC group is either an ITU international or ITU international spare point code (*pci*), then the CSPC group is an ITU international CSPC group and only ITU international or ITU international spare point codes can be added to it. If the first point code in the CSPC group is either a 14-bit ITU national or 14-bit ITU national spare point code (*pcn*), then the CSPC group is an ITU national CSPC group and only 14-bit ITU national or 14-bit ITU national spare point codes can be added to it. If the first point code in the CSPC group is a 24-bit ITU national point code (*pcn24*), then the CSPC group is an ITU national CSPC group and only 24-bit ITU national point codes can be added to it.

If the ANSI-ITU-China SCCP Conversion feature is enabled, CSPC groups can contain ANSI point codes (*pc*/*pca*), ITU-I or ITU-I spare point codes (*pci*), and either 14-bit ITU-N or 14-bit ITU-N spare point codes (*pcn*), or 24-bit ITU-N (*pcn24*) point codes. A CSPC group cannot contain both 14-bit and 24-bit ITU-N point codes. The status of the ANSI-ITU-China SCCP Conversion feature can be verified with the `rtrv-ctrl-feat` command.

When the `ent-cspc` command is entered with a CSPC group name and a point code and the CSPC group name does not exist, the command will be rejected. If the group name does not exist, and a point code is not specified, a new group will be created.

1. Display the CSPC group names in the database using the `rtrv-cspc` command. This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
CSPC GRP
NETWORK
PERCENT FULL
grp01      ANSI                6%
grp02      ITU-I                9%
grp03      ITU-N               12%
grp04      ANSI                15%
```

If the ANSI-ITU-China SCCP Conversion feature is enabled, and multiple network point code types are assigned to CSPC groups, the network types of the point codes in each CSPC group are displayed in the `rtrv-cspc` output as follows in this example.

```
rlghncxa03w 06-10-25 09:57:31 GMT EAGLE5 36.0.0
CSPC GRP  NETWORK                PERCENT FULL
grp01     ANSI, ITU-I, ITU-N      9%
grp02     ITU-I                  9%
grp03     ANSI, ITU-N             6%
grp04     ANSI                   15%
```

Note: If the point code is being added to a new CSPC group, continue the procedure with [Step 3](#) on page 118.

2. Display the point codes in the CSPC group that the new point code is being added to by entering the `rtrv-cspc` command with the CSPC group name.

For this example, enter this command.

```
rtrv-cspc:grp=grp01
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
CSPC GRP      PCA
grp01         002-002-002
              003-003-003
```

If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed, if point codes of multiple network types are assigned to the CSPC group, as shown in this example.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
CSPC GRP      PC      TYPE
grp01         003-003-003 A
              3-003-3   I
              00112     N
```

3. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `ent-cspc` command to verify whether or not the point code is the DPC of a route. For this example, enter these commands.

```
rtrv-rte:dpca=002-002-002
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA      ALIASI      ALIASN/N24      LSN      RC      APCA
002-002-002 -----
RTX:No    CLLI=ls02c11i
```

```
rtrv-rte:dpca=008-008-008
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA      ALIASI      ALIASN/N24      LSN      RC      APCA
008-008-008 -----
RTX:No    CLLI=ls20c11i
```

```
rtrv-rte:dpca=009-009-009
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA      ALIASI      ALIASN/N24      LSN      RC      APCA
009-009-009 -----
RTX:No    CLLI=ls09c11i
```

If the point code is not shown in the `rtrv-rte` output, perform one the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. The route must contain a minimum of one active signaling link.

4. Display the signaling links that are in the linksets that are assigned to the route shown in [Step 3](#) on page 118 by entering the `rtrv-ls` command with the name of the linksets that are assigned to the route. For this example, enter these commands.

```
rtrv-ls:lsn=ls02
```

This is an example of the possible output.

```
rlghncxa03w 09-02-17 11:43:04 GMT EAGLE5 40.1.0

LSN          APCA      (SS7)  L3T SLT          GWS GWS GWS
ls02         002-002-002  none 1  1  no  A   2   off off off no  off

          SPCA          CLLI          TFATCABMLQ MTPRSE ASL8
          ----- ls02clli          1          --- no

RANDSLS
off

IPSG  IPGWAPC  GTTMODE          CGGTMOD
no    no      CdPA          no

LOC  PORT  SLC  TYPE          L2T          L1          PCR  PCR
1211 A    0  LIMDS0  1  56000  ---  ---  BASIC  ---  -----
1211 B    1  LIMDS0  1  56000  ---  ---  BASIC  ---  -----

Link set table is (12 of 1024) 1% full.
```

```
rtrv-ls:lsn=ls20
```

This is an example of the possible output.

```
rlghncxa03w 09-02-17 11:43:04 GMT EAGLE5 40.1.0

LSN          APCA      (SS7)  L3T SLT          GWS GWS GWS
ls20         008-008-008  none 1  1  no  A   2   off off off no  off

          SPCA          CLLI          TFATCABMLQ MTPRSE ASL8
          ----- ls20clli          1          --- no

RANDSLS
off

IPSG  IPGWAPC  GTTMODE          CGGTMOD
no    no      CdPA          no

LOC  PORT  SLC  TYPE          L2T          L1          PCR  PCR
1212 A    0  LIMDS0  1  56000  ---  ---  BASIC  ---  -----
1212 B    1  LIMDS0  1  56000  ---  ---  BASIC  ---  -----

Link set table is (12 of 1024) 1% full.
```

```
rtrv-ls:lsn=ls09
```

This is an example of the possible output.

```
rlghncxa03w 09-02-17 11:43:04 GMT EAGLE5 40.1.0

L3T SLT          GWS GWS GWS
```

```

LSN          APCA  (SS7)  SCRNL SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
ls09         009-009-009 none 1  1  no  A  2  off off off no  off

          SPCA          CLLI          TFATCABMLQ MTPRSE ASL8
          ----- ls09c11i          1          --- no

RANDSLS
off

IPSG  IPGWAPC  GTTMODE          CGGTMOD
no    no      CdPA          no

          L2T          L1          PCR  PCR
          SET  BPS  MODE TSET  ECM  N1  N2
1213 A    0  LIMDS0  1  56000  --- --- BASIC --- -----
1213 B    1  LIMDS0  1  56000  --- --- BASIC --- -----

```

Link set table is (12 of 1024) 1% full.

If the linkset does not contain any signaling links, perform one of these procedures in these manuals to add the signaling link.

- Database Administration Manual – SS7
 - Adding an SS7 Signaling Link
 - Adding an E1 Signaling Link
 - Adding a T1 Signaling Link
 - Adding an ATM High-Speed Signaling Link
- Database Administration Manual – IP7 Secure Gateway
 - Adding an IPLIMx Signaling Link
 - Adding an IPGWx Signaling Link
 - Adding an IPSG M2PA Signaling Link
 - Adding an IPSG M3UA Signaling Link

Make sure the signaling link is placed into service.

Continue the procedure by performing one of these steps.

- If signaling links were added to all the linksets displayed in this step, continue the procedure with [Step 7](#) on page 122.
 - If any of the linksets displayed in this step contain signaling links, continue the procedure with [Step 5](#) on page 120.
5. Display the status of the signaling links shown in [Step 4](#) on page 119 by entering the `rept-stat-slk` command with the signaling link displayed in [Step 4](#) on page 119. For this example, enter this command.

```
rept-stat-slk:loc=1211:link=a
```

This is an example of the possible output.

```

rlghncxa03w 09-02-23 13:06:25 GMT EAGLE5 40.1.0
SLK      LSN      CLLI      PST      SST      AST
1211,A   ls02      ls02c11i  OOS-MT-DSBLD Manual  ----

```

```
ALARM STATUS      = ** 0236 REPT-LKF: not aligned
UNAVAIL REASON    = NA
```

```
rept-stat-slk:loc=1211:link=b
```

This is an example of the possible output.

```
rlghncxa03w 09-02-23 13:06:25 GMT EAGLE5 40.1.0
SLK      LSN      CLLI      PST      SST      AST
1211,B   ls02     ls02clli  OOS-MT-DSBLD Manual  ----
ALARM STATUS      = ** 0236 REPT-LKF: not aligned
UNAVAIL REASON    = NA
```

```
rept-stat-slk:loc=1212:link=a
```

This is an example of the possible output.

```
rlghncxa03w 09-02-23 13:06:25 GMT EAGLE5 40.1.0
SLK      LSN      CLLI      PST      SST      AST
1212,A   ls20     ls20clli  IS-NR      Avail  ----
ALARM STATUS      = No Alarms
UNAVAIL REASON    = --
```

```
rept-stat-slk:loc=1212:link=b
```

This is an example of the possible output.

```
rlghncxa03w 09-02-23 13:06:25 GMT EAGLE5 40.1.0
SLK      LSN      CLLI      PST      SST      AST
1212,B   ls20     ls20clli  IS-NR      Avail  ----
ALARM STATUS      = No Alarms
UNAVAIL REASON    = --
```

```
rept-stat-slk:loc=1213:link=a
```

This is an example of the possible output.

```
rlghncxa03w 09-02-23 13:06:25 GMT EAGLE5 40.1.0
SLK      LSN      CLLI      PST      SST      AST
1213,A   ls09     ls09clli  IS-NR      Avail  ----
ALARM STATUS      = No Alarms
UNAVAIL REASON    = --
```

```
rept-stat-slk:loc=1213:link=b
```

This is an example of the possible output.

```
rlghncxa03w 09-02-23 13:06:25 GMT EAGLE5 40.1.0
SLK      LSN      CLLI      PST      SST      AST
1213,B   ls09     ls09clli  IS-NR      Avail  ----
ALARM STATUS      = No Alarms
UNAVAIL REASON    = --
```

Continue the procedure by performing one of these steps.

- If the state of all the signaling links in a linkset displayed in this step is not IS-NR, continue the procedure with [Step 6](#) on page 122.
- If the state of one or more of the signaling links in the linksets displayed in this step is IS-NR, continue the procedure with [Step 7](#) on page 122.

6. The linkset shown in [Step 5](#) on page 120 must contain at least active (IS-NR) signaling link. Enter the `act-slk` command to put into service one or more of the signaling links in the linkset. For this example, enter this command.

```
act-slk:loc=1211:link=a
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 08:31:24 GMT EAGLE5 40.1.0
Activate Link message sent to card
```

Continue the procedure by performing one of these steps.

- If the network type of the point codes being added to the CSPC group will not be the same as the network type of the CSPC group, and multiple point code network types are not shown in the `rtrv-cspc` output in [Step 1](#) on page 117, continue the procedure with [Step 7](#) on page 122.
 - If the network type of the point codes being added to the CSPC group is the same as the network type of the CSPC group, or if multiple point code network types are shown in the `rtrv-cspc` output in [Step 1](#) on page 117, continue the procedure with [Step 8](#) on page 122.
7. Verify that the ANSI-ITU-China SCCP Conversion feature is enabled by entering the `rtrv-ctrl-feat:partnum=893012001` command. The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
SCCP Conversion	893012001	on	----

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure and the ANSI-ITU-China SCCP Conversion feature.

8. Add the concerned signaling point code to the database using the `ent-cspc` command. For this example, enter these commands.

```
ent-cspc:grp=grp05
ent-cspc:grp=grp10
ent-cspc:grp=grp15
ent-cspc:grp=grp05:pca=002-002-002
ent-cspc:grp=grp05:pca=008-008-008
ent-cspc:grp=grp10:pca=008-008-008
ent-cspc:grp=grp10:pca=009-009-009
```

```
ent-cspc:grp=grp15:pca=002-002-002
```

```
ent-cspc:grp=grp15:pca=009-009-009
```

When each these commands have successfully completed, this message should appear.

```
rlghncxa03w 07-05-25 09:57:41 GMT EAGLE5 37.0.0  
ENT-CSPC: MASP A - COMPLTD
```

9. Verify the changes using the `rtrv-cspc` command, with the CSPC group names specified in [Step 8](#) on page 122 . For this example enter these commands.

```
rtrv-cspc:grp=grp05
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:58:31 GMT EAGLE5 37.0.0  
CSPC GRP  
PCA  
grp05          002-002-002  
                008-008-008
```

```
rtrv-cspc:grp=grp10
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:59:31 GMT EAGLE5 37.0.0  
CSPC GRP      PCA  
grp10         008-008-008  
                009-009-009
```

```
rtrv-cspc:grp=grp15
```

This is an example of the possible output.

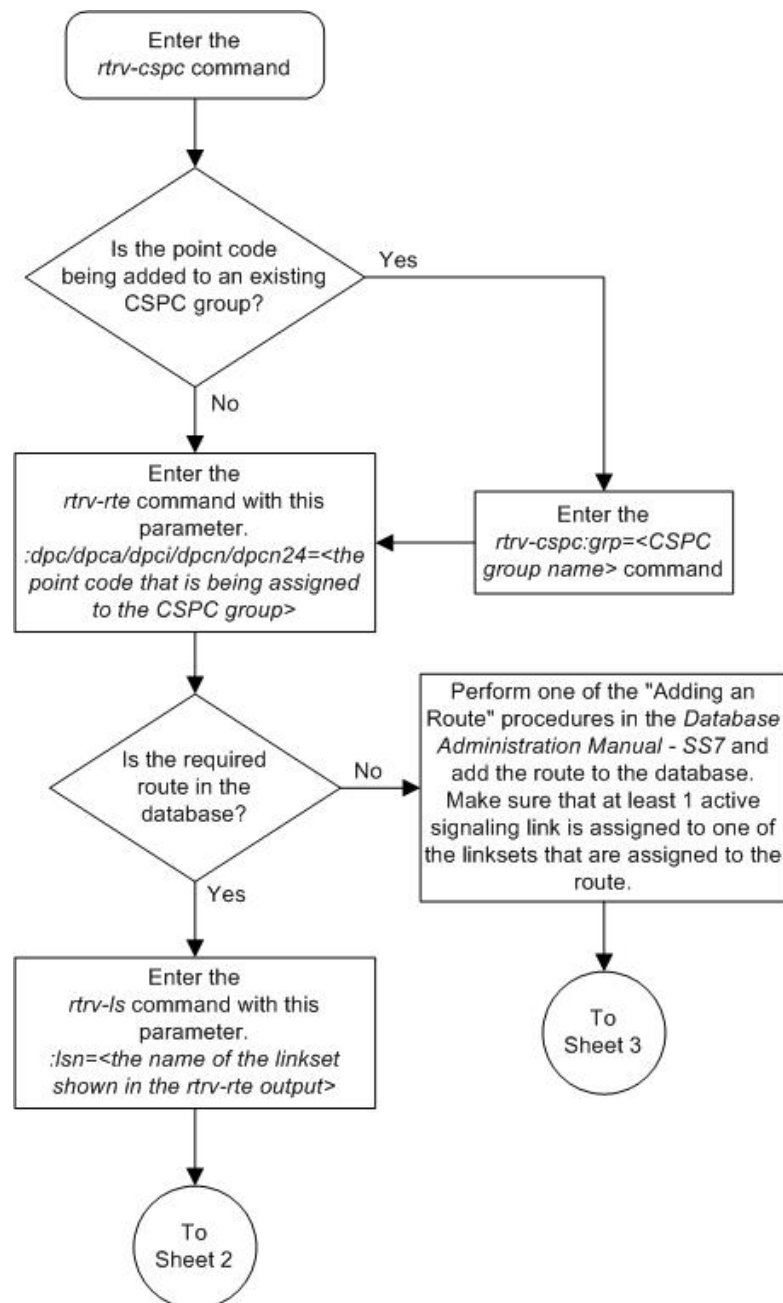
```
rlghncxa03w 07-05-25 09:57:41 GMT EAGLE5 37.0.0  
CSPC GRP      PCA  
grp15         002-002-002  
                009-009-009
```

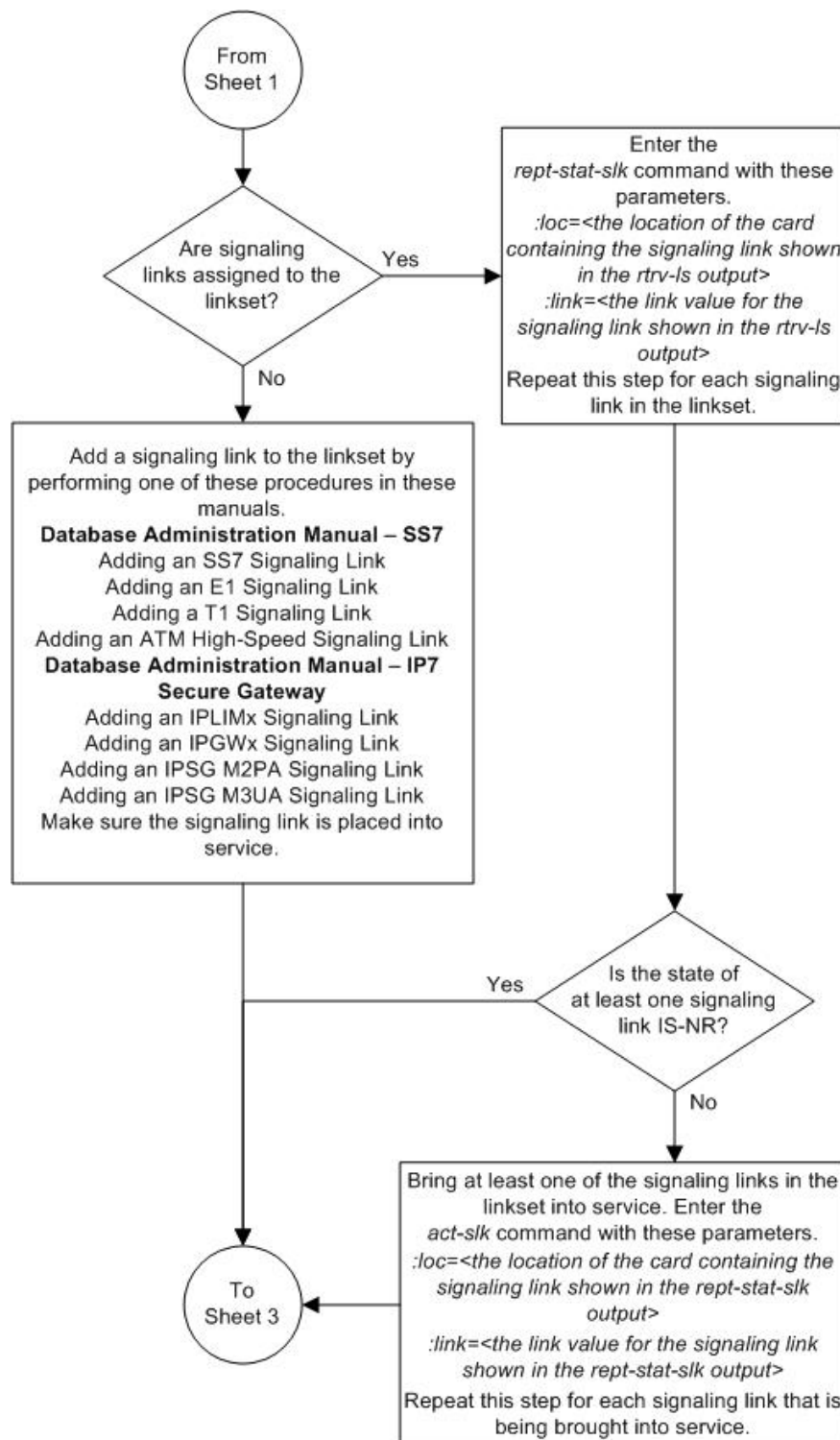
Note: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the `rtrv-cspc` output, if point codes of multiple network types are assigned to the CSPC group.

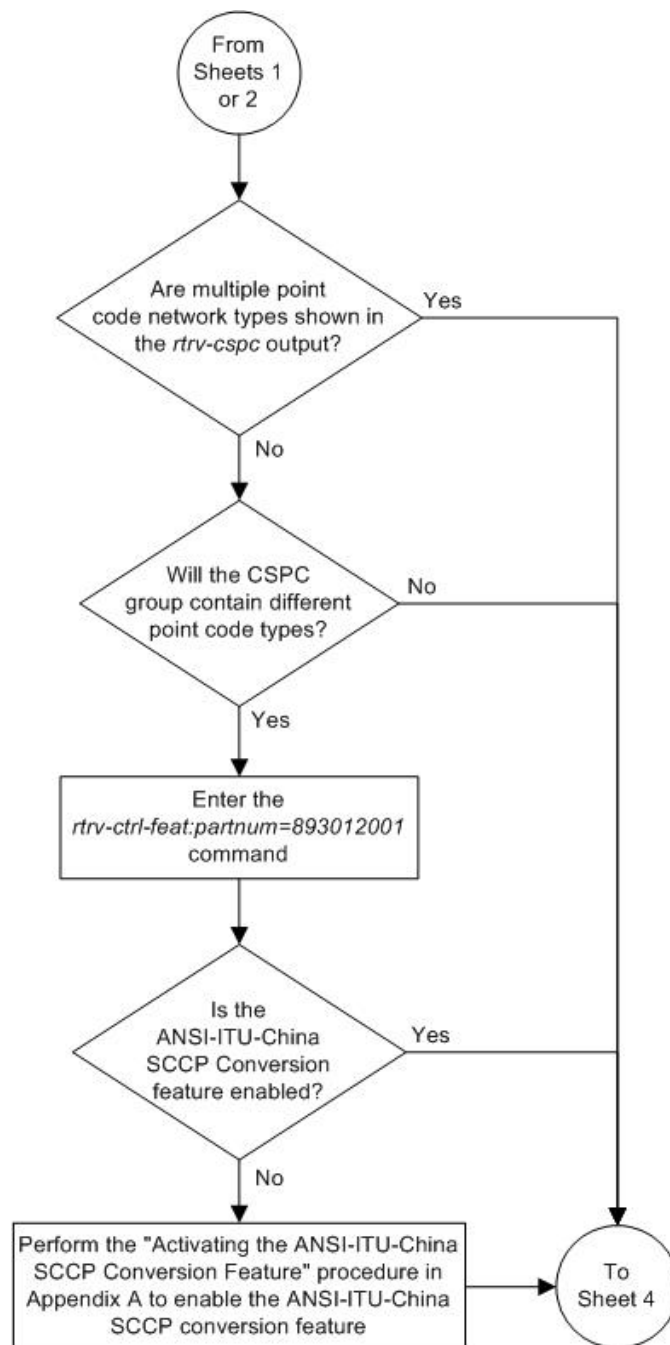
10. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

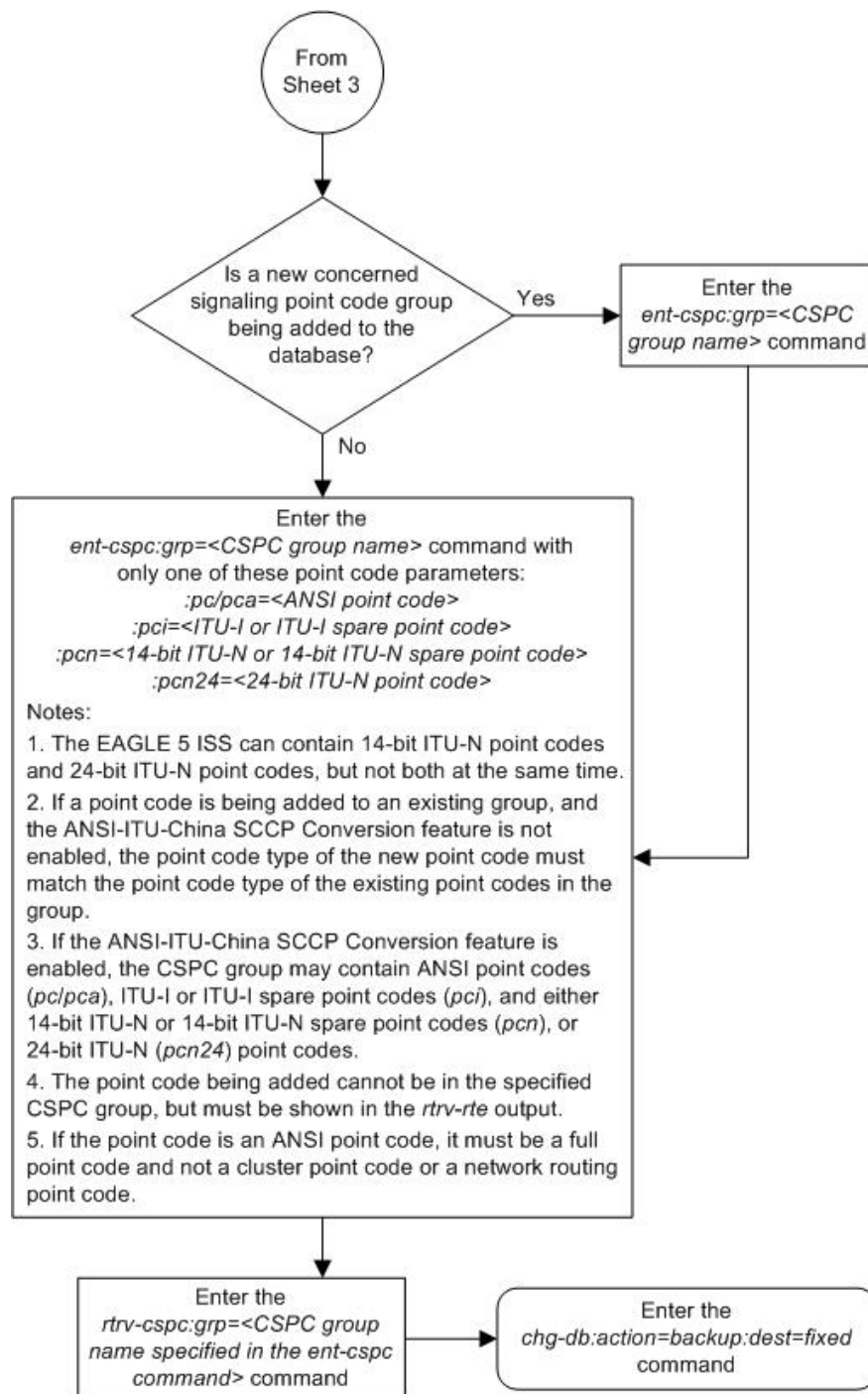
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 22: Adding a Concerned Signaling Point Code









Removing a Concerned Signaling Point Code

This procedure is used to remove a concerned signaling point code (CSPC) group from the database using the `dlt-cspc` command.

The `dlt-cspc` command uses these parameters.

`:grp` – The name of the concerned signaling point code group that contains the point codes that should be notified of the subsystem status.

`:pc/pca/pci/pcn/pcn24` – The point code of the signaling point that is to be in the concerned signaling point code group, either an ANSI point code (`pc/pca`), ITU-I or ITU-I spare point code (`pci`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`pcn`), or a 24-bit ITU-N (`pcn24`) point code.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

`:all` – Confirms that all entries for a particular concerned signaling point code group are to be removed.

The examples in this procedure are used to remove the concerned signaling point code 008-008-008 from the CSPC group `grp10` from the database.

The CSPC must be in the database for the indicated group.

1. Display the group names in the database using the `rtrv-cspc` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:47:31 GMT EAGLE5 37.0.0
CSPC GRP
NETWORK
PERCENT FULL
grp01      ANSI                6%
grp02      ITU-I               9%
grp03      ITU-N              12%
grp04      ANSI               15%
grp05      ANSI               15%
grp10      ANSI               15%
grp15      ANSI               15%
```

If the ANSI-ITU-China SCCP Conversion feature is enabled, and multiple network point code types are assigned to CSPC groups, the `rtrv-cspc` output is displayed as follows in this example.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
CSPC GRP  NETWORK          PERCENT FULL
grp01      ANSI, ITU-I, ITU-N    9%
grp02      ITU-I                9%
grp03      ANSI, ITU-N          6%
grp04      ANSI                15%
grp05      ANSI                15%
grp10      ANSI                15%
grp15      ANSI                15%
```

2. Display the point codes in the CSPC group that you wish to remove from that CSPC group using the `rtrv-cspc` command with the CSPC group name.

For this example, enter this command.

```
rtrv-cspc:grp=grp10
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:48:31 GMT EAGLE5 37.0.0
CSPC GRP      PCA
grp10         008-008-008
              009-009-009
```

If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed, if point codes of multiple network types are assigned to the CSPC group, as shown in this example.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
CSPC GRP      PC      TYPE
grp10         008-008-008 A
              009-009-009 A
              3-003-3    I
              00112      N
```

Note: If only a point code entry in the CSPC group is being removed, skip steps 3 and 4, and go to step 5.

3. Display the status of the Flexible GTT Load Sharing feature by entering the `rtrv-ctrl-feat` command with the Flexible GTT Load Sharing feature part number.

Enter this command.

```
rtrv-ctrl-feat:partnum=893015401
```

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Flexible GTT Load Sharing	893015401	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period
Left				

Zero entries found.

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the Flexible GTT Load Sharing feature is not enabled, skip step 4 and go to step 5.

If the Flexible GTT Load Sharing feature is enabled, go to step 4.

4. Display the mated applications in the database using the `rtrv-map` command.

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      250 10  SOL --- --- grp01  ON

MAPSET ID=1
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      251 10  SHR --- --- grp01  OFF
                253-001-002 254 10  SHR --- --- grp01  OFF

MAPSET ID=2
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      252 10  SOL --- --- grp01  ON

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      253 10  SHR --- --- grp01  OFF
                253-001-004 254 10  SHR --- --- grp01  OFF

MAPSET ID=3
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      255 10  DOM YES YES grp01  ON
                253-001-005 254 20  DOM YES YES grp01  ON

MAPSET ID=4
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      250 10  DOM YES YES grp01  OFF
                253-001-001 254 20  DOM YES YES grp01  OFF

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      251 10  SHR --- --- grp01  OFF
                255-001-002 254 10  SHR --- --- grp01  OFF

MAPSET ID=5
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      252 10  DOM YES YES grp01  ON
                255-001-003 254 20  DOM YES YES grp01  ON

MAPSET ID=6
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      253 10  SHR --- --- grp01  ON
                255-001-004 254 10  SHR --- --- grp01  ON

MAPSET ID=7
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
002-002-007      50 10  COM YES YES grp01  OFF
                002-002-008 30 10  COM YES YES grp01  OFF
                002-002-009 30 10  COM YES YES grp01  OFF
                002-002-010 30 20  COM YES YES grp01  OFF
                002-002-011 30 20  COM YES YES grp01  OFF

MAPSET ID=8
PCI      Mate PCI      SSN RC MULT SRM MRC GRP NAME SSO
2-001-2      255 10  DOM NO  YES grp03  OFF
                2-001-1      254 20  DOM NO  YES grp03  OFF

MAPSET ID=9
PCN      Mate PCN      SSN RC MULT SRM MRC GRP NAME SSO
00347      253 10  SHR --- --- grp05  OFF
                01387      254 10  SHR --- --- grp05  OFF

```

```
MAP TABLE IS      1 % FULL      (20 of 36000)
```

If any of the following items are not shown in the `rtrv-map` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MAPSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MRNSET and MRNPC fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

If the CSPC group being removed in this procedure is shown in the `rtrv-map` output, perform [Changing a Mated Application](#) on page 330 to change the CSPC group assigned to the mated applications that are currently referencing the CSPC group being removed. After the CSPC group assignments have been changed, go to step 5.

If the CSPC group being removed in this procedure is not shown in the `rtrv-map` output, go to step 5.

5. Remove the concerned signaling point code from the database using the `dlt-cspc` command.

For this example, enter this command.

```
dlt-cspc:grp=grp10:pca=008-008-008
```

This message should appear.

```
rlghncxa03w 07-05-25 09:49:31 GMT EAGLE5 37.0.0
DLT-CSPC:  MASP A - COMPLTD
```

Note: If you wish to remove the entire CSPC group, enter the `dlt-cspc` command with the CSPC group name and the `all=yes` parameter. For this example, enter the `dlt-cspc:grp=grp10:all=yes` command.

6. Verify the changes using the `rtrv-cspc` command with the CSPC group name.

For this example, enter this command.

```
rtrv-cspc:grp=grp10
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:50:31 GMT EAGLE5 37.0.0
CSPC GRP      PCA
grp10         009-009-009
```

Note: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the `rtrv-cspc` output, if point codes of multiple network types are assigned to the CSPC group.

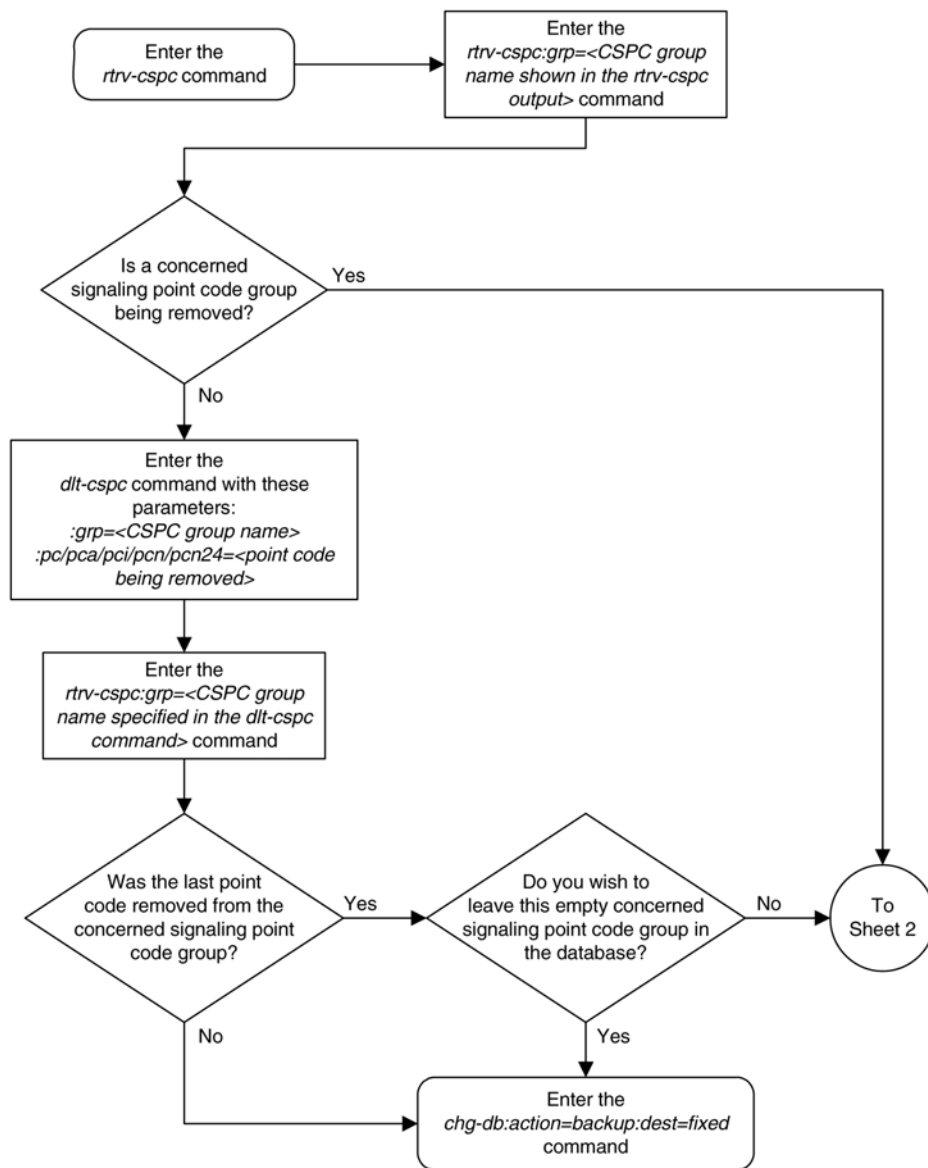
7. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

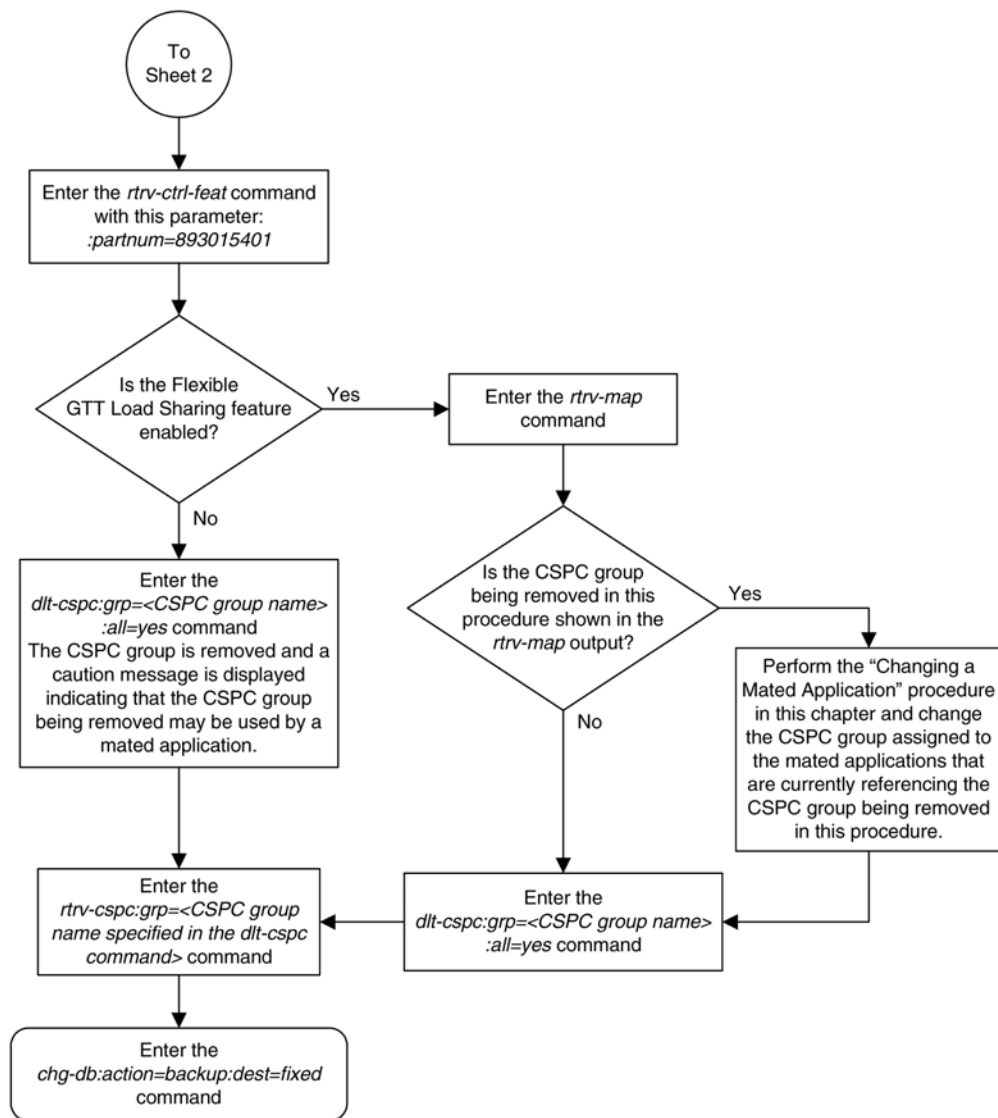
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
```

BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
 BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

Figure 23: Removing a Concerned Signaling Point Code





Provisioning a Solitary Mated Application

This procedure is used to provision a solitary mated application in the database using the `ent-map` command. A solitary mated application contains only one entry. The `ent-map` command use these parameters to provision a solitary mated application.

`:pc/pca/pci/pcn/pcn24` – The point code of the signaling point that is to receive the message.

Note: The point codes can be either an ANSI point code (`pc/pca`), ITU-I or ITU-I spare point code (`pci`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`pcn`), or a 24-bit ITU-N (`pcn24`) point code.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

: **ssn** – Subsystem number – the subsystem address of the point code that is to receive the message. The value for this parameter is 2 to 255.

:grp – The name of the concerned signaling point code (CSPC) group that contains the point codes that should be notified of the subsystem status. This parameter applies to both RPCs/SSNs. The value for this parameter is shown in the `rtrv-cspc` output. If the desired value is not shown in the `rtrv-cspc` output, perform [Adding a Concerned Signaling Point Code](#) on page 116 to add the desired group. If this parameter is not specified, then a CSPC group name is not specified for the mated application.

sso – Subsystem Status Option – defines whether the subsystem status option is on or off. This parameter allows the user the option to have the specified subsystem marked as prohibited even though an MTP-RESUME message has been received by the indicating that the specified point code is allowed. The **sso** parameter cannot be specified if the **pc/pca/pci/pcn/pcn24** value is the EAGLE 5 ISS's true point code, shown in the **rtrv-sid** output. The value for this parameter is **on** or **off**. The default value is **off**.

:mapset – The MAP set ID that the mated applications are assigned to. This parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. This parameter must be specified if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the point code and subsystem specified for the global title translation must be assigned to the MAP set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the `rtrv-ctrl-feat` output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

The mapset parameter has three values:

- `df1t` – to assign the MAP to the default MAP set.
- `new` – to assign the mated application to a new MAP set.
- the specific number of an existing MAP set if you are assigning the mated application to an existing MAP set. This value can be specified only with the `chg-map` command.

Refer to *Provisioning a MAP Set* on page 137 for information on provisioning MAP sets.

:mrnset – The MRN set ID that is being assigned to the mated application. This is the MRN set from which alternate routing indicator searches are performed.

:mrnpc/mrnpc/mrnpci/mrnpcn/mrnpcn24 – The point code assigned to the mrnset that is being assigned to the MAP set.

The current values of the `mrnset` and `:mrnpc/mrnpca/mrnpai/mrnpn/mrnpn24` parameters are shown in the `rtrv-map` output only if the Flexible GTT Load Sharing and the GTT Load Sharing with Alternate Routing Indicator features are enabled.

The new values for the `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai24` parameters must be shown in the `rtrv-mrn` output.

The network type of the pc/pca/pci/pcn/pcn24 and mrnpc/mrnpca/mrnpai/mrnpai24 parameter values must be compatible, as shown in [Table 24: MAP and MRN Point Code Parameter Combinations](#) on page 134.

Table 24: MAP and MRN Point Code Parameter Combinations

MAP Point Code Parameter	MRN Point Code Parameter
pc/pca	mrnpc/mrnpc

MAP Point Code Parameter	MRN Point Code Parameter
pci or pcn (See Notes 1 and 2)	mrnpci or mrnpcn (See Notes 1 and 2)
pcn24	mrnpcn24
Notes: 1. If the network type of the MAP point code parameter is ITU-I (pci), the network type of the MRN point code parameter can be either ITU-I (mappci) or ITU-N (mappcn). 2. If the network type of the MAP point code parameter is ITU-N (pcn), the network type of the MRN point code parameter can be either ITU-I (mappci) or ITU-N (mappcn).	

The `ent-map` command also contains other parameters that can be used to provision mated applications, but cannot be used to provision a solitary mated applications. These parameters are: `mpc/mpca/mpci/mpcn/mpcn24`, `mssn`, `rc`, `materc`, `mrc`, `srn`. If you wish to use these parameters to provision mated applications, perform one of these procedures:

- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217 (the `mrc` and `srn` parameters cannot be used with this procedure)
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

The `rc` parameter can be specified for a solitary mated application, but since a solitary mated application contains only one entry, the `rc` parameter does not need to be specified. If the `rc` parameter is not specified, the `rc` value is set to 10.

If the Weighted GTT Load Sharing feature is enabled, shown by the columns `WT`, `%WT`, and `THR` in the `rtrv-map` output, the parameters `wt`, `mwt`, and `thr` cannot be specified for a solitary mated application. If you wish to use these parameters to provision a mated application, perform one of these procedures:

- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

If the Flexible GTT Load Sharing feature is not enabled, the point code and subsystem number combination can be in the database only once. If the Flexible GTT Load Sharing feature is enabled, the point code and subsystem number combination can be in multiple MAP sets, but can be in the default MAP set only once. Refer to [Provisioning a MAP Set](#) on page 137 for information on provisioning MAP sets.

The point codes specified in the `ent-map` command (`pc/pca`, `pci`, `pcn`, or `pcn24`) must be either a full point code in the routing point code table or the EAGLE 5 ISS's true point code. Cluster point codes or network routing point codes cannot be specified with this command. The `rtrv-rte` command can be used to verify the point codes in the routing table. The point codes in the routing table are shown in the `DPCA`, `DPCI`, `DPCN`, or `DPCN24` fields of the `rtrv-rte` command output. The EAGLE 5 ISS's true point code is shown in the `PCA`, `PCI`, `PCN`, or `PCN24` fields of the `rtrv-sid` command output.

A solitary mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications. A point code can be assigned to maximum of 12 different SSNs.

If the EAGLE 5 ISS's true point code is specified in the mated application and the Flexible GTT Load Sharing feature is enabled, the mated application containing the EAGLE 5 ISS's true point code can be assigned only to the default MAP set.

A mated application containing the LNP subsystem can contain only the EAGLE 5 ISS's ANSI true point code. The LNP feature must be enabled for a quantity greater than zero.

A mated application containing the INP subsystem can contain only the EAGLE 5 ISS's true 14-bit ITU-N point code, 14-bit ITU-N spare point code, or 24-bit ITU-N point code. The INP or ANSI-41 INP Query feature must be enabled and turned on. The EAGLE 5 ISS can contain either 14-bit ITU-N point codes (spare or non-spare point codes) or 24-bit ITU-N point codes. Both types of point codes cannot be present on the EAGLE 5 ISS at the same time.

A mated application containing the EIR subsystem can contain only the EAGLE 5 ISS's true ITU-I point code, ITU-I spare point code, 14-bit ITU-N point code, 14-bit ITU-N spare point code, or 24-bit ITU-N point code. The EIR feature must be enabled and turned on. The EAGLE 5 ISS can contain either 14-bit ITU-N point codes (spare or non-spare point codes) or 24-bit ITU-N point codes. Both types of point codes cannot be present on the EAGLE 5 ISS at the same time.

A mated application containing the VFLEX subsystem can contain any of the EAGLE 5 ISS's true point codes. The V-Flex feature must be enabled and turned on. The EAGLE 5 ISS can contain either 14-bit ITU-N point codes (spare or non-spare point codes) or 24-bit ITU-N point codes. Both types of point codes cannot be present on the EAGLE 5 ISS at the same time.

A mated application containing the ATINPQ subsystem can contain only the EAGLE 5 ISS's true ANSI point code, ITU-I point code, ITU-I spare point code, 14-bit ITU-N point code, or 14-bit ITU-N spare point code. The ATINP feature must be enabled.

The EAGLE 5 ISS can contain multiple entries that contain the EAGLE 5 ISS's true point code, shown in the `rtrv-sid` output. [Table 25: Maximum Number of True Point Code Entries](#) on page 136 shows the numbers of entries that can be provisioned based on the type of point code.

Table 25: Maximum Number of True Point Code Entries

True Point Code Type	Maximum Number of Entries
ANSI	<p>1 - for the LNP subsystem</p> <p>2 - one entry for the ATINPQ subsystem and one entry for the V-FLEX subsystem</p> <p>The LNP subsystem cannot be used if the ATINPQ, EIR, INP, and V-FLEX subsystems are used.</p>
ITU-I	3 - one entry for the ATINPQ subsystem, one entry for the EIR subsystem, and one entry for the V-FLEX subsystem
ITU-N	4 - one entry for the ATINPQ subsystem, one entry for the EIR subsystem, one entry for the INP subsystem, and one entry for the V-FLEX subsystem

The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP

Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. The status of the ANSI-ITU-China SCCP Conversion feature can be verified with the `rtrv-ctrl-feat` command.

If the `grp` and `ssn` parameter values are specified, and the specified point code and SSN is assigned to multiple mated applications, the `grp` and `ssn` values for all mated applications containing the specified point code and SSN will be changed to the values specified in this procedure.

The values of the `ssn` parameter must be from 2 to 255.

The EAGLE 5 ISS can contain 1024, 2000, or 3000 mated applications. The EAGLE 5 ISS default is 1024 mated applications. This quantity can be increased to 2000 by enabling the feature access key for part number 893-0077-01, or to 3000 by enabling the feature access key for part number 893-0077-10. For more information on enabling these feature access keys, refer to [Enabling the XMAP Table Expansion Feature](#) on page 867.

Provisioning a MAP Set

The Flexible GTT Load Sharing feature provides the ability to define multiple load sharing sets in the MAP table where the same point code and subsystem can be assigned to different load sharing sets.

The MAP table contains specific load sharing sets, designated by numbers, and a default MAP set.

Flexible Final GTT Load Sharing provides flexible load sharing for global title translations defined in the GTT table and not for the MPS based features. The MPS based features do not support the MAP set ID parameter. The MPS based features perform lookups for load sharing in the default MAP set and the GTT table. The entries in the GTT table can be linked to a MAP set ID, allowing lookups in a specific MAP set other than the default MAP set.

Any MAP entries that were provisioned in the database before the Flexible GTT Load Sharing feature is enabled are placed in the default MAP set when the Flexible GTT Load Sharing feature is enabled.

To provision entries in the default MAP set, the `mapset=dflt` parameter must be specified with the `ent-map` command.

To provision entries in a new MAP set, the `mapset=new` parameter must be specified with the `ent-map` command. The `mapset=new` parameter can be specified only with the `ent-map` command. When the `ent-map` command is executed with the `mapset=new` parameter, the new MAP set ID is automatically generated and displayed in the output of the `ent-map` command as follows.

```
New MAPSET Created : MAPSETID = <new MAP set ID>
```

The default MAP set can contain multiple MAP groups. The point code and subsystem number combination can appear only once in the default MAP set. The point code can appear in multiple MAP groups in the default MAP set with different subsystem numbers.

The point code and subsystem number combination provisioned in a MAP set can be provisioned in multiple MAP sets. All the point code and subsystem number combinations in a MAP set must be different.

Canceling the RTRV-MAP Command

Because the `rtrv-map` command used in this procedure can output information for a long period of time, the `rtrv-map` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-map` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-map` command was entered, from another terminal other than the terminal where the `rtrv-map` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated applications in the database using the `rtrv-map` command.

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      250 10 SOL --- --- grp01 ON

MAPSET ID=1
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      251 10 SHR --- --- grp01 OFF
                253-001-002 254 10 SHR --- --- grp01 OFF

MAPSET ID=2
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      252 10 SOL --- --- grp01 ON

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      253 10 SHR --- --- grp01 OFF
                253-001-004 254 10 SHR --- --- grp01 OFF

MAPSET ID=3
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      255 10 DOM YES YES grp01 ON
                253-001-005 254 20 DOM YES YES grp01 ON

MAPSET ID=4
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      250 10 DOM YES YES grp01 OFF
                253-001-001 254 20 DOM YES YES grp01 OFF

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      251 10 SHR --- --- grp01 OFF
                255-001-002 254 10 SHR --- --- grp01 OFF

MAPSET ID=5
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      252 10 DOM YES YES grp01 ON
                255-001-003 254 20 DOM YES YES grp01 ON
```

```

MAPSET ID=6
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002   255-001-004  253 10  SHR --- --- grp01  ON
                254 10  SHR --- --- grp01  ON

MAPSET ID=7
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
002-002-007   002-002-008  50 10  COM YES YES grp01  OFF
                30 10  COM YES YES grp01  OFF
                002-002-009  30 10  COM YES YES grp01  OFF
                002-002-010  30 20  COM YES YES grp01  OFF
                002-002-011  30 20  COM YES YES grp01  OFF

MAPSET ID=8
PCI           Mate PCI      SSN RC MULT SRM MRC GRP NAME SSO
2-001-2       2-001-1     255 10  DOM NO  YES grp03  OFF
                254 20  DOM NO  YES grp03  OFF

MAPSET ID=9
PCN           Mate PCN      SSN RC MULT SRM MRC GRP NAME SSO
00347         01387       253 10  SHR --- --- grp05  OFF
                254 10  SHR --- --- grp05  OFF

MAP TABLE IS 1 % FULL (25 of 36000)

```

If any of the following items are not shown in the `rtrv-map` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MAPSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MRNSET and MRNPC fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

Note: If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 138 is 1024, 2000, or 3000, continue the procedure with [Step 3](#) on page 140.

2. To verify the number of different point codes that can be provisioned for mated applications, enter the `rtrv-tbl-capacity` command.

If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 138 is 36000, the Flexible GTT Load Sharing feature is enabled.

Note: The `rtrv-tbl-capacity` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-tbl-capacity` command, see the `rtrv-tbl-capacity` command description in the *Commands Manual*.

Although the `rtrv-map` output shows there can be 36000 entries, a maximum of 1024, 2000, or 3000 different point codes (depending on whether the XMAP Table Expansion feature is enabled for 2000 or 3000 mated applications) can be provisioned for mated applications.

The following is an example of the possible output.

```

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
MAP table is (3000 of 3000) 100% full

```

Note: If the `rtrv-map` output in [Step 1](#) on page 138 or the `rtrv-tbl-capacity` output in this step shows that the maximum number of mated applications is 3000, and the current

number of provisioned mated applications is 3000, no new point codes can be used to provision mated applications. Continue the procedure with [Step 4](#) on page 140.

Note: If the `rtrv-map` output in [Step 1](#) on page 138 or the `rtrv-tbl-capacity` output in this step shows that the maximum number of mated applications is either 1024 or 2000, and the mated application being added increases the number beyond 1024 or 2000, do not perform [Step 3](#) on page 140 this step, but perform [Enabling the XMAP Table Expansion Feature](#) on page 867 to enable XMAP Table Expansion feature for 3000 mated applications. Then go to [Step 4](#) on page 140. If the maximum number of mated applications is not increased, no new point codes can be used to provision mated applications.

Note: If the `rtrv-map` output in [Step 1](#) on page 138 or the `rtrv-tbl-capacity` output in this step shows that the maximum number of mated applications is either 1024, 2000, or 3000 and the mated application being added will not increase the number beyond the quantity shown in the `rtrv-map` output in [Step 1](#) on page 138 or the `rtrv-tbl-capacity` output in this step, continue the procedure with [Step 4](#) on page 140.

3. Display the status of the XMAP Table Expansion feature by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007701	off	----
Large System # Links	893005910	on	2000
HC-MIM SLK Capacity	893012707	on	64

```

The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```

The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the XMAP Table Expansion controlled feature is not enabled or on, refer to [Enabling the XMAP Table Expansion Feature](#) on page 867 and enable XMAP Table Expansion controlled feature for either 2000 or 3000 mated applications as required. Then go to [Step 4](#) on page 140.

Note: If a new point code is being provisioned for the mated application, continue the procedure with [Step 5](#) on page 141.

4. A mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications. A point code can be assigned to maximum of 12 different SSNs.

Verify the number of SSNs assigned to the point code that will be specified for the mated application in this procedure by entering the `rtrv-map` command with the point code of the new mated application. For this example, enter this command.

```
rtrv-map:pca=255-001-000
```

This is an example of the possible output.

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO
255-001-000		250	10	SOL	---	---	grp01		ON
255-001-000		251	10	SHR	---	---	grp01		OFF
	253-001-002	254	10	SHR	---	---	grp01		OFF
255-001-000		252	10	SOL	---	---	grp01		ON
255-001-000		253	10	SHR	---	---	grp01		OFF
	253-001-004	254	10	SHR	---	---	grp01		OFF

If the Flexible GTT Load Sharing feature is enabled, the MAPSETIDs for the mated applications are shown in the `rtrv-map` output.

If the Weighted GTT Load Sharing feature is enabled and turned, the `WT`, `%WT`, and `THR` columns are shown in the `rtrv-map` output.

If the point code is assigned to less than 12 different SSNs, then the existing point code in the `rtrv-map` output can be used to provision the mated application. Continue the procedure with [Step 5](#) on page 141 .

If the point code is assigned to 12 different SSNs, another existing point code in the `rtrv-map` output or a new point code must be used to provision the mated application. If an existing point code in the `rtrv-map` output will be used to provision the mated application, repeat this step for that point code. Then continue the procedure with [Step 5](#) on page 141 .

If a new point code will be used to provision the mated application, continue the procedure with [Step 5](#) on page 141 .

If the point code is assigned to 12 different SSNs, and neither an existing point code in the `rtrv-map` output nor a new point code will be used to provision the mated application, then this procedure cannot be performed.

Note: If a concerned signaling point code (CSPC) group is not being assigned to the mated application, continue the procedure with [Step 7](#) on page 143 .

5. Display the point codes in the CSPC group that you wish to assign to the mated application by first entering the `rtrv-cspc` command with no parameters.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:48:31 GMT EAGLE5 37.0.0
CSPC GRP
NETWORK
PERCENT FULL
grp01      ANSI                6%
grp02      ITU-I               9%
grp03      ITU-N              12%
grp04      ANSI               15%
grp05      ANSI               15%
grp10      ANSI               15%
grp15      ANSI               15%
```

If the desired CSPC group is shown in the `rtrv-cspc` output, re-enter the `rtrv-cspc` command with the CSPC group name. For this example, enter these commands.

```
rtrv-cspc:grp=grp05
```


This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:48:31 GMT EAGLE5 37.0.0
CSPC GRP PCA
grp05 005-005-005
      007-007-007
      008-008-008
      009-009-009
```

```
rtrv-cspc:grp=grp10
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:59:31 GMT EAGLE5 37.0.0
CSPC GRP PCA
grp10 003-003-003
      004-004-004
      008-008-008
      009-009-009
```

```
rtrv-cspc:grp=grp15
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:48:31 GMT EAGLE5 37.0.0
CSPC GRP PCA
grp15 005-005-005
      006-006-006
      008-008-008
      009-009-009
```

Note: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the `rtrv-cspc` output, if point codes of multiple network types are assigned to the CSPC group.

If the CSPC group is not in the database, or if the required point code is not assigned to the CSPC group, perform [Adding a Concerned Signaling Point Code](#) on page 116 to add the required CSPC group or point code to the database.

Note: If the output of the `rtrv-cspc` command performed in [Step 5](#) on page 141 shows CSPC groups containing a mixture of point code types, or if the new CSPC group that was added in [Step 5](#) on page 141 contains a mixture of point code types, continue the procedure with [Step 7](#) on page 143.

6. The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled.

If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.

Verify the status of the ANSI-ITU-China SCCP Conversion feature by entering this command:

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
```


The following features have been permanently enabled:

Feature Name	Partnum	Status	Quantity
SCCP Conversion	893012001	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 to enable the ANSI-ITU-China SCCP Conversion feature.

- If the MAPSET column is shown in the `rtrv-map` output in [Step 1](#) on page 138, the Flexible GTT Load Sharing feature is enabled. Continue the procedure with [Step 8](#) on page 143.

If the MAPSET column is not shown in [Step 1](#) on page 138 and you do not wish to provision MAP sets in this procedure, continue the procedure with [Step 8](#) on page 143..

If the MAPSET column is not shown in [Step 1](#) on page 138 and you wish to provision MAP sets in this procedure, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature. After the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 8](#) on page 143..

Note: If the EAGLE 5 ISS's point code and subsystem number are being assigned to the mated application, continue the procedure with [Step 9](#) on page 144..

- Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
001-207-000	-----	no	---	-----	-----	SS7
001-001-001	-----	no	---	-----	-----	SS7
001-001-002	-----	no	---	-----	-----	SS7
001-005-000	-----	no	---	-----	-----	SS7
001-007-000	-----	no	---	-----	-----	SS7
008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7
DPCI	CLLI	BEI	ELEI	ALIASA	ALIASN/N24	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7

Destination table is (14 of 2000) 1% full

```
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, skip [Step 9](#) on page 144 through [Step 13](#) on page 146 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 15](#) on page 147.

9. Display the point code that will be assigned to the mated application by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA          CLLI          BEI  ELEI    ALIASI          ALIASN/N24    DMN
  010-020-005   -----   no   ---  -----   -----   SS7

  PPCA          NCAI  PRX          RCAUSE    NPRST    SPLITIAM
  009-002-003   ----  no          50        on      20

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the adjacent point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

After the new point code has been added, skip [Step 10](#) on page 144 through [Step 13](#) on page 146 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 15](#) on page 147.

10. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `ent-map` command to verify whether or not the point code is the DPC of a route.

For this example, enter these commands.

```
rtrv-rte:dpca=006-006-006
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
```

DPCA	ALIASI	ALIASN/N24	LSN	RC	APCA
006-006-006	-----	-----	ls06	10	006-006-006
			RTX:No	CLLI=ls06clli	

```
rtrv-rte:dpca=007-007-007
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24      LSN           RC           APCA
007-007-007  -----          -----          ls03          10          007-007-007
                                ls02          30          150-150-150
                                lsa2          50          200-200-200
                                lsa5          50          066-030-100
                                RTX:No      CLLI=ls03clli
```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After this step is performed, continue the procedure with by performing one of these steps [Step 14](#) on page 146.

- If the `mrnset` and MRN point code parameters will not be specified for the mated application, continue the procedure with [Step 15](#) on page 147.
- If the `mrnset` and MRN point code parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If the MRNSET and MRNPC fields are shown in the `rtrv-map` output in [Step 1](#) on page 138, continue the procedure with [Step 14](#) on page 146.
 - If the MRNSET and MRNPC fields are not shown in the `rtrv-map` output in [Step 1](#) on page 138, the GTT Load Sharing with Alternate Routing Indicator feature is not enabled. Perform [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 to enable the GTT Load Sharing with Alternate Routing Indicator feature.. After [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 has been performed, continue the procedure with [Step 14](#) on page 146.

Note: If the `sso` parameter will be specified for the mated application, continue the procedure with [Step 14](#) on page 146. The EAGLE 5 ISS's point code and LNP, EIR, V-Flex, or INP subsystem cannot be assigned to a mated application using the `sso` parameter.

11. Display the EAGLE 5 ISS self-identification, using the `rtrv-sid` command.

The EAGLE 5 ISS's true point code is shown in either the PCA, PCI, PCN, or PCN24 fields. This is an example of the possible output.

```
rlghncxa03w 07-05-10 11:43:04 GMT EAGLE5 37.0.0
PCA          PCI          PCN          CLLI          PCTYPE
010-020-030  1-023-1      12-0-14-1    rlghncxa03w   OTHER
              s-1-023-1    s-12-0-14-1
CPCA
001-001-001    002-002-003    002-002-004    002-002-005
002-002-006    002-002-007    002-002-008    002-002-009
004-002-001    004-003-003    050-060-070
CPCI
1-001-1        1-001-2        1-001-3        1-001-4
1-002-1        1-002-2        1-002-3        1-002-4
2-001-1        7-222-7
CPCN
```

2-0-10-3	2-0-11-0	2-0-11-2	2-0-12-1
2-2-3-3	2-2-4-0	10-14-10-1	

Note: If the `rtrv-ctrl-feat` output in [Step 3](#) on page 140 shows that either the LNP or ATINPQ feature is enabled, or the EIR, V-Flex, INP, or ANSI-41 INP Query feature is enabled and turned on, continue the procedure with [Step 13](#) on page 146.

12. Verify whether or not either the LNP or ATINPQ feature is enabled, or the EIR, INP, V-Flex, or ANSI-41 INP Query feature is enabled and turned on by entering the `rtrv-ctrl-feat` command, or by examining the `rtrv-ctrl-feat` output from [Step 3](#) on page 140, if [Step 3](#) on page 140 was performed.

The entry LNP TNS is shown in the `rtrv-ctrl-feat` output with a quantity greater than zero if the LNP feature is enabled. If the EIR feature is enabled and turned on, the entry EIR is shown in the `rtrv-ctrl-feat` output and the status of the EIR feature should be on. If the V-Flex feature is enabled and turned on, the entry VFLEX is shown in the `rtrv-ctrl-feat` output and the status of the V-Flex feature should be on. If the ATINP feature is enabled, the entry ATINP is shown in the `rtrv-ctrl-feat` output. If the INP feature is enabled and turned on, the entry INP is shown in the `rtrv-ctrl-feat` output and the status of the INP feature should be on. If the ANSI-41 INP Query feature is enabled and turned on, the entry ANSI-41 INP Query is shown in the `rtrv-ctrl-feat` output and the status of the ANSI-41 INP Query feature should be on. If the LNP or ATINPQ feature is enabled, or if the EIR, INP, V-Flex, or ANSI-41 INP Query feature is enabled and turned on, continue the procedure with [Step 15](#) on page 147. .

13. Enable either the INP, ANSI-41 INP Query, EIR, V-Flex, ATINPQ, or LNP features, depending on which subsystem you wish to use.

To use the INP subsystem, enable and turn on either the INP or ANSI-41 INP Query feature, perform the procedures in the *Feature Manual - INP / AINPQ* .

To use the LNP subsystem, enable the LNP feature, perform the procedures in the *LNP Feature Activation Guide*.

To use the EIR subsystem, enable and turn on the EIR feature, perform the procedures in the *Feature Manual - EIR*.

To use the V-Flex subsystem, enable and turn on the V-Flex feature, perform the procedures in the *Feature Manual - V-Flex*.

To use the ATINPQ subsystem, enable the ATINP feature, perform the procedures in the *Feature Manual - ATINP*.

Note: If the LNP feature is enabled, the INP, ANSI-41 INP Query, V-Flex, ATINPQ, or EIR features cannot be enabled.

14. The MRN point code value must be assigned to an MRN set. The MRN set must be shown in the `rtrv-mrn` output. Display the MRN sets by entering the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPCC	MAPSSN	PC	RC	WT	%WT	THR
DFLT	7	002-002-007	50	005-005-005	10	10	14	1
				006-001-001	10	10	14	1
				006-001-002	10	20	28	1
				006-001-003	10	30	42	1
				006-001-004	20	40	23	1

				006-001-005	20	40	23	1
				006-001-006	20	40	23	1
				006-001-007	20	50	29	1
MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
1	-----	-----	---	007-007-007	10	10	14	1
				008-001-001	10	10	14	1
				008-001-002	10	20	28	1
				008-001-003	10	30	42	1
				008-001-004	20	40	23	1
				008-001-005	20	40	23	1
				008-001-006	20	40	23	1
				008-001-007	20	50	29	1

MRN table is (16 of 5990) 1% full

If any of the following items are not shown in the `rtrv-mrn` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MRNSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MAPSET, MAPPC and MAPSSN fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

If the MRN set that you wish to use, containing the desired point code, is shown in the `rtrv-mrn` output, continue the procedure with [Step 15](#) on page 147.

Note: The network type of the `pc/pca/pci/pcn/pcn24` and `mrnpc/mrnpca/mrnpai/mrnpai24` parameter values must be compatible, as shown in [Table 24: MAP and MRN Point Code Parameter Combinations](#) on page 134.

If the MRN set that you wish to use is not shown in the `rtrv-mrn` output, add the required MRN set by performing [Provisioning MRN Entries](#) on page 367.

After the MRN set has been added, continue the procedure with [Step 15](#) on page 147.

15. Add the mated application to the database using the `ent-map` command.

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
ent-map:pca=006-006-006:ssn=250:grp=grp15:sso=off
ent-map:pca=007-007-007:ssn=251:grp=grp05:sso=on
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
ENT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
ent-map:pca=006-006-006:ssn=250:grp=grp15:sso=off:mapset=new
ent-map:pca=007-007-007:ssn=251:grp=grp05:sso=on:mapset=df1t
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled for this example, enter these commands.

```
ent-map:pca=006-006-006:ssn=250:grp=grp15:sso=off:mapset=new
:mrnset=1:mrnpc=007-007-007
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and a new MAP set was created, a message similar to the following should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
New MAPSET Created : MAPSETID = 9
ENT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and the mated application was added to the default MAP set, this message should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
ENT-MAP: MASP A - COMPLTD
```

Note:

- If the EAGLE 5 ISS's point code and subsystem number is being assigned to the mated application, and if the Flexible GTTLoad Sharing feature is enabled, the EAGLE 5 ISS's point code and subsystem number can be assigned only to the default MAP set using the `mapset=dflt` parameter.
- To create a solitary mated application, the only parameters that can be specified are `pc/pca/pci/pcn/pcn24`, `ssn`, `rc`, and `grp`. The `rc` parameter can be specified, but does not have to. If the `rc` parameter is not specified, its value will be 10.
- The EIR subsystem can be assigned to mated applications containing an ITU-I EAGLE 5 ISS point code and to another mated application containing either a 14-bit ITU-N EAGLE 5 ISS point code or a 24-bit ITU-N EAGLE 5 ISS point code. The ITU-N point code can be either a 14-bit or a 24-bit ITU-N point code. Both types of point codes cannot be specified. Perform this step as necessary to provision an ITU-I and either a 14-bit ITU-N or a 24-bit ITU-N mated application containing the EIR subsystem.
- The VFLEX subsystem can be assigned to mated applications containing an ANSI, ITU-I, and either a 14-bit ITU-N or a 24-bit ITU-N EAGLE 5 ISS point code. The ITU-N point code can be either a 14-bit or a 24-bit ITU-N point code. Both types of point codes cannot be specified. Perform this step as necessary to provision an ANSI, ITU-I, and either a 14-bit ITU-N or a 24-bit ITU-N mated application containing the VFLEX subsystem.
- The ATINPQ subsystem can be assigned to mated applications containing an ANSI, ITU-I, and a 14-bit ITU-N EAGLE 5 ISS point code. Perform this step as necessary to provision an ANSI, ITU-I, and a 14-bit ITU-N mated application containing the ATINPQ subsystem.
- The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI - ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.
- If the Flexible GTTLoad Sharing is enabled, the `mapset` parameter must be specified with the `ent-map` command.

If the Flexible GTT Load Sharing is not enabled, the `mapset` parameter cannot be specified with the `ent-map` command.

To provision entries in the default MAP set, the `mapset=dflt` parameter must be specified with the `ent-map` command.

To provision entries in a new MAP set, the `mapset=new` parameter must be specified with the `ent-map` command. The `mapset=new` parameter can be specified only with the `ent-map` command. When the `ent-map` command is executed with the `mapset=new` parameter, the new MAP set ID is automatically generated and displayed in the output of the `ent-map` command as follows.

```
New MAPSET Created : MAPSETID = <new MAP set ID>
```

The default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries. The point code and subsystem entry can appear only once in the default MAP set, so the point code and subsystem entry can appear in only one MAP group in the default MAP set.

The point code and subsystem entry provisioned in a MAP set can be provisioned in multiple MAPsets. If a point code and subsystem entry is provisioned in different MAP sets, the relative cost value of the entry in each MAP set can be different. All the point code and subsystem entries in a MAP set, including the default MAP set, must be different.

- If the Weighted GTTLoad Sharing feature is enabled, shown by the columns `WT`, `%WT`, and `THR` in the `rtrv-map` output, the parameters `wt`, `mwt`, and `thr` cannot be specified for a solitary mated application.
 - If either the `mrnset` or `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai24` parameter is specified, then both parameters must be specified. The GTT Load Sharing with Alternate Routing Indicator feature must be enabled to specify these parameters. Refer to [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 for information about enabling the GTT Load Sharing with Alternate Routing Indicator feature. The values for the `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai24` must be shown in the `rtrv-mrn` output.
 - The network type of the `pc/pca/pai/pai/pai24` and the `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai24` parameter values must be compatible, as shown in [Table 24: MAP and MRN Point Code Parameter Combinations](#) on page 134.
16. Verify the changes using the `rtrv-map` command with the primary point code and subsystem specified in [Step 15](#) on page 147.

If the `mapset=dflt` parameter was specified in [Step 15](#) on page 147, the `mapset=dflt` parameter should be specified with the `rtrv-map` command.

If a new MAP set was created in [Step 15](#) on page 147, the `mapset` parameter should be specified with the `rtrv-map` command. The value for the `mapset` parameter should be the MAP set ID generated in [Step 15](#) on page 147. If the mated application was added to an existing MAP set in [Step 15](#) on page 147, the `mapset` parameter and value specified in [Step 15](#) on page 147 should be specified with the `rtrv-map` command.

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
rtrv-map:pca=006-006-006:ssn=250
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
006-006-006          250 10  SOL --- --- grp15  OFF

MAP TABLE IS  4 % FULL      (37 of 1024)

rtrv-map:pca=007-007-007:ssn=251
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA           Mate PCA           SSN RC MULT SRM MRC GRP NAME SSO
007-007-007           251 10  SOL --- --- grp05  ON

MAP TABLE IS  4 % FULL      (37 of 1024)
```

Note: If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
rtrv-map:pca=006-006-006:ssn=250:mapset=10
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=10      MRNSET=1          MRNPC=007-007-007
PCA           Mate PCA           SSN RC MULT SRM MRC GRP NAME SSO
006-006-006           250 10  SOL --- --- grp15  OFF

MAP TABLE IS  1 % FULL      (37 of 36000)
```

```
rtrv-map:pca=007-007-007:ssn=251:mapset=df1t
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT    MRNSET=-----    MRNPC=-----
PCA           Mate PCA           SSN RC MULT SRM MRC GRP NAME SSO
007-007-007           251 10  SOL --- --- grp05  ON

MAP TABLE IS  1 % FULL      (37 of 36000)
```

If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

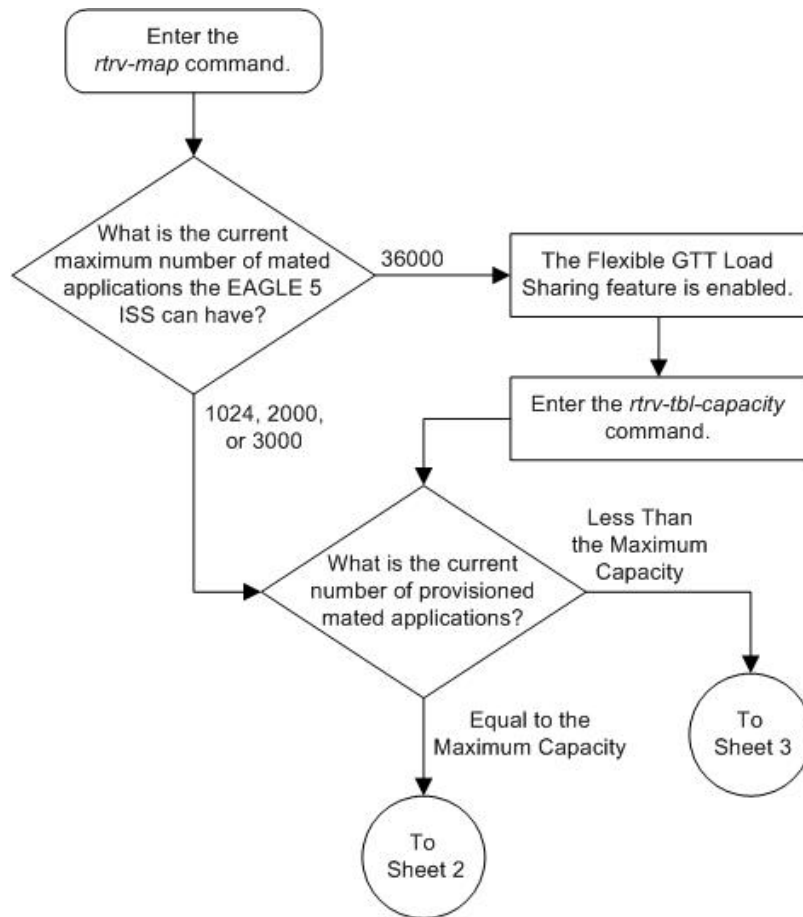
If the GTT Load Sharing with Alternate Routing Indicator feature is not enabled, the MRNSET and MRNPC fields are not shown in the `rtrv-map` output.

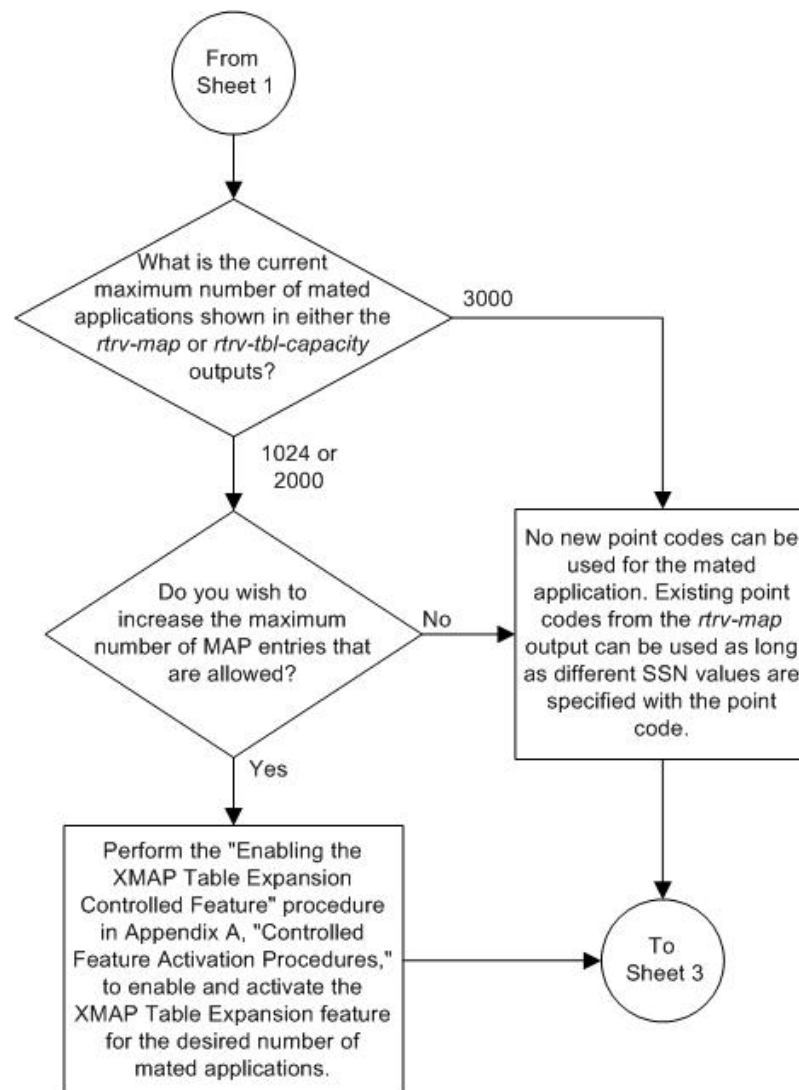
17. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

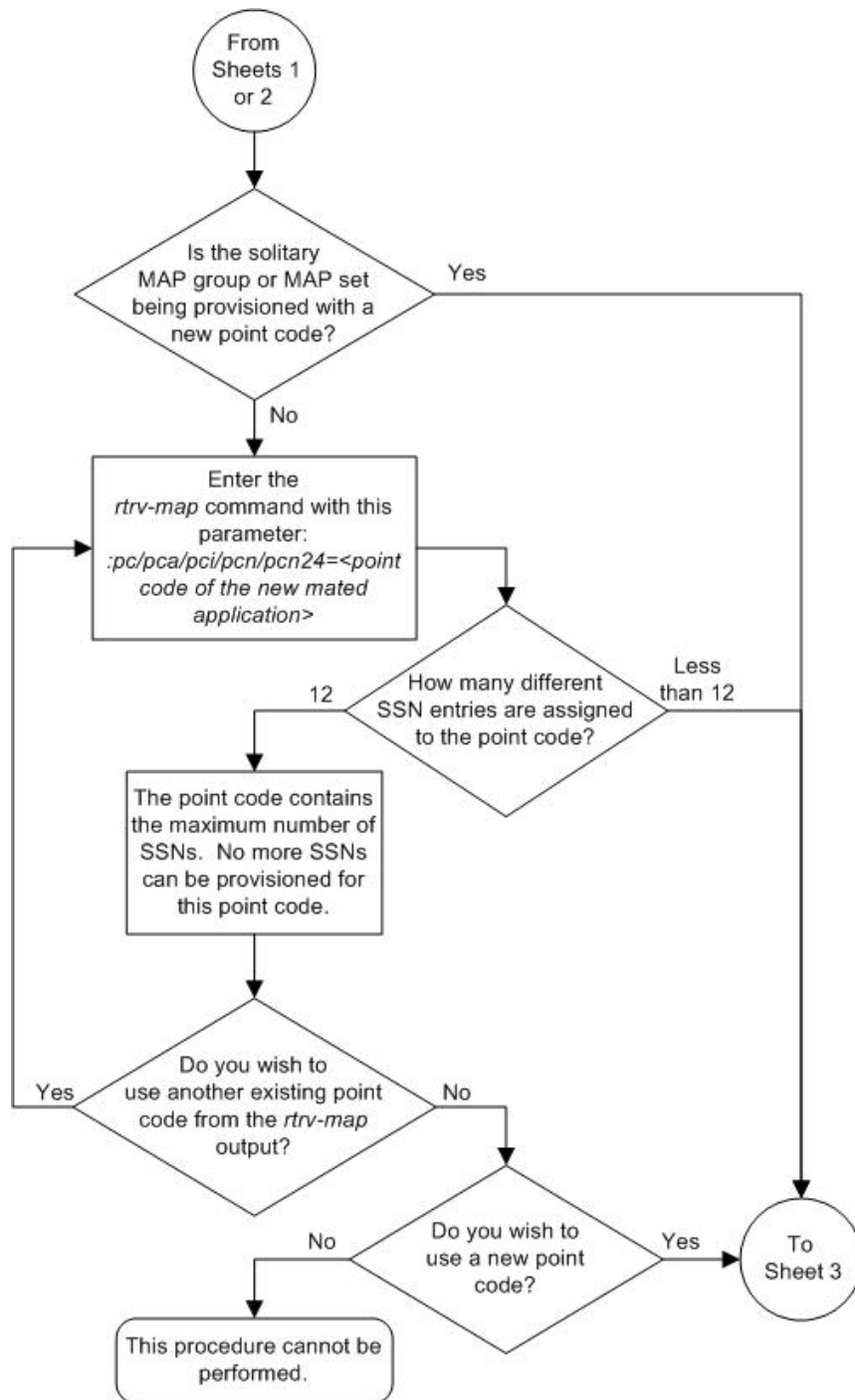
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

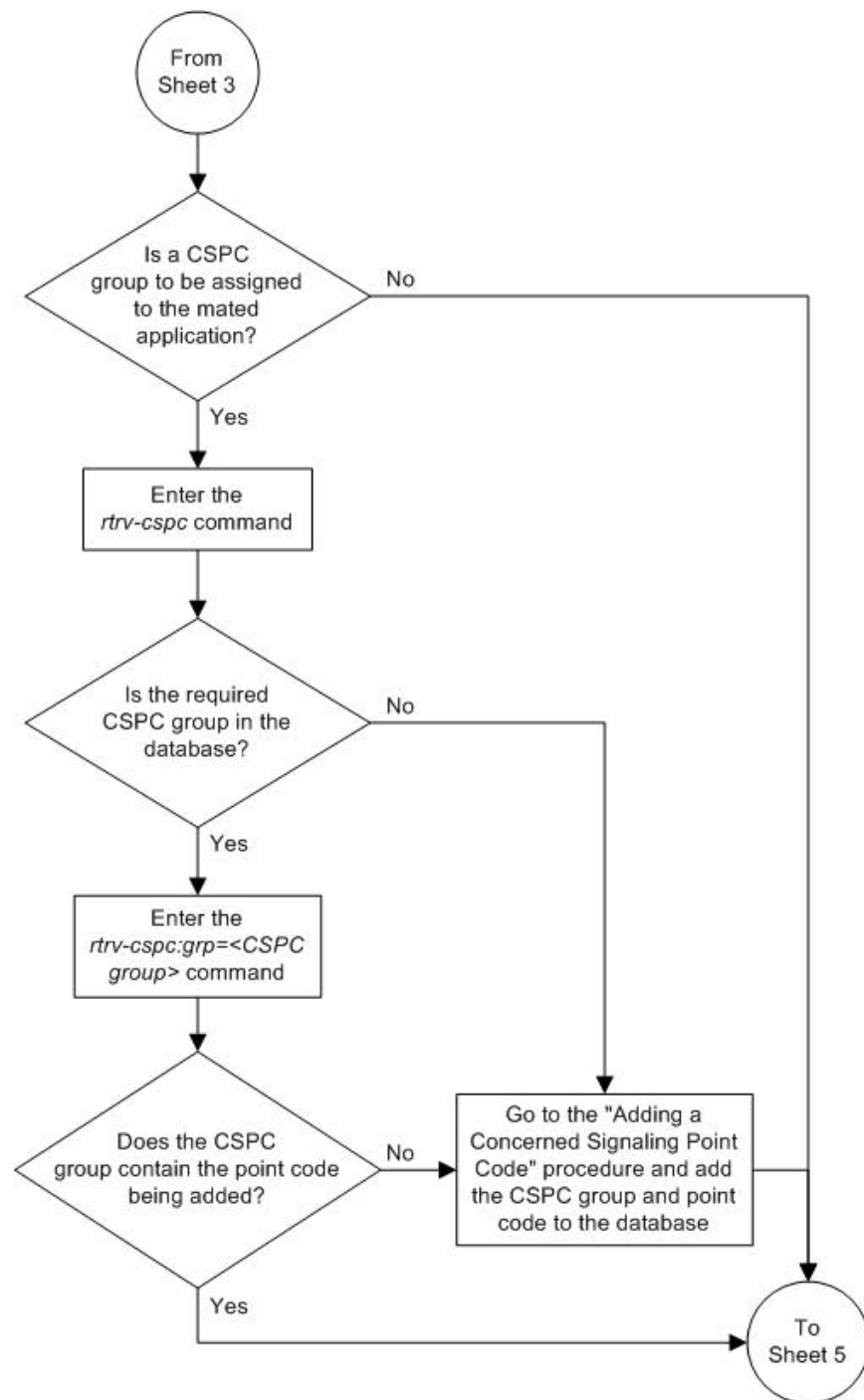
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

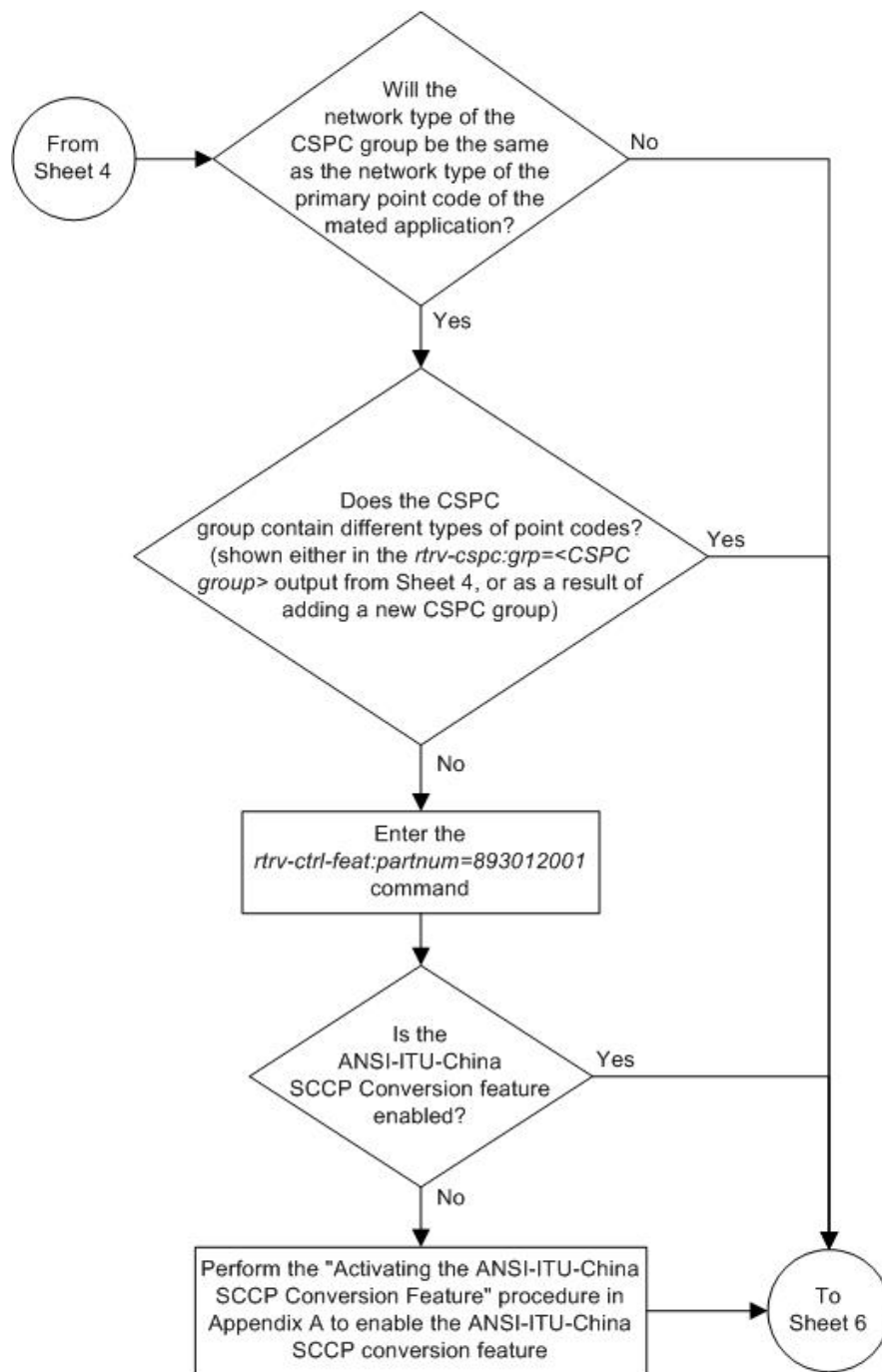
Figure 24: Provisioning a Solitary Mated Application

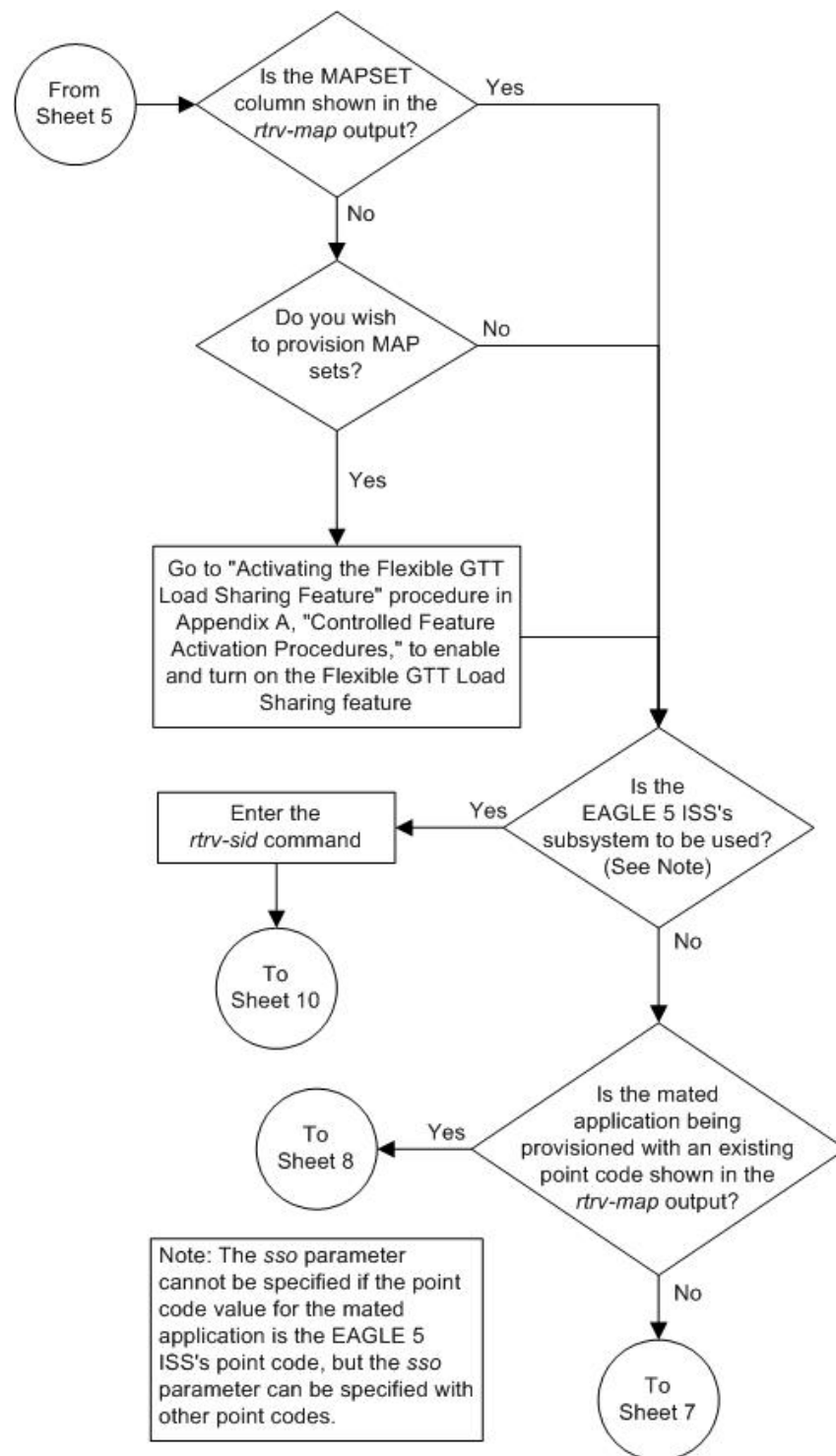


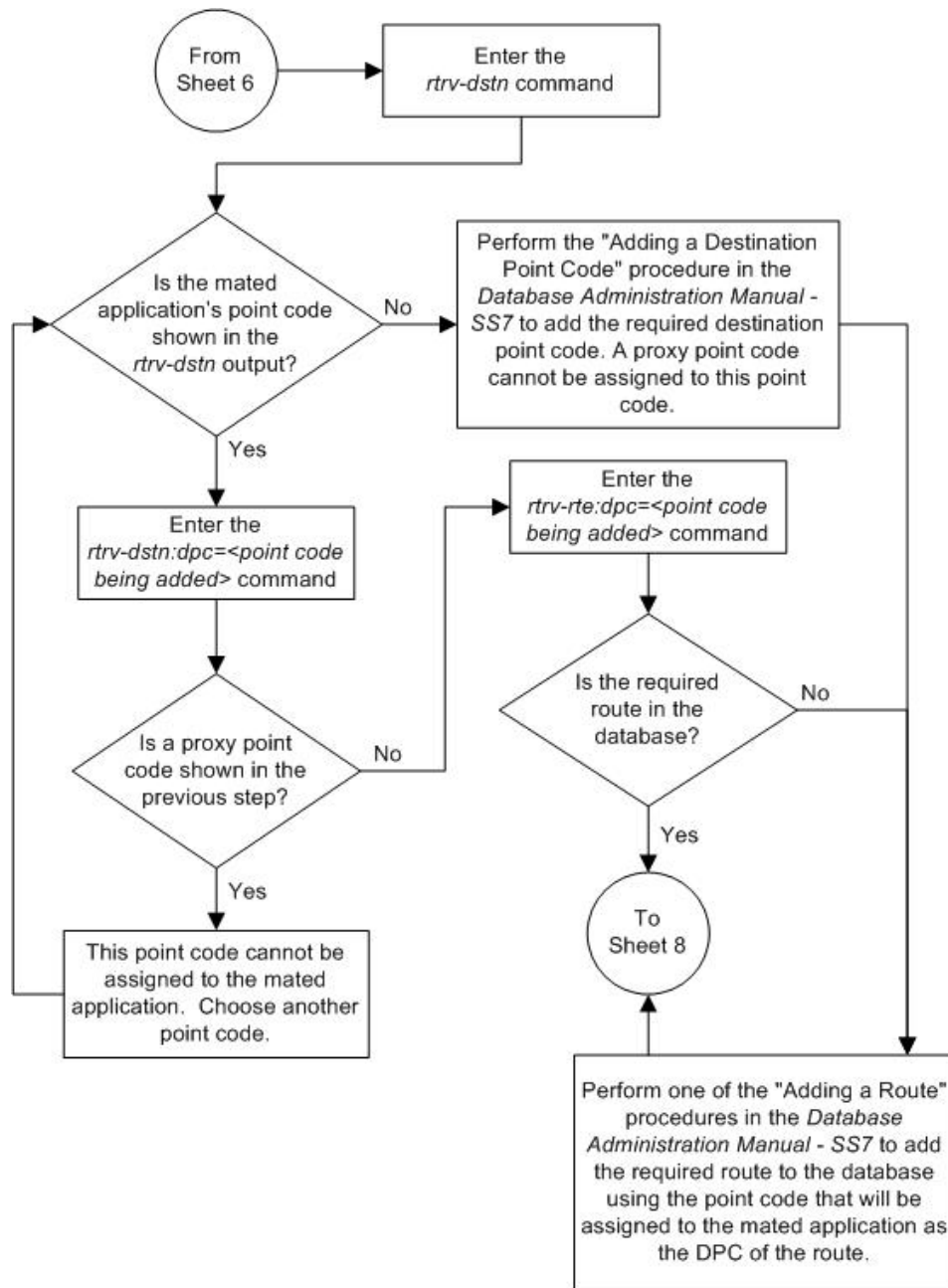


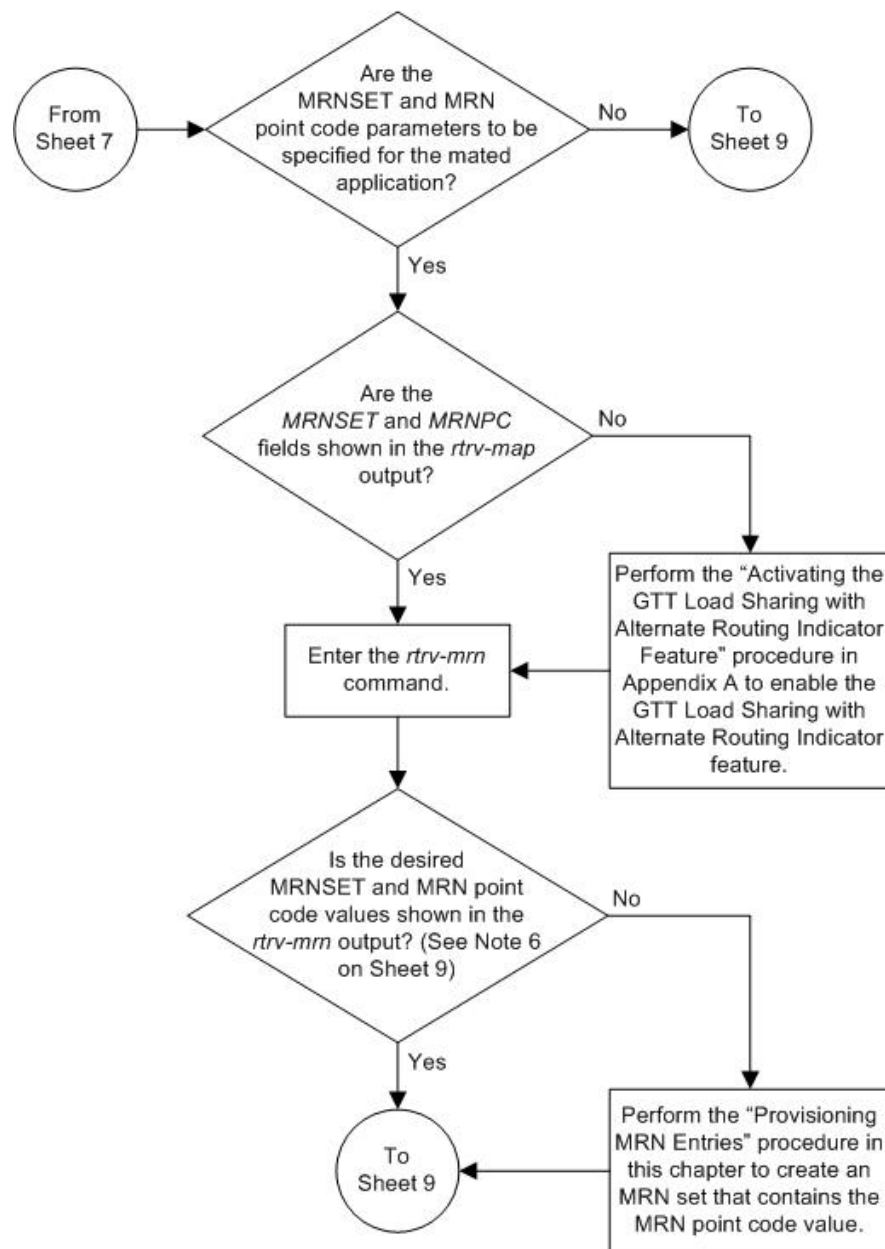


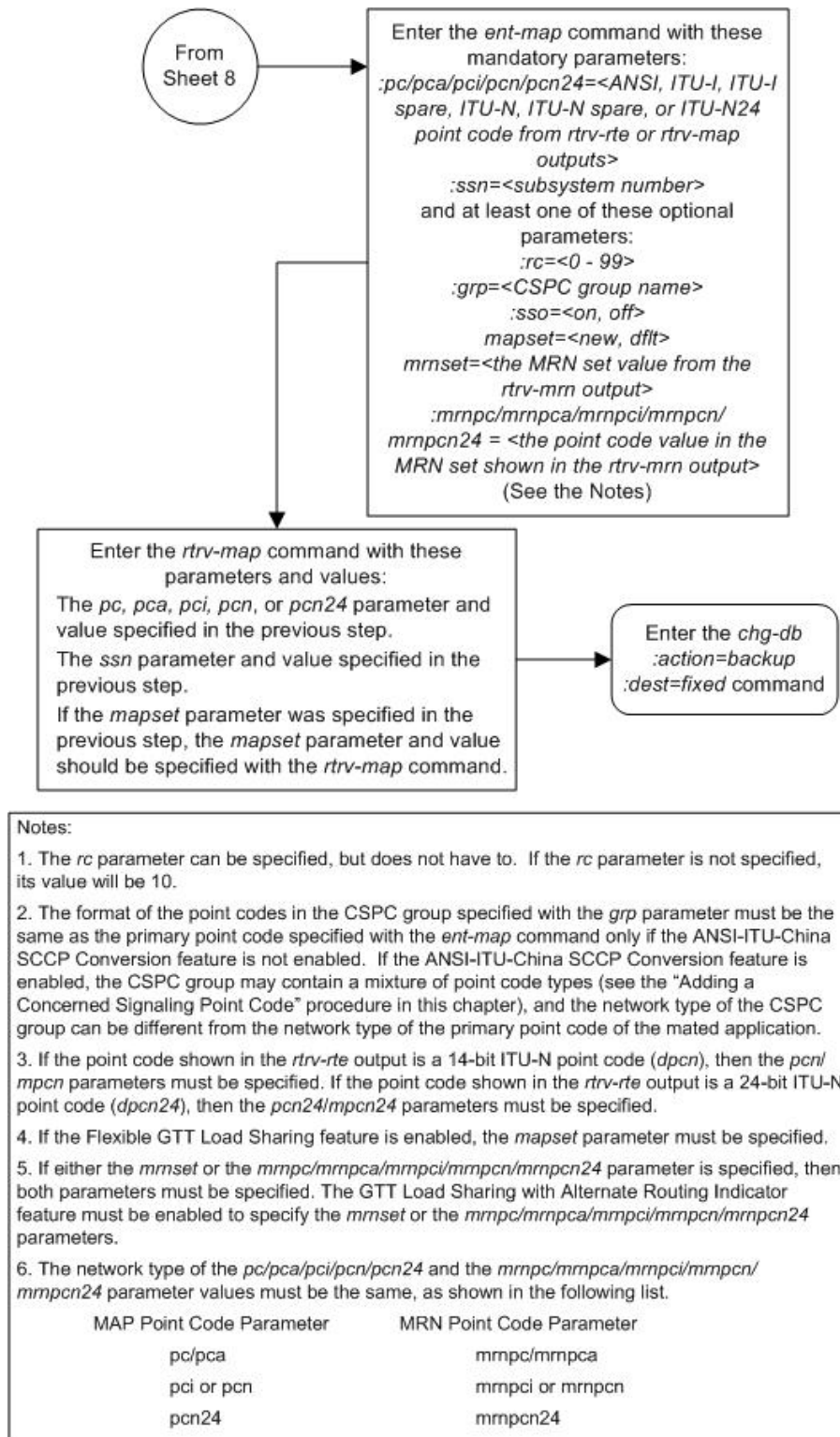


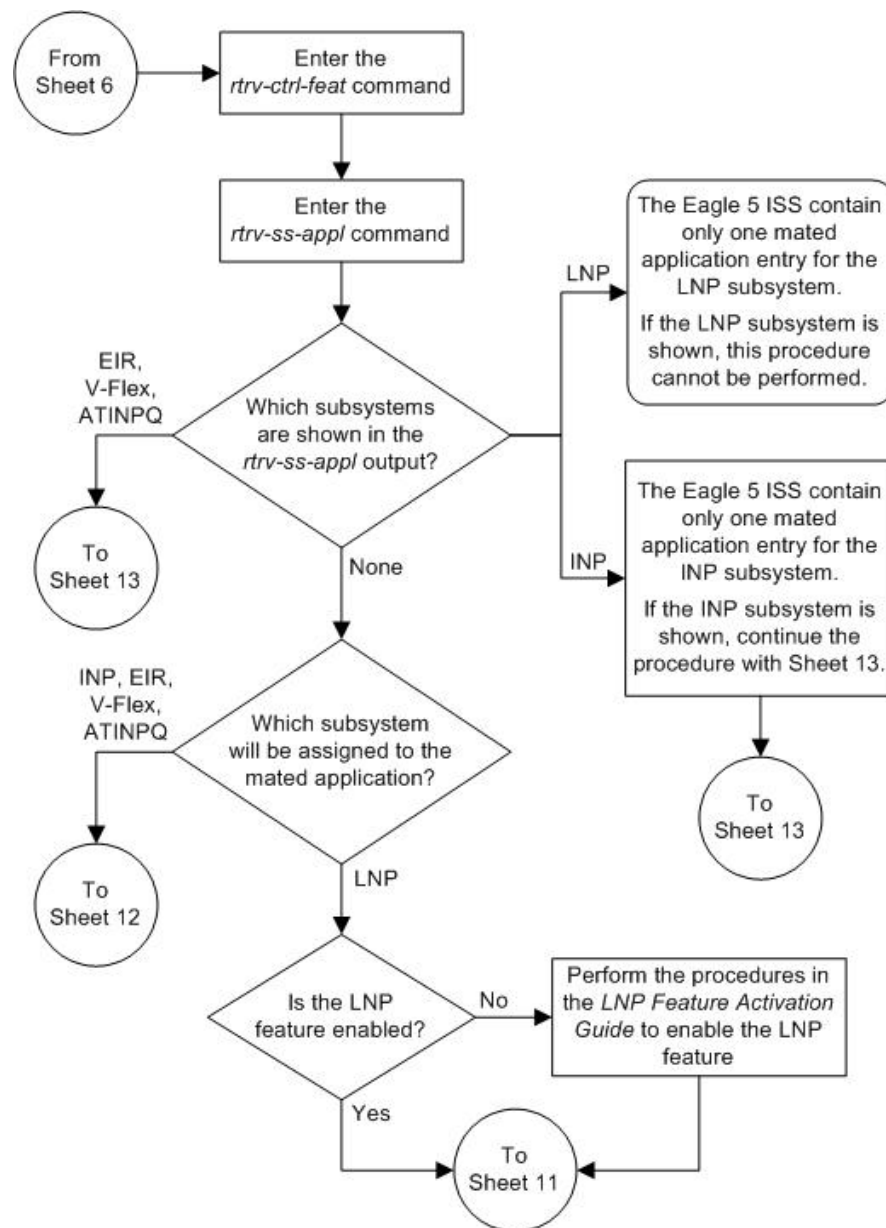


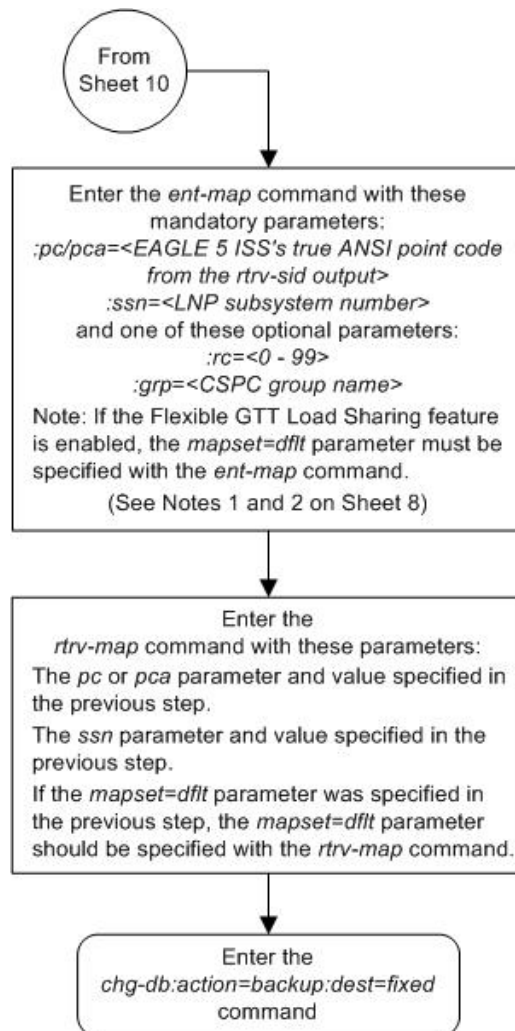


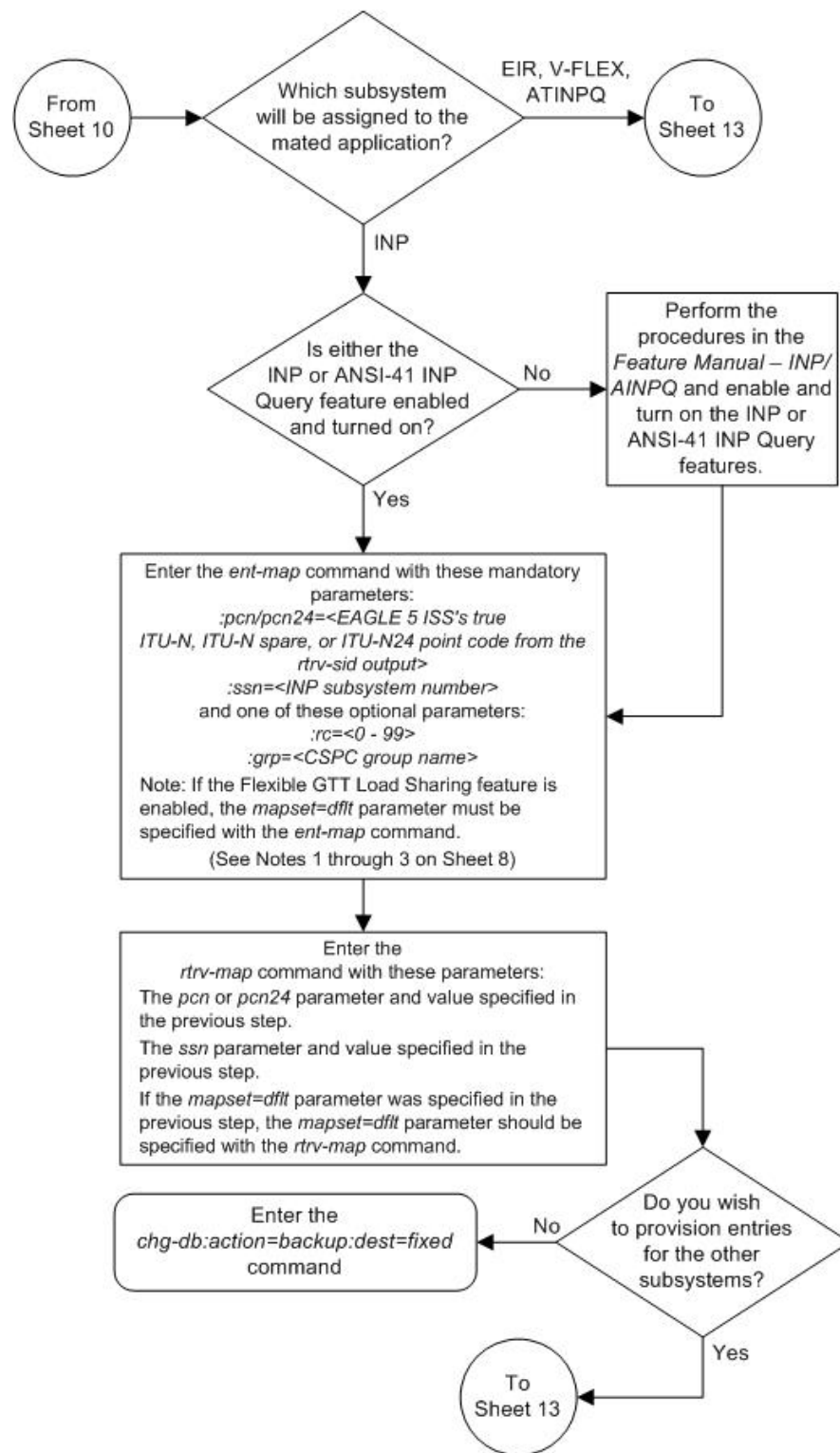


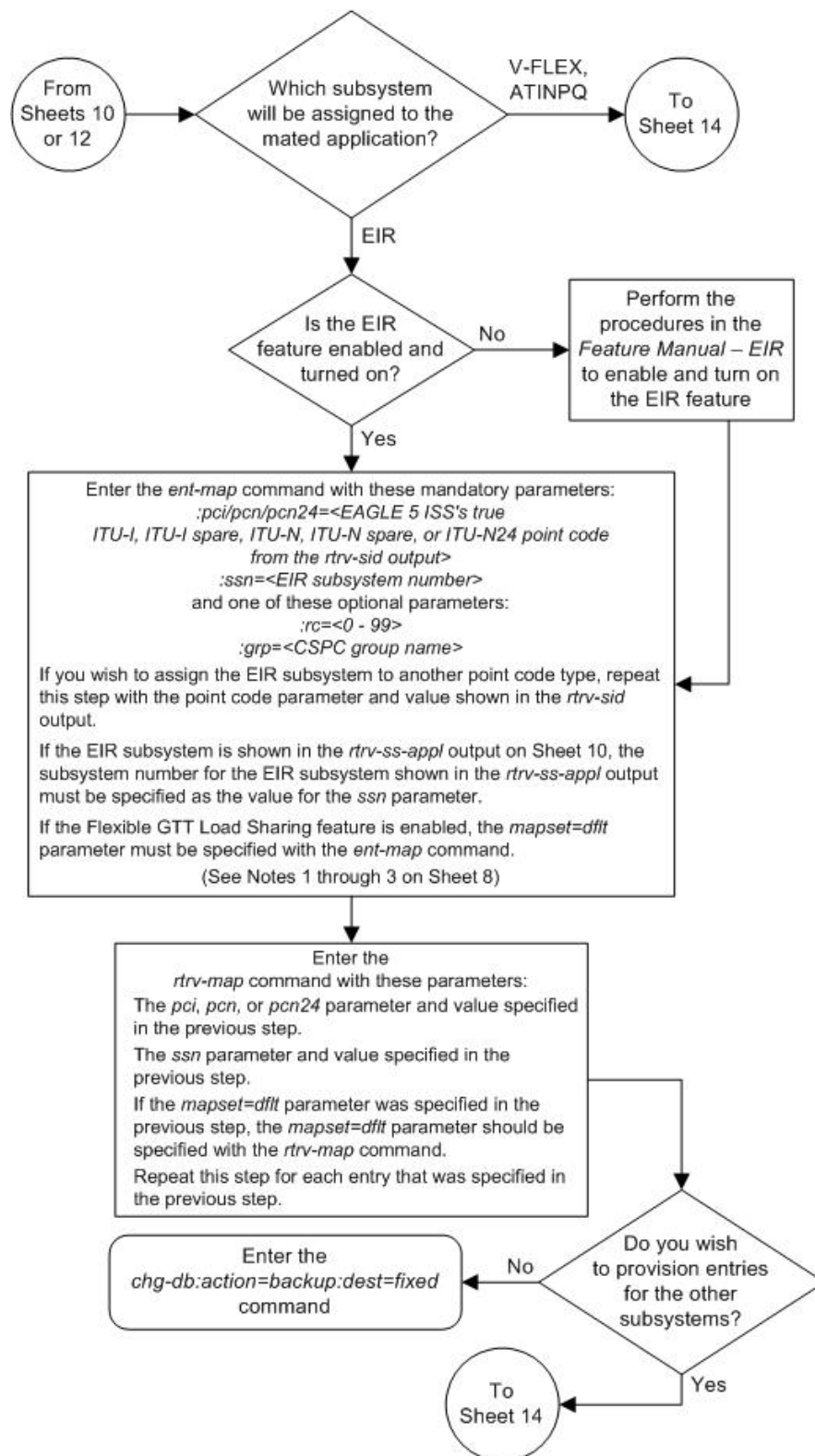


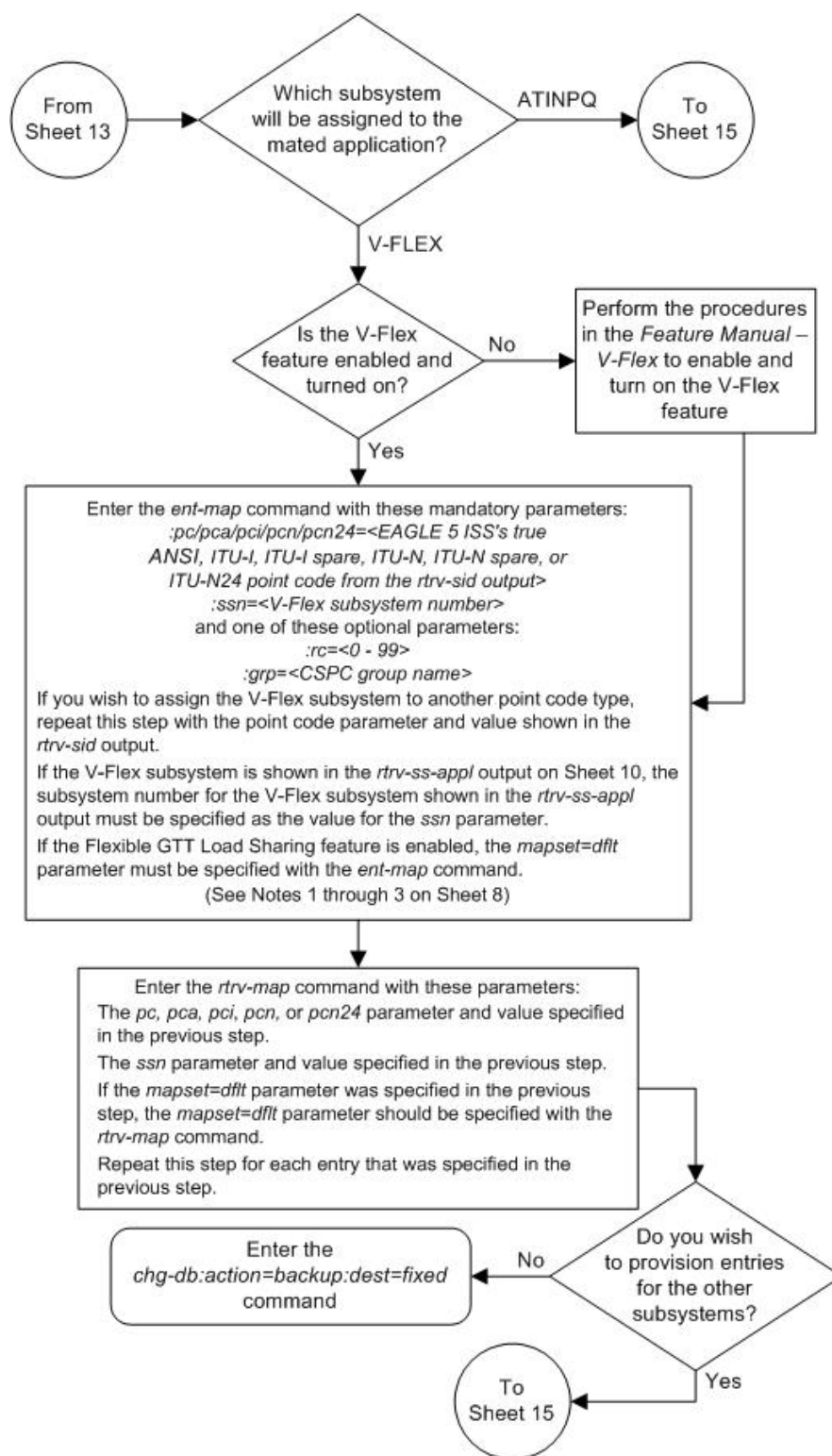


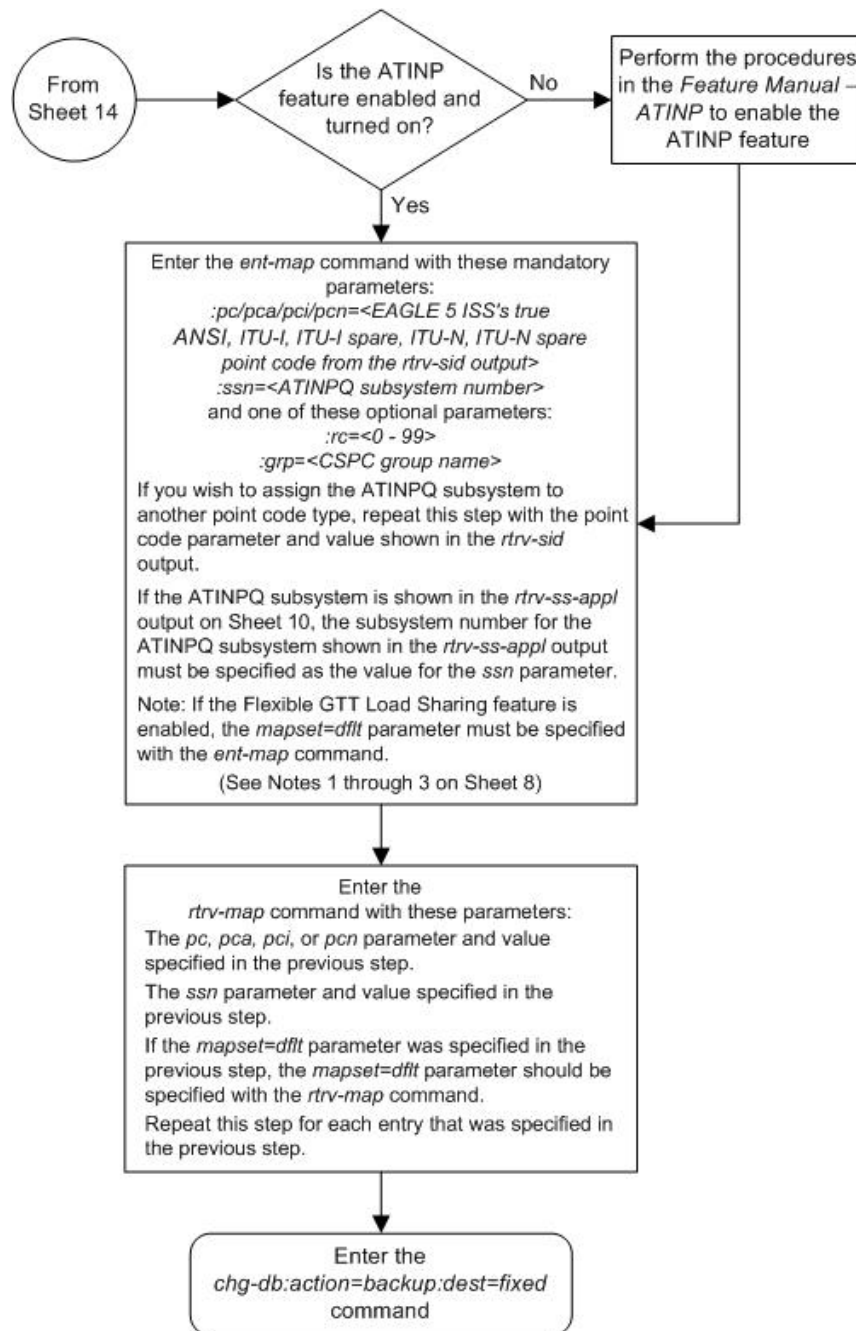












Provisioning a Dominant Mated Application

This procedure is used to provision a dominant mated application in the database using the *ent-map* and *chg-map* commands. A dominant mated application is a mated application containing entries whose RC (relative cost) values are unique. The *ent-map* and *chg-map* commands use these parameters to provision a dominant mated application.

:pc/pca/pci/pcn/pcn24 – The point code of the primary signaling point that is to receive the message.

:mpc/mpca/mpci/mpcn/mpcn24 – The point code of the backup signaling point that is to receive the message.

Note: The point codes can be either an ANSI point code (pc/pca, mpc/mpca), ITU-I or ITU-I spare point code (pci, mpci), a 14-bit ITU-N or 14-bit ITU-N spare point code (pcn, mpcn), or a 24-bit ITU-N (pcn24, mpcn24) point code.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:ssn – Subsystem number – the subsystem address of the primary point code that is to receive the message. The value for this parameter is 2 to 255.

:mssn – Mate subsystem number – the subsystem address of the backup point code that is to receive the message. The value for this parameter is 2 to 255.

:rc – The relative cost value of the primary point code and subsystem, defined by the pc/pca/pci/pcn/pcn24 and ssn parameters. The rc parameter has a range of values from 0 to 99, with the default value being 10.

:materc – The relative cost value of the backup point code and subsystem, defined by the mpc/mpca/mpci/mpcn/mpcn24 and mssn parameters. The materc parameter has a range of values from 0 to 99, with the default value being 50.

:grp – The name of the concerned signaling point code (CSPC) group that contains the point codes that should be notified of the subsystem status. This parameter applies to both RPCs/SSNs. The value for this parameter is shown in the rtrv-cspc output. If the desired value is not shown in the rtrv-cspc output, perform [Adding a Concerned Signaling Point Code](#) on page 116 to add the desired group. If this parameter is not specified, then a CSPC group name is not specified for the mated application.

:mrc – Message routing under congestion – defines the handling of Class 0 messages during congestion conditions. The value for this parameter is yes or no. The default value for this parameter is yes.

:srm – Subsystem routing messages – defines whether subsystem routing messages (SBR, SNR) are transmitted between the mated applications. The value for this parameter is yes or no. The default value for this parameter is yes.

:sso – Subsystem Status Option – defines whether the subsystem status option is on or off. This parameter allows the user the option to have the specified subsystem marked as prohibited even though an MTP-RESUME message has been received by the indicating that the specified point code is allowed. The sso parameter cannot be specified if the pc/pca/pci/pcn/pcn24 value is the EAGLE 5 ISS's true point code, shown in the rtrv-sid output. The value for this parameter is on or off. The default value is off.

:mapset – The MAP set ID that the mated applications are assigned to. This parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. This parameter must be specified if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the point code and subsystem specified for the global title translation must be assigned to the MAP set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the rtrv-ctrl-feat output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

The `mapset` parameter has three values:

- `df1t` – to assign the MAP to the default MAP set. This value can be specified with both the `ent-map` and `chg-map` commands.
- `new` – to assign the mated application to a new MAP set. This value can be specified only with the `ent-map` command.
- the specific number of an existing MAP set if you are assigning the mated application to an existing MAP set. This value can be specified only with the `chg-map` command.

Refer to [Provisioning a MAP Set](#) on page 170 for information on provisioning MAP sets.

`:mrnset` – The MRN set ID that is being assigned to the mated application. This is the MRN set from which alternate routing indicator searches are performed.

`:mrnpc/mrnpca/mrnpai/mrnpn/mrnpn24` – The point code assigned to the `mrnset` that is being assigned to the MAP set.

The current values of the `mrnset` and `:mrnpc/mrnpca/mrnpai/mrnpn/mrnpn24` parameters are shown in the `rtrv-map` output only if the Flexible GTT Load Sharing and the GTT Load Sharing with Alternate Routing Indicator features are enabled.

If the Weighted GTT Load Sharing feature is enabled, shown by the columns `WT`, `%WT`, and `THR` in the `rtrv-map` output, the parameters `wt`, `mwt`, and `thr` cannot be specified for a dominant mated application. If you wish to use these parameters to provision a mated application, perform one of these procedures:

- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262.

A dominant mated application can contain up to 32 point codes and subsystems, a primary point code and subsystem, and up to 31 mated point codes and subsystems. When a new dominant mated application is added to the database, the first two entries, the primary point code and subsystem and a mate point code and subsystem are added using the `ent-map` command. All other mated point code and subsystem entries that are being assigned to the primary point code and subsystem are added to the dominant mated application using the `chg-map` command.

All the point codes and subsystems in a dominant mated application have different relative cost values, with the primary point code and subsystem having the lowest relative cost value. All traffic is routed to the primary point code and subsystem, if it is available. If the primary point code and subsystem becomes unavailable, the traffic is routed to highest priority backup point code and subsystem that is available. When the primary point code and subsystem becomes available again, the traffic is then routed back to the primary point code and subsystem.

If the Flexible GTT Load Sharing feature is not enabled, the primary point code and subsystem number or the mate point code and mate subsystem number combination can be in the database only once. If the Flexible GTT Load Sharing feature is enabled, the primary point code and subsystem number or mate point code and mate subsystem number combination can be in multiple MAP sets, but can be in the default MAP set only once. Refer to [Provisioning a MAP Set](#) on page 170 for information on provisioning MAP sets.

The point codes specified in the `ent-map` or `chg-map` commands (`pc/pca`, `pci`, `pcn`, or `pcn24`, and `mpc/mpca`, `mpci`, `mpcn`, or `mpcn24`) must be either a full point code in the routing point code table or the EAGLE 5 ISS's true point code. Cluster point codes or network routing point codes cannot be specified with this command. The `rtrv-rte` command can be used to verify the point codes in the routing table. The point codes in the routing table are shown in the `DPCA`, `DPCI`, `DPCN`,

or DPCN24 fields of the `rtrv-rte` command output. The EAGLE 5 ISS's true point code is shown in the PCA, PCI, PCN, or PCN24 fields of the `rtrv-sid` command output.

A dominant mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications. A point code can be assigned to maximum of 12 different SSNs.

If the EAGLE 5 ISS's true point code is specified in the mated application, it must be the primary point code. The relative cost value assigned to this point code must be the lowest value in the mated application. If the Flexible GTT Load Sharing feature is enabled, the mated application containing the EAGLE 5 ISS's true point code can be assigned only to the default MAP set.

A mated application containing the LNP subsystem can contain only ANSI point codes. The primary point code (`pc` or `pca`) must be the EAGLE 5 ISS's true ANSI point code. The LNP feature must be enabled for a quantity greater than zero.

A mated application containing the INP subsystem can contain only 14-bit ITU-N point codes, 14-bit ITU-N spare point codes, or 24-bit ITU-N point codes. The primary point code (`pcn` or `pcn24`) must be the EAGLE 5 ISS's true 14-bit ITU-N point code, 14-bit ITU-N spare point code, or 24-bit ITU-N point code. The INP or ANSI-41 INP Query feature must be enabled and turned on. The EAGLE 5 ISS can contain either 14-bit ITU-N point codes (spare or non-spare point codes) or 24-bit ITU-N point codes. Both types of point codes cannot be present on the EAGLE 5 ISS at the same time.

A mated application containing the EIR subsystem can contain only ITU-I point codes, ITU-I spare point codes, 14-bit ITU-N point codes, 14-bit ITU-N spare point codes, or 24-bit ITU-N point codes. The primary point code (`pci`, `pcn`, or `pcn24`) must be the EAGLE 5 ISS's true ITU-I point code, ITU-I spare point code, 14-bit ITU-N point code, 14-bit ITU-N spare point code, or 24-bit ITU-N point code. The EIR feature must be enabled and turned on. The EAGLE 5 ISS can contain either 14-bit ITU-N point codes (spare or non-spare point codes) or 24-bit ITU-N point codes. Both types of point codes cannot be present on the EAGLE 5 ISS at the same time.

A mated application containing the VFLEX subsystem can contain any type of point code. The primary point code (`pc`, `pca`, `pci`, `pcn`, or `pcn24`) must be the EAGLE 5 ISS's true point code. The V-Flex feature must be enabled and turned on. The EAGLE 5 ISS can contain either 14-bit ITU-N point codes (spare or non-spare point codes) or 24-bit ITU-N point codes. Both types of point codes cannot be present on the EAGLE 5 ISS at the same time.

A mated application containing the ATINPQ subsystem can contain only ANSI point codes, ITU-I point codes, ITU-I spare point codes, 14-bit ITU-N point codes, or 14-bit ITU-N spare point codes. The primary point code (`pc`, `pca`, `pci`, or `pcn`) must be the EAGLE 5 ISS's true ANSI point code, ITU-I point code, ITU-I spare point code, 14-bit ITU-N point code, or 14-bit ITU-N spare point code. The ATINP feature must be enabled.

The EAGLE 5 ISS can contain multiple entries that contain the EAGLE 5 ISS's true point code, shown in the `rtrv-sid` output. [Table 26: Maximum Number of True Point Code Entries](#) on page 168 shows the numbers of entries that can be provisioned based on the type of point code.

Table 26: Maximum Number of True Point Code Entries

True Point Code Type	Maximum Number of Entries
ANSI	1 - for the LNP subsystem

True Point Code Type	Maximum Number of Entries
	2 - one entry for the ATINPQ subsystem and one entry for the V-FLEX subsystem The LNP subsystem cannot be used if the ATINPQ, EIR, INP, and V-FLEX subsystems are used.
ITU-I	3 - one entry for the ATINPQ subsystem, one entry for the EIR subsystem, and one entry for the V-FLEX subsystem
ITU-N	4 - one entry for the ATINPQ subsystem, one entry for the EIR subsystem, one entry for the INP subsystem, and one entry for the V-FLEX subsystem

For mated applications containing ANSI or 24-bit ITU-N point codes, or the EAGLE 5 ISS's true point code, the format of the point codes specified in the `ent-map` command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (`pcn24`), the mate point code must be a 24-bit ITU-N point code (`mpcn24`). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes.

The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. The status of the ANSI-ITU-China SCCP Conversion feature can be verified with the `rtrv-ctrl-feat` command. ANSI-ITU-China SCCP Conversion feature is not enabled. If the

The values for the primary point code and subsystem combination (`pc/ssn`) cannot be the same as the mated point code and subsystem combination (`mpc/mssn`). However, the primary and mated point codes can be the same as long as the subsystem numbers are different.

If the point code values are ITU values (`pci`, `pcn`, or `pcn24`), the `srn=yes` parameter cannot be specified.

If a mate point code (`mpc/mpca/mpci/mpcn/mpcn24`) is specified, the `mssn` parameter must be specified.

If the `mssn` parameter is specified, the mate point code (`mpc/mpca/mpci/mpcn/mpcn24`) must be specified.

If the `grp`, `srn`, `mrc`, and `sso` parameter values are specified, and the specified point code and SSN is assigned to multiple mated applications, the `grp`, `srn`, `mrc`, and `sso` values for all mated applications containing the specified point code and SSN will be changed to the values specified in this procedure.

The EAGLE 5 ISS can contain 1024, 2000, or 3000 mated applications. The EAGLE 5 ISS default is 1024 mated applications. This quantity can be increased to 2000 by enabling the feature access key for part number 893-0077-01, or to 3000 by enabling the feature access key for part number

893-0077-10. For more information on enabling these feature access keys, refer to [Enabling the XMAP Table Expansion Feature](#) on page 867.

Provisioning a MAP Set

The Flexible GTT Load Sharing feature provides the ability to define multiple load sharing sets in the MAP table where the same point code and subsystem can be assigned to different load sharing sets.

The MAP table contains specific load sharing sets, designated by numbers, and a default MAP set.

Flexible Final GTT Load Sharing provides flexible load sharing for global title translations defined in the GTT table and not for the MPS based features. The MPS based features do not support the MAP set ID parameter. The MPS based features perform lookups for load sharing in the default MAP set and the GTT table. The entries in the GTT table can be linked to a MAP set ID, allowing lookups in a specific MAP set other than the default MAP set.

Any MAP entries that were provisioned in the database before the Flexible GTT Load Sharing feature is enabled are placed in the default MAP set when the Flexible GTT Load Sharing feature is enabled.

To provision entries in the default MAP set, the `mapset=df1t` parameter must be specified with the `ent-map` or `chg-map` commands.

To provision entries in an existing MAP set other than the default MAP set, the `mapset=<MAP set ID>` parameter must be specified with the `chg-map` command. Provisioning entries in an existing MAP set can be performed only with the `chg-map` command.

To provision entries in a new MAP set, the `mapset=new` parameter must be specified with the `ent-map` command. The `mapset=new` parameter can be specified only with the `ent-map` command. When the `ent-map` command is executed with the `mapset=new` parameter, the new MAP set ID is automatically generated and displayed in the output of the `ent-map` command as follows.

```
New MAPSET Created : MAPSETID = <new MAP set ID>
```

A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point codes.

The default MAP set can contain multiple MAP groups. The point code and subsystem number combination can appear only once in the default MAP set. The point code can appear in multiple MAP groups in the default MAP set with different subsystem numbers.

The point code and subsystem number combination provisioned in a MAP set can be provisioned in multiple MAP sets. All the point code and subsystem number combinations in a MAP set must be different.

Canceling the RTRV-MAP Command

Because the `rtrv-map` command used in this procedure can output information for a long period of time, the `rtrv-map` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-map` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-map` command was entered.

- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-map` command was entered, from another terminal other than the terminal where the `rtrv-map` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

- Display the mated applications in the database using the `rtrv-map` command.

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000          250 10  SOL --- --- grp01  ON

MAPSET ID=1
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000          251 10  SHR --- --- grp01  OFF
                253-001-002  254 10  SHR --- --- grp01  OFF

MAPSET ID=2
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000          252 10  SOL --- --- grp01  ON

MAPSET ID=DFLT
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000          253 10  SHR --- --- grp01  OFF
                253-001-004  254 10  SHR --- --- grp01  OFF

MAPSET ID=3
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-001          255 10  DOM YES YES grp01  ON
                253-001-005  254 20  DOM YES YES grp01  ON

MAPSET ID=4
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-001          250 10  DOM YES YES grp01  OFF
                253-001-001  254 20  DOM YES YES grp01  OFF

MAPSET ID=DFLT
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002          251 10  SHR --- --- grp01  OFF
                255-001-002  254 10  SHR --- --- grp01  OFF

MAPSET ID=5
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002          252 10  DOM YES YES grp01  ON
                255-001-003  254 20  DOM YES YES grp01  ON

MAPSET ID=6
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002          253 10  SHR --- --- grp01  ON
                255-001-004  254 10  SHR --- --- grp01  ON

MAPSET ID=7
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
002-002-007          50 10  COM YES YES grp01  OFF
```

	002-002-008	30	10	COM	YES	YES	grp01	OFF
	002-002-009	30	10	COM	YES	YES	grp01	OFF
	002-002-010	30	20	COM	YES	YES	grp01	OFF
	002-002-011	30	20	COM	YES	YES	grp01	OFF
MAPSET ID=8								
PCI	Mate PCI	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO
2-001-2		255	10	DOM	NO	YES	grp03	OFF
	2-001-1	254	20	DOM	NO	YES	grp03	OFF
MAPSET ID=9								
PCN	Mate PCN	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO
00347		253	10	SHR	---	---	grp05	OFF
	01387	254	10	SHR	---	---	grp05	OFF
MAP TABLE IS 1 % FULL (25 of 36000)								

If any of the following items are not shown in the `rtrv-map` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MAPSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MRNSET and MRNPC fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 171 is 1024, 2000, or 3000, continue the procedure with [Step 3](#) on page 172.

2. If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 171 is 36000, the Flexible GTT Load Sharing feature is enabled.

Although the `rtrv-map` output shows there can be 36000 entries, a maximum of 1024, 2000, or 3000 different point codes (depending on whether the XMAP Table Expansion feature is enabled for 2000 or 3000 mated applications) can be provisioned for mated applications. To verify the number of different point codes that can be provisioned for mated applications, enter the `rtrv-tbl-capacity` command. The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
MAP table is (3000 of 3000) 100% full
```

Note: The `rtrv-tbl-capacity` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-tbl-capacity` command, see the `rtrv-tbl-capacity` command description in the *Commands Manual*.

3. Continue the procedure by performing one of these steps.
 - If the `rtrv-map` output in [Step 1](#) on page 171 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 172 shows that the maximum number of mated applications is 3000, and the current number of provisioned mated applications is 3000, no new point codes can be used to provision mated applications. Continue the procedure with [Step 4](#) on page 173.
 - If the `rtrv-map` output in [Step 1](#) on page 171 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 172 shows that the maximum number of mated applications is either 1024 or 2000, and the mated application being added increases the number beyond 1024 or 2000, perform [Enabling the XMAP Table Expansion Feature](#) on page 867 to enable a greater quantity of mated applications. After the quantity of mated applications has been increased, continue the

procedure with [Step 4](#) on page 173. If the maximum number of mated applications is not increased, no new point codes can be used to provision mated applications.

- If the `rtrv-map` output in [Step 1](#) on page 171 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 172 shows that the maximum number of mated applications is either 1024, 2000, or 3000 and the mated application being added will not increase the number beyond the quantity shown in the `rtrv-map` output in [Step 1](#) on page 171 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 172, continue the procedure with [Step 4](#) on page 173.
4. A MAP group, without the Flexible GTT Load Sharing feature enabled, a MAP set, other than the default MAP set, and a MAP group contained in the default MAP set can contain a maximum of 32 entries.

Verify the number of entries that the MAP group or MAP set contains by entering the `rtrv-map` command with the primary point code and SSN assigned to the MAP group or MAP set. If the Flexible GTT Load Sharing feature is enabled, the `mapset` parameter and MAP set ID of the MAP set that the new mated application will be added to.

If the specified MAP set is not the default MAP set, only the `mapset` parameter needs to be specified with the `rtrv-map` command. The point code and SSN does not need to be specified. For this example, enter one of these commands.

```
rtrv-map:pca=002-002-007:ssn=50
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
002-002-007          50 10  COM YES YES grp01  OFF
                   002-002-008 30 10  COM YES YES grp01  OFF
                   002-002-009 30 10  COM YES YES grp01  OFF
                   002-002-010 30 20  COM YES YES grp01  OFF
                   002-002-011 30 20  COM YES YES grp01  OFF

MAP TABLE IS    2 % FULL      (25 of 1024)
```

```
rtrv-map:pca=002-002-007:ssn=50:mapset=dflt
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
MAPSET ID=DFLT
002-002-007          50 10  COM YES YES grp01  OFF
                   002-002-008 30 10  COM YES YES grp01  OFF
                   002-002-009 30 10  COM YES YES grp01  OFF
                   002-002-010 30 20  COM YES YES grp01  OFF
                   002-002-011 30 20  COM YES YES grp01  OFF

MAP TABLE IS    2 % FULL      (25 of 1024)
```

```
rtrv-map:mapset=7
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
MAPSET ID=7
```


002-002-007		50 10	COM	YES	YES	grp01	OFF
	002-002-008	30 10	COM	YES	YES	grp01	OFF
	002-002-009	30 10	COM	YES	YES	grp01	OFF
	002-002-010	30 20	COM	YES	YES	grp01	OFF
	002-002-011	30 20	COM	YES	YES	grp01	OFF

MAP TABLE IS 2 % FULL (25 of 1024)

If the MAP group or MAP set contains 32 entries, no more entries can be added to the specified MAP group or MAP set. One of these actions can be performed.

- Entries can be added another MAP group or MAP set. Repeat this step for the other MAP group or MAP set.
- Entries can be removed from the specified MAP group or MAP set. To remove entries from the specified MAP group or MAP set, perform [Removing a Mated Application](#) on page 305.
- Entries can be added to a new MAP group or MAP set.

Note: If none of these actions will be performed, then this procedure cannot be performed.

If the MAP group or MAP set contains less than 32 entries, entries can be added to the MAP group or MAP set.

After it has been determined which MAP group or MAP set that the new entries will be added to (a new MAP group or MAP set or an existing MAP group or MAP set), continue the procedure by performing one of these steps.

- If an existing point code is being added to this MAP group or MAP set, continue the procedure with [Step 5](#) on page 174.
 - If a new point code is being added to this MAP group or MAP set, continue the procedure by performing one of these steps.
 - If a concerned signaling point code (CSPC) group is not being assigned to the mated application, continue the procedure with [Step 8](#) on page 177. If the mated point code is not assigned to a CSPC group, that point code will not be notified of the subsystem's status.
 - If a concerned signaling point code (CSPC) group will be assigned to the mated application, continue the procedure with [Step 6](#) on page 175.
5. A mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications.

A point code can be assigned to maximum of 12 different SSNs. Verify the number of SSNs assigned to the point code that will be specified for the mated application in this procedure by entering the `rtrv-map` command with the point code of the new mated application. For this example, enter this command.

```
rtrv-map:pca=255-001-000
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000          250 10  SOL --- --- grp01  ON
255-001-000          251 10  SHR --- --- grp01  OFF
                253-001-002 254 10  SHR --- --- grp01  OFF
```



```

255-001-000                252 10  SOL --- --- grp01    ON
255-001-000                253 10  SHR --- --- grp01    OFF
                253-001-004  254 10  SHR --- --- grp01    OFF
MAP TABLE IS      2 % FULL      (25 of 1024)

```

If the Flexible GTT Load Sharing feature is enabled, the MAPSET IDs for the mated applications are shown in the `rtrv-map` output.

If the Weighted GTT Load Sharing feature is enabled and turned on, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the point code is assigned to 12 different SSNs, and neither an existing point code in the `rtrv-map` output nor a new point code will be used to provision the mated application, then this procedure cannot be performed.

If the point code is assigned to less than 12 different SSNs, then the existing point code in the `rtrv-map` output can be used to provision the mated application.

If the point code is assigned to 12 different SSNs, another existing point code in the `rtrv-map` output or a new point code must be used to provision the mated application. If an existing point code in the `rtrv-map` output will be used to provision the mated application, repeat this step for that point code.

After it has been determined which point code will be used to provision the mated application (a new point code or an existing point code), continue the procedure by performing one of these steps.

- If a concerned signaling point code (CSPC) group is not being assigned to the mated application, continue the procedure with [Step 8](#) on page 177. If the mated point code is not assigned to a CSPC group, that point code will not be notified of the subsystem's status.
 - If a concerned signaling point code (CSPC) group will be assigned to the mated application, continue the procedure with [Step 6](#) on page 175.
6. Display the point codes in the CSPC group that you wish to assign to the mated application by first entering the `rtrv-cspc` command with no parameters.

This is an example of the possible output.

```

rlghncxa03w 07-05-25 09:48:31 GMT EAGLE5 37.0.0
CSPC GRP    NETWORK                PERCENT FULL
grp01       ANSI                   6%
grp02       ITU-I                   9%
grp03       ITU-N                   12%
grp04       ANSI                   15%
grp05       ANSI                   15%
grp10       ANSI                   15%
grp15       ANSI                   15%

```

If the desired CSPC group is shown in the `rtrv-cspc` output, re-enter the `rtrv-cspc` command with the CSPC group name. For this example, enter these commands.

```
rtrv-cspc:grp=grp05
```

This is an example of the possible output.

```

rlghncxa03w 07-05-25 09:48:31 GMT EAGLE5 37.0.0
CSPC GRP    PCA

```

```
grp05      005-005-005
           007-007-007
           008-008-008
           009-009-009
```

```
rtrv-cspc:grp=grp10
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:59:31 GMT EAGLE5 37.0.0
CSPC GRP      PCA
grp10         003-003-003
              004-004-004
              008-008-008
              009-009-009
```

```
rtrv-cspc:grp=grp15
```

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:48:31 GMT EAGLE5 37.0.0
CSPC GRP      PCA
grp15         005-005-005
              006-006-006
              008-008-008
              009-009-009
```

Note: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the `rtrv-cspc` output, if point codes of multiple network types are assigned to the CSPC group.

If the CSPC group is not in the database, or if the required point code is not assigned to the CSPC group, perform [Adding a Concerned Signaling Point Code](#) on page 116 to add the required CSPC group or point code to the database.

Note: If the output of the `rtrv-cspc` command performed in [Step 6](#) on page 175 shows CSPC groups containing a mixture of point code types, or if the new CSPC group that was added in [Step 6](#) on page 175 contains a mixture of point code types, continue the procedure with [Step 8](#) on page 177.

7. The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled.

If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.

Verify the status of the ANSI-ITU-China SCCP Conversion feature by entering this command:

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
SCCP Conversion	893012001	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 to enable the ANSI-ITU-China SCCP Conversion feature.

- If the MAPSET column is shown in the `rtrv-map` output in [Step 1](#) on page 171, the Flexible GTT Load Sharing feature is enabled. Continue the procedure with [Step 9](#) on page 177.

If the MAPSET column is not shown in [Step 1](#) on page 171 and you do not wish to provision MAP sets in this procedure, continue the procedure with [Step 9](#) on page 177.

If the MAPSET column is not shown in [Step 1](#) on page 171 and you wish to provision MAP sets in this procedure, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature. After the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 9](#) on page 177.

Note: If the `sso` parameter will be specified for the mated application, continue the procedure with [Step 10](#) on page 178. The EAGLE 5 ISS's point code and LNP, EIR, V-Flex, or INP subsystem cannot be assigned to a mated application using the `sso` parameter.

- Display the EAGLE 5 ISS self-identification, using the `rtrv-sid` command.

```
rlghncxa03w 07-05-10 11:43:04 GMT EAGLE5 37.0.0
PCA          PCI          PCN          CLLI          PCTYPE
010-020-030  1-023-1      12-0-14-1      rlghncxa03w  OTHER
              s-1-023-1    s-12-0-14-1
CPCA
001-001-001      002-002-003      002-002-004      002-002-005
002-002-006      002-002-007      002-002-008      002-002-009
004-002-001      004-003-003      050-060-070
CPCI
1-001-1          1-001-2          1-001-3          1-001-4
1-002-1          1-002-2          1-002-3          1-002-4
2-001-1          7-222-7
CPCN
2-0-10-3        2-0-11-0        2-0-11-2        2-0-12-1
2-2-3-3        2-2-4-0        10-14-10-1
```

The EAGLE 5 ISS's true point code is shown in either the PCA, PCI, PCN, or PCN24 fields. This is an example of the possible output.

If the both point codes that will be specified for the mated application are point codes assigned to other mated applications, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 15](#) on page 182.
- If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.

- If a new mated application is being added, continue the procedure with [Step 16](#) on page 183.
- If an entry is being added to an existing mated application, continue the procedure with [Step 17](#) on page 188.

If the EAGLE 5 ISS's point code will be specified for the mated application, and its mated point code is assigned to other mated applications, continue the procedure with [Step 13](#) on page 181.

If only one of the point codes that will be specified for the mated application is assigned to other mated applications, perform [Step 10](#) on page 178 for the new point code that is not assigned to other mated applications.

10. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
001-207-000	-----	no	---	-----	-----	SS7
001-001-001	-----	no	---	-----	-----	SS7
001-001-002	-----	no	---	-----	-----	SS7
001-005-000	-----	no	---	-----	-----	SS7
001-007-000	-----	no	---	-----	-----	SS7
008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7

DPCI	CLLI	BEI	ELEI	ALIASA	ALIASN/N24	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, skip [Step 11](#) on page 179 through [Step 14](#) on page 182 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 15](#) on page 182.
- If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 16](#) on page 183.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 17](#) on page 188.

11. Display the point code that will be assigned to the mated application by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA          CLLI          BEI ELEI    ALIASI          ALIASN/N24    DMN
  010-020-005   ----- no   --- -----          -----    SS7

  PPCA          NCAI PRX      RCAUSE    NPRST          SPLITIAM
  009-002-003   ---- no          50        on          20

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

If the point code is not shown in the `rtrv-dstn` output, perform the “Adding a Destination Point Code” procedure in the *Database Administration Manual - SS7* and add the point code to the destination point code table.

After the new point code has been added, skip [Step 12](#) on page 179 through [Step 14](#) on page 182 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 15](#) on page 182.
 - If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 16](#) on page 183.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 17](#) on page 188.
12. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point codes to be used with the `ent-map` or `chg-map` commands to verify whether or not the point code is the DPC of a route.

For this example, enter these commands.

rtrv-rte:dpca=003-003-003

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
003-003-003  -----          -----  ls03      10      003-003-003
                                   RTX:No  CLLI=ls07c1li
```

rtrv-rte:dpca=005-005-005

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
005-005-005  -----          -----  ls05      10      005-005-005
                                   ls15      30      089-047-123
                                   lsa8      50      077-056-000
                                   RTX:No  CLLI=ls05c1li
```

rtrv-rte:dpca=008-008-008

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
008-008-008  -----          -----  ls20      10      008-008-008
                                   RTX:No  CLLI=ls20c1li
```

rtrv-rte:dpca=031-049-100

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
031-049-100  -----          -----  ls10      10      031-049-100
                                   RTX:No  CLLI=ls10c1li
```

rtrv-rte:dpca=040-040-040

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
040-040-040  -----          -----  ls11      10      040-040-040
                                   RTX:No  CLLI=ls11c1li
```

rtrv-rte:dpca=056-113-200

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
056-113-200  -----          -----  ls12      10      056-113-200
                                   RTX:No  CLLI=ls12c1li
```

rtrv-rte:dpca=060-060-060

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
```

```
060-060-060 ----- ls13      10      060-060-060
                        RTX:No   CLLI=ls13clli
```

```
rtrv-rte:dpca=070-070-070
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
070-070-070 ----- ls15      10      070-070-070
                        RTX:No   CLLI=ls15clli
```

```
rtrv-rte:dpca=179-183-050
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
179-183-050 ----- ls18      10      179-183-050
                        RTX:No   CLLI=ls18clli
```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

If the EAGLE 5 ISS's point code will not be specified for the mated application, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 15](#) on page 182.
- If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 16](#) on page 183.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 17](#) on page 188.

If the EAGLE 5 ISS's point code will be specified for the mated application, continue the procedure with [Step 13](#) on page 181.

13. Verify whether or not either the LNP or ATINPQ feature is enabled, or the EIR, INP, V-Flex, or ANSI-41 INP Query feature is enabled and turned on by entering the `rtrv-ctrl-feat` command.

The entry `LNP TNs` is shown in the `rtrv-ctrl-feat` output with a quantity greater than zero if the LNP feature is enabled.

If the EIR feature is enabled and turned on, the entry `EIR` is shown in the `rtrv-ctrl-feat` output and the status of the EIR feature should be on.

If the INP feature is enabled and turned on, the entry `INP` is shown in the `rtrv-ctrl-feat` output and the status of the INP feature should be on.

If the ANSI-41 INP Query feature is enabled and turned on, the entry `ANSI-41 INP Query` is shown in the `rtrv-ctrl-feat` output and the status of the ANSI-41 INP Query feature should be on.

If the V-Flex feature is enabled and turned on, the entry V-Flex is shown in the `rtrv-ctrl-feat` output and the status of the V-Flex feature should be on.

If the ATINP feature is enabled, the entry ATINP is shown in the `rtrv-ctrl-feat` output.

Continue the procedure by performing one of these steps.

- If the LNP or ATINPQ feature is enabled, or if the EIR, INP, V-Flex, or ANSI-41 INP Query feature is enabled and turned on, continue the procedure with [Step 16](#) on page 183.
- If the LNP or ATINPQ feature is not enabled, or if the EIR, INP, V-Flex, or ANSI-41 INP Query feature is not enabled or turned on, continue the procedure with [Step 14](#) on page 182.

14. Enable either the INP, ANSI-41 INP Query, EIR, V-Flex, ATINPQ, or LNP features, depending on which subsystem you wish to use.

To use the INP subsystem, enable and turn on either the INP or ANSI-41 INP Query feature by performing the procedures in the *Feature Manual - INP/AINPQ*.

To use the LNP subsystem, enable the LNP feature by performing the procedures in the *LNP Feature Activation Guide*.

To use the EIR subsystem, enable and turn on the EIR feature by performing the procedures in the *Feature Manual - EIR*.

To use the V-Flex subsystem, enable and turn on the V-Flex feature by performing the procedures in the *Feature Manual - V-Flex*.

To use the ATINPQ subsystem, enable the ATINP feature by performing the procedures in the *Feature Manual - ATINP*.

Note: If the LNP feature is enabled, the INP, ANSI-41 INP Query, V-Flex, ATINPQ, or EIR features cannot be enabled.

15. The MRN point code value must be assigned to an MRN set. The MRN set must be shown in the `rtrv-mrn` output. Display the MRN sets by entering the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
DFLT	7	002-002-007	50	005-005-005	10	10	14	1
				006-001-001	10	10	14	1
				006-001-002	10	20	28	1
				006-001-003	10	30	42	1
				006-001-004	20	40	23	1
				006-001-005	20	40	23	1
				006-001-006	20	40	23	1
				006-001-007	20	50	29	1
MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
1	-----	-----	---	007-007-007	10	10	14	1
				008-001-001	10	10	14	1
				008-001-002	10	20	28	1
				008-001-003	10	30	42	1
				008-001-004	20	40	23	1
				008-001-005	20	40	23	1
				008-001-006	20	40	23	1
				008-001-007	20	50	29	1


```
MRN table is (16 of 5990) 1% full
```

If any of the following items are not shown in the `rtrv-mrn` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MRNSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MAPSET, MAPPC and MAPSSN fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

Note: The network type of the `pc/pca/pci/pcn/pcn24` and `mrnpc/mrnpca/mrnpai/mrnpai/pcn/pcn24` parameter values must be compatible, as shown in Note 14 in [Table 27: Dominant Mated Application Parameter Combinations for the ENT-MAP Command](#) on page 183 or in Note 8 in [Table 28: Dominant Mated Application Parameter Combinations for the CHG-MAP Command](#) on page 188.

If the MRN set that you wish to use, containing the desired point code, is not shown in the `rtrv-mrn` output, add the required MRN set by performing [Provisioning MRN Entries](#) on page 367.

If the MRN set that you wish to use is shown in the `rtrv-mrn` output, or [Provisioning MRN Entries](#) on page 367 was performed in this step, continue the procedure by performing one of these steps.

- If a new mated application is being added, continue the procedure with [Step 16](#) on page 183.
- If an entry is being added to an existing mated application, continue the procedure with [Step 17](#) on page 188.

16. Add the mated application to the database using the `ent-map` command. Use [Table 27: Dominant Mated Application Parameter Combinations for the ENT-MAP Command](#) on page 183 as a guide for the parameters and values that can be specified with the `ent-map` command.

Table 27: Dominant Mated Application Parameter Combinations for the ENT-MAP Command

Other Subsystems	LNP Subsystem	INP Subsystem	EIR Subsystem	V-FLEX Subsystem	ATINPQ Subsystem
Mandatory Parameters					
:pc/pca/pai/pcn/pcn24 (See Notes 1, 11, and 14)	:pc/pca (See Note 2)	:pcn/pcn24 (See Note 3)	:pai/pcn/pcn24 (See Note 4)	:pc/pca/pai/pcn/pcn24 (See Note 5)	:pc/pca/pai/pcn (See Note 6)
:ssn=<subsystem number, 2 - 255>	:ssn=<LNP subsystem number, 2 - 255>	:ssn=<INP subsystem number, 2 - 255>	:ssn=<EIR subsystem number, 2 - 255>	:ssn=<V-Flex subsystem number, 2 - 255>	:ssn=<ATINPQ subsystem number, 2 - 255>
:rc=<0 - 99> (See Note 7)	:rc=<0 - 99> (See Note 7)	:rc=<0 - 99> (See Note 7)	:rc=<0 - 99> (See Note 7)	:rc=<0 - 99> (See Note 7)	:rc=<0 - 99> (See Note 7)

Other Subsystems	LNP Subsystem	INP Subsystem	EIR Subsystem	V-FLEX Subsystem	ATINPQ Subsystem
:mpc/mpca/ mpci/mpcn/ mpcn24 (See Notes 1, 9, 11, and 14)	:mpc/mpca (See Note 2)	:mpcn/mpcn24 (See Notes 3 and 11)	:mpci/mpcn/ mpcn24 (See Notes 4 and 11)	:mpc/mpca/ mpci/mpcn/ mpcn24 (See Notes 5 and 11)	:mpc/mpca/ mpci/mpcn (See Notes 6 and 11)
:mssn= <subsystem number of the mate, 2 - 255>	:mssn= <subsystem number of the mate, 2 - 255>	:mssn= <subsystem number of the mate, 2 - 255>	:mssn= <subsystem number of the mate, 2 - 255>	:mssn= <subsystem number of the mate, 2 - 255>	:mssn= <subsystem number of the mate, 2 - 255>
:materc=<0 - 99> (See Note 7)	:materc=<0 - 99> (See Note 7)	:materc=<0 - 99> (See Note 7)	:materc=<0 - 99> (See Note 7)	:materc=<0 - 99> (See Note 7)	:materc=<0 - 99> (See Note 7)
Optional Parameters					
:grp=<CSPC group name> (See Note 8)	:grp=<CSPC group name> (See Note 8)	:grp=<CSPC group name> (See Note 8)	:grp=<CSPC group name> (See Note 8)	:grp=<CSPC group name> (See Note 8)	:grp=<CSPC group name> (See Note 8)
:mrc=<yes, no>	:mrc=<yes, no>	:mrc=<yes, no>	:mrc=<yes, no>	:mrc=<yes, no>	:mrc=<yes, no>
:mapset=<new, dflt> (See Note 10)	:mapset=dflt (See Note 10)	:mapset=dflt (See Note 10)	:mapset=dflt (See Note 10)	:mapset=dflt (See Note 10)	:mapset=dflt (See Note 10)
:sso=<on, off>	:srm=<yes, no>				
:srm=<yes, no> (See Note 12)					
:mrnset = <MRN set ID from the rtrv-mrn output> (See Note 13)					
:mrnpc/ mrnpca/ mrnpci/ mrnpcn/ mrnpcn24=					

Other Subsystems	LNP Subsystem	INP Subsystem	EIR Subsystem	V-FLEX Subsystem	ATINPQ Subsystem
<the point code value in the MRN set> (See Notes 13 and 14)					
<p>Notes</p> <ol style="list-style-type: none"> 1. The primary point code is an ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs. The mate point code is an ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs. 2. The primary point code for the LNP subsystem is the ANSI point code from the <code>rtrv-sid</code> output. The mate point code is an ANSI point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs. 3. The primary point code for the INP subsystem is the ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-sid</code> output. The mate point code is an ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs. 4. The primary point code for the EIR subsystem is the ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-sid</code> output. The mate point code is an ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs. 5. The primary point code for the V-Flex subsystem is the ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-sid</code> output. The mate point code is an ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs. 6. The primary point code for the ATINPQ subsystem is the ANSI, ITU-I, ITU-I spare, ITU-N, or ITU-N spare point code from the <code>rtrv-sid</code> output. The mate point code is an ANSI, ITU-I, ITU-I spare, ITU-N, or ITU-N spare point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs. 7. The <code>materc</code> parameter value must be greater than the <code>rc</code> parameter value. 8. The format of the point codes in the CSPC group specified with the <code>grp</code> parameter must be the same as the primary point code specified with the <code>ent-map</code> command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to Adding a Concerned Signaling Point Code on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. 9. For mated applications containing ANSI or 24-bit ITU-N point codes, or the EAGLE 5 ISS's true point code, the format of the point codes specified in the <code>ent-map</code> command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (<code>pcn24</code>), the mate point code must be a 24-bit ITU-N point code (<code>mpcn24</code>). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes. 					

Other Subsystems	LNP Subsystem	INP Subsystem	EIR Subsystem	V-FLEX Subsystem	ATINPQ Subsystem
<p>10. If the Flexible GTT Load Sharing is enabled, the <code>mapset</code> parameter must be specified with the <code>ent-map</code> command.</p> <p>If the Flexible GTT Load Sharing is not enabled, the <code>mapset</code> parameter cannot be specified with the <code>ent-map</code> command.</p> <p>To provision entries in the default MAP set, the <code>mapset=default</code> parameter must be specified with the <code>ent-map</code> command.</p> <p>To provision entries in a new MAP set, the <code>mapset=new</code> parameter must be specified with the <code>ent-map</code> command. The <code>mapset=new</code> parameter can be specified only with the <code>ent-map</code> command. When the <code>ent-map</code> command is executed with the <code>mapset=new</code> parameter, the new MAP set ID is automatically generated and displayed in the output of the <code>ent-map</code> command as follows.</p> <pre>New MAPSET Created : MAPSETID = <new MAP set ID></pre> <p>A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point code and subsystem entries.</p> <p>The default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.</p> <p>The point code and subsystem entry can appear only once in the default MAP set, so the point code and subsystem entry can appear in only one MAP group in the default MAP set.</p> <p>The point code and subsystem entry provisioned in a MAP set can be provisioned in multiple MAP sets. If a point code and subsystem entry is provisioned in different MAP sets, the relative cost value of the entry in each MAP set can be different. All the point code and subsystem entries in a MAP set, including the default MAP set, must be different.</p> <p>11. If the point code selected from either the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs is a 14-bit ITU-N point code, then the <code>pcn/mpcn</code> parameters must be specified. If the point code selected from either the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs is a 24-bit ITU-N point code, then the <code>pcn24/mpcn24</code> parameters must be specified.</p> <p>12. The <code>srn=yes</code> parameter can be specified only for mated applications containing ANSI point codes.</p> <p>13. The <code>mrnset</code> and <code>mrnpc/mrnpca/mrnpci/mrnpn/mrnpn24</code> parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Refer to Activating the GTT Load Sharing with Alternate Routing Indicator Feature on page 954 for information about enabling the GTT Load Sharing with Alternate Routing Indicator feature. The <code>mrnset</code> and <code>mrnpc/mrnpca/mrnpci/mrnpn/mrnpn24</code> values must be shown in the <code>rtrv-mrn</code> output.</p> <p>14. The network type of the <code>pc/pca/pci/pcn/pcn24</code> and <code>mrnpc/mrnpca/mrnpci/mrnpn/mrnpn24</code> parameter values must be compatible, as shown in this list.</p> <ul style="list-style-type: none"> • <code>pc/pca</code> - <code>mrnpc</code>/<code>mrnpca</code> • <code>pcn24</code> - <code>mrnpc24</code> • <code>pci</code> or <code>pcn</code> - <code>mrnpci</code> or <code>mrnpn</code> 					

Other Subsystems	LNP Subsystem	INP Subsystem	EIR Subsystem	V-FLEX Subsystem	ATINPQ Subsystem
<p>If the network type of the MAP point code parameter is ITU-I (pci), the network type of the MRN point code parameter can be either ITU-I (mrnpci) or ITU-N (mrnpcn).</p> <p>If the network type of the MAP point code parameter is ITU-N (pcn), the network type of the MRN point code parameter can be either ITU-I (mrnpci) or ITU-N (mrnpcn).</p>					

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
ent-map:pca=003-003-003:ssn=254:rc=10:mpc=040-040-040:mssn=254
:materc=20:grp=grp10:mrc=yes:srm=yes:sso=on

ent-map:pca=005-005-005:ssn=250:rc=10:mpc=060-060-060:mssn=250
:materc=20:grp=grp15:mrc=yes:srm=yes:sso=off

ent-map:pci=5-005-5:ssn=50:rc=10:mpcn=0257:mssn=50:materc=20
:grp=grp20:mrc=yes:sso=off
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
ENT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
ent-map:pca=003-003-003:ssn=254:rc=10:mpc=040-040-040:mssn=254
:materc=20:grp=grp10:mrc=yes:srm=yes:sso=on:mapset=new

ent-map:pca=005-005-005:ssn=250:rc=10:mpc=060-060-060:mssn=250
:materc=20:grp=grp15:mrc=yes:srm=yes:sso=off:mapset=df1t

ent-map:pci=5-005-5:ssn=50:rc=10:mpcn=0257:mssn=50:materc=20
:grp=grp20:mrc=yes:sso=off:mapset=new
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled for this example, enter these commands.

```
ent-map:pca=003-003-003:ssn=254:rc=10:mpc=040-040-040:mssn=254
:materc=20:grp=grp10:mrc=yes:srm=yes:sso=on:mapset=new:mrnset=df1t
:mrnpc= 005-005-005

ent-map:pca=005-005-005:ssn=250:rc=10:mpc=060-060-060:mssn=250
:materc=20:grp=grp15:mrc=yes:srm=yes:sso=off:mapset=df1t:mrnset=1
:mrnpc= 007-007-007
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and a new MAP set was created, a message similar to the following should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
```

```
New MAPSET Created : MAPSETID = 9
ENT-MAP:  MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and the mated application was added to the default MAP set, this message should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
ENT-MAP:  MASP A - COMPLTD
```

If no other entries are being added to the mated application, or if the EAGLE 5 ISS's true point code was specified for the mated application, continue the procedure with [Step 18](#) on page 191.

If other entries are being added to the mated application, continue the procedure with [Step 17](#) on page 188.

17. Add the mated point code and subsystem to the mated application using the `chg-map` command. Use [Table 28: Dominant Mated Application Parameter Combinations for the CHG-MAP Command](#) on page 188 as a guide for the parameters and values that can be specified with the `chg-map` command.

Table 28: Dominant Mated Application Parameter Combinations for the CHG-MAP Command

Mandatory Parameters
:pc/pca/pci/pcn/pcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 primary point code that the mate point code will be assigned to> (See Notes 4 and 8)
:ssn=<subsystem number assigned to the primary point code>
:mpc/mpca/mpci/mpcn/mpcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code of the mate from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs> (See Notes 2, 4, and 8)
:mssn=<subsystem number of the mate, 2 - 255>
:materc=<0 - 99> The <code>materc</code> parameter value must be greater than the <code>rc</code> parameter value.
Optional Parameters
:grp=<CSPC group name> (See Notes 1 and 6)
:sso=<on, off> (See Note 6)
:srn=<yes, no> (See Notes 5 and 6)
:mrc=<yes, no> (See Note 6)
:mapset=<dflt or the number of an existing MAP set> (See Note 3)
:mrnset = <MRN set ID from the <code>rtrv-mrn</code> output> (See Note 7)
:mrnpc/mrnpca/mrnpai/mrnpai24=<the point code value in the MRN set> (See Notes 7 and 8)
Notes

1. The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `chg-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.
2. For mated applications containing ANSI or 24-bit ITU-N point codes, or the EAGLE 5 ISS's true point code, the format of the point codes specified in the `chg-map` command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (`pcn24`), the mate point code must be a 24-bit ITU-N point code (`mpcn24`). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes.
3. If the Flexible GTT Load Sharing is enabled, the `mapset` parameter must be specified with the `chg-map` command.

If the Flexible GTT Load Sharing is not enabled, the `mapset` parameter cannot be specified with the `chg-map` command.

To provision entries in the default MAP set, the `mapset=dflt` parameter must be specified with the `chg-map` command.

To provision entries in an existing MAP set, the `mapset` parameter must be specified with the MAP set ID value of that MAP set.

A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point code and subsystem entries.

The default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.

The point code and subsystem entry can appear only once in the default MAP set, so the point code and subsystem entry can appear in only one MAP group in the default MAP set.

The point code and subsystem entry provisioned in a MAP set can be provisioned in multiple MAP sets. If a point code and subsystem entry is provisioned in different MAP sets, the relative cost value of the entry in each MAP set can be different. All the point code and subsystem entries in a MAP set, including the default MAP set, must be different.
4. If the point code selected from either the `rtrv-rte` or `rtrv-map` outputs is a 14-bit ITU-N point code, then the `pcn/mpcn` parameters must be specified. If the point code selected from either the `rtrv-rte` or `rtrv-map` outputs is a 24-bit ITU-N point code, then the `pcn24/mpcn24` parameters must be specified.
5. The `srm=yes` parameter can be specified only for mated applications containing ANSI point codes.
6. The CSPC group name (`grp`), `mrc`, `srm`, or `sso` values for a specific point code and SSN in a mated application are changed, these parameter values for this specific point code and SSN in all applicable mated applications will be changed to the new values.
7. The `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai` parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Refer to [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page

954 for information about enabling the GTT Load Sharing with Alternate Routing Indicator feature. The `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai` values must be shown in the `rtrv-mrn` output.

8. The network type of the `pc/pca/pci/pcn/pcn24` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai` parameter values must be compatible, as shown in this list.

- `pc/pca` - `mrnpc`/'`mrnpca`
- `pcn24` - `mrnpc24`
- `pci` or `pcn` - `mrnpai` or `mrnpai`

If the network type of the MAP point code parameter is ITU-I (`pci`), the network type of the MRN point code parameter can be either ITU-I (`mrnpai`) or ITU-N (`mrnpai`).

If the network type of the MAP point code parameter is ITU-N (`pcn`), the network type of the MRN point code parameter can be either ITU-I (`mrnpai`) or ITU-N (`mrnpai`).

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
chg-map:pca=005-005-005:ssn=250:rc=10:mpca=070-070-070
:mssn=251:materc=30:grp=grp05:mrc=yes:srm=yes:sso=on

chg-map:pca=008-008-008:ssn=254:rc=10:mpca=031-049-100
:mssn=250:materc=40:grp=grp15:mrc=yes:srm=yes:sso=on

chg-map:pca=008-008-008:ssn=254:rc=10:mpca=056-113-200
:mssn=251:materc=50:grp=grp05:mrc=yes:srm=yes:sso=off

chg-map:pci=5-005-5:ssn=50:rc=10:mpci=s-5-005-6:mssn=50:materc=21
:grp=grp20:mrc=yes:sso=off

chg-map:pci=5-005-5:ssn=50:rc=10:mpci=5-005-1:mssn=50:materc=22
:grp=grp20:mrc=yes:sso=off
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
CHG-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
chg-map:pca=005-005-005:ssn=250:rc=10:mpca=070-070-070
:mssn=251:materc=30:grp=grp05:mrc=yes:srm=yes:sso=on :mapset=df1t

chg-map:pca=008-008-008:ssn=254:rc=10:mpc=179-183-050:mssn=250
:materc=11:grp=grp15:sso=off:mapset=12

chg-map:pca=008-008-008:ssn=254:rc=10:mpca=031-049-100
:mssn=250:materc=40:grp=grp15:mrc=yes:srm=yes:sso=on:mapset=13

chg-map:pca=008-008-008:ssn=254:rc=10:mpca=056-113-200
:mssn=251:materc=50:grp=grp05:mrc=yes:srm=yes:sso=off:mapset=13

chg-map:pci=5-005-5:ssn=50:rc=10:mpci=s-5-005-6:mssn=50:materc=21
:grp=grp20:mrc=yes:sso=off:mapset=14
```



```
chg-map:pci=5-005-5:ssn=50:rc=10:mpci=5-005-1:mssn=50:materc=22
:grp=grp20:mrc=yes:sso=off:mapset=14
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled for this example, and the mrnset and mrnpc parameters were not specified in [Step 16](#) on page 183, enter these commands.

```
chg-map:pca=005-005-005:ssn=250:rc=10:mpca=070-070-070
:mssn=251:materc=30:grp=grp05:mrc=yes:src=yes:sso=on
:mapset=df1t:mrnset=1:mrnpc=007-007-007
```

```
chg-map:pca=008-008-008:ssn=254:rc=10:mpc=179-183-050:mssn=250
:materc=11:grp=grp15:sso=off:mapset=12:mrnset=df1t:mrnpc=005-005-005
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0
CHG-MAP: MASP A - COMPLTD
```

Repeat this step for all new entries being added to the existing mated application.

If the Flexible GTT Load Sharing feature is not enabled, the mated application can contain a maximum of 32 entries.

If the Flexible GTT Load Sharing feature is enabled, and the MAP set is not the default MAP set, the MAP set can contain a maximum of 32 entries.

If the Flexible GTT Load Sharing feature is enabled, and the MAP set is the default MAP set, the default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.

18. Verify the changes using the rtrv-map command with the primary point code and subsystem specified in [Step 16](#) on page 183 and [Step 17](#) on page 188.

If a new MAP set was created in [Step 16](#) on page 183, the mapset parameter should be specified with the rtrv-map command. The value for the mapset parameter should be the MAP set ID generated in [Step 16](#) on page 183.

If the mated application was added to an existing MAP [Step 17](#) on page 188, the mapset parameter and value specified in [Step 17](#) on page 188 should be specified with the rtrv-map command.

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
rtrv-map:pca=003-003-003:ssn=254
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
003-003-003          254 10  DOM YES YES grp10  ON
                   040-040-040 254 20  DOM YES YES grp10  ON

MAP TABLE IS    4 % FULL    (38 of 1024)
```

```
rtrv-map:pca=005-005-005:ssn=250
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```

PCA           Mate PCA           SSN RC MULT SRM MRC GRP NAME SSO
005-005-005           250 10  DOM YES YES grp15  OFF
                   060-060-060  250 20  DOM YES YES grp15  OFF
                   070-070-070  251 30  DOM YES YES grp05   ON

MAP TABLE IS    4 % FULL      (38 of 1024)

```

```
rtrv-map:pca=008-008-008:ssn=254
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA           Mate PCA           SSN RC MULT SRM MRC GRP NAME SSO
008-008-008           254 10  DOM YES YES grp10   ON
                   031-049-100  250 40  DOM YES YES grp15  ON
                   056-113-200  251 50  DOM YES YES grp05  OFF

MAP TABLE IS    4 % FULL      (38 of 1024)

```

```
rtrv-map:pci=5-005-5:ssn=50
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCI          NET  Mate PC           SSN RC MULT SRM MRC GRP NAME SSO
5-005-5           50 10  DOM NO  YES grp20  OFF
                   N    0257       50 20  DOM NO  YES grp20  OFF
                   I  s-5-005-6     50 21  DOM NO  YES grp20  OFF
                   I    5-005-1     50 22  DOM NO  YES grp20  OFF

MAP TABLE IS    4 % FULL      (38 of 1024)

```

Note: If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
rtrv-map:pca=003-003-003:ssn=254:mapset=11
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=11      MRNSET=DFLT      MRNPC=005-005-005
PCA           Mate PCA           SSN RC MULT SRM MRC GRP NAME SSO
003-003-003           254 10  DOM YES YES grp10   ON
                   040-040-040  254 20  DOM YES YES grp10   ON

MAP TABLE IS    1 % FULL      (38 of 36000)

```

```
rtrv-map:pca=005-005-005:ssn=250:mapset=dflt
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT    MRNSET=1          MRNPC=007-007-007
PCA           Mate PCA           SSN RC MULT SRM MRC GRP NAME SSO
005-005-005           250 10  DOM YES YES grp15  OFF
                   060-060-060  250 20  DOM YES YES grp15  OFF
                   070-070-070  251 30  DOM YES YES grp05   ON

```

```
MAP TABLE IS 1 % FULL (38 of 36000)
```

```
rtrv-map:pca=008-008-008:ssn=254:mapset=13
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
MAPSET ID=13      MRNSET=DFLT      MRNPC=005-005-005
PCA              Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
008-008-008      254 10   DOM YES YES  grp10  ON
                  031-049-100 250 40   DOM YES YES  grp15  ON
                  056-113-200 251 50   DOM YES YES  grp05  OFF
```

```
MAP TABLE IS 1 % FULL (38 of 36000)
```

```
rtrv-map:pci=5-005-5:ssn=50:mapset=14
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
MAPSET ID=14      MRNSET ID=----- MRNPC=-----
PCI              NET Mate PC          SSN RC MULT SRM MRC GRP NAME SSO
5-005-5          N   0257              50 10   DOM NO   YES  grp20  OFF
                  I   s-5-005-6        50 20   DOM NO   YES  grp20  OFF
                  I   5-005-1          50 21   DOM NO   YES  grp20  OFF
                  I   5-005-1          50 22   DOM NO   YES  grp20  OFF
```

```
MAP TABLE IS 4 % FULL (38 of 36000)
```

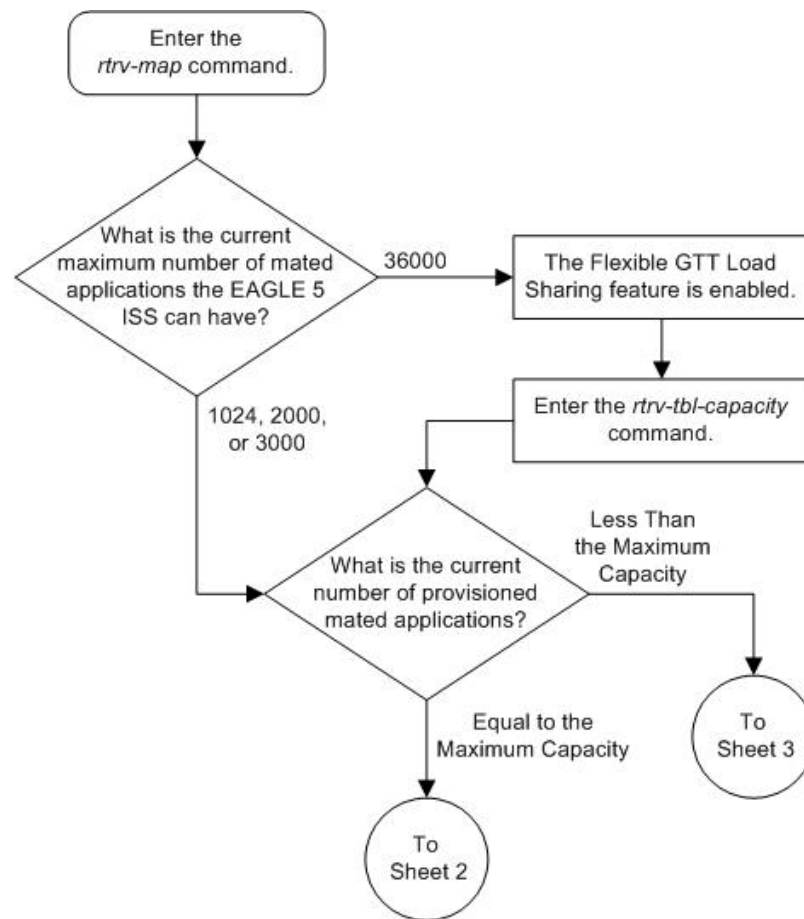
If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

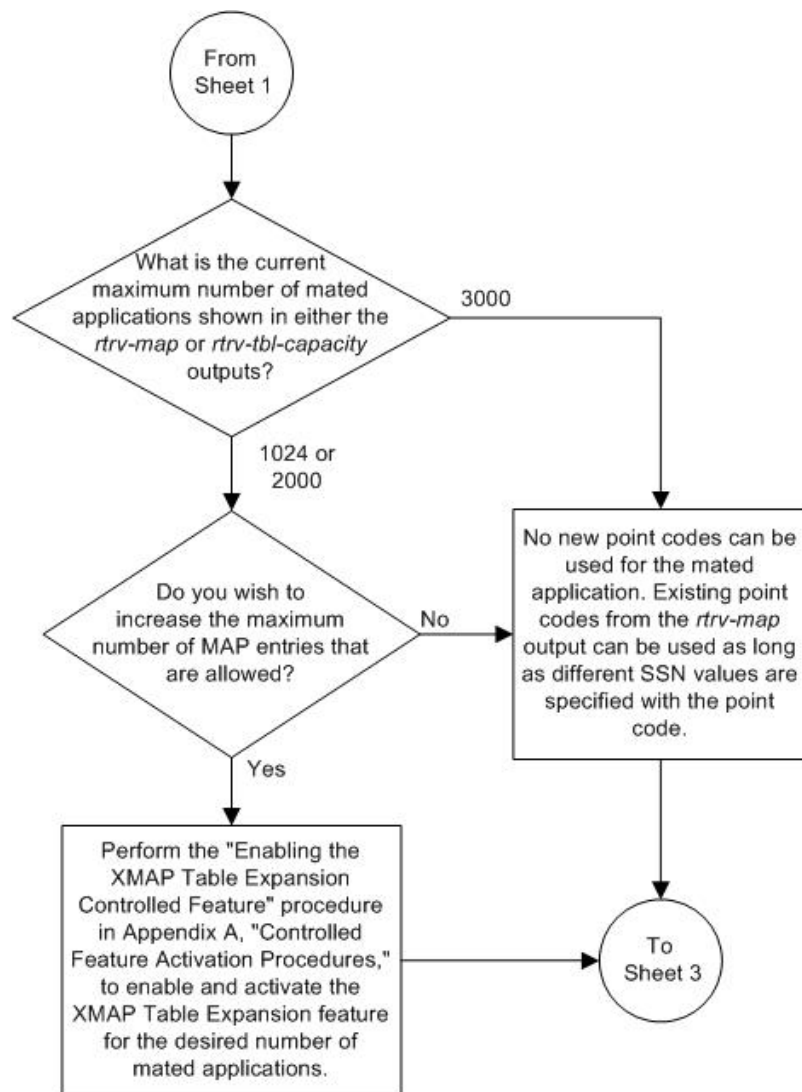
If the GTT Load Sharing with Alternate Routing Indicator feature is not enabled, the MRNSET and MRNPC fields are not shown in the `rtrv-map` output.

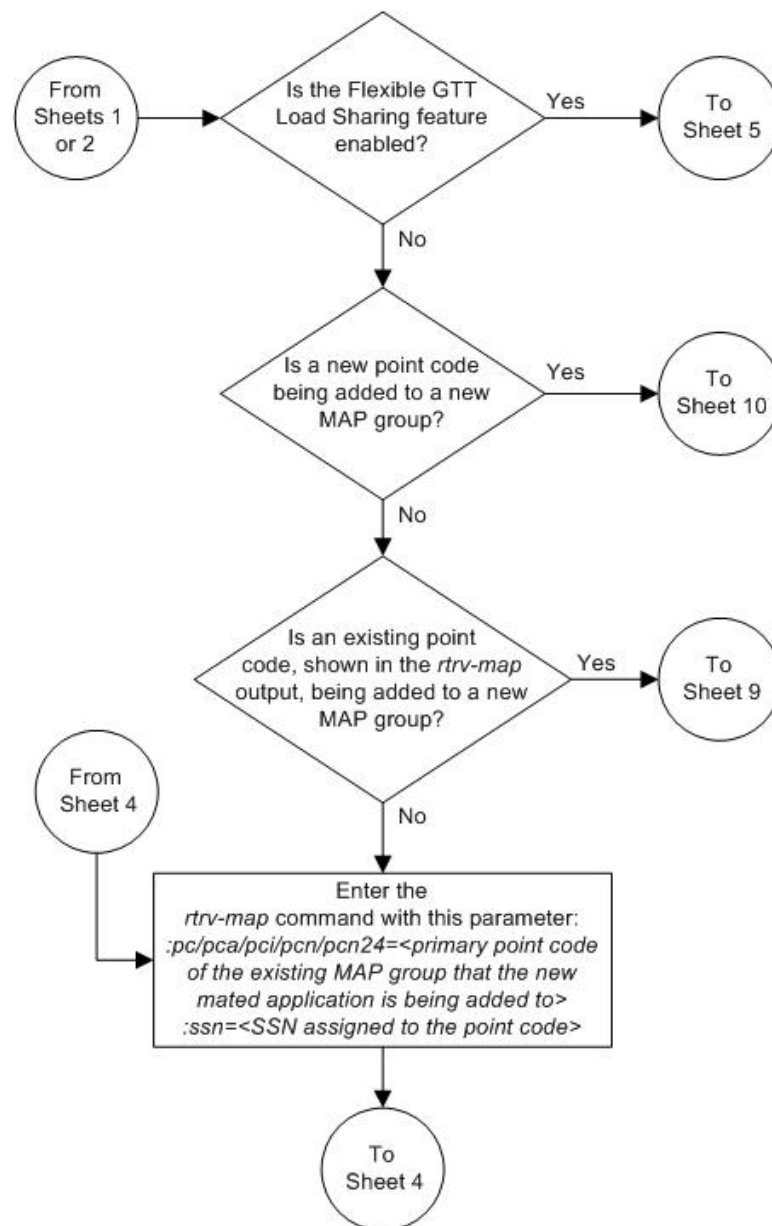
- Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

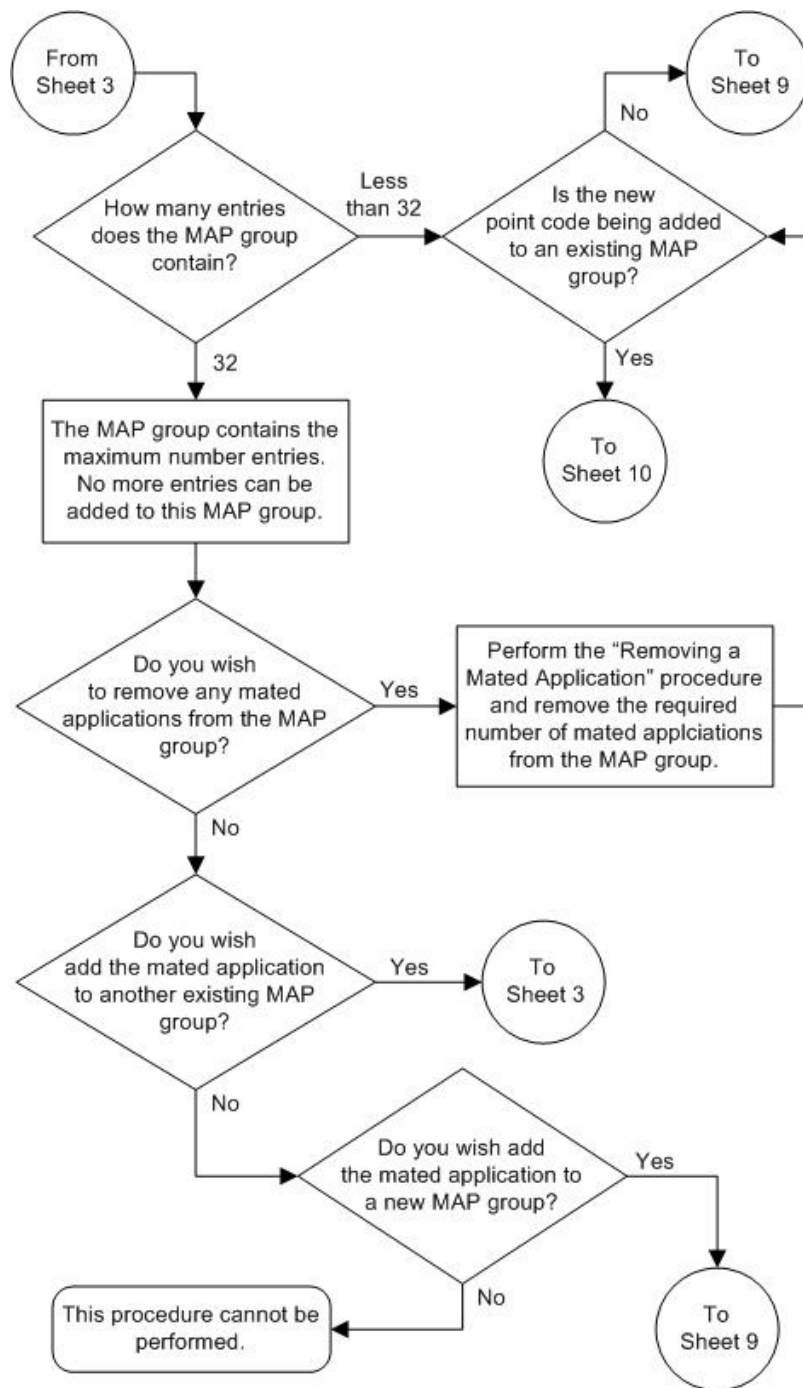
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

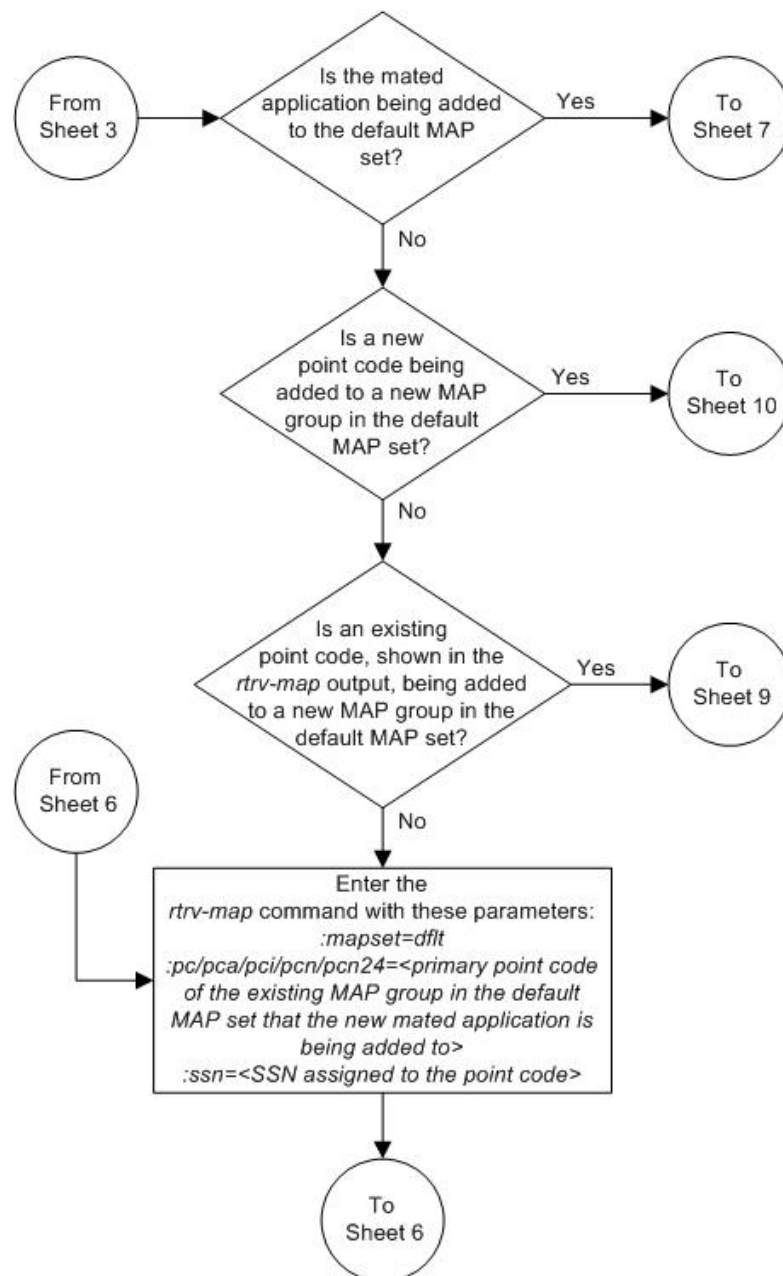
Figure 25: Provisioning a Dominant Mated Application

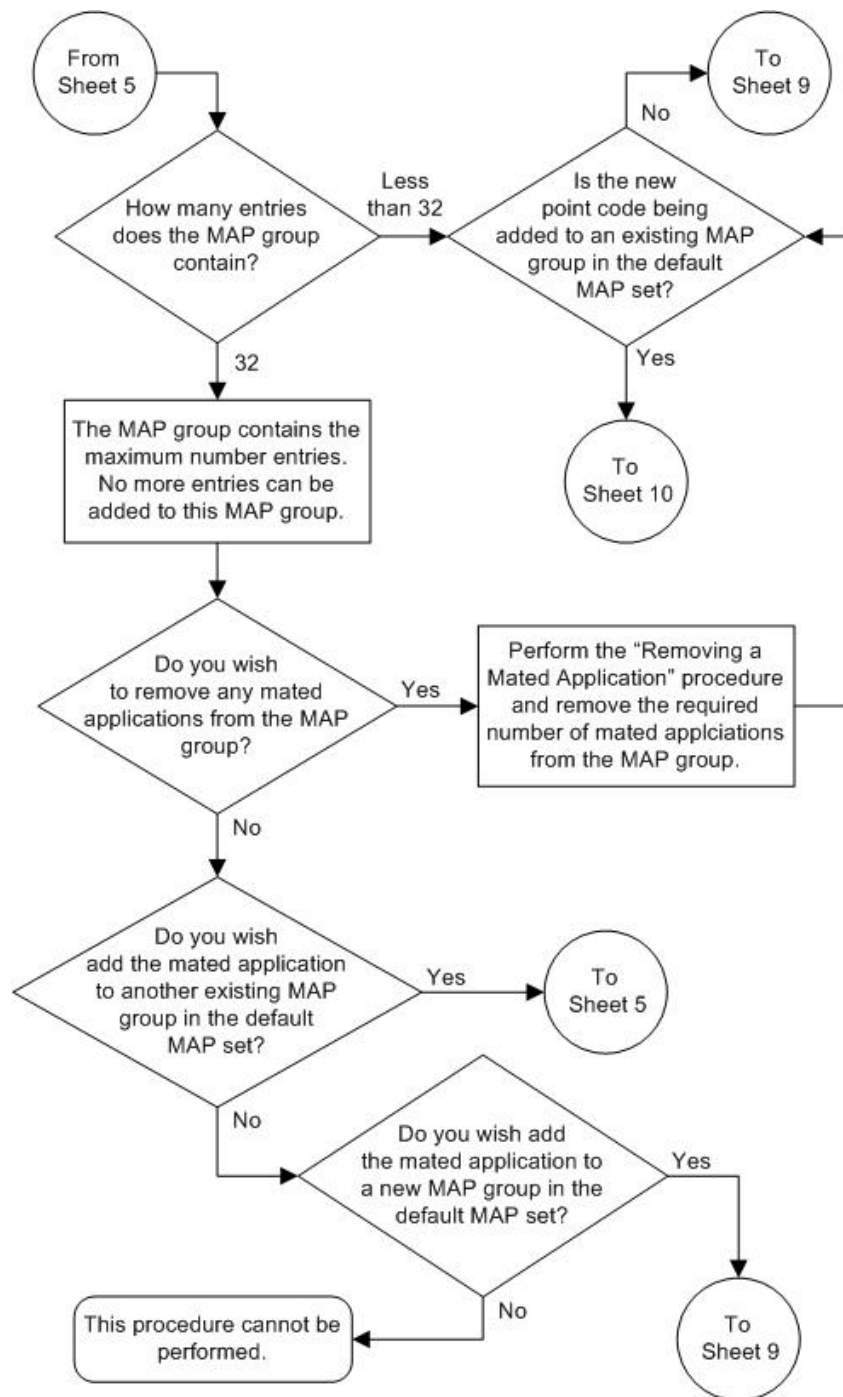


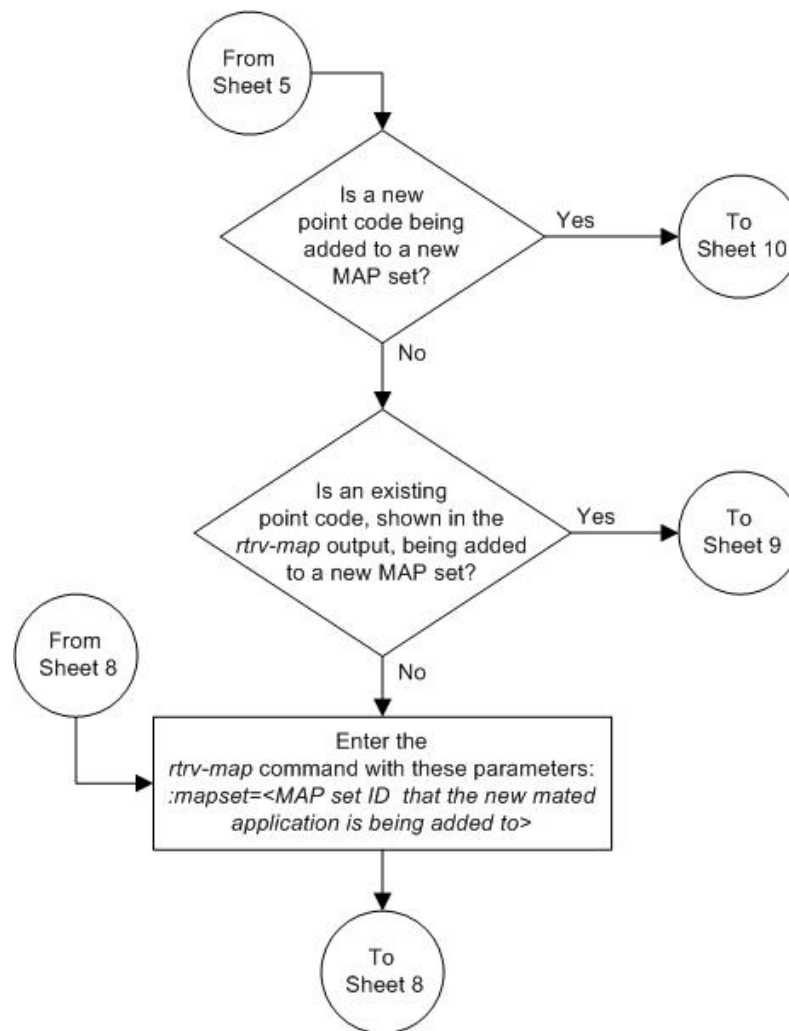


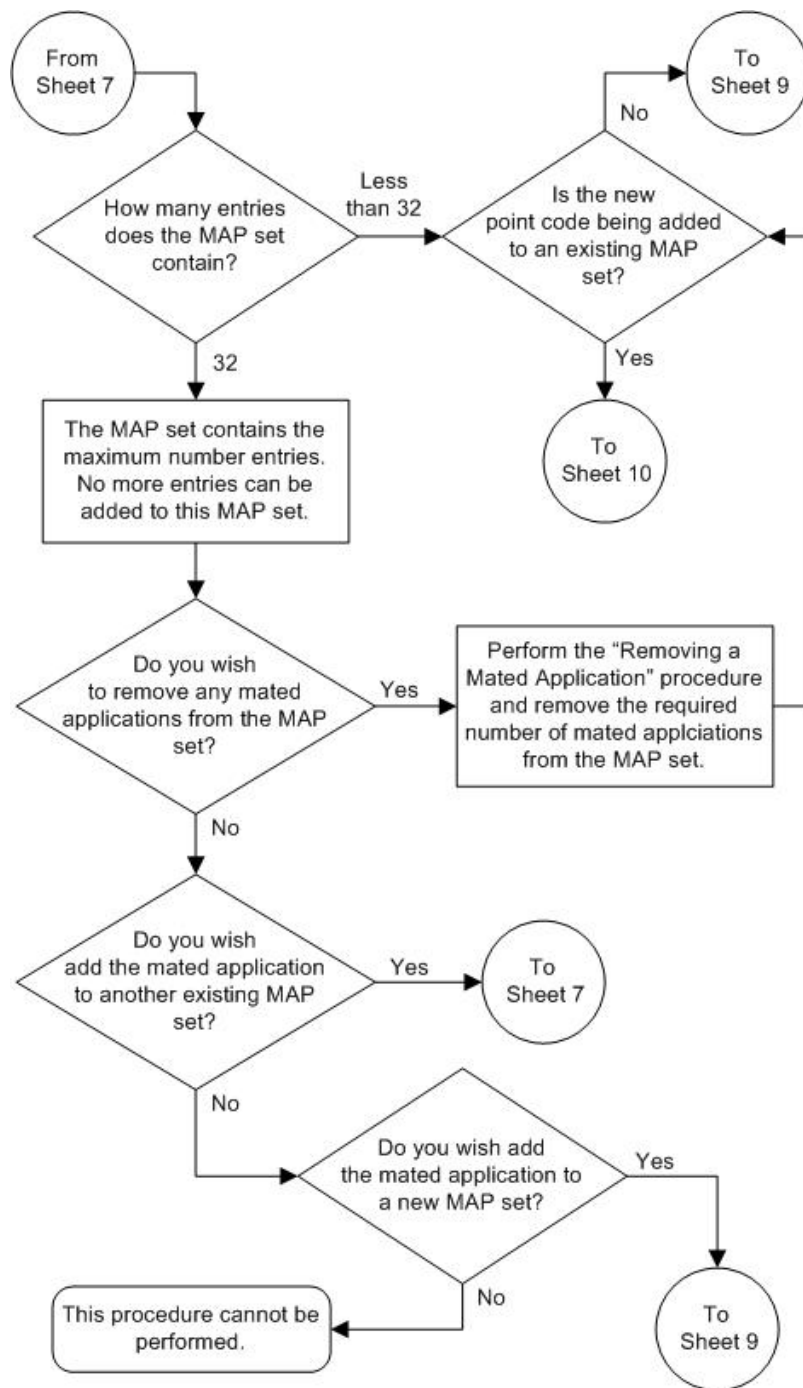


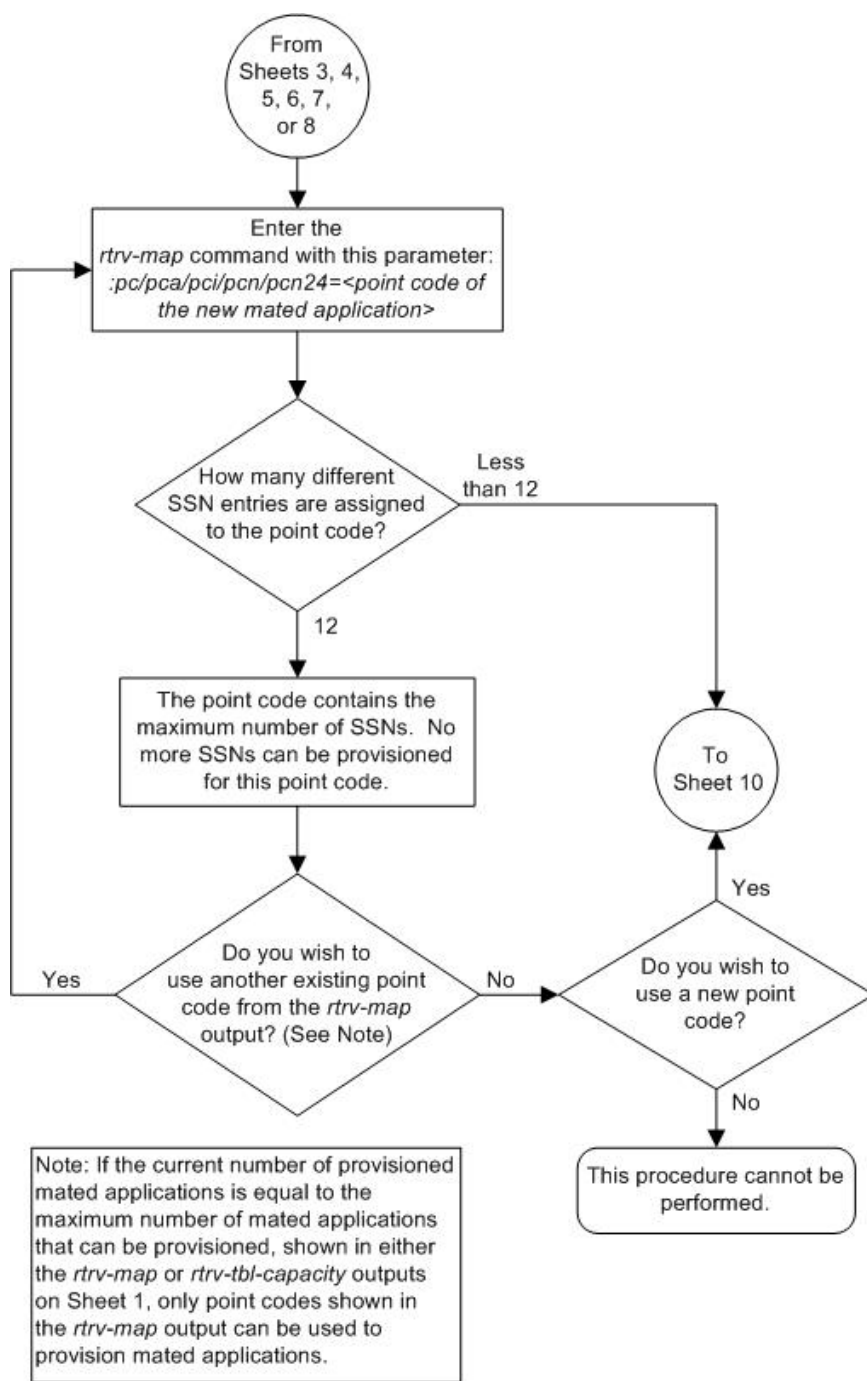


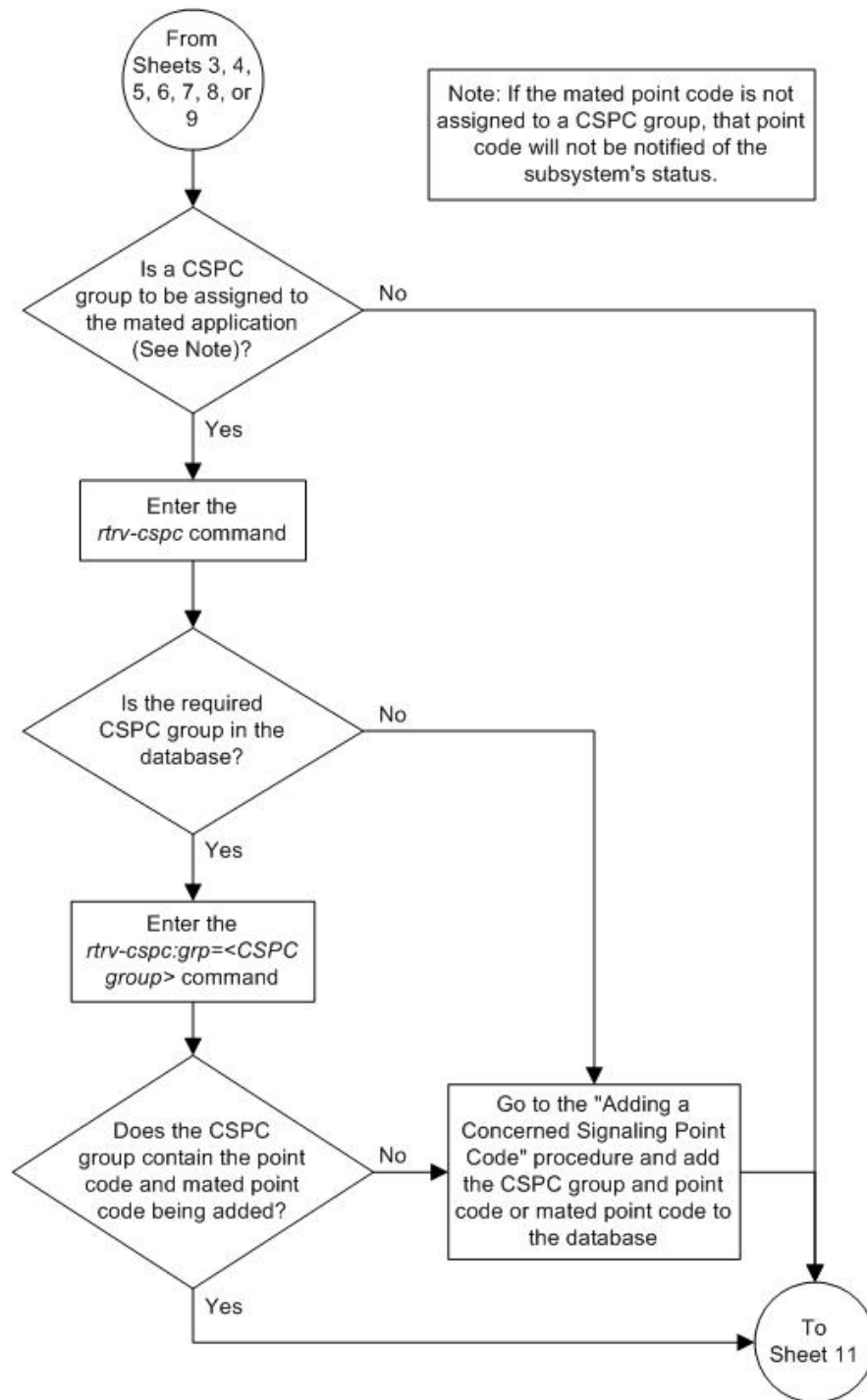


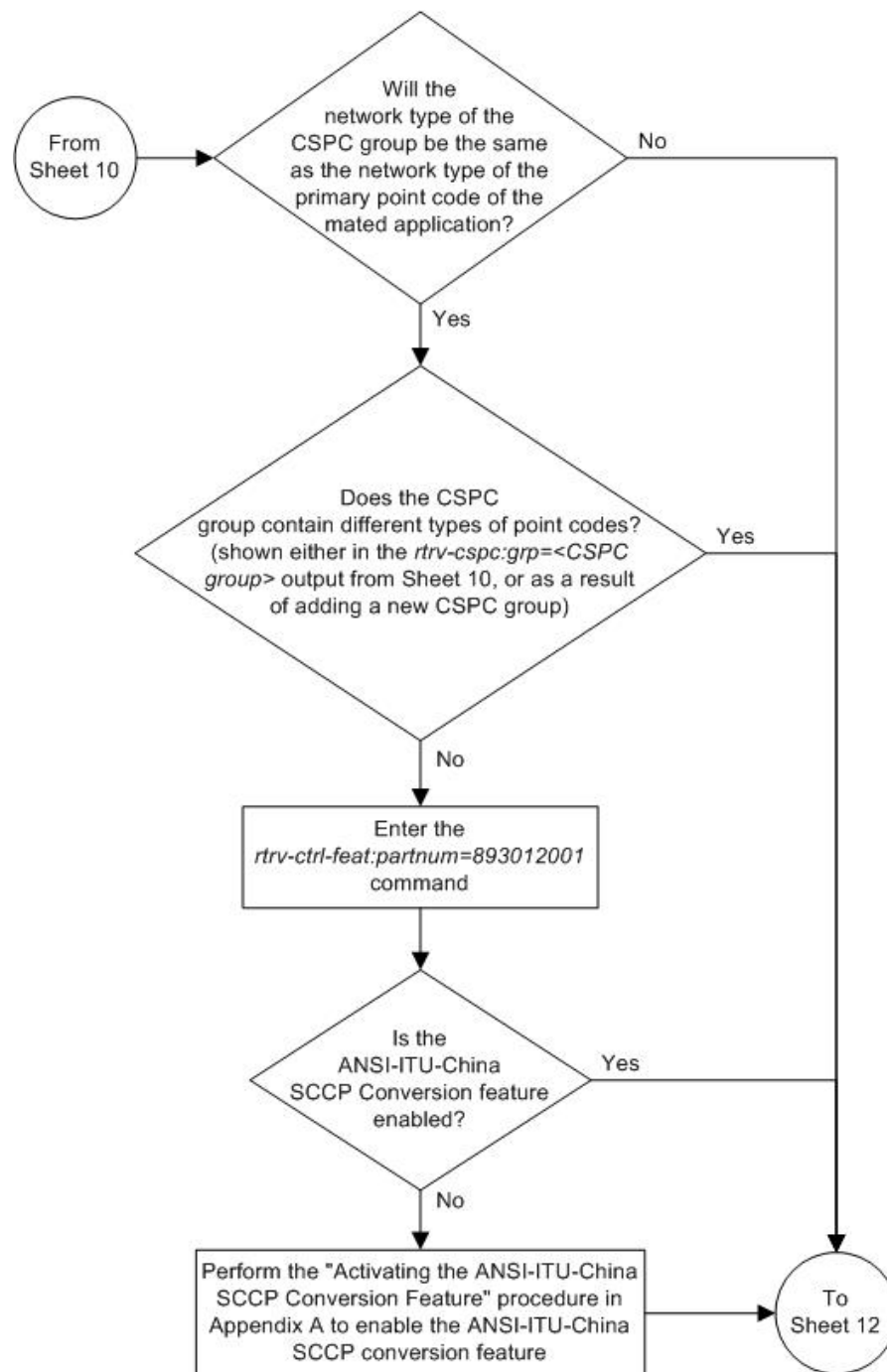


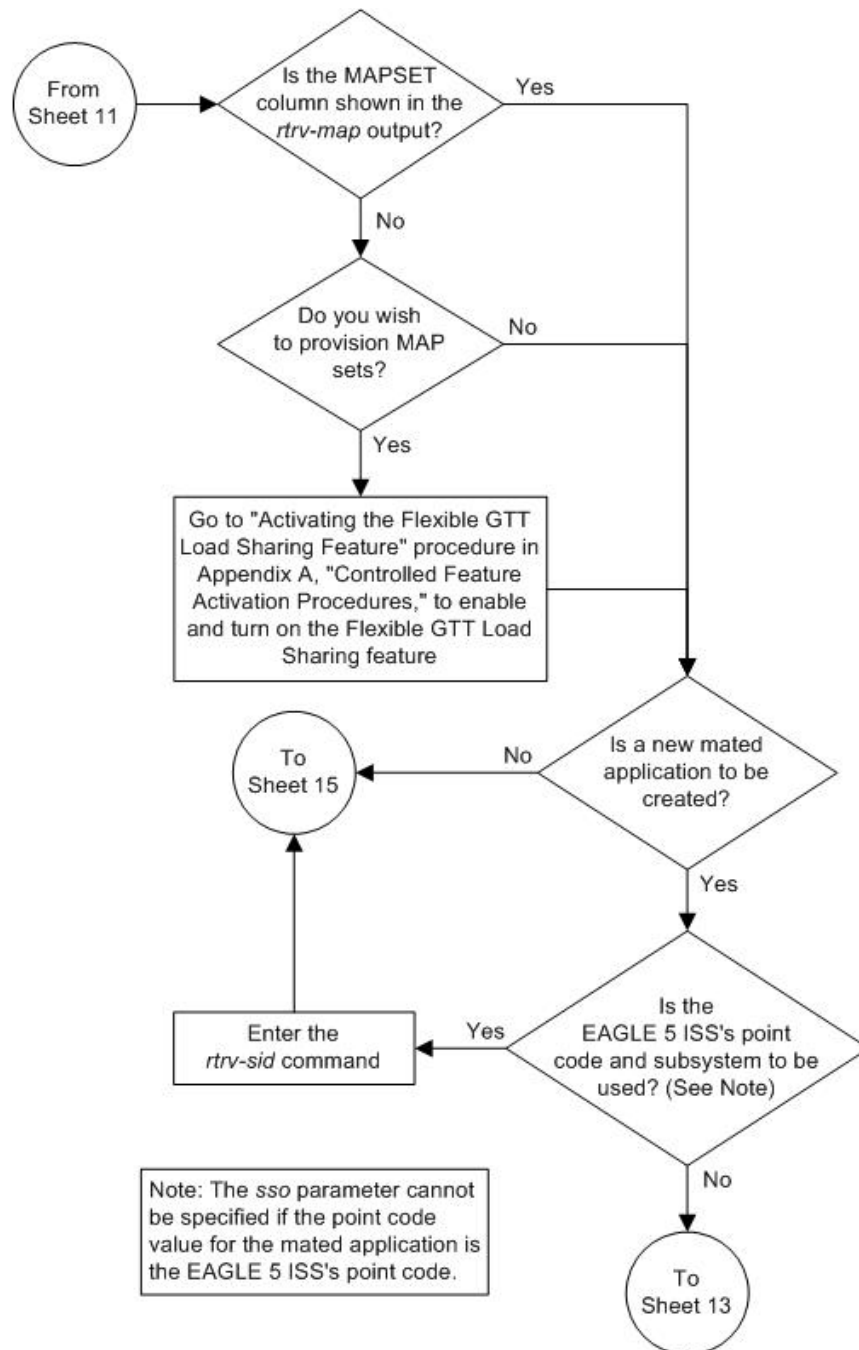


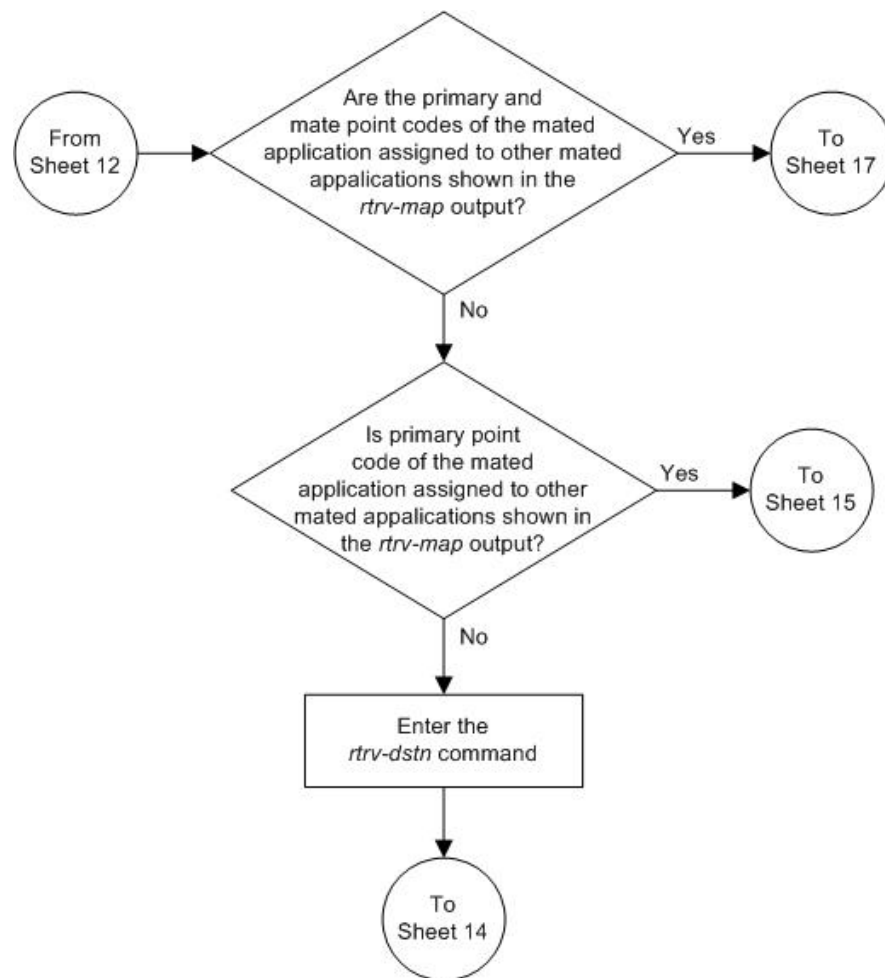


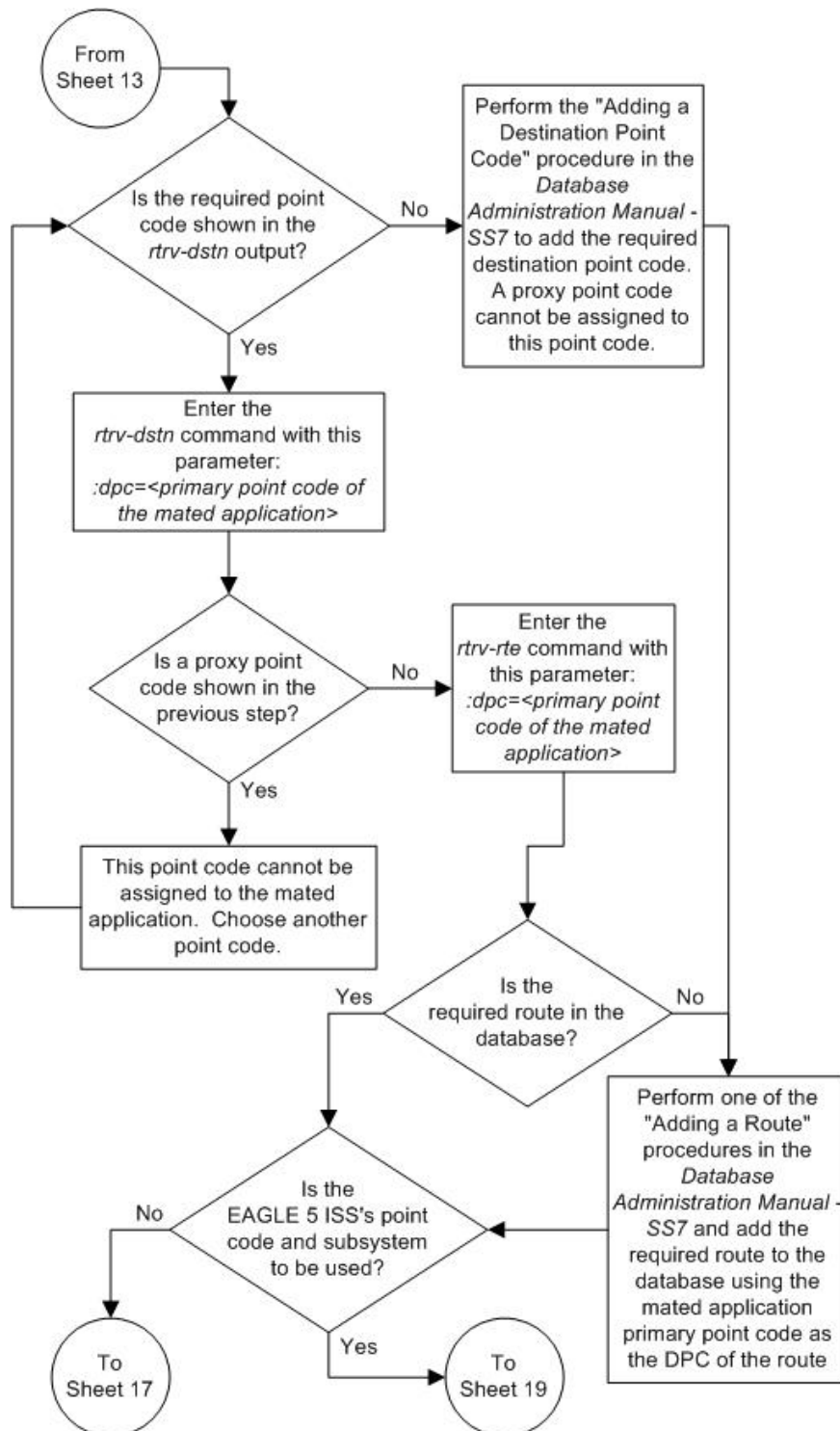


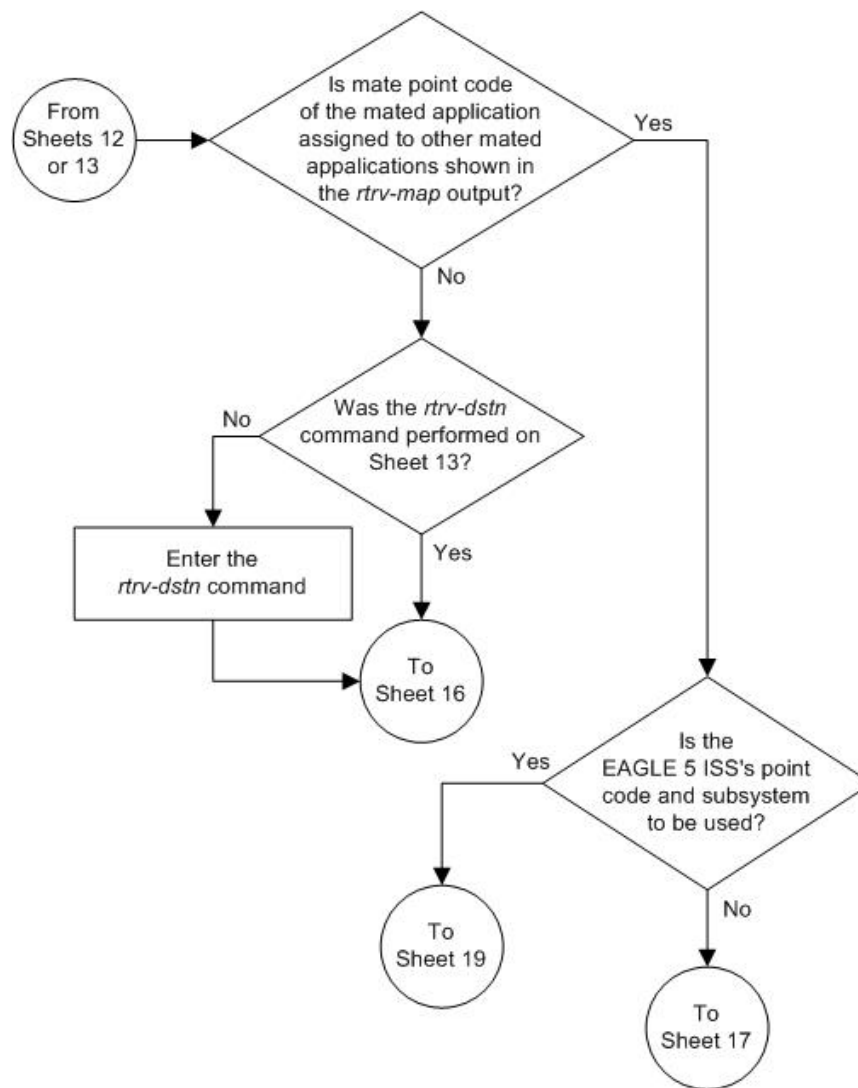


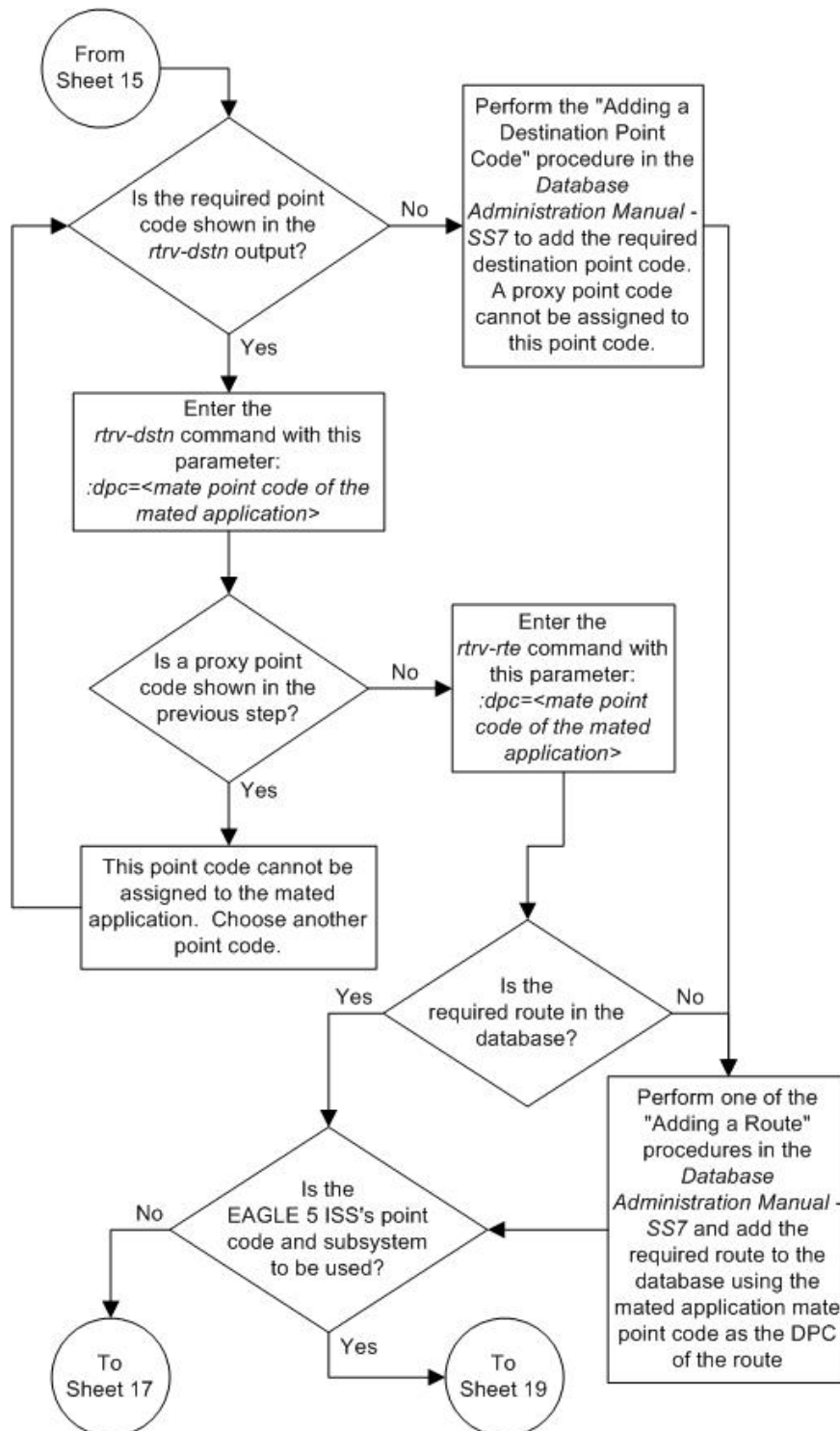


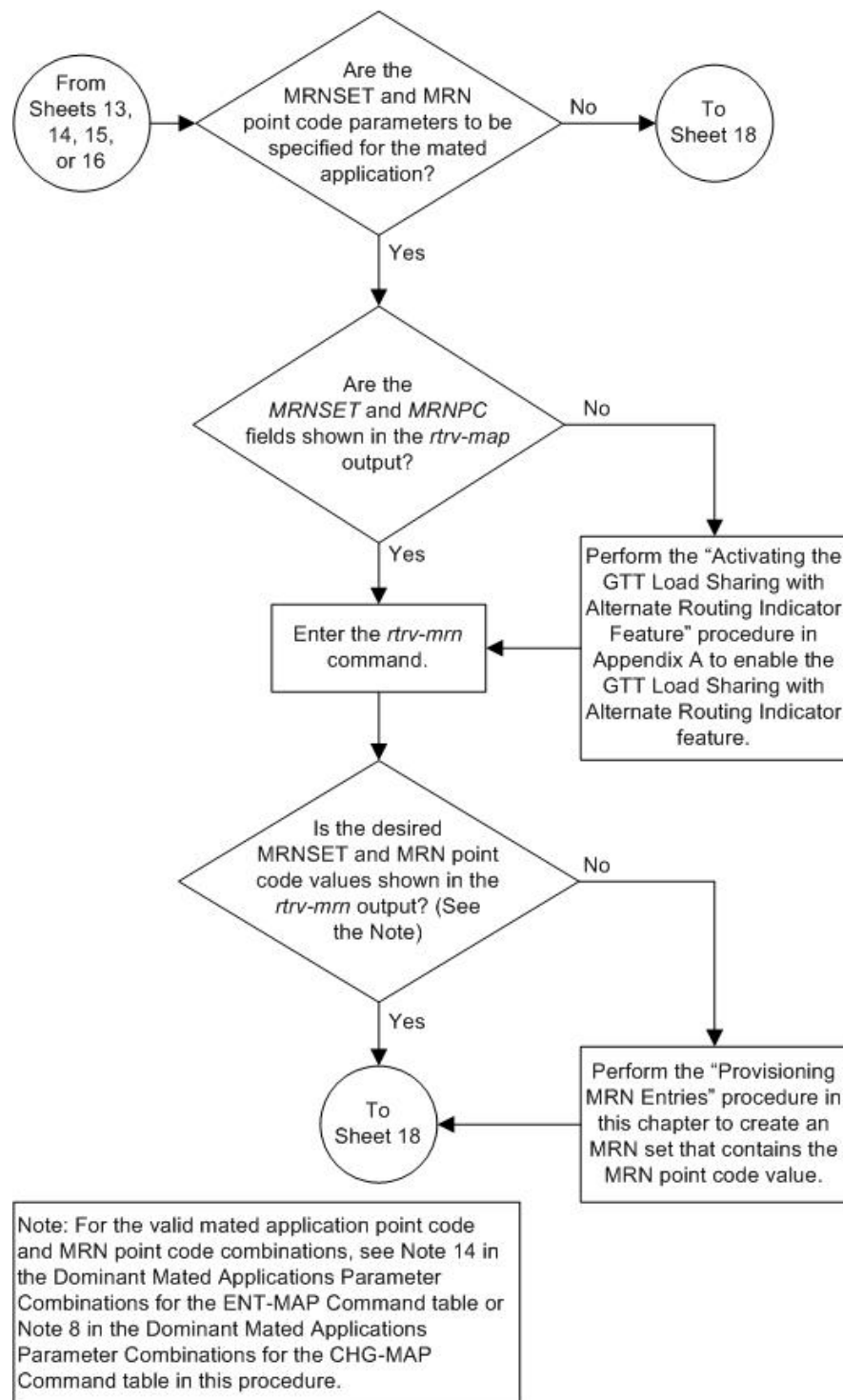


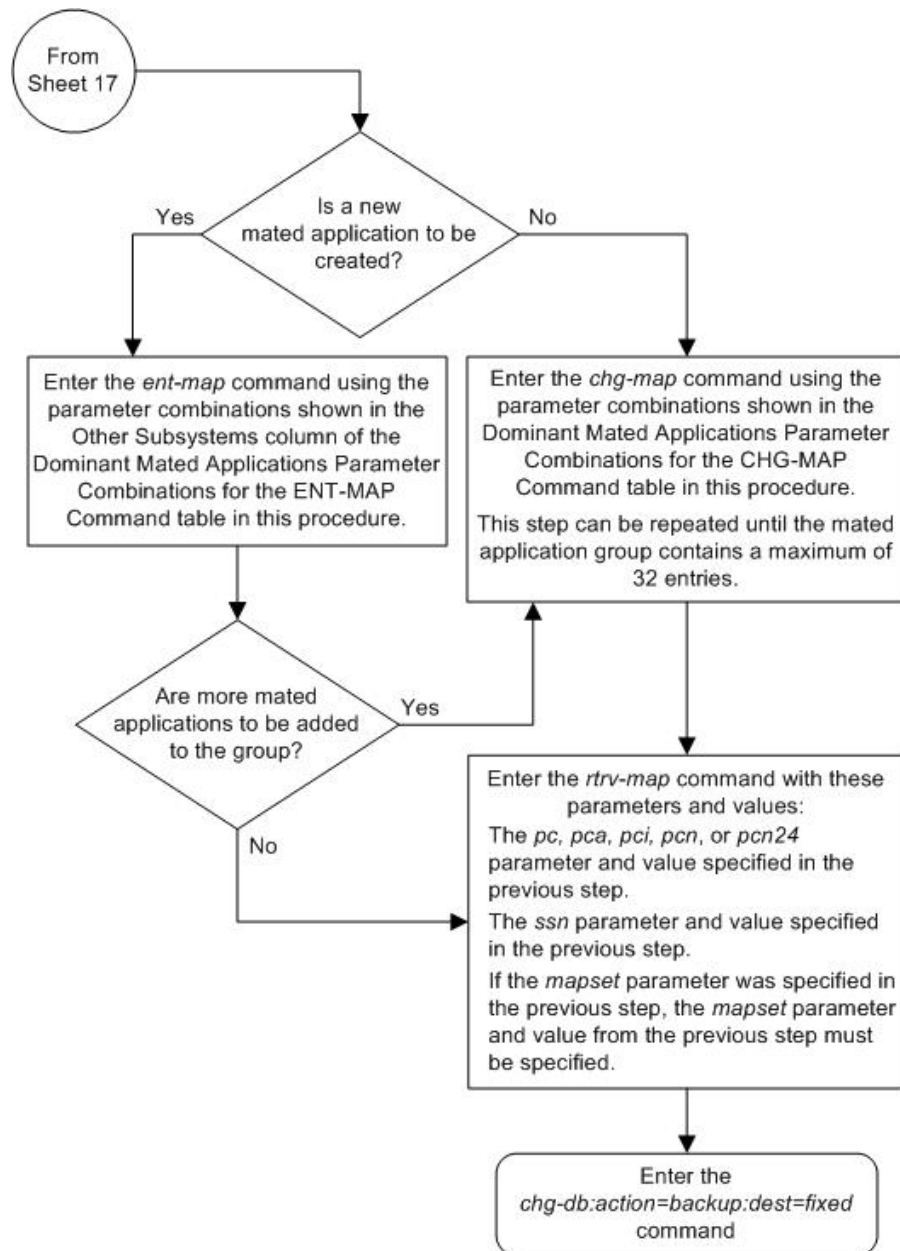


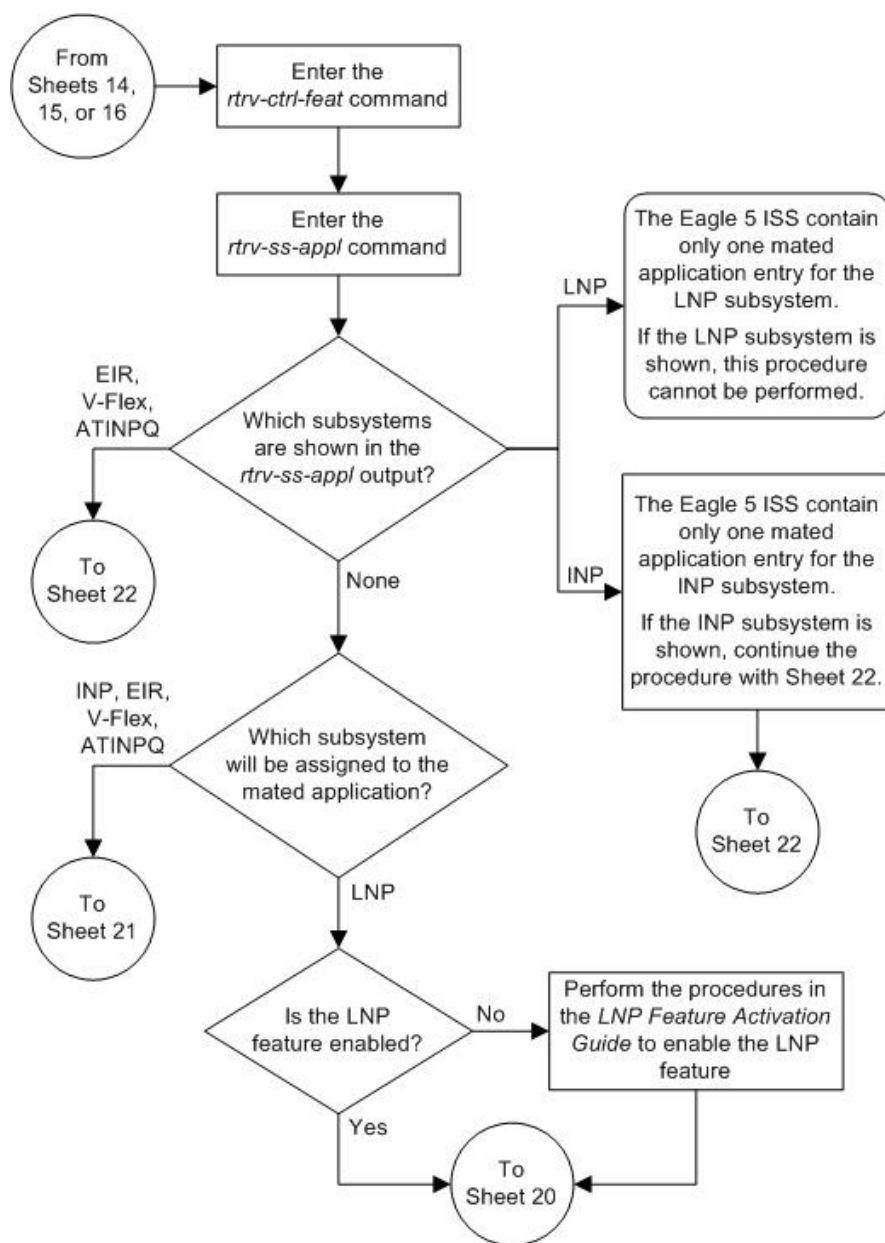


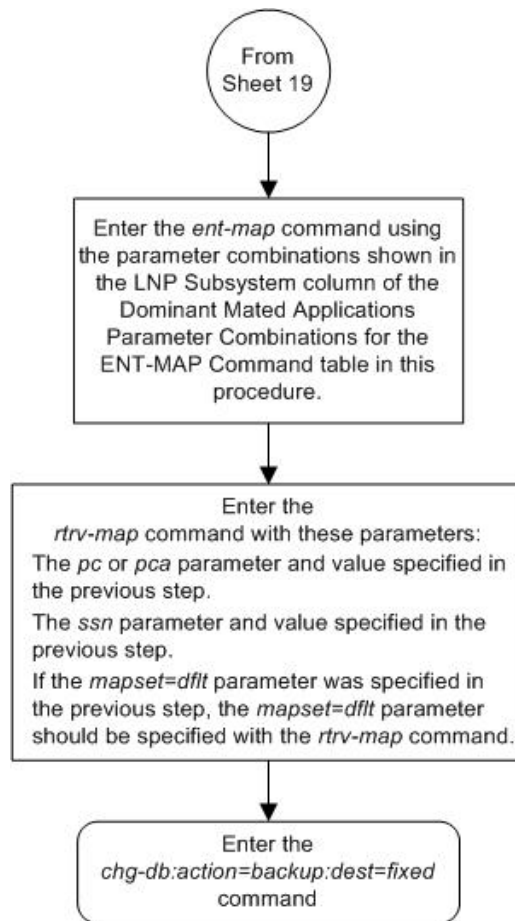


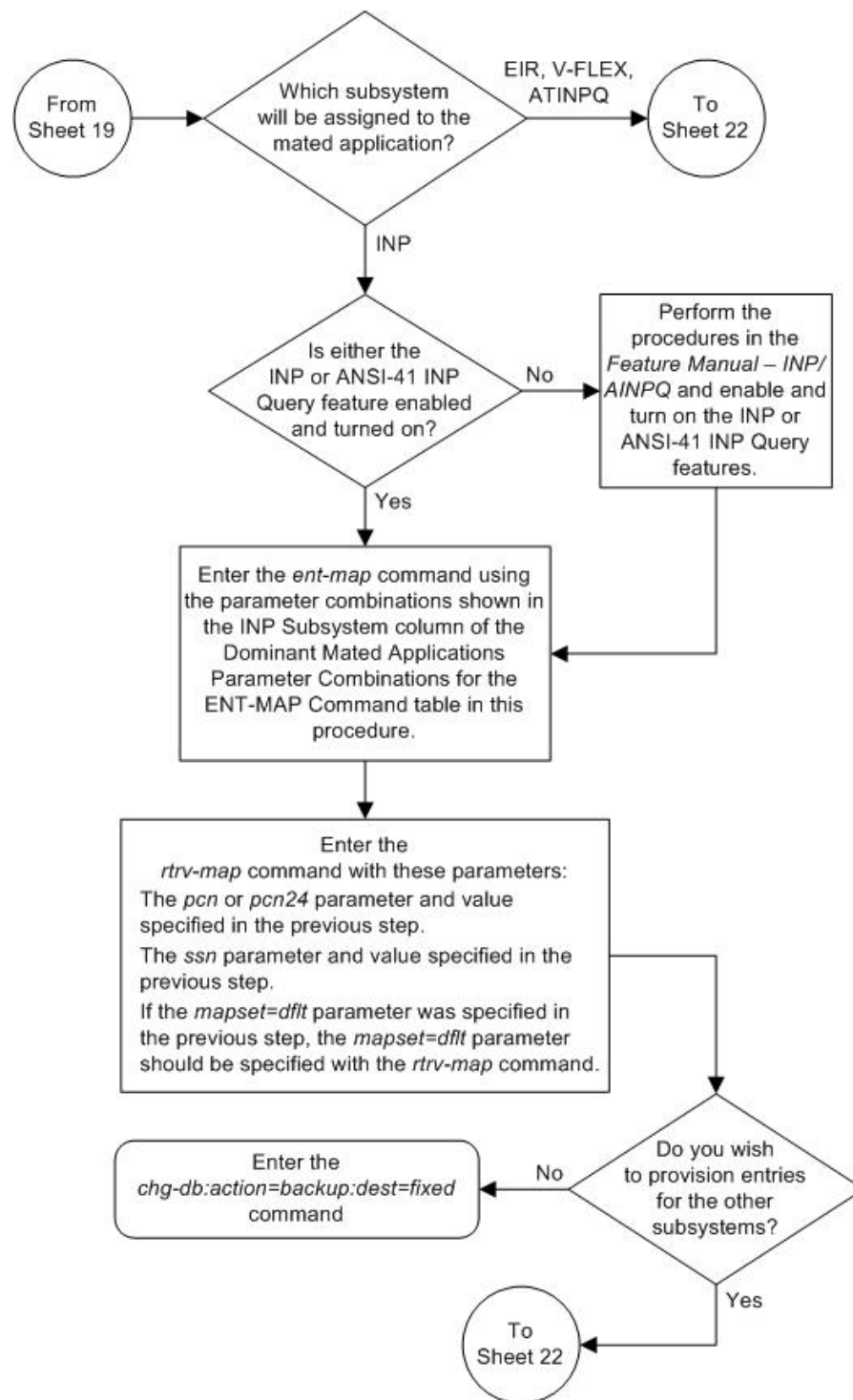


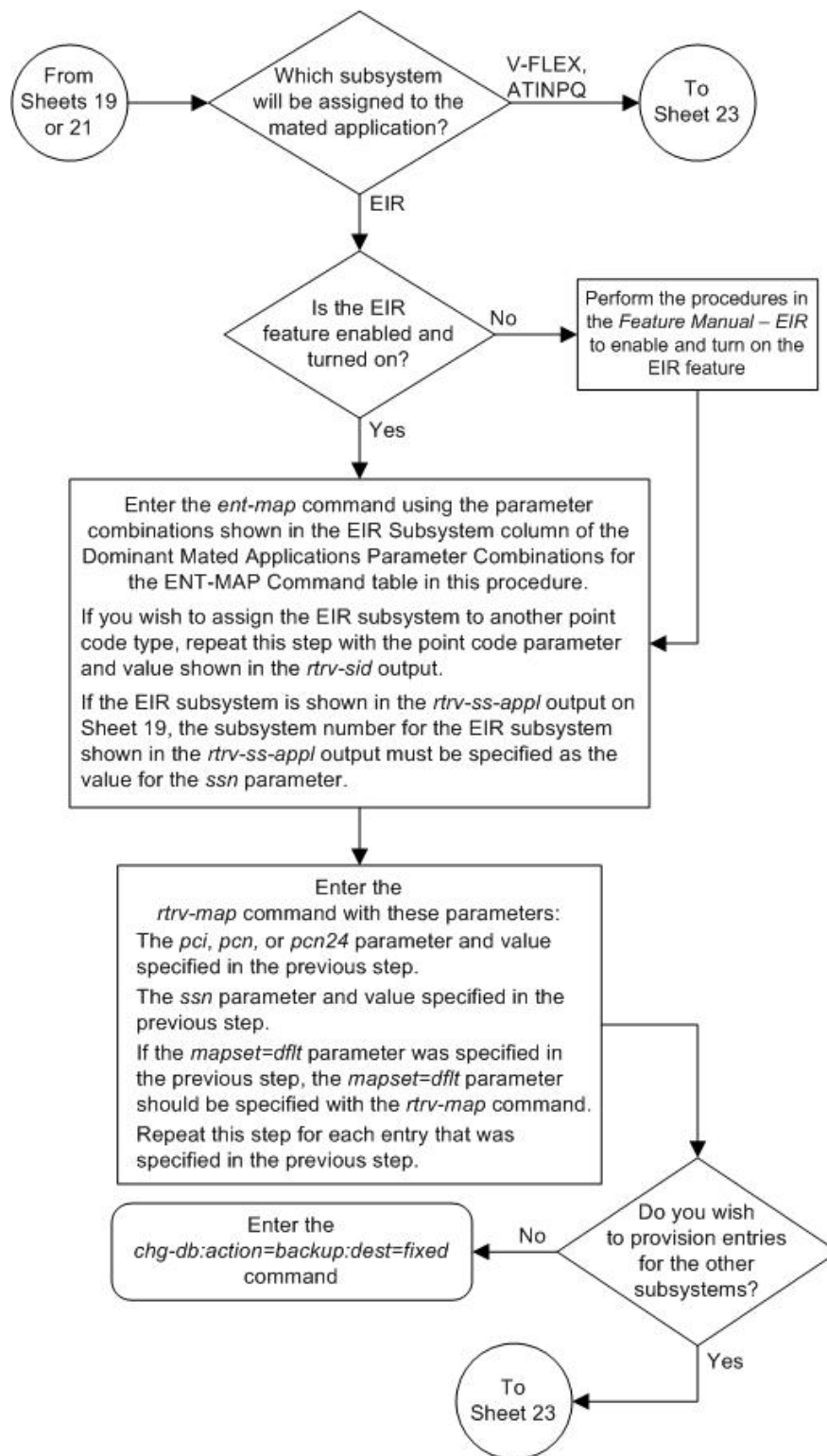


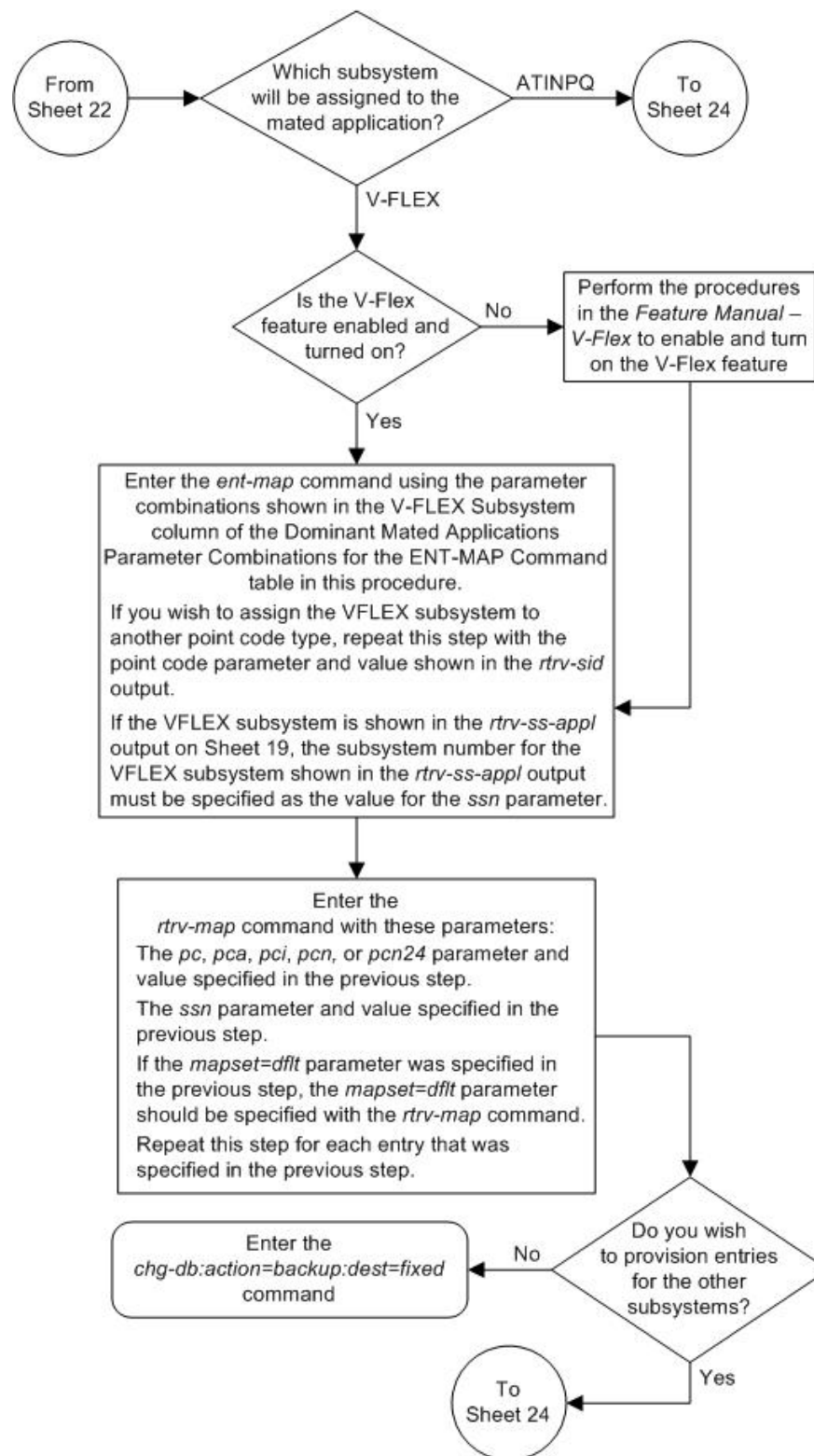


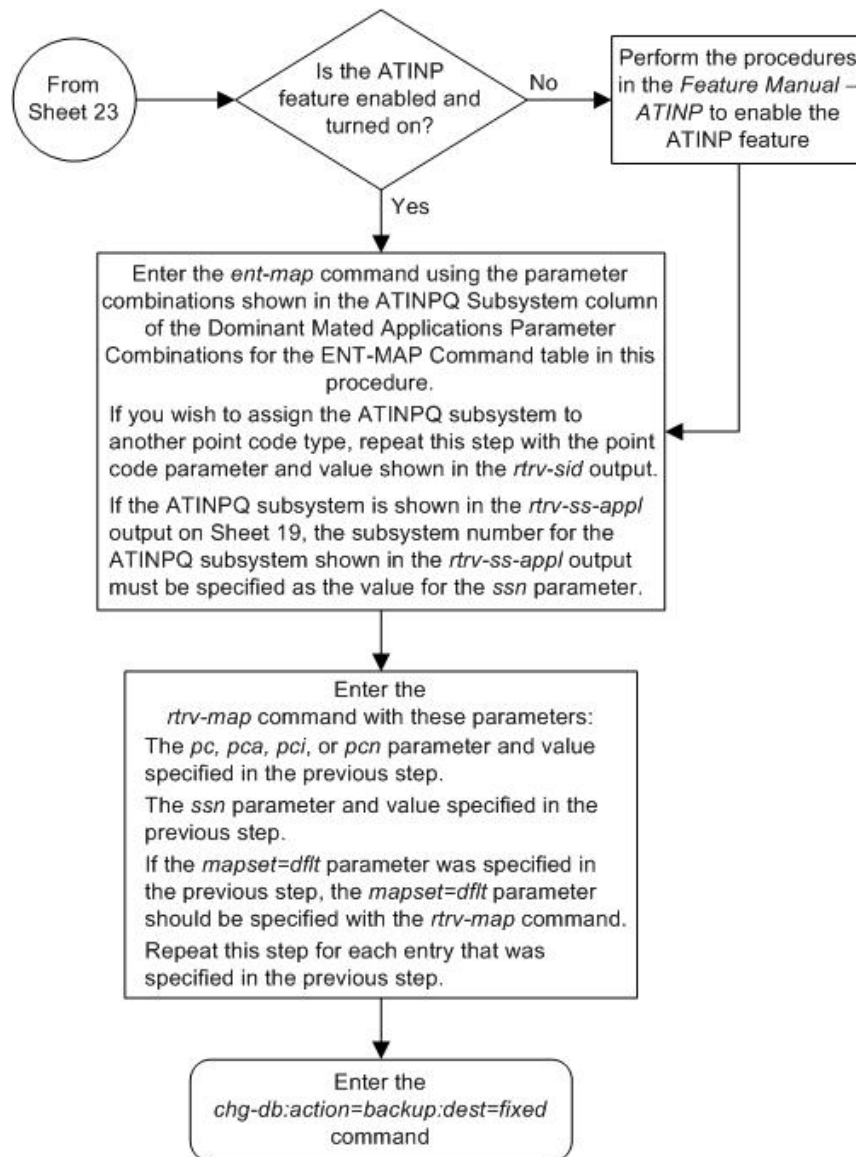












Provisioning a Load Shared Mated Application

This procedure is used to provision a load shared mated application in the database using the `ent-map` and `chg-map` commands. A load shared mated application is a mated application containing entries whose RC (relative cost) values are equal. The `ent-map` and `chg-map` commands use these parameters to provision a load shared mated application.

`:pc/pca/pci/pcn/pcn24` – The point code of the primary signaling point that is to receive the message.

`:mpc/mpca/mpci/mpcn/mpcn24` – The point code of the backup signaling point that is to receive the message.

Note: The point codes can be either an ANSI point code (pc/pca, mpc/mpca), ITU-I or ITU-I spare point code (pci, mpci), a 14-bit ITU-N or 14-bit ITU-N spare point code (pcn, mpcn), or a 24-bit ITU-N (pcn24, mpcn24) point code.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:ssn – Subsystem number – the subsystem address of the primary point code that is to receive the message. The value for this parameter is 2 to 255.

:mssn – Mate subsystem number – the subsystem address of the backup point code that is to receive the message. The value for this parameter is 2 to 255.

:rc – The relative cost value of the primary point code and subsystem, defined by the pc/pca/pci/pcn/pcn24 and ssn parameters. The rc parameter has a range of values from 0 to 99, with the default value being 10.

:materc – The relative cost value of the backup point code and subsystem, defined by the mpc/mpca/mpci/mpcn/mpcn24 and mssn parameters. The materc parameter has a range of values from 0 to 99, with the default value being 50.

:grp – The name of the concerned signaling point code group that contains the point codes that should be notified of the subsystem status. This parameter applies to both RPCs/SSNs. The value for this parameter is shown in the rtrv-cspc output. If the desired value is not shown in the rtrv-cspc output, perform [Adding a Concerned Signaling Point Code](#) on page 116 to add the desired group. If this parameter is not specified, then a CSPC group name is not specified for the mated application.

:sso – Subsystem Status Option – defines whether the subsystem status option is on or off. This parameter allows the user the option to have the specified subsystem marked as prohibited even though an MTP-RESUME message has been received by the indicating that the specified point code is allowed. The value for this parameter is on or off. The default value is off.

:mapset – The MAP set ID that the mated applications are assigned to. This parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. This parameter must be specified if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the point code and subsystem specified for the global title translation must be assigned to the MAP set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the rtrv-ctrl-feat output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

The mapset parameter has three values:

- dflt – to assign the MAP to the default MAP set. This value can be specified with both the ent-map and chg-map commands.
- new – to assign the mated application to a new MAP set. This value can be specified only with the ent-map command.
- the specific number of an existing MAP set if you are assigning the mated application to an existing MAP set. This value can be specified only with the chg-map command.

Refer to [Provisioning a MAP Set](#) on page 220 for information on provisioning MAP sets.

:wt – The weight value assigned to the pc/pca/pci/pcn/pcn24 parameter value. The value of this parameter is from 1 - 99.

:mwt – The weight value assigned to the mpc/mpca/mpci/mpcn/mpcn24 parameter value. The value of this parameter is from 1 - 99.

:thr – The in-service threshold assigned to the MAP group or MAP set. The in-service threshold is the minimum percentage (from 1 - 100) of weight that must be available for an RC group (a group of entries in the MAP group or MAP set that have the same RC value assigned) to be considered available to carry traffic. If the percentage of the available weight is less than the in-service threshold, then the entire RC group is considered unavailable for traffic. If the percentage of the available weight is equal to or greater than the in-service threshold, then the RC group is considered available, and traffic can be sent to any available entity in the RC group. The value of the thr parameter is assigned to all entries that have the same RC (relative cost) value in the MAP group or MAP set that contain the point code specified in the ent-map or chg-map command.

Refer to [Provisioning Weights and In-Service Thresholds for Mated Applications](#) on page 221 for information on provisioning MAP groups or MAP sets with weight and in-service threshold values.

:mrnset – The MRN set ID that is being assigned to the mated application. This is the MRN set from which alternate routing indicator searches are performed.

:mrnpc/mrnpc/mrnpci/mrnpcn/mrnpcn24 – The point code assigned to the mrnset that is being assigned to the MAP set.

The current values of the mrnset and :mrnpc/mrnpc/mrnpci/mrnpcn/mrnpcn24 parameters are shown in the rtrv-map output only if the Flexible GTT Load Sharing and the GTT Load Sharing with Alternate Routing Indicator features are enabled.

The ent-map and chg-map commands also contain these parameters: mrc and srm. These parameters cannot be used when provisioning a load shared mated application. If you wish to use these parameters when provisioning a load shared mated application, perform one of these procedures:

- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262.

A load shared mated application can contain up to 32 point codes and subsystems, a primary point code and subsystem, and up to 31 mated point codes and subsystems. When a new load shared mated application is added to the database, the first two entries, the primary point code and subsystem and a mate point code and subsystem are added using the ent-map command. All other mated point code and subsystem entries that are being assigned to the primary point code and subsystem are added to the load shared mated application using the chg-map command.

All the point codes and subsystems in a load shared mated application have the same relative cost value. Traffic is shared equally between the point codes and subsystems in this mated application.

If the Flexible GTT Load Sharing feature is not enabled, the primary point code and subsystem number or the mate point code and mate subsystem number combination can be in the database only once. If the Flexible GTT Load Sharing feature is enabled, the primary point code and subsystem number or mate point code and mate subsystem number combination can be in multiple MAP sets, but can be in the default MAP set only once.. Refer to [Provisioning a MAP Set](#) on page 220 for information on provisioning MAP sets.

The point codes specified in the ent-map or chg-map commands (pc/pca, pci, pcn, or pcn24, and mpc/mpca, mpci, mpcn, or mpcn24) must be either a full point code in the routing point code table. Cluster point codes or network routing point codes cannot be specified with this command. The rtrv-rte command can be used to verify the point codes in the routing table. The point

codes in the routing table are shown in the `DPCA`, `DPCI`, `DPCN`, or `DPCN24` fields of the `rtrv-rte` command output. The EAGLE 5 ISS's true point code, shown in the `PCA`, `PCI`, `PCN`, or `PCN24` fields of the `rtrv-sid` command output, cannot be specified for a load shared mated application.

A load shared mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications. A point code can be assigned to maximum of 12 different SSNs.

For mated applications containing ANSI or 24-bit ITU-N point codes, or the EAGLE 5 ISS's true point code, the format of the point codes specified in the `ent-map` command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (`pcn24`), the mate point code must be a 24-bit ITU-N point code (`mpcn24`). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes.

The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. The status of the ANSI-ITU-China SCCP Conversion feature can be verified with the `rtrv-ctrl-feat` command.

The values for the primary point code and subsystem combination (`pc/ssn`) cannot be the same as the mated point code and subsystem combination (`mpc/mssn`). However, the primary and mated point codes can be the same as long as the subsystem numbers are different.

If a mate point code (`mpc/mpca/mpci/mpcn/mpcn24`) is specified, the `mssn` parameter must be specified.

If the `mssn` parameter is specified, the mate point code (`mpc/mpca/mpci/mpcn/mpcn24`) must be specified.

If the `grp` and `sso` parameter values are specified, and the specified point code and SSN is assigned to multiple mated applications, the `grp` and `sso` values for all mated applications containing the specified point code and SSN will be changed to the values specified in this procedure.

The EAGLE 5 ISS can contain 1024, 2000, or 3000 mated applications. The EAGLE 5 ISS default is 1024 mated applications. This quantity can be increased to 2000 by enabling the feature access key for part number 893-0077-01, or to 3000 by enabling the feature access key for part number 893-0077-10. For more information on enabling these feature access keys, refer to [Enabling the XMAP Table Expansion Feature](#) on page 867.

Provisioning a MAP Set

The Flexible GTT Load Sharing feature provides the ability to define multiple load sharing sets in the MAP table where the same point code and subsystem can be assigned to different load sharing sets.

The MAP table contains specific load sharing sets, designated by numbers, and a default MAP set.

Flexible Final GTT Load Sharing provides flexible load sharing for global title translations defined in the GTT table and not for the MPS based features. The MPS based features do not support the MAP set ID parameter. The MPS based features perform lookups for load sharing in the default

MAP set and the GTT table. The entries in the GTT table can be linked to a MAP set ID, allowing lookups in a specific MAP set other than the default MAP set.

Any MAP entries that were provisioned in the database before the Flexible GTT Load Sharing feature is enabled are placed in the default MAP set when the Flexible GTT Load Sharing feature is enabled.

To provision entries in the default MAP set, the `mapset=dflt` parameter must be specified with the `ent-map` or `chg-map` commands.

To provision entries in an existing MAP set other than the default MAP set, the `mapset=<MAP set ID>` parameter must be specified with the `chg-map` command. Provisioning entries in an existing MAP set can be performed only with the `chg-map` command.

To provision entries in a new MAP set, the `mapset=new` parameter must be specified with the `ent-map` command. The `mapset=new` parameter can be specified only with the `ent-map` command. When the `ent-map` command is executed with the `mapset=new` parameter, the new MAP set ID is automatically generated and displayed in the output of the `ent-map` command as follows.

```
New MAPSET Created : MAPSETID = <new MAP set ID>
```

A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point codes.

The default MAP set can contain multiple MAP groups. The point code and subsystem number combination can appear only once in the default MAP set. The point code can appear in multiple MAP groups in the default MAP set with different subsystem numbers..

The point code and subsystem number combination provisioned in a MAP set can be provisioned in multiple MAP sets. All the point codes in a MAP set must be different.

Provisioning Weights and In-Service Thresholds for Mated Applications

Weighted GTT Load Sharing allows unequal traffic loads to be provisioned in MAP load sharing groups or MAP load sharing sets. This feature also allows provisioning control over load sharing groups or sets so that if insufficient capacity within the load sharing group or set is available, the load sharing group or set is not used.

To provision the weight values and in-service threshold values for MAP groups or MAP sets in this procedure, the `wt`, `mwt`, and `thr` parameters are used.

The `wt`, `mwt`, and `thr` parameters can be used only:

- If the MAP group or MAP set is either a load shared or combined dominant/load shared MAP group or MAP set.
- If the Weighted GTT Load Sharing feature is enabled and turned on.

The status of the Weighted GTT Load Sharing feature can be verified by entering the `rtrv-ctrl-feat` command. If the Weighted GTT Load Sharing feature is not enabled or not turned on, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature.

If either the `wt` or `mwt` parameters are specified with the `ent-map` command, both parameters must be specified with the `ent-map` command.

To assign an in-service threshold value to the entries of a MAP group or MAP set that contains the point code value specified in the `ent-map` command, use the `thr` parameter with the `wt` and

mwt parameters. When the thr parameter is specified with the ent-map command, the in-service threshold value is assigned to both entries specified in the ent-map command. The thr parameter cannot be specified with the chg-map command when adding additional entries to the MAP group or MAP set. When additional entries are added to the MAP group or MAP set with the chg-map command, the thr value that was specified in the ent-map command is assigned to the additional entries. For information on using the thr parameter with the chg-map command, refer to [Changing a Mated Application](#) on page 330.

The thr parameter does not have to be specified with the ent-map command. If the thr parameter is not specified with the ent-map command, the THR parameter value for the MAP group or MAP set is set to 1.

Specifying the wt and mwt parameters assigns a weight value to the point codes specified in the ent-map command. The wt parameter value is assigned to the mpc/mpca/mpci/mpcn/mpcn24 parameter value and the mwt parameter value is assigned to the mpc/mpca/mpci/mpcn/mpcn24 parameter value.

When additional entries are added to the MAP group or MAP set with the chg-map command, and the MAP group or MAP set entries have weight and in-service threshold values assigned, a weight value must be assigned to the mpc/mpca/mpci/mpcn/mpcn24 parameter value using the mwt parameter.

The wt parameter does not have to be specified with the chg-map command. If the wt parameter is specified with the chg-map command, the weight value for the pc/pca/pci/pcn/pcn24 parameter is not changed.

If the wt parameter is specified with the chg-map command and the wt value is the same as the value currently assigned to the pc/pca/pci/pcn/pcn24 parameter, the weight value for the pc/pca/pci/pcn/pcn24 parameter is not changed.

If the wt parameter is specified with the chg-map command and the wt value is different from the value currently assigned to the pc/pca/pci/pcn/pcn24 parameter, the weight value for the pc/pca/pci/pcn/pcn24 parameter is changed to the new wt value.

The weight values assigned to the entires in the MAP group or MAP set are shown in the WT column in the rtrv-map output.

The in-service threshold values assigned to the entires in the MAP group or MAP set are shown in the THR column in the rtrv-map output.

The %WT column in the rtrv-map output shows the percentage of the traffic the particular entry in the MAP group or MAP set will handle.

The WT, %WT, and THR columns are shown in the rtrv-map output only if the Weighted GTT Load Sharing feature is enabled and turned on.

For more information on the Weighted GTT Load Sharing feature, refer to [Weighted GTT Load Sharing](#) on page 45.

Canceling the RTRV-MAP Command

Because the rtrv-map command used in this procedure can output information for a long period of time, the rtrv-map command can be canceled and the output to the terminal stopped. There are three ways that the rtrv-map command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the rtrv-map command was entered.

- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-map` command was entered, from another terminal other than the terminal where the `rtrv-map` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated applications in the database using the `rtrv-map` command.

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      250 10  SOL --- --- grp01  ON

MAPSET ID=1
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      251 10  SHR --- --- grp01  OFF
                253-001-002 254 10  SHR --- --- grp01  OFF

MAPSET ID=2
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      252 10  SOL --- --- grp01  ON

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      253 10  SHR --- --- grp01  OFF
                253-001-004 254 10  SHR --- --- grp01  OFF

MAPSET ID=3
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      255 10  DOM YES YES grp01  ON
                253-001-005 254 20  DOM YES YES grp01  ON

MAPSET ID=4
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      250 10  DOM YES YES grp01  OFF
                253-001-001 254 20  DOM YES YES grp01  OFF

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      251 10  SHR --- --- grp01  OFF
                255-001-002 254 10  SHR --- --- grp01  OFF

MAPSET ID=5
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      252 10  DOM YES YES grp01  ON
                255-001-003 254 20  DOM YES YES grp01  ON

MAPSET ID=6
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      253 10  SHR --- --- grp01  ON
                255-001-004 254 10  SHR --- --- grp01  ON

MAPSET ID=7
```

```

PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
002-002-007          50 10  COM YES YES grp01  OFF
          002-002-008      30 10  COM YES YES grp01  OFF
          002-002-009      30 10  COM YES YES grp01  OFF
          002-002-010      30 20  COM YES YES grp01  OFF
          002-002-011      30 20  COM YES YES grp01  OFF

MAPSET ID=8
PCI          Mate PCI          SSN RC MULT SRM MRC GRP NAME SSO
2-001-2          255 10  DOM NO  YES grp03  OFF
          2-001-1          254 20  DOM NO  YES grp03  OFF

MAPSET ID=9
PCN          Mate PCN          SSN RC MULT SRM MRC GRP NAME SSO
00347          253 10  SHR --- --- grp05  OFF
          01387          254 10  SHR --- --- grp05  OFF

MAP TABLE IS 1 % FULL (25 of 36000)

```

If any of the following items are not shown in the `rtrv-map` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MAPSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MRNSET and MRNPC fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 223 is 1024, 2000, or 3000, continue the procedure with [Step 3](#) on page 224.

2. If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 223 is 36000, the Flexible GTT Load Sharing feature is enabled.

Although the `rtrv-map` output shows there can be 36000 entries, a maximum of 1024, 2000, or 3000 different point codes (depending on whether the XMAP Table Expansion feature is enabled for 2000 or 3000 mated applications) can be provisioned for mated applications. To verify the number of different point codes that can be provisioned for mated applications, enter the `rtrv-tbl-capacity` command. The following is an example of the possible output.

```

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0

MAP table is (3000 of 3000) 100% full

```

Note: The `rtrv-tbl-capacity` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-tbl-capacity` command, see the `rtrv-tbl-capacity` command description in the *Commands Manual*.

3. Continue the procedure by performing one of these steps.
 - If the `rtrv-map` output in [Step 1](#) on page 223 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 224 shows that the maximum number of mated applications is 3000, and the current number of provisioned mated applications is 3000, no new point codes can be used to provision mated applications. Continue the procedure with [Step 4](#) on page 225.
 - If the `rtrv-map` output in [Step 1](#) on page 223 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 224 shows that the maximum number of mated applications is either 1024 or 2000, and the mated application being added increases the number beyond 1024 or 2000, perform [Enabling the XMAP Table Expansion Feature](#) on page 867 to enable a greater quantity

of mated applications. After the quantity of mated applications has been increased, continue the procedure with [Step 4](#) on page 225. If the maximum number of mated applications is not increased, no new point codes can be used to provision mated applications.

- If the `rtrv-map` output in [Step 1](#) on page 223 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 224 shows that the maximum number of mated applications is either 1024, 2000, or 3000 and the mated application being added will not increase the number beyond the quantity shown in the `rtrv-map` output in [Step 1](#) on page 223 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 224, continue the procedure with [Step 4](#) on page 225.
4. A MAP group, without the Flexible GTT Load Sharing feature enabled, a MAP set, other than the default MAP set, and a MAP group contained in the default MAP set can contain a maximum of 32 entries.

Verify the number of entries that the MAP group or MAP set contains by entering the `rtrv-map` command with the primary point code and SSN assigned to the MAP group or MAP set. If the Flexible GTT Load Sharing feature is enabled, the `mapset` parameter and MAP set ID of the MAP set that the new mated application will be added to.

If the specified MAP set is not the default MAP set, only the `mapset` parameter needs to be specified with the `rtrv-map` command. The point code and SSN does not need to be specified. For this example, enter one of these commands.

```
rtrv-map:pca=002-002-007:ssn=50
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
002-002-007      50 10  COM YES YES grp01  OFF
                002-002-008 30 10  COM YES YES grp01  OFF
                002-002-009 30 10  COM YES YES grp01  OFF
                002-002-010 30 20  COM YES YES grp01  OFF
                002-002-011 30 20  COM YES YES grp01  OFF

MAP TABLE IS  2 % FULL    (25 of 1024)
```

```
rtrv-map:pca=002-002-007:ssn=50:mapset=df1t
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
MAPSET ID=DFLT
002-002-007      50 10  COM YES YES grp01  OFF
                002-002-008 30 10  COM YES YES grp01  OFF
                002-002-009 30 10  COM YES YES grp01  OFF
                002-002-010 30 20  COM YES YES grp01  OFF
                002-002-011 30 20  COM YES YES grp01  OFF

MAP TABLE IS  2 % FULL    (25 of 1024)
```

```
rtrv-map:mapset=7
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
```

```

MAPSET ID=7
002-002-007          50 10  COM YES YES grp01    OFF
                   002-002-008 30 10  COM YES YES grp01    OFF
                   002-002-009 30 10  COM YES YES grp01    OFF
                   002-002-010 30 20  COM YES YES grp01    OFF
                   002-002-011 30 20  COM YES YES grp01    OFF

MAP TABLE IS      2 % FULL      (25 of 1024)

```

If the MAP group or MAP set contains 32 entries, no more entries can be added to the specified MAP group or MAP set. One of these actions can be performed.

- Entries can be added another MAP group or MAP set. Repeat this step for the other MAP group or MAP set.
- Entries can be removed from the specified MAP group or MAP set. To remove entries from the specified MAP group or MAP set, perform [Removing a Mated Application](#) on page 305.
- Entries can be added to a new MAP group or MAP set.

Note: If none of these actions will be performed, then this procedure cannot be performed.

If the MAP group or MAP set contains less than 32 entries, entries can be added to the MAP group or MAP set.

After it has been determined which MAP group or MAP set that the new entries will be added to (a new MAP group or MAP set or an existing MAP group or MAP set), continue the procedure by performing one of these steps.

- If an existing point code is being added to this MAP group or MAP set, continue the procedure with [Step 5](#) on page 226.
 - If a new point code is being added to this MAP group or MAP set, continue the procedure by performing one of these steps.
 - If a concerned signaling point code (CSPC) group is not being assigned to the mated application, continue the procedure with [Step 8](#) on page 229. If the mated point code is not assigned to a CSPC group, that point code will not be notified of the subsystem's status.
 - If a concerned signaling point code (CSPC) group will be assigned to the mated application, continue the procedure with [Step 6](#) on page 227.
5. A mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications.

A point code can be assigned to maximum of 12 different SSNs.

Verify the number of SSNs assigned to the point code that will be specified for the mated application in this procedure by entering the `rtrv-map` command with the point code of the new mated application. For this example, enter this command.

```
rtrv-map:pca=255-001-000
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000          250 10  SOL --- --- grp01    ON
255-001-000          251 10  SHR --- --- grp01    OFF

```

```

                253-001-002  254 10  SHR --- --- grp01  OFF
255-001-000                252 10  SOL --- --- grp01  ON
255-001-000                253 10  SHR --- --- grp01  OFF
                253-001-004  254 10  SHR --- --- grp01  OFF
MAP TABLE IS  2 % FULL  (25 of 1024)

```

If the Flexible GTT Load Sharing feature is enabled, the MAPSET IDs for the mated applications are shown in the `rtrv-map` output.

If the Weighted GTT Load Sharing feature is enabled and turned on, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the point code is assigned to 12 different SSNs, and neither an existing point code in the `rtrv-map` output nor a new point code will be used to provision the mated application, then this procedure cannot be performed.

If the point code is assigned to less than 12 different SSNs, then the existing point code in the `rtrv-map` output can be used to provision the mated application.

If the point code is assigned to 12 different SSNs, another existing point code in the `rtrv-map` output or a new point code must be used to provision the mated application. If an existing point code in the `rtrv-map` output will be used to provision the mated application, repeat this step for that point code.

After it has been determined which point code will be used to provision the mated application (a new point code or an existing point code), continue the procedure by performing one of these steps.

- If a concerned signaling point code (CSPC) group is not being assigned to the mated application, continue the procedure with [Step 8](#) on page 229. If the mated point code is not assigned to a CSPC group, that point code will not be notified of the subsystem's status.
 - If a concerned signaling point code (CSPC) group will be assigned to the mated application, continue the procedure with [Step 6](#) on page 227.
6. Display the point codes in the CSPC group that you wish to assign to the mated application by first entering the `rtrv-cspc` command with no parameters.

This is an example of the possible output.

```

rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP    NETWORK          PERCENT FULL
grp01      ANSI              6%
grp02      ITU-I             9%
grp03      ITU-N             12%
grp04      ANSI              15%
grp05      ANSI              15%
grp10      ANSI              15%
grp15      ANSI              15%

```

If the desired CSPC group is shown in the `rtrv-cspc` output, re-enter the `rtrv-cspc` command with the CSPC group name. For this example, enter these commands.`rtrv-cspc:grp=grp05`This is an example of the possible output.

```

rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP    PCA
grp05      005-005-005
           007-007-007

```

```
008-008-008
009-009-009
```

```
rtrv-cspc:grp=grp10
```

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:59:31 GMT EAGLE5 36.0.0
CSPC GRP      PCA
grp10         003-003-003
              004-004-004
              008-008-008
              009-009-009
```

```
rtrv-cspc:grp=grp15
```

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP      PCA
grp15         005-005-005
              006-006-006
              008-008-008
              009-009-009
```

Note: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the `rtrv-cspc` output, if point codes of multiple network types are assigned to the CSPC group.

If the CSPC group is not in the database, or if the required point code is not assigned to the CSPC group, perform [Adding a Concerned Signaling Point Code](#) on page 116 to add the required CSPC group or point code to the database.

Note: If the output of the `rtrv-cspc` command performed in [Step 6](#) on page 227 shows CSPC groups containing a mixture of point code types, or if the new CSPC group that was added in [Step 6](#) on page 227 contains a mixture of point code types, continue the procedure with [Step 8](#) on page 229.

7. The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled.

If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.

Verify the status of the ANSI-ITU-China SCCP Conversion feature by entering this command:

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name      Partnum    Status    Quantity
SCCP Conversion   893012001  on        ----

The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enable the ANSI-ITU-China SCCP Conversion feature.

8. If the MAPSET column is shown in the `rtrv-map` output in [Step 1](#) on page 223, the Flexible GTT Load Sharing feature is enabled. Continue the procedure with [Step 9](#) on page 229.

If the MAPSET column is not shown in [Step 1](#) on page 223 and you do not wish to provision MAP sets in this procedure, continue the procedure with [Step 9](#) on page 229.

If the MAPSET column is not shown in [Step 1](#) on page 223 and you wish to provision MAP sets in this procedure, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature. After the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 9](#) on page 229.

Note: If you do not wish to assign weight and in-service threshold values to the MAP entries in the MAP group or MAP set, continue the procedure with [Step 10](#) on page 230.

9. If you wish to assign weight and in-service threshold values to the entries in the MAP group or MAP set, and the WT, %WT, and THR columns are shown in the `rtrv-map` output in [Step 1](#) on page 223, then the Weighted GTT Load Sharing feature is enabled and turned on.

If the WT, %WT, and THR columns are not shown in the `rtrv-map` output in [Step 1](#) on page 223, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature.

If the Weighted GTT Load Sharing feature is enabled and turned on, or [Activating the Weighted GTT Load Sharing Feature](#) on page 910 was performed in this step, continue this procedure by performing one of these steps.

- If only one of the point codes that will be specified for the mated application is assigned to other mated applications, perform [Step 10](#) on page 230 for the new point code that is not assigned to other mated applications.
- If the both point codes that will be specified for the mated application are point codes assigned to other mated applications, continue the procedure by performing one of these steps.
 - If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 233.
 - If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 234.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 237.

10. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
001-207-000	-----	no	---	-----	-----	SS7
001-001-001	-----	no	---	-----	-----	SS7
001-001-002	-----	no	---	-----	-----	SS7
001-005-000	-----	no	---	-----	-----	SS7
001-007-000	-----	no	---	-----	-----	SS7
008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7

DPCI	CLLI	BEI	ELEI	ALIASA	ALIASN/N24	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7

```
Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, skip [Step 11](#) on page 230 and [Step 12](#) on page 231, and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 233.
- If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 234.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 237.

11. Display the point code that will be assigned to the mated application by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
010-020-005	-----	no	---	-----	-----	SS7


```

PPCA          NCAI PRX          RCAUSE      NPRST      SPLITIAM
009-002-003   ---- no          50           on        20

```

```

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

If the point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

After the new point code has been added, skip [Step 12](#) on page 231 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 233.
- If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 234.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 237.

12. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point codes to be used with the `ent-map` or `chg-map` commands to verify whether or not the point code is the DPC of a route.

For this example, enter these commands.

```
rtrv-rte:dpca=008-008-008
```

This is an example of the possible output.

```

rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA          ALIASI          ALIASN/N24      LSN          RC          APCA
008-008-008   -----          -----          ls20          10          008-008-008
RTX:No        CLLI=ls20clli

```

```
rtrv-rte:dpca=031-049-100
```

This is an example of the possible output.

```

rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA          ALIASI          ALIASN/N24      LSN          RC          APCA

```

```
031-049-100 ----- ls10      10      031-049-100
                        RTX:No  CLLI=ls10c11i
```

```
rtrv-rte:dpca=056-113-200
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT  EAGLE5 36.0.0
DPCA          ALIASI      ALIASN/N24  LSN      RC      APCA
056-113-200 ----- ls12      10      056-113-200
                        RTX:No  CLLI=ls12c11i
```

```
rtrv-rte:dpca=179-183-050
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT  EAGLE5 36.0.0
DPCA          ALIASI      ALIASN/N24  LSN      RC      APCA
179-183-050 ----- ls18      10      179-183-050
                        RTX:No  CLLI=ls18c11i
```

```
rtrv-rte:dpca=002-002-002
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT  EAGLE5 36.0.0
DPCA          ALIASI      ALIASN/N24  LSN      RC      APCA
002-002-002 ----- ls02      10      002-002-002
                        RTX:No  CLLI=ls02c11i
```

```
rtrv-rte:dpca=004-004-004
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT  EAGLE5 36.0.0
DPCA          ALIASI      ALIASN/N24  LSN      RC      APCA
004-004-004 ----- ls04      10      004-004-004
                        RTX:No  CLLI=ls04c11i
                        RTX:No  CLLI=ls13c11i
```

```
rtrv-rte:dpca=068-135-094
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT  EAGLE5 36.0.0
DPCA          ALIASI      ALIASN/N24  LSN      RC      APCA
068-135-094 ----- ls14      10      068-135-094
                        RTX:No  CLLI=ls14c11i
```

```
rtrv-rte:dpca=100-100-100
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT  EAGLE5 36.0.0
DPCA          ALIASI      ALIASN/N24  LSN      RC      APCA
100-100-100 ----- ls16      10      100-100-100
                        RTX:No  CLLI=ls16c11i
```

```
rtrv-rte:dpca=100-130-079
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT  EAGLE5 36.0.0
```

```

DPCA      ALIASI      ALIASN/N24      LSN      RC      APCA
100-130-079 -----
RTX:No    CLLI=ls17c1li

```

```
rtrv-rte:dpca=200-147-100
```

This is an example of the possible output.

```

rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA      ALIASI      ALIASN/N24      LSN      RC      APCA
200-147-100 -----
RTX:No    CLLI=ls19c1li

```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

Continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 233.
 - If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 234.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 237.
13. The MRN point code value must be assigned to an MRN set. The MRN set must be shown in the `rtrv-mrn` output. Display the MRN sets by entering the `rtrv-mrn` command. This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MRNSET  MAPSET  MAPPC      MAPSSN      PC      RC  WT  %WT  THR
DFLT    7      002-002-007    50      005-005-005  10 10  14   1
          006-001-001  10 10  14   1
          006-001-002  10 20  28   1
          006-001-003  10 30  42   1
          006-001-004  20 40  23   1
          006-001-005  20 40  23   1
          006-001-006  20 40  23   1
          006-001-007  20 50  29   1

MRNSET  MAPSET  MAPPC      MAPSSN      PC      RC  WT  %WT  THR
1        -----
          007-007-007  10 10  14   1
          008-001-001  10 10  14   1
          008-001-002  10 20  28   1
          008-001-003  10 30  42   1
          008-001-004  20 40  23   1
          008-001-005  20 40  23   1
          008-001-006  20 40  23   1
          008-001-007  20 50  29   1

MRN table is (16 of 5990) 1% full

```

If any of the following items are not shown in the `rtrv-mrn` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MRNSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MAPSET, MAPPC and MAPSSN fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

Note: The network type of the pc/pca/pci/pcn/pcn24 and mrnpc/mrnpca/mrnpai/mrnpai24 parameter values must be compatible, as shown in Note 7 in [Table 29: Load Shared Mated Application Parameter Combinations for the ENT-MAP Command](#) on page 234 or in Note 8 in [Table 30: Load Shared Mated Application Parameter Combinations for the CHG-MAP Command](#) on page 237.

If the MRN set that you wish to use, containing the desired point code, is not shown in the rtrv-mrn output, add the required MRN set by performing [Provisioning MRN Entries](#) on page 367.

If the MRN set that you wish to use is shown in the rtrv-mrn output, or [Provisioning MRN Entries](#) on page 367 was performed in this step, continue the procedure by performing one of these steps.

- If a new mated application is being added, continue the procedure with [Step 14](#) on page 234.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 237.
14. Add the mated application to the database using the ent-map command. Use [Table 29: Load Shared Mated Application Parameter Combinations for the ENT-MAP Command](#) on page 234 as a guide for the parameters and values that can be specified with the ent-map command.

Table 29: Load Shared Mated Application Parameter Combinations for the ENT-MAP Command

Mandatory Parameters
:pc/pca/pci/pcn/pcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the rtrv-rte or rtrv-map outputs> (See Notes 5 and 7)
:ssn=<subsystem number, 2 - 255>
:rc=<0 - 99> The rc and materc parameter values must be equal.
:mpc/mpca/mpci/mpcn/mpcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code of the mate from the rtrv-rte or rtrv-map outputs> (See Notes 2, 5, and 7)
:mssn=<subsystem number of the mate, 2 - 255>
:materc=<0 - 99> The rc and materc parameter values must be equal.
Optional Parameters
:wt=<1 - 99> (See Note 4)
:mwt=<1 - 99> (See Note 4)
:thr=<1 - 100> (See Note 4)

:grp=<CSPC group name> (See Note 1)
:sso=<on, off>
:mapset=<new, dflt> (See Note 3)
:mrnset = <MRN set ID from the <code>rtrv-mrn</code> output> (See Note 6)
:mrnpc/mrnpca/mrnpai/mrnpai24=<the point code value in the MRN set> (See Notes 6 and 7)
<p>Notes</p> <ol style="list-style-type: none"> 1. The format of the point codes in the CSPC group specified with the <code>grp</code> parameter must be the same as the primary point code specified with the <code>ent-map</code> command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to Adding a Concerned Signaling Point Code on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. 2. For mated applications containing ANSI or 24-bit ITU-N point codes, the format of the point codes specified in the <code>ent-map</code> command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (<code>pcn24</code>), the mate point code must be a 24-bit ITU-N point code (<code>mpcn24</code>). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes. 3. If the Flexible GTT Load Sharing is enabled, the <code>mapset</code> parameter must be specified with the <code>ent-map</code> command. <p>If the Flexible GTT Load Sharing is not enabled, the <code>mapset</code> parameter cannot be specified with the <code>ent-map</code> command.</p> <p>To provision entries in the default MAP set, the <code>mapset=dflt</code> parameter must be specified with the <code>ent-map</code> command.</p> <p>To provision entries in a new MAP set, the <code>mapset=new</code> parameter must be specified with the <code>ent-map</code> command. The <code>mapset=new</code> parameter can be specified only with the <code>ent-map</code> command. When the <code>ent-map</code> command is executed with the <code>mapset=new</code> parameter, the new MAP set ID is automatically generated and displayed in the output of the <code>ent-map</code> command as follows.</p> <pre>New MAPSET Created : MAPSETID = <new MAP set ID></pre> <p>A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point code and subsystem entries.</p> <p>The default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.</p> <p>The point code and subsystem entry can appear only once in the default MAP set, so the point code and subsystem entry can appear in only one MAP group in the default MAP set.</p> <p>The point code and subsystem entry provisioned in a MAP set can be provisioned in multiple MAP sets. If a point code and subsystem entry is provisioned in different MAP</p>

sets, the relative cost value of the entry in each MAP set can be different. All the point code and subsystem entries in a MAP set, including the default MAP set, must be different.

4. Refer to [Provisioning Weights and In-Service Thresholds for Mated Applications](#) on page 221 for information about using the weight (wt and mwt) and in-service threshold (thr) parameters.
5. If the point code selected from either the rtrv-rte or rtrv-map outputs is a 14-bit ITU-N point code, then the pcn/mpcn parameters must be specified. If the point code selected from either the rtrv-rte or rtrv-map outputs is a 24-bit ITU-N point code, then the pcn24/mpcn24 parameters must be specified.
6. The mrnset and mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Refer to [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 for information about enabling the GTT Load Sharing with Alternate Routing Indicator feature. The mrnset and mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai values must be shown in the rtrv-mrn output.
7. The network type of the pc/pca/pci/pcn/pcn24 and mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai parameter values must be compatible, as shown in this list.
 - pc/pca - mrnpc/'mrnpca
 - pcn24 - mrnpc24
 - pci or pcn - mrnpai or mrnpai

If the network type of the MAP point code parameter is ITU-I (pci), the network type of the MRN point code parameter can be either ITU-I (mrnpai) or ITU-N (mrnpai).

If the network type of the MAP point code parameter is ITU-N (pcn), the network type of the MRN point code parameter can be either ITU-I (mrnpai) or ITU-N (mrnpai).

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
ent-map:pca=004-004-004:ssn=254:rc=10:mpc=100-100-100:mssn=254
:materc=10:grp=grp10:sso=off

ent-map:pca=002-002-002:ssn=250:rc=10:mpc=100-130-079:mssn=250
:materc=10:grp=grp15:sso=on:wt=10:mwt=10:thr=40

ent-map:pca=008-008-008:ssn=254:rc=10:mpc=200-147-100:mssn=254
:materc=10:grp=grp10:sso=on:wt=10:mwt=20

ent-map:pci=5-005-5:ssn=50:rc=10:mpcn=0257:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
ENT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
ent-map:pca=004-004-004:ssn=254:rc=10:mpc=100-100-100:mssn=254
:materc=10:grp=grp10:sso=off:mapset=new
```

```
ent-map:pca=002-002-002:ssn=250:rc=10:mpc=100-130-079:mssn=250
:materc=10:grp=grp15:sso=on:mapset=df1t:wt=10:mwt=10:thr=40

ent-map:pca=008-008-008:ssn=254:rc=10:mpc=200-147-100:mssn=254
:materc=10:grp=grp10:sso=on:mapset=new:wt=10:mwt=20

ent-map:pci=5-005-5:ssn=50:rc=10:mpcn=0257:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off:mapset=new
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled for this example, enter these commands.

```
ent-map:pca=004-004-004:ssn=254:rc=10:mpc=100-100-100:mssn=254
:materc=10:grp=grp10:sso=off:mapset=new:mrnset=df1t:mrnpc=005-005-005

ent-map:pca=002-002-002:ssn=250:rc=10:mpc=100-130-079:mssn=250
:materc=10:grp=grp15:sso=on:mapset=df1t:wt=10:mwt=10:thr=40:mrnset=1
:mrnpc= 007-007-007
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and a new MAP set was created, a message similar to the following should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
New MAPSET Created : MAPSETID = 9
ENT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and the mated application was added to the default MAP set, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
ENT-MAP: MASP A - COMPLTD
```

If no other entries are being added to the mated application, continue the procedure with [Step 16](#) on page 241.

If other entries are being added to the mated application, continue the procedure with [Step 15](#) on page 237.

15. Add the mated point code and subsystem to the mated application using the `chg-map` command. Use [Table 30: Load Shared Mated Application Parameter Combinations for the CHG-MAP Command](#) on page 237 as a guide for the parameters and values that can be specified with the `chg-map` command.

Table 30: Load Shared Mated Application Parameter Combinations for the CHG-MAP Command

Mandatory Parameters
:pc/pca/pci/pcn/pcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs> (See Notes 5 and 8)
:ssn=<subsystem number>
:mpc/mpca/mpci/mpcn/mpcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code of the mate from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs> (See Notes 2, 5, and 8)

:mssn=<subsystem number of the mate, 2 - 255>
:materc=<0 - 99> The rc and materc parameter values must be equal.
Optional Parameters
:wt=<1 - 99> (See Note 4)
:mwt=<1 - 99> (See Note 4)
:grp=<CSPC group name> (See Notes 1 and 6)
:sso=<on, off> (See Note 6)
:mapset=<dflt or the number of an existing MAP set> (See Note 3)
:mrnset = <MRN set ID from the rtrv-mrn output> (See Note 7)
:mrnpc/mrnpca/mrnpai/mrnpai24=<the point code value in the MRN set> (See Notes 7 and 8)
<p>Notes</p> <ol style="list-style-type: none"> 1. The format of the point codes in the CSPC group specified with the grp parameter must be the same as the primary point code specified with the chg-map command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to Adding a Concerned Signaling Point Code on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. 2. For mated applications containing ANSI or 24-bit ITU-N point codes, the format of the point codes specified in the chg-map command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (pcn24), the mate point code must be a 24-bit ITU-N point code (mpcn24). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes. 3. If the Flexible GTT Load Sharing is enabled, the mapset parameter must be specified with the chg-map command. <p>If the Flexible GTT Load Sharing is not enabled, the mapset parameter cannot be specified with the chg-map command.</p> <p>To provision entries in the default MAP set, the mapset=dflt parameter must be specified with the chg-map command.</p> <p>To provision entries in an existing MAP set, the mapset parameter must be specified with the MAP set ID value of that MAP set.</p> <p>A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point code and subsystem entries.</p> <p>The default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.</p>

The point code and subsystem entry can appear only once in the default MAP set, so the point code and subsystem entry can appear in only one MAP group in the default MAP set.

The point code and subsystem entry provisioned in a MAP set can be provisioned in multiple MAP sets. If a point code and subsystem entry is provisioned in different MAP sets, the relative cost value of the entry in each MAP set can be different. All the point code and subsystem entries in a MAP set, including the default MAP set, must be different.

4. Refer to [Provisioning Weights and In-Service Thresholds for Mated Applications](#) on page 221 for information about using the weight (wt and mwt) parameters.
5. If the point code selected from either the `rtrv-rte` or `rtrv-map` outputs is a 14-bit ITU-N point code, then the `pcn/mpcn` parameters must be specified. If the point code selected from either the `rtrv-rte` or `rtrv-map` outputs is a 24-bit ITU-N point code, then the `pcn24/mpcn24` parameters must be specified.
6. The CSPC group name (`grp`) or `sso` values for a specific point code and SSN in a mated application are changed, these parameter values for this specific point code and SSN in all applicable mated applications will be changed to the new values.
7. The `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai` parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Refer to [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 for information about enabling the GTT Load Sharing with Alternate Routing Indicator feature. The `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai` values must be shown in the `rtrv-mrn` output.
8. The network type of the `pc/pca/pai/pcn/pcn24` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai` parameter values must be compatible, as shown in this list.
 - `pc/pca` - `mrnpc`/'`mrnpca`
 - `pcn24` - `mrnpc24`
 - `pai` or `pcn` - `mrnpai` or `mrnpai`

If the network type of the MAP point code parameter is ITU-I (`pai`), the network type of the MRN point code parameter can be either ITU-I (`mrnpai`) or ITU-N (`mrnpai`).

If the network type of the MAP point code parameter is ITU-N (`pcn`), the network type of the MRN point code parameter can be either ITU-I (`mrnpai`) or ITU-N (`mrnpai`).

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
chg-map:pca=002-002-002:ssn=250:mpca=068-135-094:mssn=251
:materc=10:grp=grp05:sso=off:mwt=20
```

```
chg-map:pca=008-008-008:ssn=254:mpc=179-183-050:mssn=250
:materc=10:grp=grp15:sso=off:mwt=30
```

```
chg-map:pca=008-008-008:ssn=254:mpca=031-049-100:mssn=250
:materc=10:grp=grp15:sso=on:mwt=40
```

```
chg-map:pca=008-008-008:ssn=254:mpca=056-113-200:mssn=251
:materc=10:grp=grp05:sso=off:mwt=50
```

```
chg-map:pca=255-001-000:ssn=251:mpca=255-001-001:mssn=56
:materc=10:grp=grp05:sso=off:wt=30:mwt=50
```

```
chg-map:pci=5-005-5:ssn=50:rc=10:mpci=s-5-005-6:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off
```

```
chg-map:pci=5-005-5:ssn=50:rc=10:mpci=5-005-1:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
chg-map:pca=002-002-002:ssn=250:mpca=068-135-094:mssn=251
:materc=10:grp=grp05:sso=off:mapset=df1t:mwt=20
```

```
chg-map:pca=008-008-008:ssn=254:mpc=179-183-050:mssn=250
:materc=10:grp=grp15:sso=off:mapset=12:mwt=30
```

```
chg-map:pca=008-008-008:ssn=254:mpca=031-049-100:mssn=250
:materc=10:grp=grp15:sso=on:mapset=13:mwt=40
```

```
chg-map:pca=008-008-008:ssn=254:mpca=056-113-200:mssn=251
:materc=10:grp=grp05:sso=off:mapset=13:mwt=50
```

```
chg-map:pca=255-001-000:ssn=251:mpca=255-001-001
:mssn=56:materc=10:grp=grp05:sso=off:wt=30:mwt=50:mapset=1
```

```
chg-map:pci=5-005-5:ssn=50:rc=10:mpci=s-5-005-6:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off:mapset=14
```

```
chg-map:pci=5-005-5:ssn=50:rc=10:mpci=5-005-1:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off:mapset=14
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled for this example, and the `mrnset` and `mrnpc` parameters were not specified in [Step 14](#) on page 234, enter these commands.

```
chg-map:pca=008-008-008:ssn=254:mpca=056-113-200:mssn=251
:materc=10:grp=grp05:sso=off:mapset=13:mwt=50:mrnset=1
:mrnpc=007-007-007
```

```
chg-map:pca=255-001-000:ssn=251:mpca=255-001-001
:mssn=56:materc=10:grp=grp05:sso=off:wt=30:mwt=50:mapset=1
:mrnset=df1t:mrnpc=005-005-005
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MAP: MASP A - COMPLTD
```

Repeat this step for all new entries being added to the existing mated application.

If the Flexible GTT Load Sharing feature is not enabled, the mated application can contain a maximum of 32 entries.

If the Flexible GTT Load Sharing feature is enabled, and the MAP set is not the default MAP set, the MAP set can contain a maximum of 32 entries.

If the Flexible GTT Load Sharing feature is enabled, and the MAP set is the default MAP set, the default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.

16. Verify the changes using the `rtrv-map` command with the primary point code and subsystem specified in [Step 14](#) on page 234 and [Step 15](#) on page 237.

If a new MAP set was created in [Step 14](#) on page 234, the `mapset` parameter should be specified with the `rtrv-map` command. The value for the `mapset` parameter should be the MAP set ID generated in [Step 14](#) on page 234.

If the mated application was added to an existing MAP set in [Step 15](#) on page 237, the `mapset` parameter and value specified in [Step 15](#) on page 237 should be specified with the `rtrv-map` command.

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
rtrv-map:pca=004-004-004:ssn=254
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
004-004-004          254 10  SHR --- --- grp10  OFF --  ---  --
                  100-100-100 254 10  SHR --- --- grp10  OFF --  ---  --

MAP TABLE IS  4 % FULL      (37 of 1024)
```

```
rtrv-map:pca=002-002-002:ssn=250
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
002-002-002          250 10  SHR --- --- grp15  ON  10  50  40
                  100-130-079 250 10  SHR --- --- grp15  ON  10  50  40
                  068-135-094 251 10  SHR --- --- grp05  OFF  20  100  40

MAP TABLE IS  4 % FULL      (37 of 1024)
```

```
rtrv-map:pca=008-008-008:ssn=254
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008          254 10  SHR --- --- grp10  ON  10   6   1
                  200-147-100 254 10  SHR --- --- grp10  ON  20  13   1
                  179-183-050 250 10  SHR --- --- grp15  OFF  30  20   1
                  031-049-100 250 10  SHR --- --- grp15  ON  40  26   1
                  056-113-200 251 10  SHR --- --- grp05  OFF  50  33   1

MAP TABLE IS  4 % FULL      (37 of 1024)
```

```
rtrv-map:pca=255-001-000:ssn=251
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```

PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-000          251 10  SHR --- --- grp01  OFF 50  55  20
                  253-001-002 254 10  SHR --- --- grp01  OFF 10  11  20
                  255-001-001  56 10  SHR --- --- grp05  OFF 30  33  20

MAP TABLE IS    4 % FULL      (37 of 1024)

```

```
rtrv-map:pci=5-005-5:ssn=50
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCI          NET  Mate PC          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
5-005-5          N      0257          50 10  SHR --- --- grp20  OFF -- -- -- --
                  I  s-5-005-6      50 10  SHR --- --- grp20  OFF -- -- -- --
                  I    5-005-1      50 10  SHR --- --- grp20  OFF -- -- -- --

MAP TABLE IS    4 % FULL      (37 of 1024)

```

Note: If the Weighted GTT Load Sharing feature is not enabled or turned on, the WT, %WT, and THR columns are not shown in the rtrv-map output.

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
rtrv-map:pca=004-004-004:ssn=254:mapset=10
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=10      MRNSET=DFLT      MRNPC=005-005-005
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
004-004-004          254 10  SHR --- --- grp10  OFF -- -- -- --
                  100-100-100 254 10  SHR --- --- grp10  OFF -- -- -- --

MAP TABLE IS    4 % FULL      (37 of 36000)

```

```
rtrv-map:pca=002-002-002:ssn=250:mapset=df1t
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT    MRNSET=1          MRNPC=007-007-007
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
002-002-002          250 10  SHR --- --- grp15  ON  10  50  40
                  100-130-079 250 10  SHR --- --- grp15  ON  10  50  40
                  068-135-094 251 10  SHR --- --- grp05  OFF 20 100  40

MAP TABLE IS    4 % FULL      (37 of 36000)

```

```
rtrv-map:pca=008-008-008:ssn=254:mapset=11
```

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=11      MRNSET=1          MRNPC=007-007-007
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008          254 10  SHR --- --- grp10  ON  10   6   1
                  200-147-100 254 10  SHR --- --- grp10  ON  20  13   1

```

```

179-183-050 250 10 SHR --- --- grp15 OFF 30 20 1
031-049-100 250 10 SHR --- --- grp15 ON 40 26 1
056-113-200 251 10 SHR --- --- grp05 OFF 50 33 1

```

```
MAP TABLE IS 4 % FULL (37 of 36000)
```

```
rtrv-map:pca=255-001-000:ssn=251:mapset=1
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```

MAPSET ID=1      MRNSET=DFLT      MRNPC=005-005-005
PCA              Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-000      251 10  SHR --- --- grp01  OFF 50 55 20
                  253-001-002      254 10  SHR --- --- grp01  OFF 10 11 20
                  255-001-001      56 10  SHR --- --- grp05  OFF 30 33 20

```

```
MAP TABLE IS 4 % FULL (37 of 36000)
```

```
rtrv-map:pci=5-005-5:ssn=50:mapset=14
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```

MAPSET ID=14      MRNSET=-----      MRNPC=-----
PCI              NET  Mate PC          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
5-005-5          N    0257          50 10  SHR --- --- grp20  OFF -- -- --
                  I  s-5-005-6      50 10  SHR --- --- grp20  OFF -- -- --
                  I    5-005-1      50 10  SHR --- --- grp20  OFF -- -- --

```

```
MAP TABLE IS 4 % FULL (37 of 36000)
```

If the Weighted GTT Load Sharing feature is not enabled, the WT, %WT, and THR columns are not shown in the `rtrv-map` output.

If the GTT Load Sharing with Alternate Routing Indicator feature is not enabled, the MRNSET and MRNPC fields are not shown in the `rtrv-map` output.

- Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

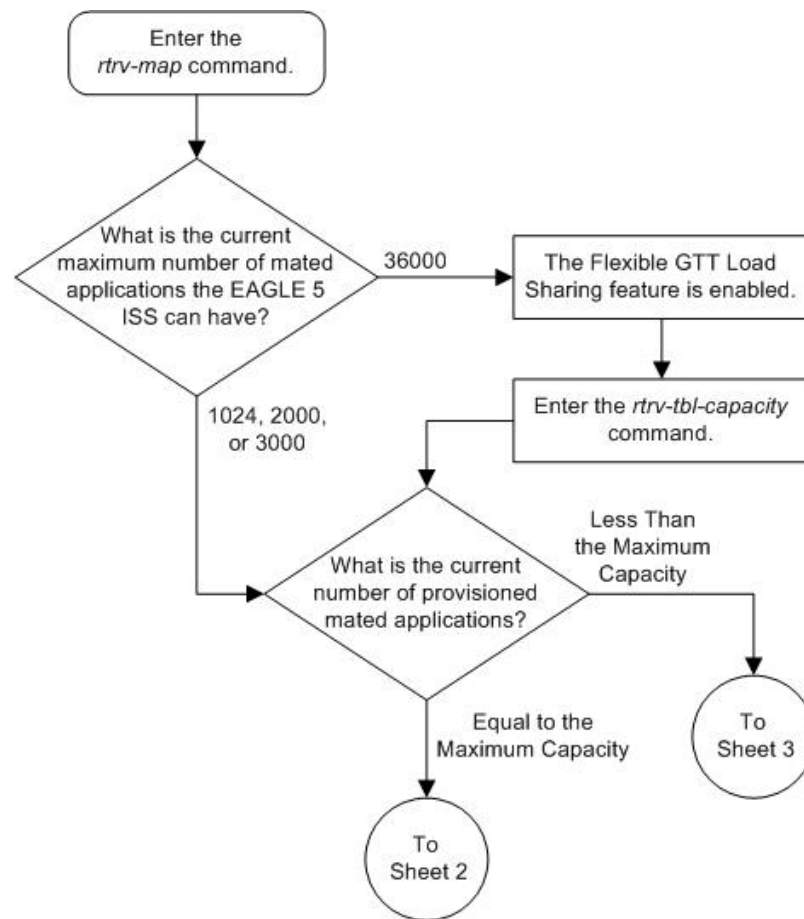
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

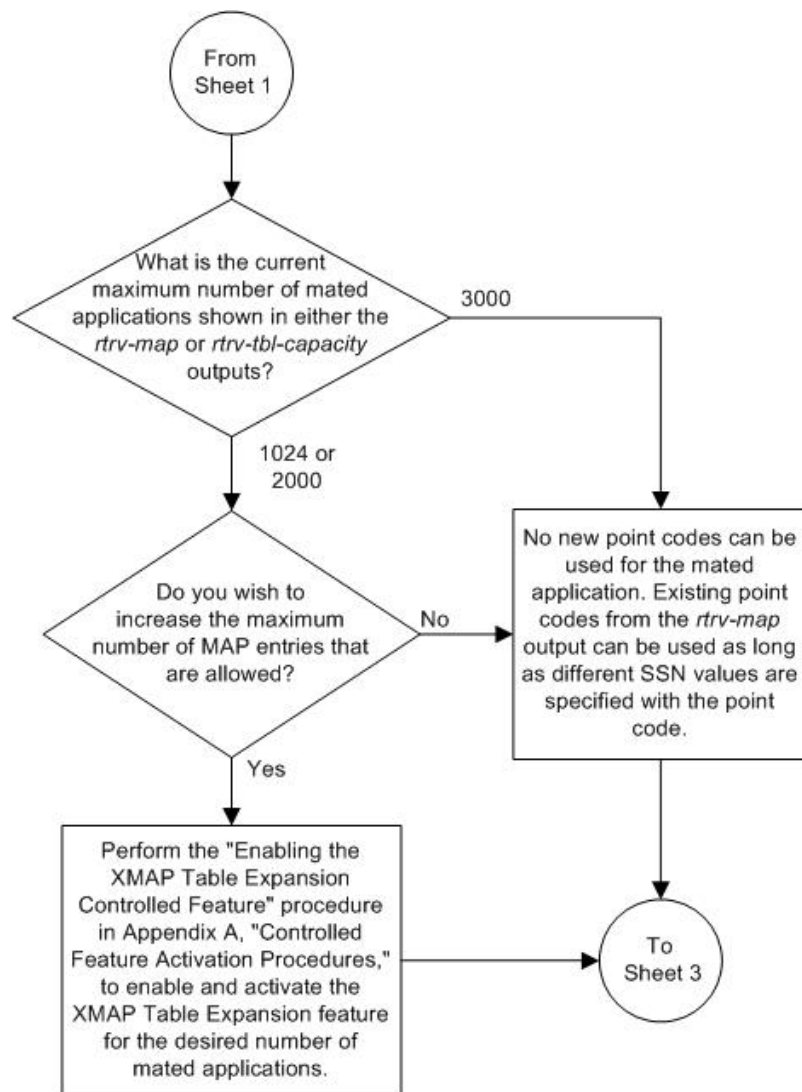
```

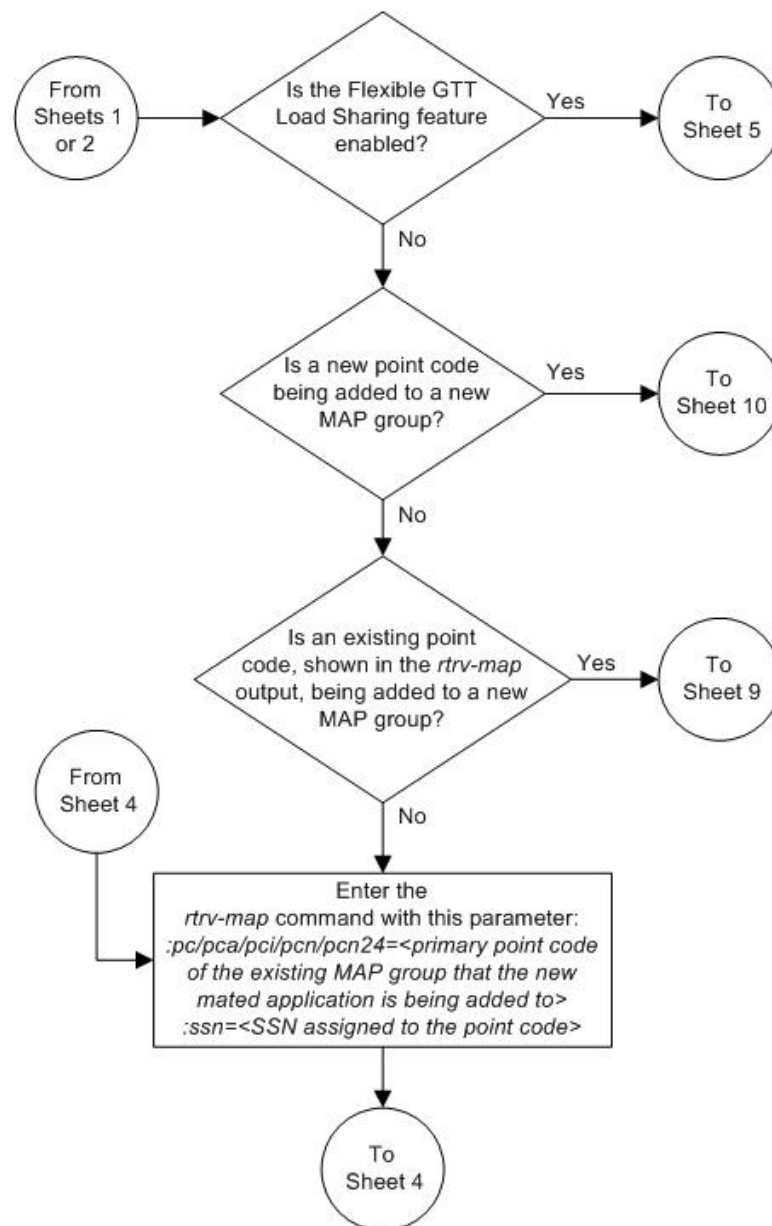
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

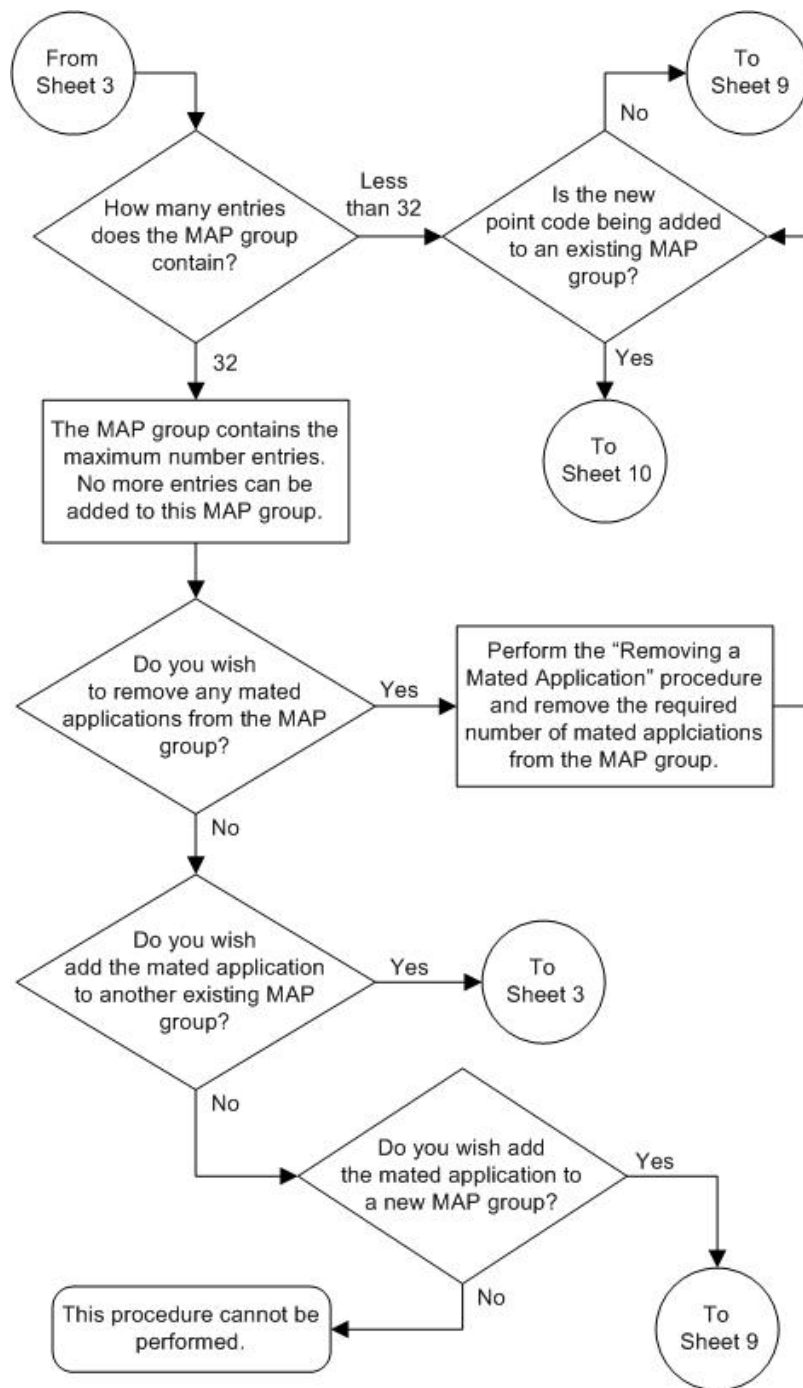
```

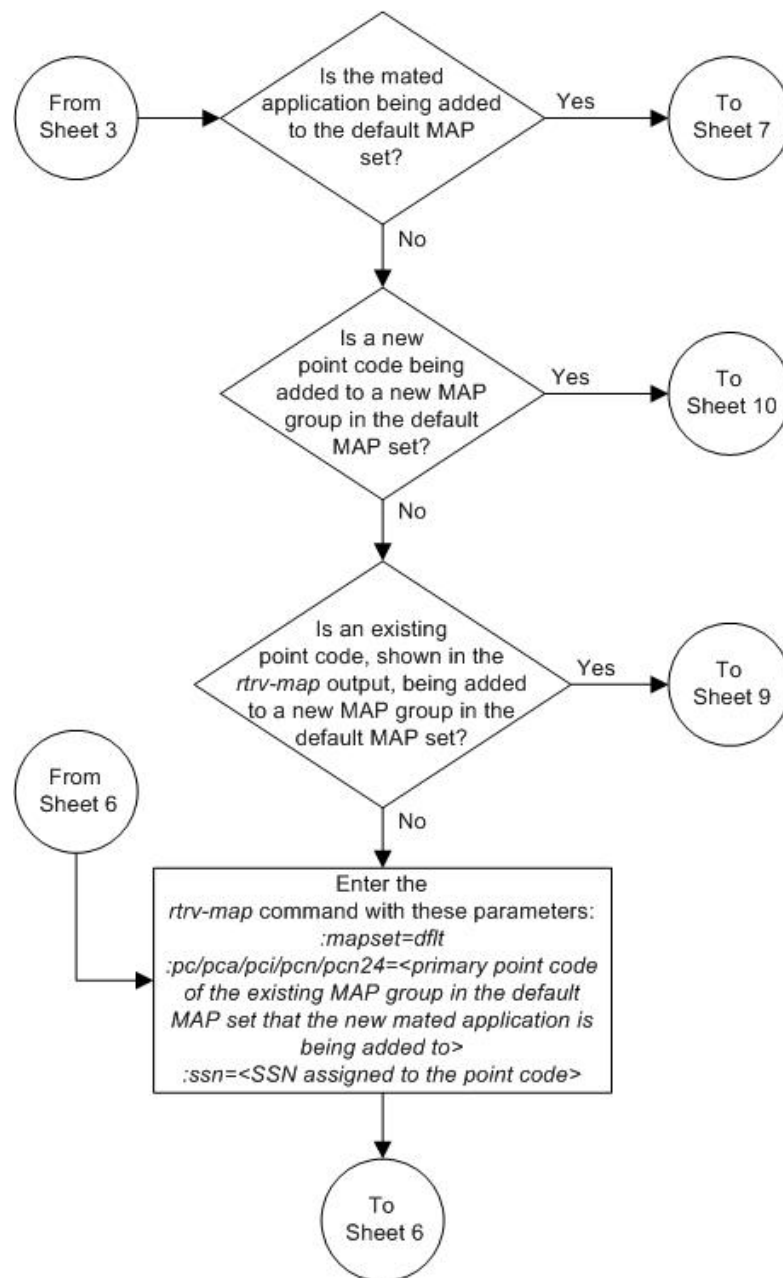
Figure 26: Provisioning a Load Shared Mated Application

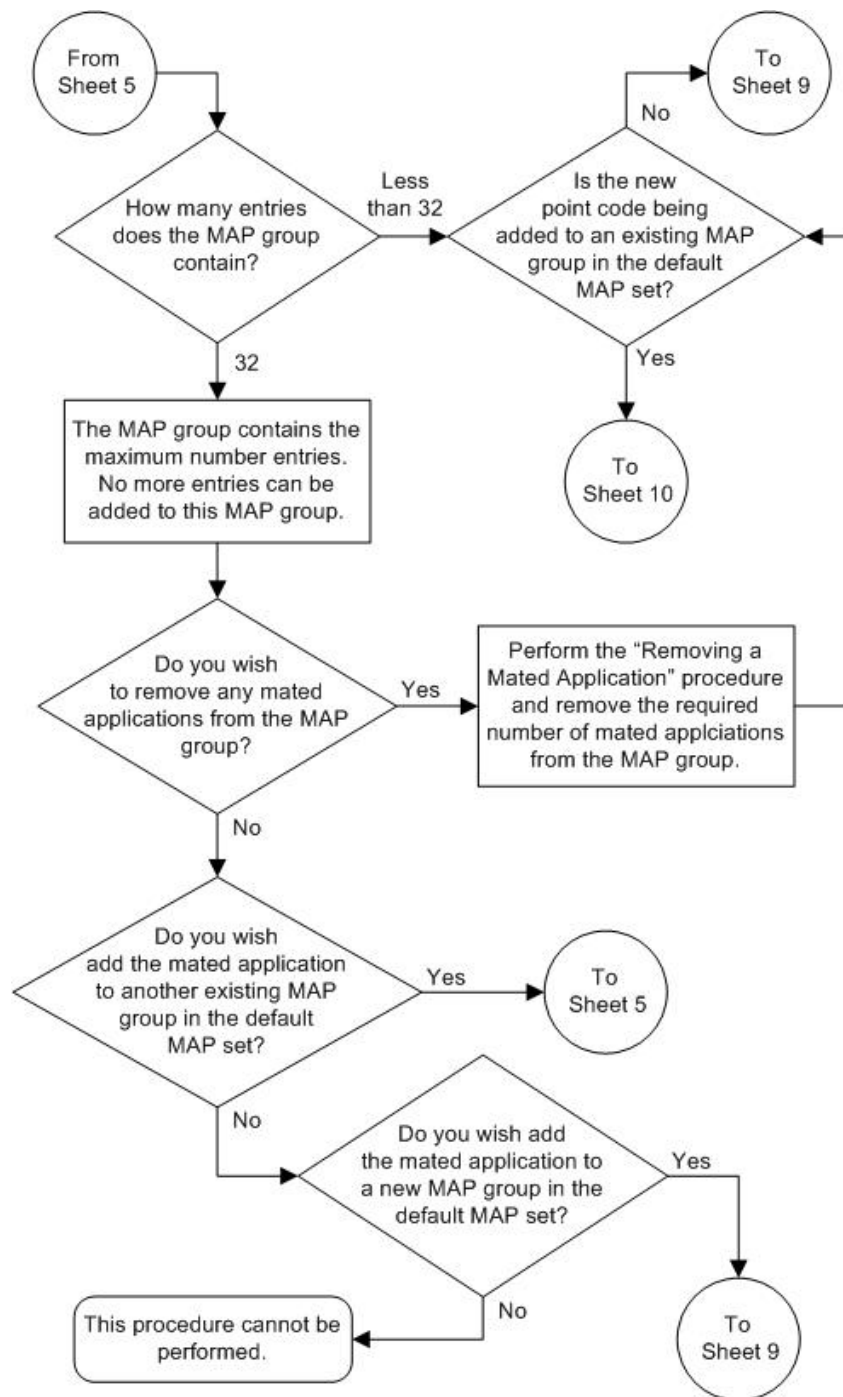


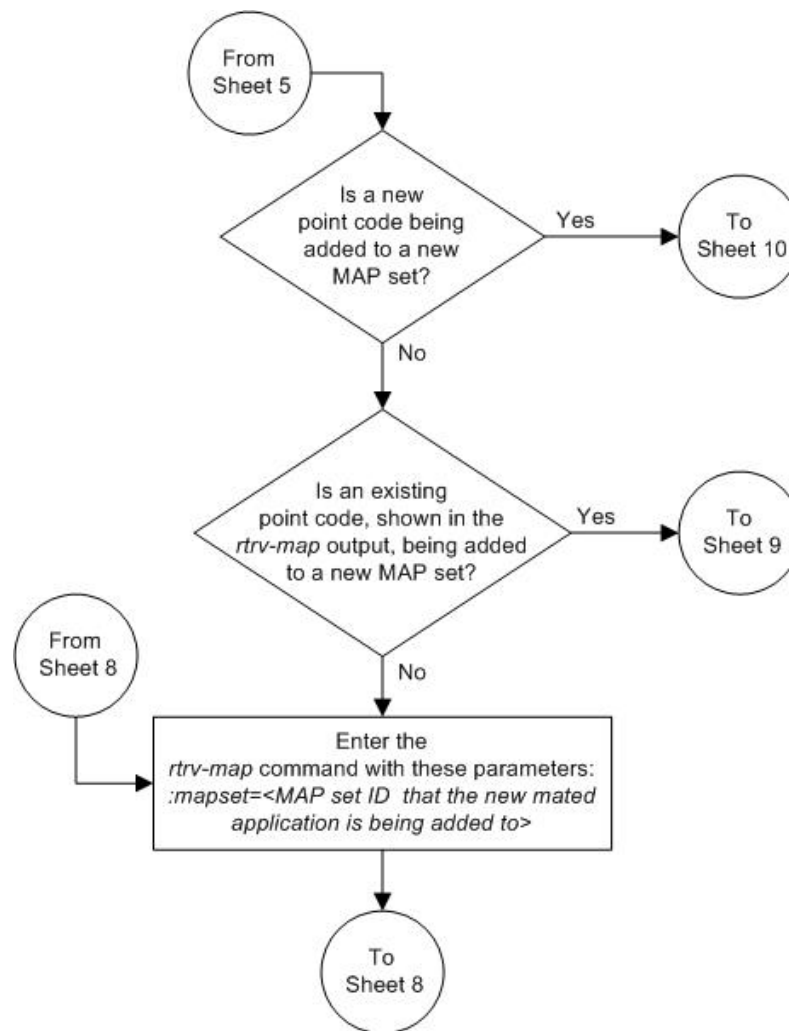


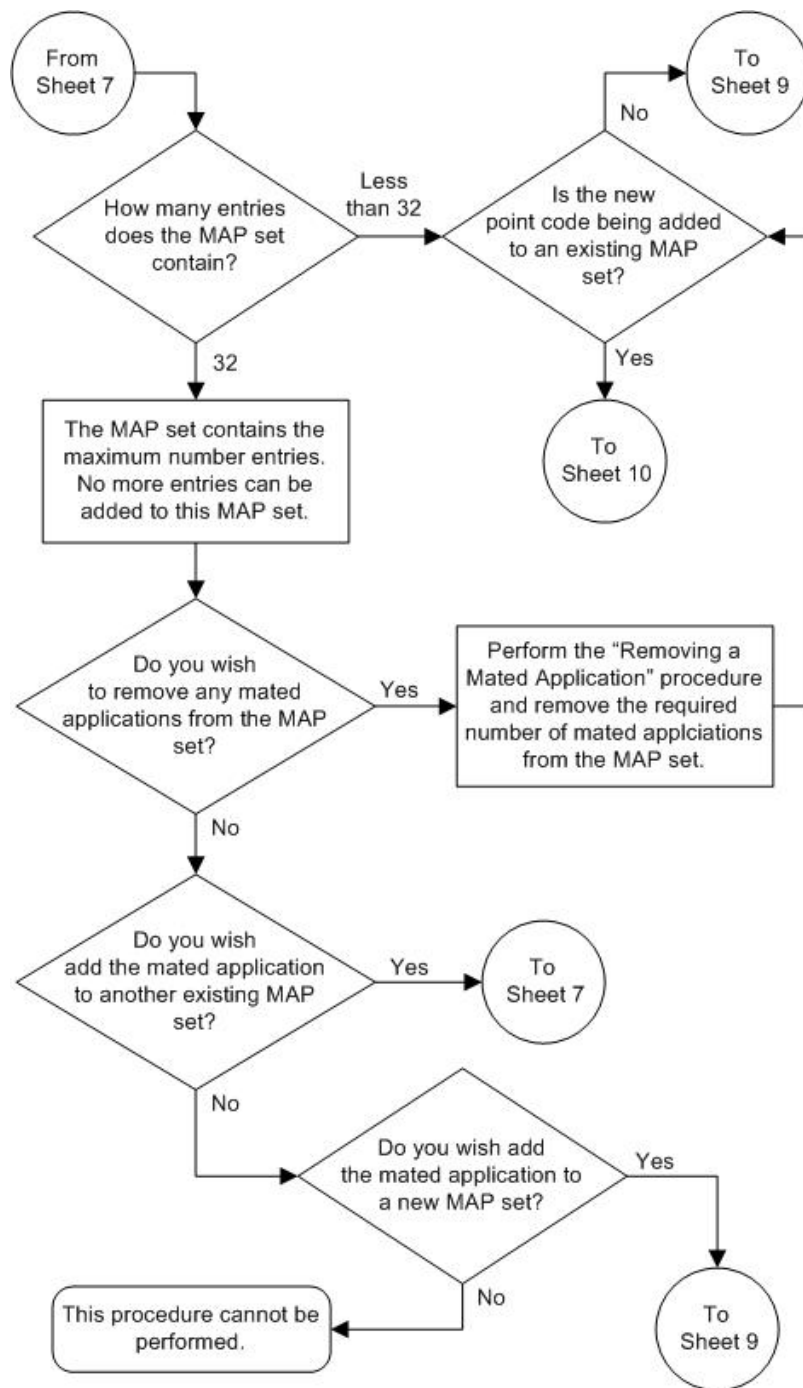


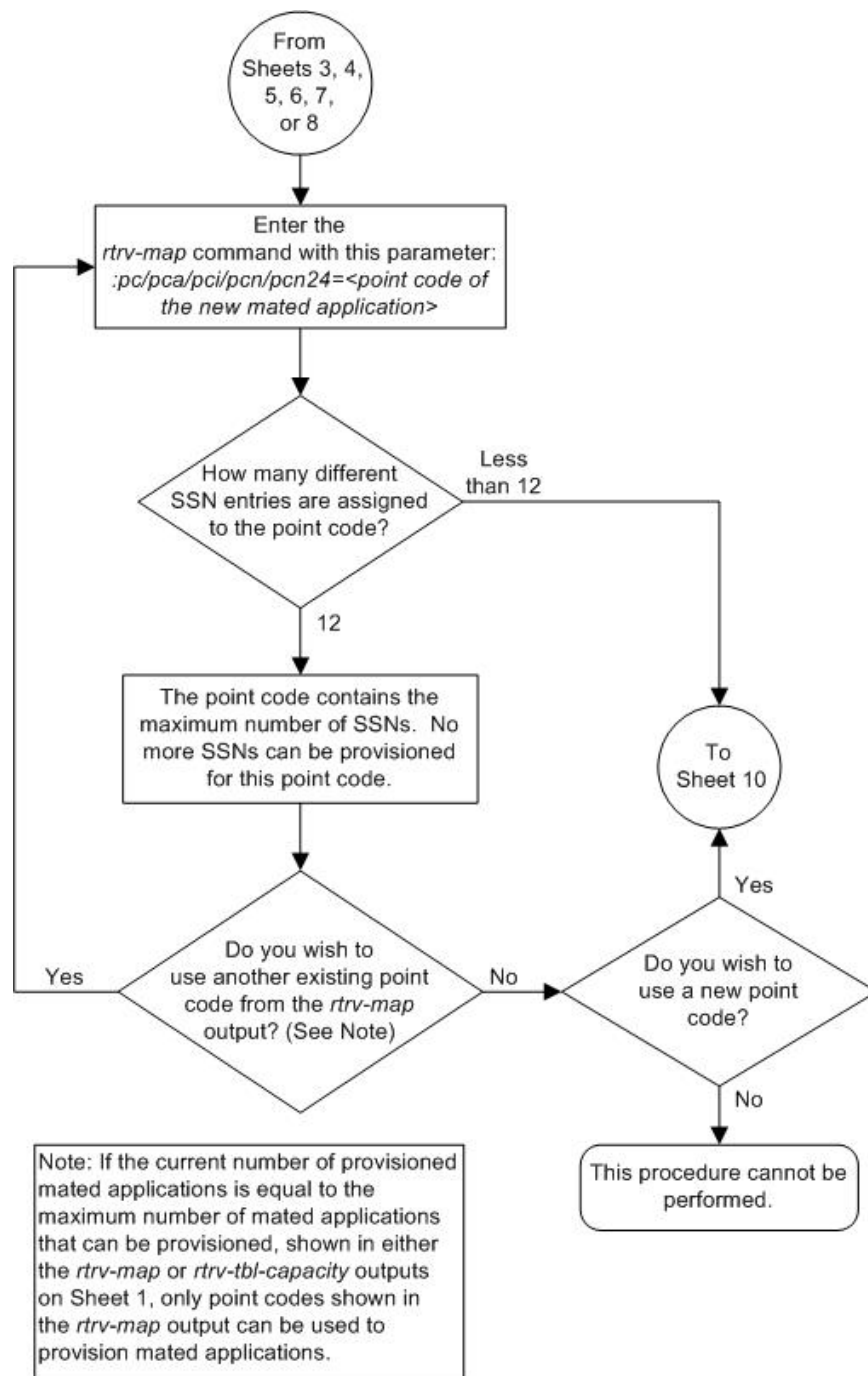


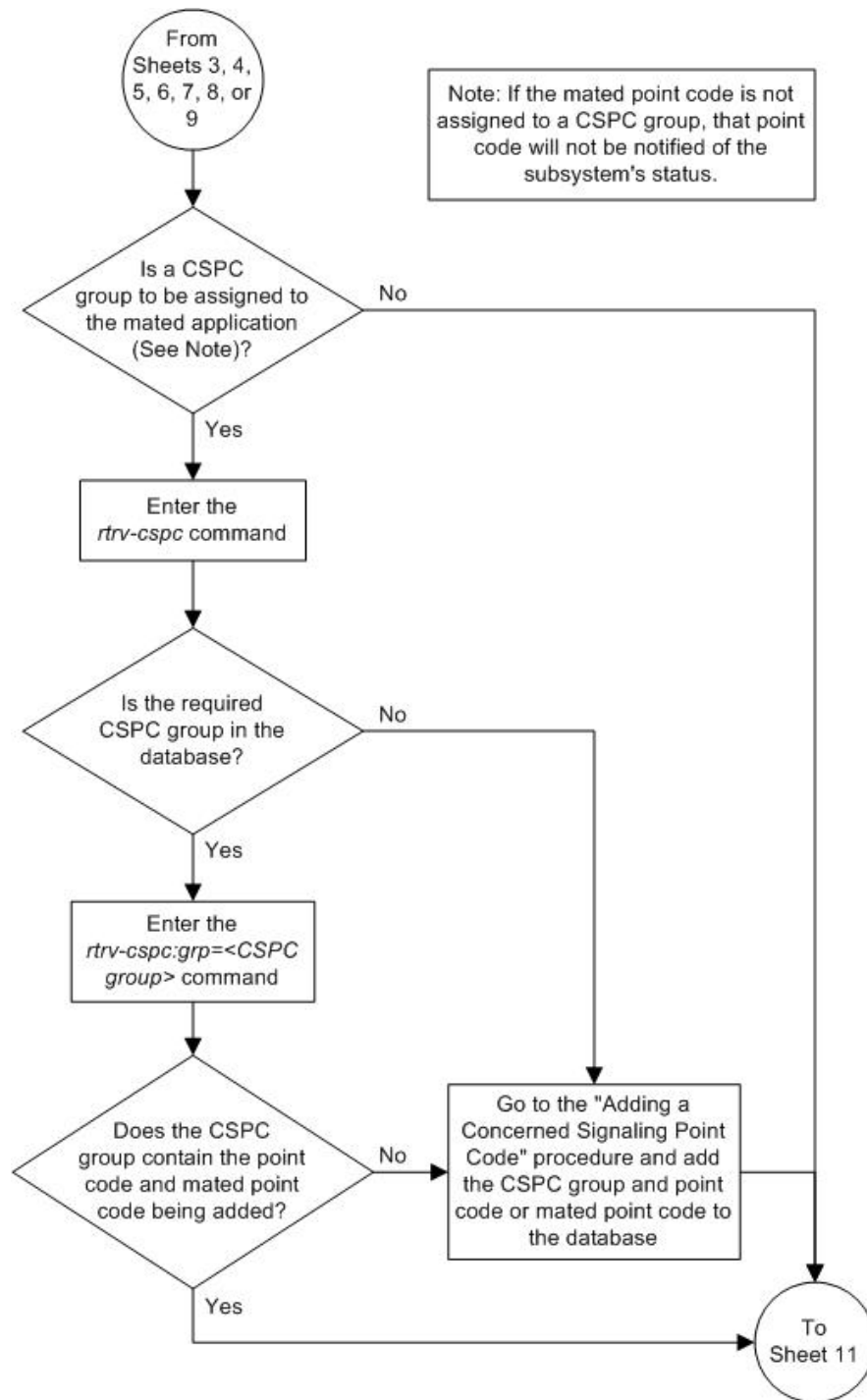


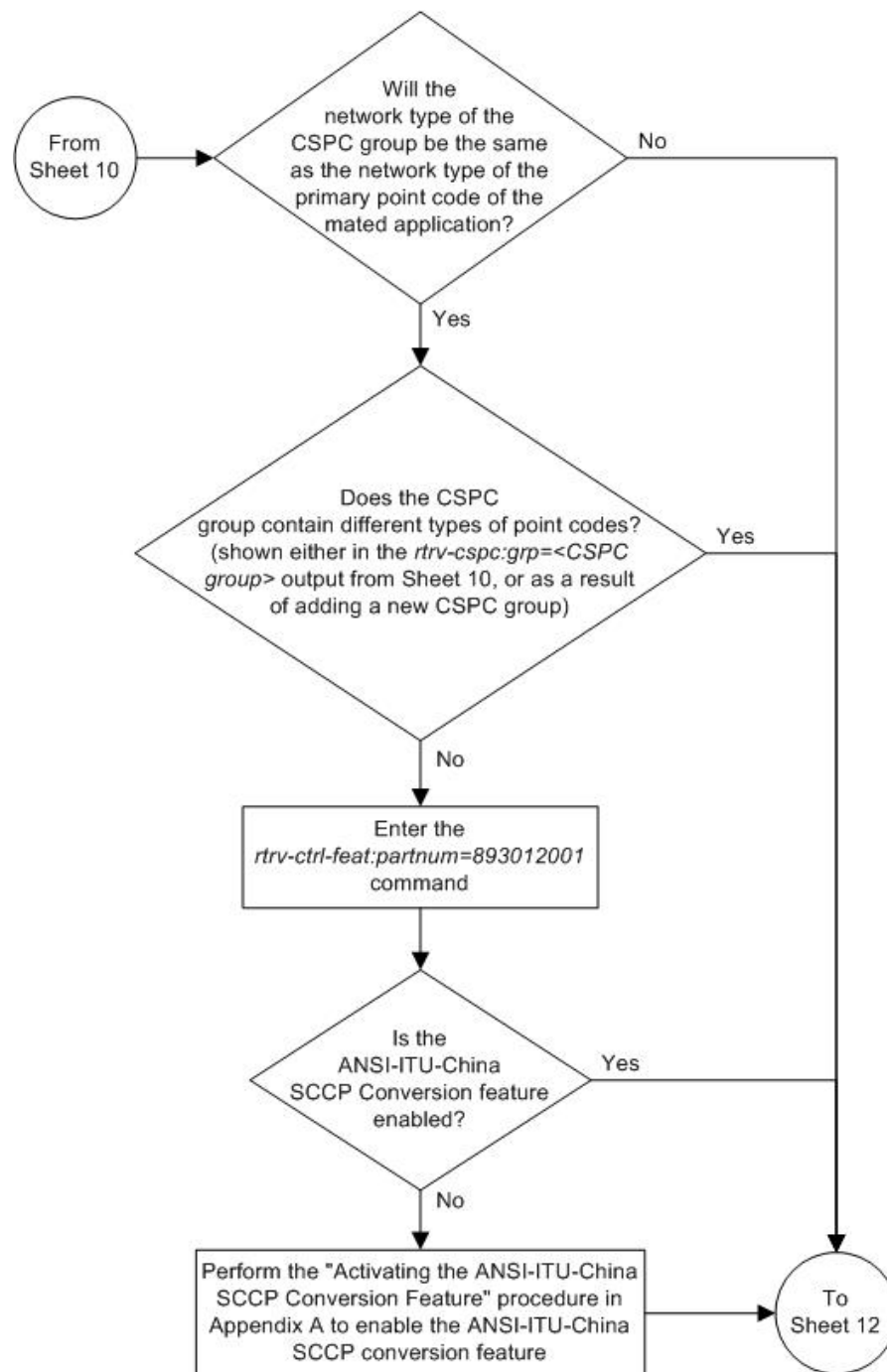


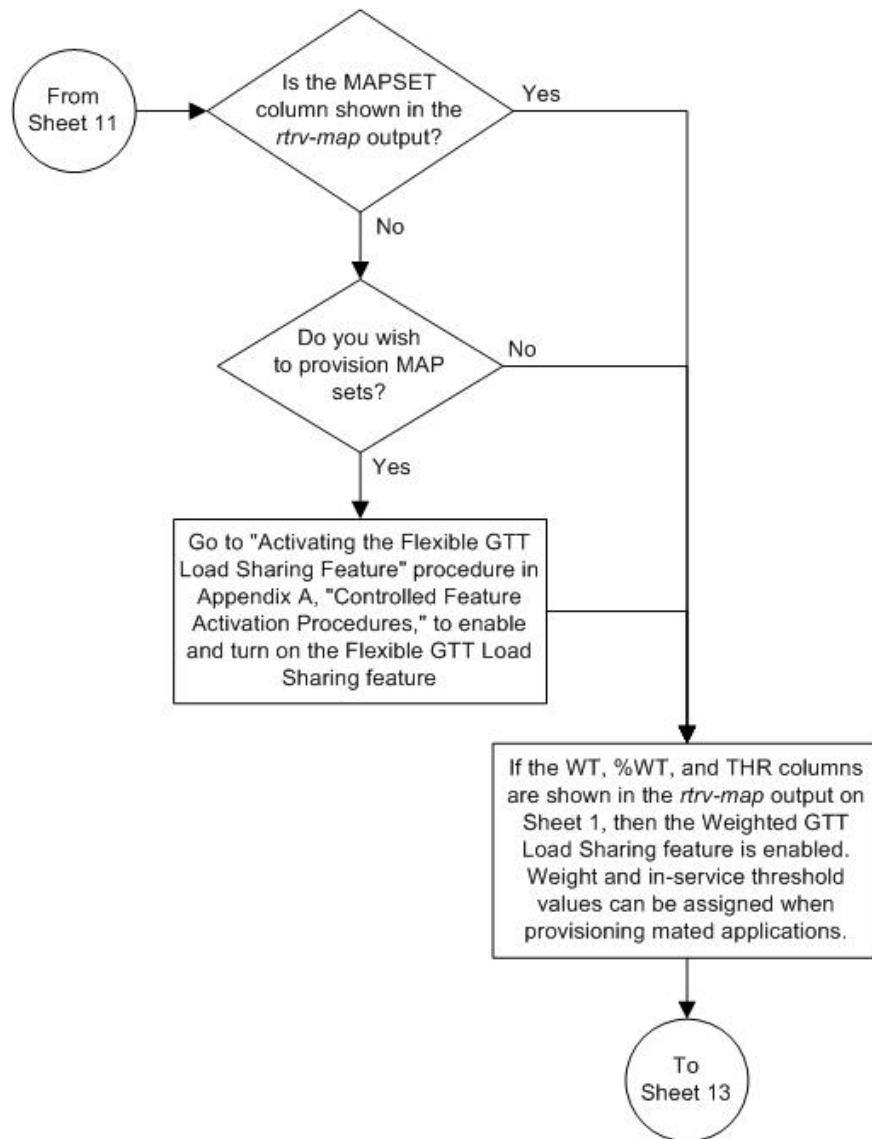


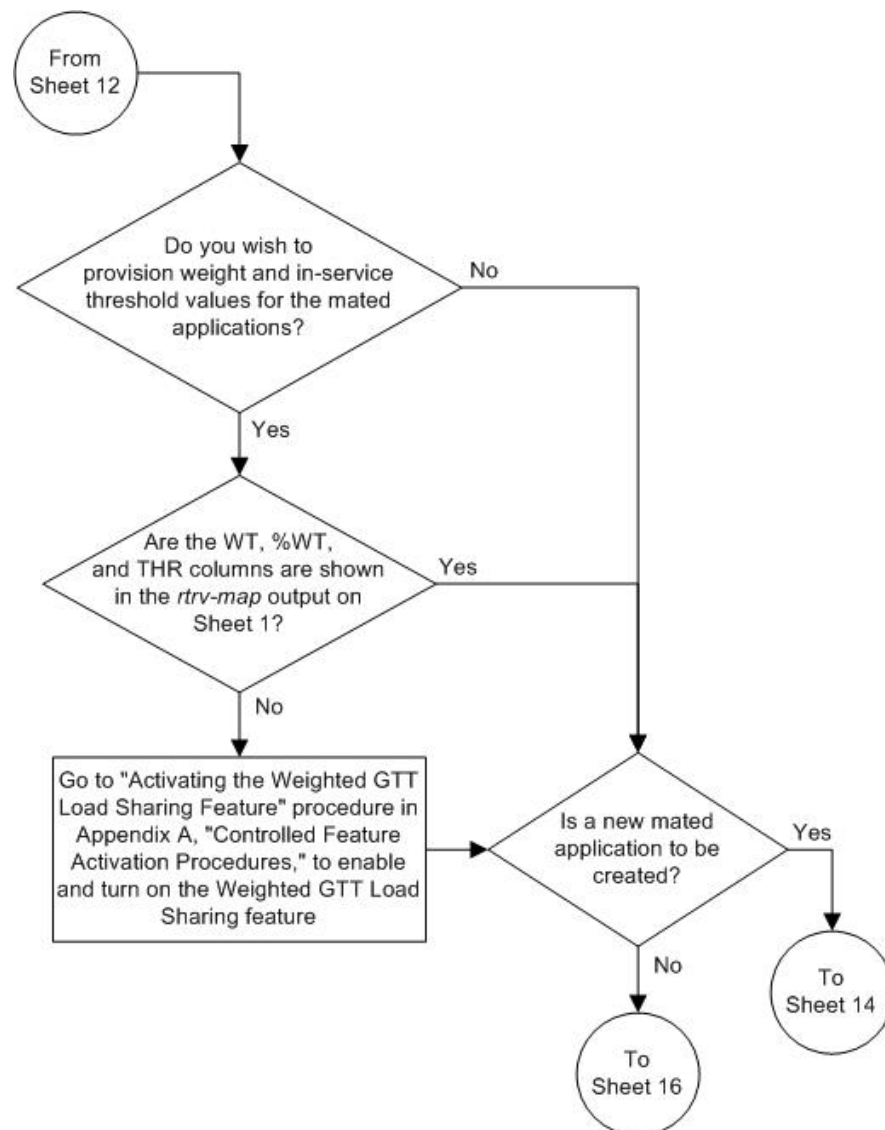


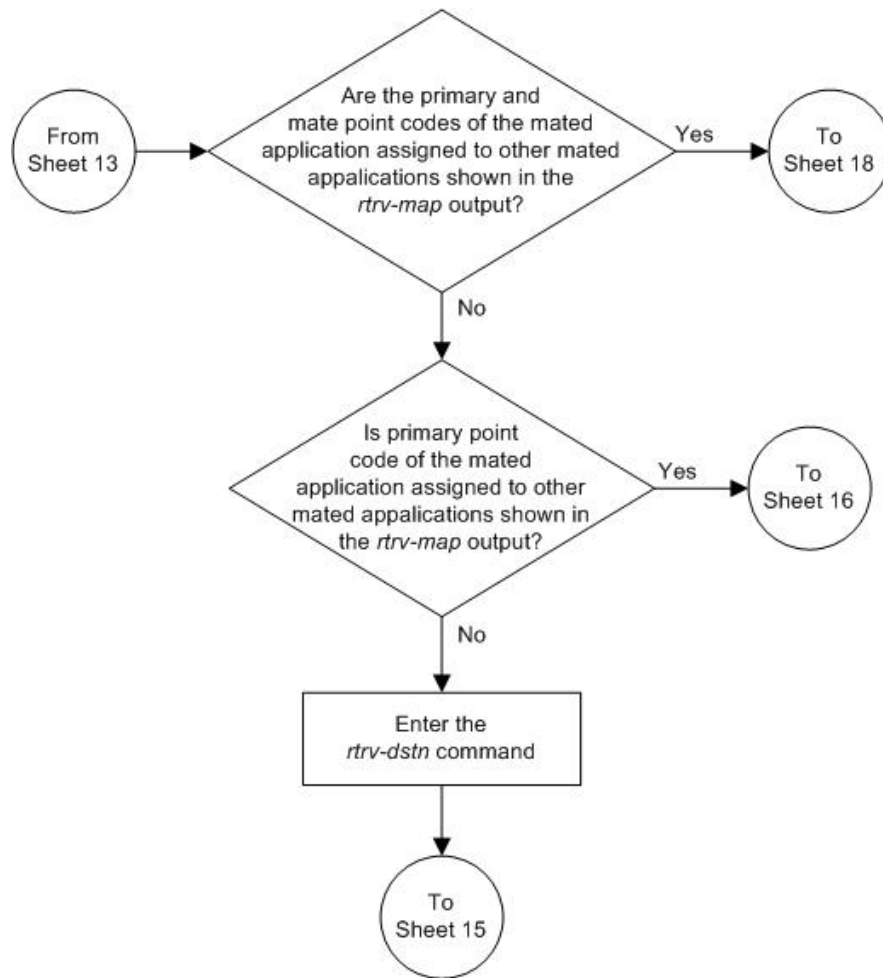


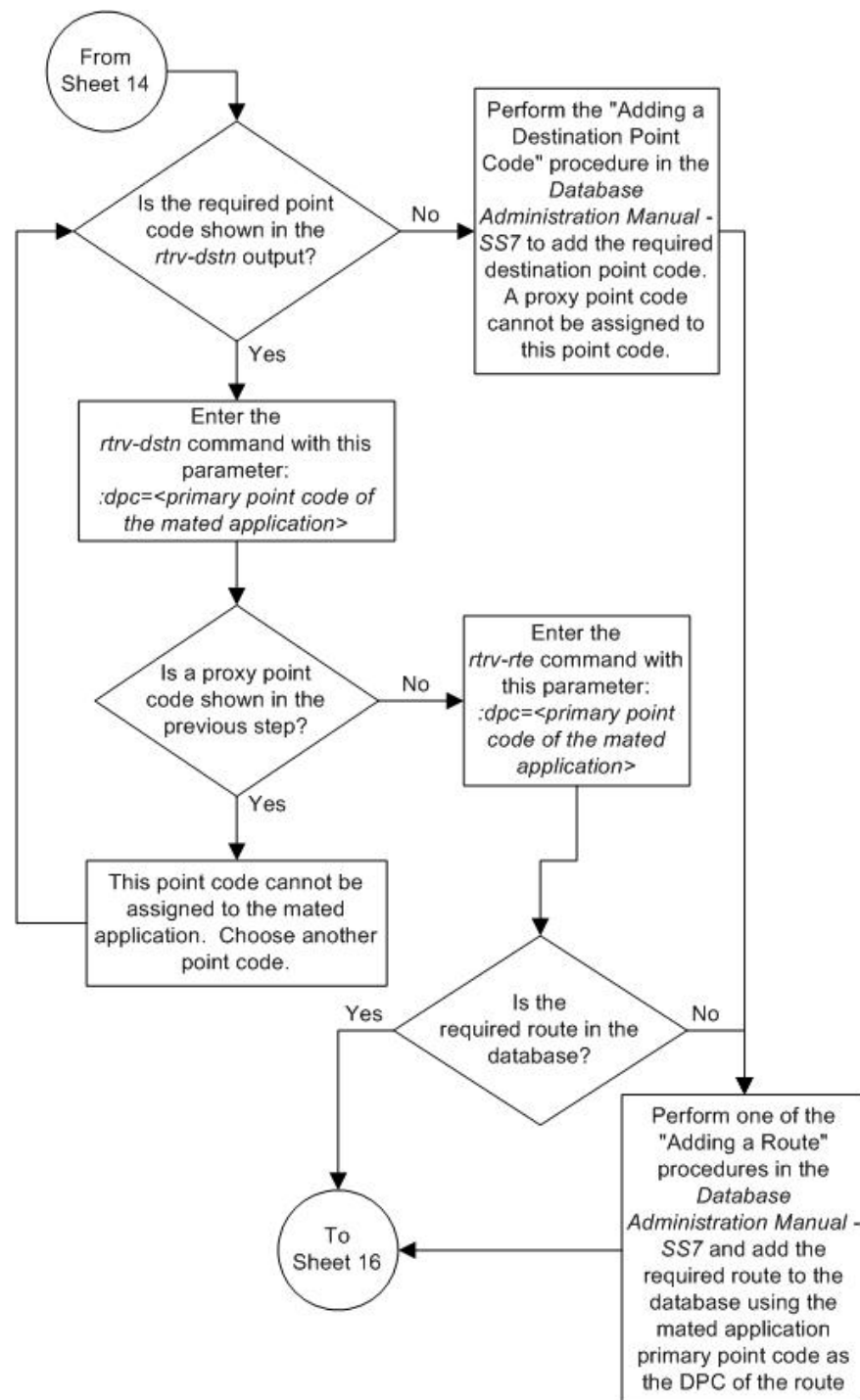


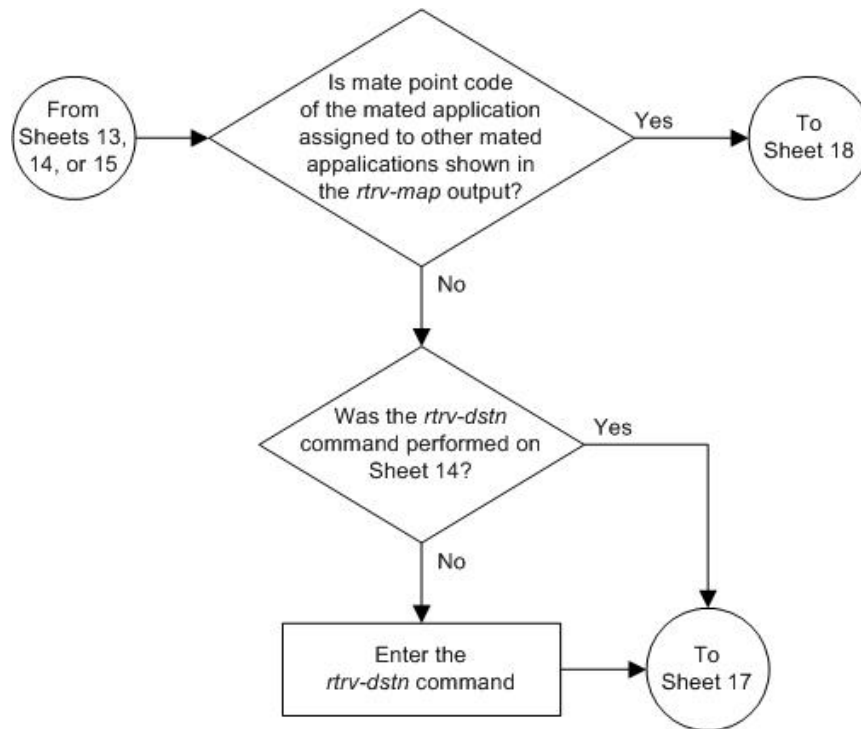


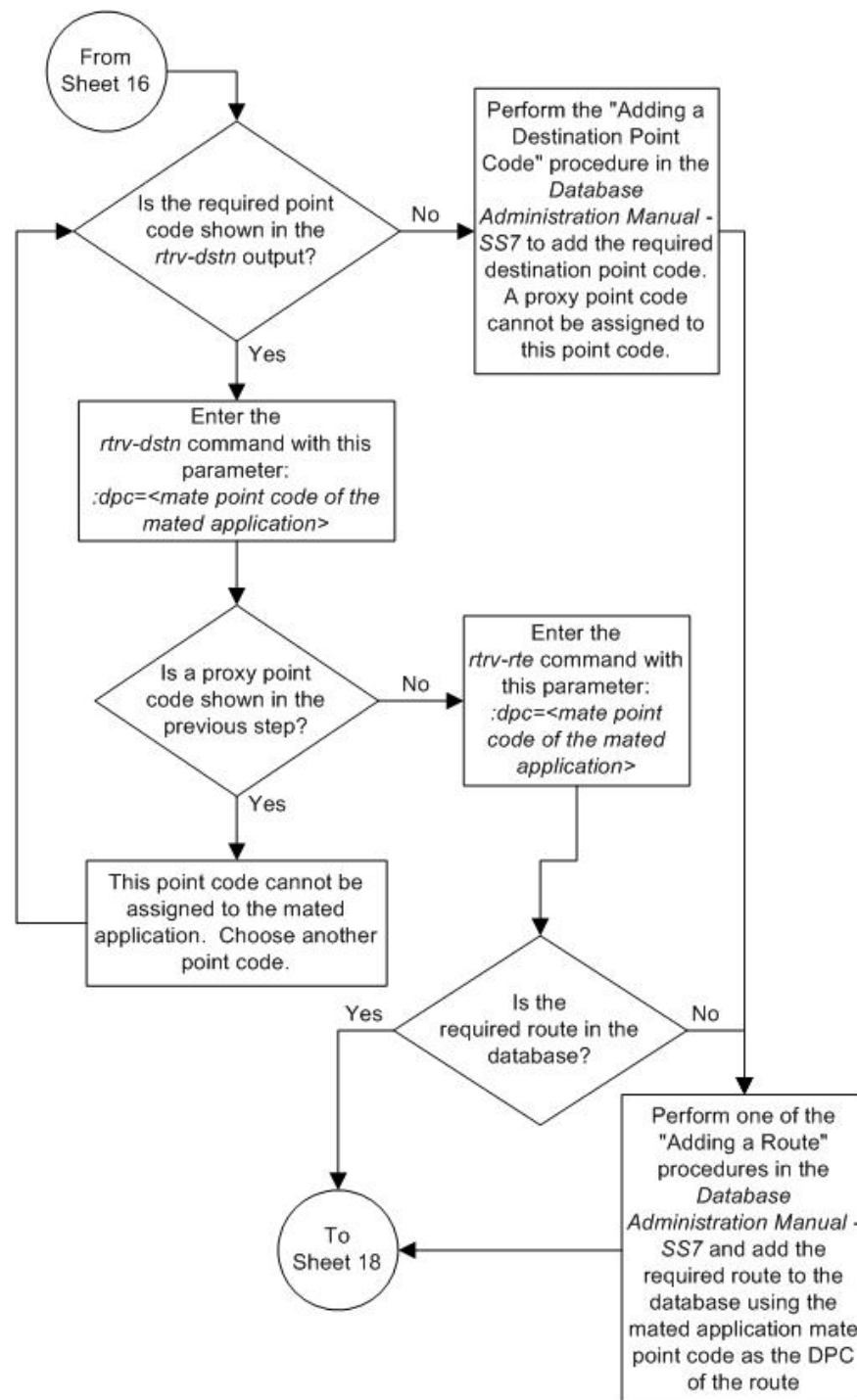


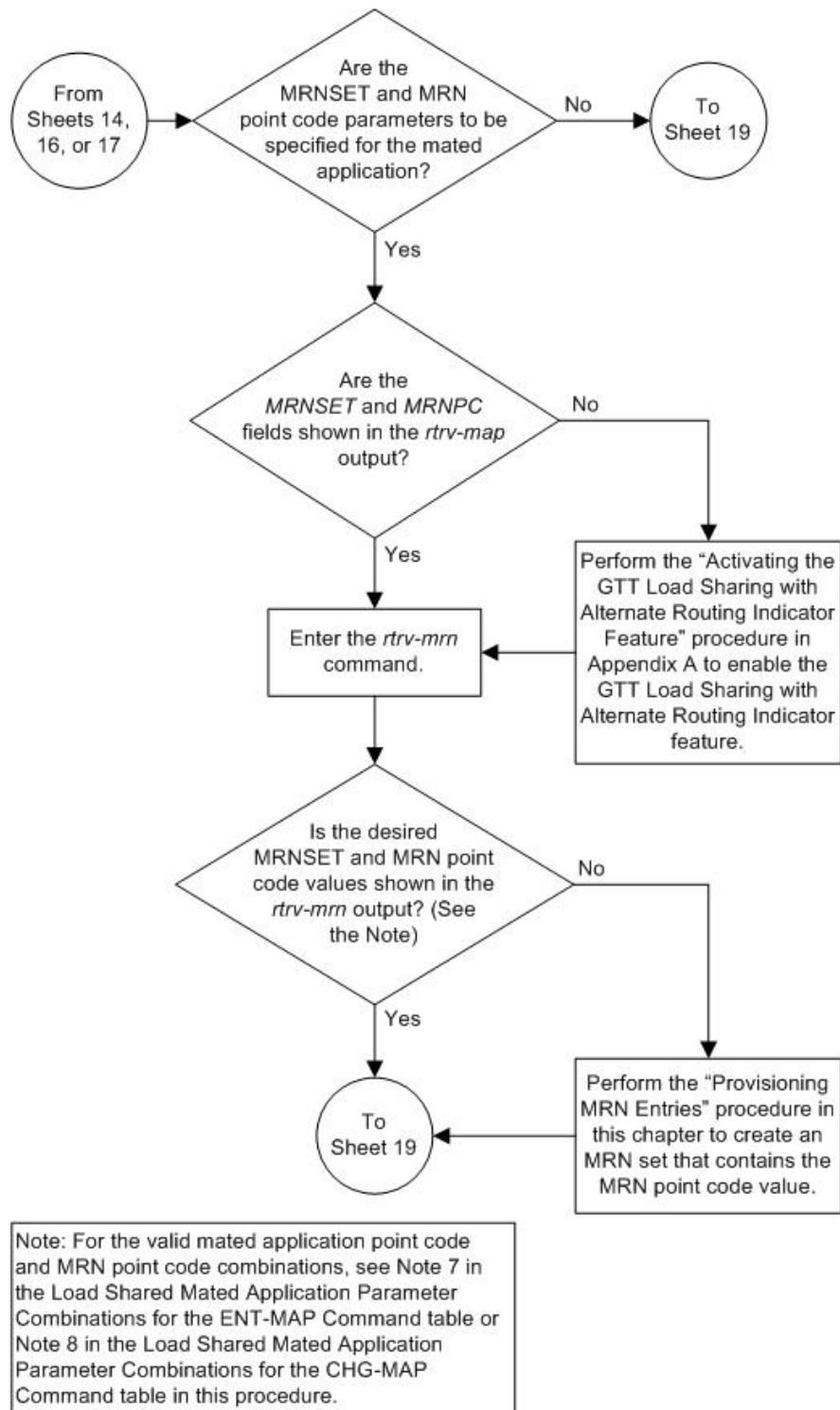


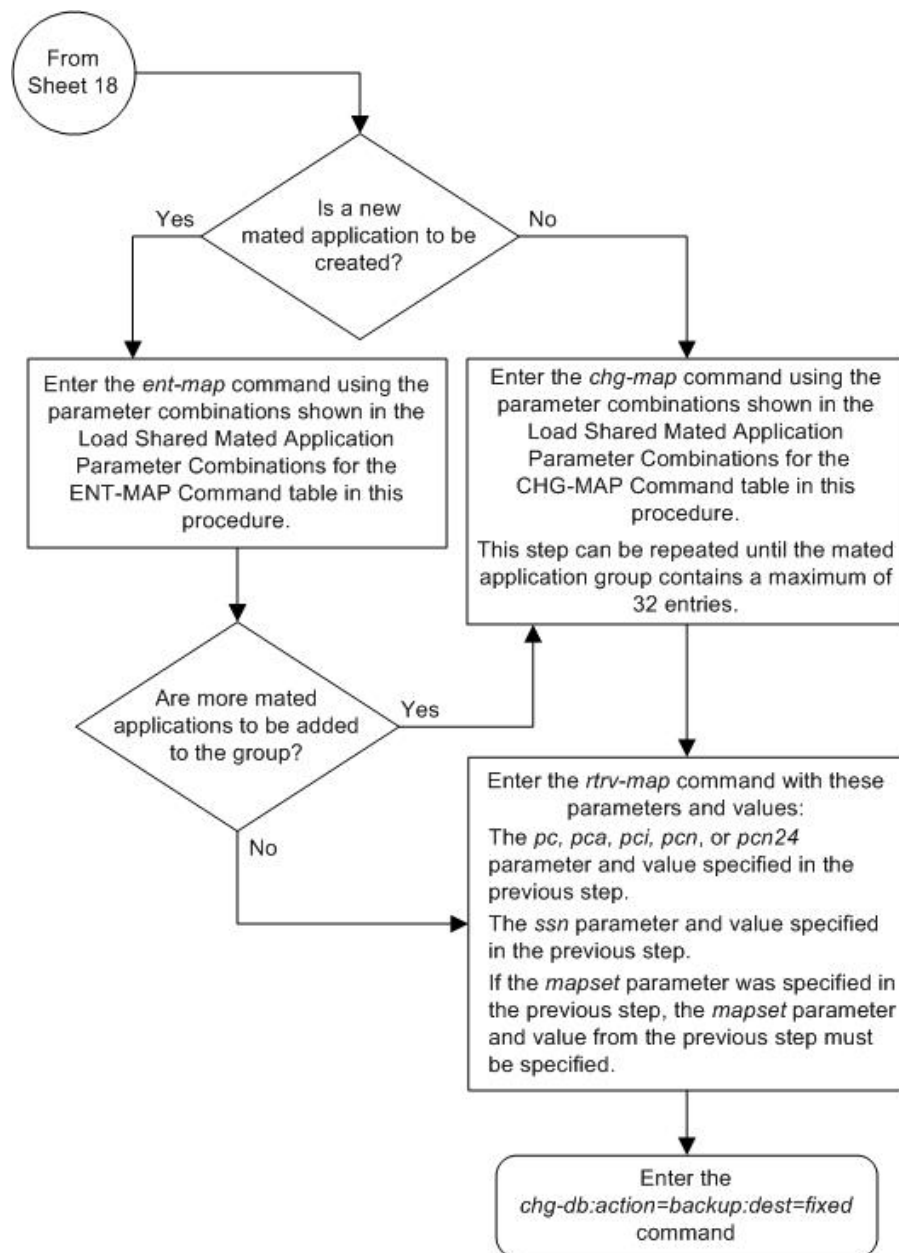












Provisioning a Combined Dominant/Load Shared Mated Application

This procedure is used to provision a combined dominant/load shared mated application in the database using the *ent-map* and *chg-map* commands. A combined dominant/load shared mated application is a mated application that contains a minimum of two RC (relative cost) values that are equal and a minimum of one RC value that is different. The *ent-map* and *chg-map* commands use these parameters to provision a combined dominant/load shared mated application.

:pc/pca/pci/pcn/pcn24 – The point code of the primary signaling point that is to receive the message.

:mpc/mpca/mpci/mpcn/mpcn24 – The point code of the backup signaling point that is to receive the message.

Note: The point codes can be either an ANSI point code (pc/pca, mpc/mpca), ITU-I or ITU-I spare point code (pci, mpci), a 14-bit ITU-N or 14-bit ITU-N spare point code (pcn, mpcn), or a 24-bit ITU-N (pcn24, mpcn24) point code.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:ssn – Subsystem number – the subsystem address of the primary point code that is to receive the message. The value for this parameter is 2 to 255.

:mssn – Mate subsystem number – the subsystem address of the backup point code that is to receive the message. The value for this parameter is 2 to 255.

:rc – The relative cost value of the primary point code and subsystem, defined by the pc/pca/pci/pcn/pcn24 and ssn parameters. The rc parameter has a range of values from 0 to 99, with the default value being 10.

:materc – The relative cost value of the backup point code and subsystem, defined by the mpc/mpca/mpci/mpcn/mpcn24 and mssn parameters. The materc parameter has a range of values from 0 to 99, with the default value being 50.

:grp – The name of the concerned signaling point code group that contains the point codes that should be notified of the subsystem status. This parameter applies to both RPCs/SSNs. The value for this parameter is shown in the rtrv-cspc output. If the desired value is not shown in the rtrv-cspc output, perform [Adding a Concerned Signaling Point Code](#) on page 116 to add the desired group. If this parameter is not specified, then a CSPC group name is not specified for the mated application.

:mrc – Message routing under congestion – defines the handling of Class 0 messages during congestion conditions. The value for this parameter is yes or no. The default value for this parameter is yes.

:srm – Subsystem routing messages – defines whether subsystem routing messages (SBR, SNR) are transmitted between the mated applications. The value for this parameter is yes or no. The default value for this parameter is yes.

:sso – Subsystem Status Option – defines whether the subsystem status option is on or off. This parameter allows the user the option to have the specified subsystem marked as prohibited even though an MTP-RESUME message has been received by the indicating that the specified point code is allowed. The value for this parameter is on or off. The default value is off.

:mapset – The MAP set ID that the mated applications are assigned to. This parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. This parameter must be specified if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the point code and subsystem specified for the global title translation must be assigned to the MAP set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the rtrv-ctrl-feat output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

The mapset parameter has three values:

- `df1t` – to assign the MAP to the default MAP set. This value can be specified with both the `ent-map` and `chg-map` commands.
- `new` – to assign the mated application to a new MAP set. This value can be specified only with the `ent-map` command.
- the specific number of an existing MAP set if you are assigning the mated application to an existing MAP set. This value can be specified only with the `chg-map` command.

Refer to [Provisioning a MAP Set](#) on page 266 for information on provisioning MAP sets.

`:wt` – The weight value assigned to the `pc/pca/pci/pcn/pcn24` parameter value. The value of this parameter is from 1 - 99.

`:mwt` – The weight value assigned to the `mpc/mpca/mpci/mpcn/mpcn24` parameter value. The value of this parameter is from 1 - 99.

`:thr` – The in-service threshold assigned to the MAP group or MAP set. The in-service threshold is the minimum percentage (from 1 - 100) of weight that must be available for an RC group (a group of entries in the MAP group or MAP set that have the same RC value assigned) to be considered available to carry traffic. If the percentage of the available weight is less than the in-service threshold, then the entire RC group is considered unavailable for traffic. If the percentage of the available weight is equal to or greater than the in-service threshold, then the RC group is considered available, and traffic can be sent to any available entity in the RC group. The value of the `thr` parameter is assigned to all entries that have the same RC (relative cost) value in the MAP group or MAP set that contain the point code specified in the `ent-map` or `chg-map` command.

Refer to [Provisioning Weights and In-Service Thresholds for Mated Applications](#) on page 266 for information on provisioning MAP groups or MAP sets with weight and in-service threshold values.

`:mrnset` – The MRN set ID that is being assigned to the mated application. This is the MRN set from which alternate routing indicator searches are performed.

`:mrnpc/mrnpca/mrnpci/mrnpn/mrnpn24` – The point code assigned to the `mrnset` that is being assigned to the MAP set.

The current values of the `mrnset` and `:mrnpc/mrnpca/mrnpci/mrnpn/mrnpn24` parameters are shown in the `rtrv-map` output only if the Flexible GTT Load Sharing and the GTT Load Sharing with Alternate Routing Indicator features are enabled.

A combined dominant/load shared mated application can contain up to 32 point codes and subsystems, a primary point code and subsystem, and up to 31 mated point codes and subsystems. When a new combined dominant/load shared mated application is added to the database, the first two entries, the primary point code and subsystem and a mate point code and subsystem are added using the `ent-map` command. All other mated point code and subsystem entries that are being assigned to the primary point code and subsystem are added to the combined dominant/load shared mated application using the `chg-map` command.

A combined dominant/load shared mated application is a combination of the dominant and load sharing mated applications. This mated application must contain a minimum of two RC values that are equal and a minimum of one RC value that is different. The traffic is shared between the point codes with the lowest relative cost values. If these point codes and subsystems become unavailable, the traffic is routed to the other point codes and subsystems in the mated application and shared between these point codes and subsystems.

If the Flexible GTT Load Sharing feature is not enabled, the primary point code and subsystem number or the mate point code and mate subsystem number combination can be in the database

only once. If the Flexible GTT Load Sharing feature is enabled, the primary point code and subsystem number or mate point code and mate subsystem number combination can be in multiple MAP sets, but can be in the default MAP set only once. Refer to [Provisioning a MAP Set](#) on page 266 for information on provisioning MAP sets.

The point codes specified in the `ent-map` or `chg-map` commands (`pc/pca`, `pci`, `pcn`, or `pcn24`, and `mpc/mpca`, `mpci`, `mpcn`, or `mpcn24`) must be either a full point code in the routing point code table or the EAGLE 5 ISS's true point code. Cluster point codes or network routing point codes cannot be specified with this command. The `rtrv-rte` command can be used to verify the point codes in the routing table. The point codes in the routing table are shown in the `DPCA`, `DPCI`, `DPCN`, or `DPCN24` fields of the `rtrv-rte` command output. The EAGLE 5 ISS's true point code is shown in the `PCA`, `PCI`, `PCN`, or `PCN24` fields of the `rtrv-sid` command output.

A combined dominant/load shared mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications. A point code can be assigned to maximum of 12 different SSNs.

For mated applications containing ANSI or 24-bit ITU-N point codes, or the EAGLE 5 ISS's true point code, the format of the point codes specified in the `ent-map` command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (`pcn24`), the mate point code must be a 24-bit ITU-N point code (`mpcn24`). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes.

The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. The status of the ANSI-ITU-China SCCP Conversion feature can be verified with the `rtrv-ctrl-feat` command.

The values for the primary point code and subsystem combination (`pc/ssn`) cannot be the same as the mated point code and subsystem combination (`mpc/mssn`). However, the primary and mated point codes can be the same as long as the subsystem numbers are different.

If the point code values are ITU values (`pci`, `pcn`, or `pcn24`), the `srn=yes` parameter cannot be specified.

If a mate point code (`mpc/mpca/mpci/mpcn/mpcn24`) is specified, the `mssn` parameter must be specified. Also, the point code type of the mate point code must be the same as the point code type of the primary point code. For example, if the primary point code is a 24-bit ITU-N point code (`pcn24`), the mate point code must be a 24-bit ITU-N point code (`mpcn24`). If spare point codes are being used, both the primary and mate point codes must be spare point codes. For example, if the primary point code is an ITU-I spare point code, the mate point code must be an ITU-I spare point code.

If the `mssn` parameter is specified, the mate point code (`mpc/mpca/mpci/mpcn/mpcn24`) must be specified.

If the `grp`, `srn`, `mrc`, and `sso` parameter values are specified, and the specified point code and SSN is assigned to multiple mated applications, the `grp`, `srn`, `mrc`, and `sso` values for all mated applications containing the specified point code and SSN will be changed to the values specified in this procedure.

The values of the `ssn` and `mssn` parameters must be from 2 to 255.

The EAGLE 5 ISS can contain 1024, 2000, or 3000 mated applications. The EAGLE 5 ISS default is 1024 mated applications. This quantity can be increased to 2000 by enabling the feature access key for part number 893-0077-01, or to 3000 by enabling the feature access key for part number 893-0077-10. For more information on enabling these feature access keys, refer to [Enabling the XMAP Table Expansion Feature](#) on page 867.

Provisioning a MAP Set

The Flexible GTT Load Sharing feature provides the ability to define multiple load sharing sets in the MAP table where the same point code and subsystem can be assigned to different load sharing sets.

The MAP table contains specific load sharing sets, designated by numbers, and a default MAP set.

Flexible Final GTT Load Sharing provides flexible load sharing for global title translations defined in the GTT table and not for the MPS based features. The MPS based features do not support the MAP set ID parameter. The MPS based features perform lookups for load sharing in the default MAP set and the GTT table. The entries in the GTT table can be linked to a MAP set ID, allowing lookups in a specific MAP set other than the default MAP set.

Any MAP entries that were provisioned in the database before the Flexible GTT Load Sharing feature is enabled are placed in the default MAP set when the Flexible GTT Load Sharing feature is enabled.

To provision entries in the default MAP set, the `mapset=df1t` parameter must be specified with the `ent-map` or `chg-map` commands.

To provision entries in an existing MAP set other than the default MAP set, the `mapset=<MAP set ID>` parameter must be specified with the `chg-map` command. Provisioning entries in an existing MAP set can be performed only with the `chg-map` command.

To provision entries in a new MAP set, the `mapset=new` parameter must be specified with the `ent-map` command. The `mapset=new` parameter can be specified only with the `ent-map` command. When the `ent-map` command is executed with the `mapset=new` parameter, the new MAP set ID is automatically generated and displayed in the output of the `ent-map` command as follows.

```
New MAPSET Created : MAPSETID = <new MAP set ID>
```

A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point codes.

The default MAP set can contain multiple MAP groups. The point code and subsystem number combination can appear only once in the default MAP set. The point code can appear in multiple MAP groups in the default MAP set with different subsystem numbers.

The point code and subsystem number combination provisioned in a MAP set can be provisioned in multiple MAP sets. All the point codes in a MAP set must be different.

Provisioning Weights and In-Service Thresholds for Mated Applications

Weighted GTT Load Sharing allows unequal traffic loads to be provisioned in MAP load sharing groups or MAP load sharing sets. This feature also allows provisioning control over load sharing groups or sets so that if insufficient capacity within the load sharing group or set is available, the load sharing group or set is not used.

To provision the weight values and in-service threshold values for MAP groups or MAP sets in this procedure, the `wt`, `mwt`, and `thr` parameters are used.

The `wt`, `mwt`, and `thr` parameters can be used only:

- If the MAP group or MAP set is either a load shared or combined dominant/load shared MAP group or MAP set.
- If the Weighted GTT Load Sharing feature is enabled and turned on.

The status of the Weighted GTT Load Sharing feature can be verified by entering the `rtrv-ctrl-feat` command. If the Weighted GTT Load Sharing feature is not enabled or not turned on, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature.

If either the `wt` or `mwt` parameters are specified with the `ent-map` command, both parameters must be specified with the `ent-map` command.

To assign an in-service threshold value to the entries of a MAP group or MAP set that contains the point code value specified in the `ent-map` command, use the `thr` parameter with the `wt` and `mwt` parameters. When the `thr` parameter is specified with the `ent-map` command, the in-service threshold value is assigned to both entries specified in the `ent-map` command. The `thr` parameter cannot be specified with the `chg-map` command when adding additional entries to the MAP group or MAP set. When additional entries are added to the MAP group or MAP set with the `chg-map` command, the `thr` value that was specified in the `ent-map` command is assigned to the additional entries. For information on using the `thr` parameter with the `chg-map` command, refer to [Changing a Mated Application](#) on page 330.

The `thr` parameter does not have to be specified with the `ent-map` command. If the `thr` parameter is not specified with the `ent-map` command, the THR parameter value for the MAP group or MAP set is set to 1.

Specifying the `wt` and `mwt` parameters assigns a weight value to the point codes specified in the `ent-map` command. The `wt` parameter value is assigned to the `mpc/mpca/mpci/mpcn/mpcn24` parameter value and the `mwt` parameter value is assigned to the `mpc/mpca/mpci/mpcn/mpcn24` parameter value.

When additional entries are added to the MAP group or MAP set with the `chg-map` command, and the MAP group or MAP set entries have weight and in-service threshold values assigned, a weight value must be assigned to the `mpc/mpca/mpci/mpcn/mpcn24` parameter value using the `mwt` parameter.

The `wt` parameter does not have to be specified with the `chg-map` command. If the `wt` parameter is specified with the `chg-map` command, the weight value for the `pc/pca/pci/pcn/pcn24` parameter is not changed.

If the `wt` parameter is specified with the `chg-map` command and the `wt` value is the same as the value currently assigned to the `pc/pca/pci/pcn/pcn24` parameter, the weight value for the `pc/pca/pci/pcn/pcn24` parameter is not changed.

If the `wt` parameter is specified with the `chg-map` command and the `wt` value is different from the value currently assigned to the `pc/pca/pci/pcn/pcn24` parameter, the weight value for the `pc/pca/pci/pcn/pcn24` parameter is changed to the new `wt` value.

The weight values assigned to the entries in the MAP group or MAP set are shown in the WT column in the `rtrv-map` output.

The in-service threshold values assigned to the entires in the MAP group or MAP set are shown in the THR column in the `rtrv-map` output.

The %WT column in the `rtrv-map` output shows the percentage of the traffic the particular entry in the MAP group or MAP set will handle.

The WT, %WT, and THR columns are shown in the `rtrv-map` output only if the Weighted GTT Load Sharing feature is enabled and turned on.

For more information on the Weighted GTT Load Sharing feature, refer to [Weighted GTT Load Sharing](#) on page 45.

Canceling the RTRV-MAP Command

Because the `rtrv-map` command used in this procedure can output information for a long period of time, the `rtrv-map` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-map` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-map` command was entered, from another terminal other than the terminal where the `rtrv-map` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated applications in the database using the `rtrv-map` command.

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      250 10 SOL --- --- grp01 ON

MAPSET ID=1
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      251 10 SHR --- --- grp01 OFF
                253-001-002 254 10 SHR --- --- grp01 OFF

MAPSET ID=2
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      252 10 SOL --- --- grp01 ON

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      253 10 SHR --- --- grp01 OFF
                253-001-004 254 10 SHR --- --- grp01 OFF

MAPSET ID=3
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      255 10 DOM YES YES grp01 ON
                253-001-005 254 20 DOM YES YES grp01 ON
```



```

MAPSET ID=4
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      253-001-001  250 10  DOM YES YES grp01  OFF
                                254 20  DOM YES YES grp01  OFF

MAPSET ID=DFLT
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      255-001-002  251 10  SHR --- --- grp01  OFF
                                254 10  SHR --- --- grp01  OFF

MAPSET ID=5
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      255-001-003  252 10  DOM YES YES grp01  ON
                                254 20  DOM YES YES grp01  ON

MAPSET ID=6
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      255-001-004  253 10  SHR --- --- grp01  ON
                                254 10  SHR --- --- grp01  ON

MAPSET ID=7
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
002-002-007      002-002-008  50 10  COM YES YES grp01  OFF
                                30 10  COM YES YES grp01  OFF
                                002-002-009  30 10  COM YES YES grp01  OFF
                                002-002-010  30 20  COM YES YES grp01  OFF
                                002-002-011  30 20  COM YES YES grp01  OFF

MAPSET ID=8
PCI      Mate PCI      SSN RC MULT SRM MRC GRP NAME SSO
2-001-2      2-001-1      255 10  DOM NO  YES grp03  OFF
                                254 20  DOM NO  YES grp03  OFF

MAPSET ID=9
PCN      Mate PCN      SSN RC MULT SRM MRC GRP NAME SSO
00347      01387      253 10  SHR --- --- grp05  OFF
                                254 10  SHR --- --- grp05  OFF

MAP TABLE IS  1 % FULL  (25 of 36000)

```

If any of the following items are not shown in the `rtrv-map` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MAPSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MRNSET and MRNPC fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 268 is 1024, 2000, or 3000, continue the procedure with [Step 3](#) on page 270.

2. If the maximum number of mated applications shown in the `rtrv-map` output in [Step 1](#) on page 268 is 36000, the Flexible GTT Load Sharing feature is enabled.

Although the `rtrv-map` output shows there can be 36000 entries, a maximum of 1024, 2000, or 3000 different point codes (depending on whether the XMAP Table Expansion feature is enabled for 2000 or 3000 mated applications) can be provisioned for mated applications. To

verify the number of different point codes that can be provisioned for mated applications, enter the `rtrv-tbl-capacity` command. The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
MAP table is (3000 of 3000) 100% full
```

Note: The `rtrv-tbl-capacity` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-tbl-capacity` command, see the `rtrv-tbl-capacity` command description in the *Commands Manual*.

3. Continue the procedure by performing one of these steps.
 - If the `rtrv-map` output in [Step 1](#) on page 268 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 269 shows that the maximum number of mated applications is 3000, and the current number of provisioned mated applications is 3000, no new point codes can be used to provision mated applications. Continue the procedure with [Step 4](#) on page 270.
 - If the `rtrv-map` output in [Step 1](#) on page 268 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 269 shows that the maximum number of mated applications is either 1024 or 2000, and the mated application being added increases the number beyond 1024 or 2000, perform [Enabling the XMAP Table Expansion Feature](#) on page 867 to enable a greater quantity of mated applications. After the quantity of mated applications has been increased, continue the procedure with [Step 4](#) on page 270. If the maximum number of mated applications is not increased, no new point codes can be used to provision mated applications.
 - If the `rtrv-map` output in [Step 1](#) on page 268 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 269 shows that the maximum number of mated applications is either 1024, 2000, or 3000 and the mated application being added will not increase the number beyond the quantity shown in the `rtrv-map` output in [Step 1](#) on page 268 or the `rtrv-tbl-capacity` output in [Step 2](#) on page 269, continue the procedure with [Step 4](#) on page 270.
4. A MAP group, without the Flexible GTT Load Sharing feature enabled, a MAP set, other than the default MAP set, and a MAP group contained in the default MAP set can contain a maximum of 32 entries.

Verify the number of entries that the MAP group or MAP set contains by entering the `rtrv-map` command with the primary point code and SSN assigned to the MAP group or MAP set. If the Flexible GTT Load Sharing feature is enabled, the `mapset` parameter and MAP set ID of the MAP set that the new mated application will be added to.

If the specified MAP set is not the default MAP set, only the `mapset` parameter needs to be specified with the `rtrv-map` command. The point code and SSN does not need to be specified.

For this example, enter one of these commands.

```
rtrv-map:pca=002-002-007:ssn=50
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO
002-002-007		50	10	COM	YES	YES	grp01		OFF
	002-002-008	30	10	COM	YES	YES	grp01		OFF
	002-002-009	30	10	COM	YES	YES	grp01		OFF
	002-002-010	30	20	COM	YES	YES	grp01		OFF
	002-002-011	30	20	COM	YES	YES	grp01		OFF


```
MAP TABLE IS      2 % FULL      (25 of 1024)
```

```
rtrv-map:pca=002-002-007:ssn=50:mapset=dflt
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO
MAPSET ID=DFLT									
002-002-007		50	10	COM	YES	YES	grp01		OFF
	002-002-008	30	10	COM	YES	YES	grp01		OFF
	002-002-009	30	10	COM	YES	YES	grp01		OFF
	002-002-010	30	20	COM	YES	YES	grp01		OFF
	002-002-011	30	20	COM	YES	YES	grp01		OFF

```
MAP TABLE IS      2 % FULL      (25 of 1024)
```

```
rtrv-map:mapset=7
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO
MAPSET ID=7									
002-002-007		50	10	COM	YES	YES	grp01		OFF
	002-002-008	30	10	COM	YES	YES	grp01		OFF
	002-002-009	30	10	COM	YES	YES	grp01		OFF
	002-002-010	30	20	COM	YES	YES	grp01		OFF
	002-002-011	30	20	COM	YES	YES	grp01		OFF

```
MAP TABLE IS      2 % FULL      (25 of 1024)
```

If the MAP group or MAP set contains 32 entries, no more entries can be added to the specified MAP group or MAP set. One of these actions can be performed.

- Entries can be added another MAP group or MAP set. Repeat this step for the other MAP group or MAP set.
- Entries can be removed from the specified MAP group or MAP set. To remove entries from the specified MAP group or MAP set, perform [Removing a Mated Application](#) on page 305.
- Entries can be added to a new MAP group or MAP set.

Note: If none of these actions will be performed, then this procedure cannot be performed.

If the MAP group or MAP set contains less than 32 entries, entries can be added to the MAP group or MAP set.

After it has been determined which MAP group or MAP set that the new entries will be added to (a new MAP group or MAP set or an existing MAP group or MAP set), continue the procedure by performing one of these steps.

- If an existing point code is being added to this MAP group or MAP set, continue the procedure with [Step 5](#) on page 272.
- If a new point code is being added to this MAP group or MAP set, continue the procedure by performing one of these steps.
 - If a concerned signaling point code (CSPC) group is not being assigned to the mated application, continue the procedure with [Step 8](#) on page 274. If the mated point code is

not assigned to a CSPC group, that point code will not be notified of the subsystem's status.

- If a concerned signaling point code (CSPC) group will be assigned to the mated application, continue the procedure with [Step 6](#) on page 273.

5. A mated application can be provisioned with a point code that is assigned to other mated applications as long as the SSN is not assigned to other mated applications.

A point code can be assigned to maximum of 12 different SSNs.

Verify the number of SSNs assigned to the point code that will be specified for the mated application in this procedure by entering the `rtrv-map` command with the point code of the new mated application. For this example, enter this command.

```
rtrv-map:pca=255-001-000
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000          250 10  SOL --- --- grp01  ON
255-001-000          251 10  SHR --- --- grp01  OFF
                253-001-002 254 10  SHR --- --- grp01  OFF
255-001-000          252 10  SOL --- --- grp01  ON
255-001-000          253 10  SHR --- --- grp01  OFF
                253-001-004 254 10  SHR --- --- grp01  OFF

MAP TABLE IS  2 % FULL      (25 of 1024)
```

If the Flexible GTT Load Sharing feature is enabled, the MAPSET IDs for the mated applications are shown in the `rtrv-map` output.

If the Weighted GTT Load Sharing feature is enabled and turned, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the point code is assigned to 12 different SSNs, and neither an existing point code in the `rtrv-map` output nor a new point code will be used to provision the mated application, then this procedure cannot be performed.

If the point code is assigned to less than 12 different SSNs, then the existing point code in the `rtrv-map` output can be used to provision the mated application.

If the point code is assigned to 12 different SSNs, another existing point code in the `rtrv-map` output or a new point code must be used to provision the mated application. If an existing point code in the `rtrv-map` output will be used to provision the mated application, repeat this step for that point code.

After it has been determined which point code will be used to provision the mated application (a new point code or an existing point code), continue the procedure by performing one of these steps.

- If a concerned signaling point code (CSPC) group is not being assigned to the mated application, continue the procedure with [Step 8](#) on page 274. If the mated point code is not assigned to a CSPC group, that point code will not be notified of the subsystem's status.

- If a concerned signaling point code (CSPC) group will be assigned to the mated application, continue the procedure with [Step 6](#) on page 273.
6. Display the point codes in the CSPC group that you wish to assign to the mated application by first entering the `rtrv-cspc` command with no parameters.

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP
NETWORK
PERCENT FULL
grp01      ANSI                6%
grp02      ITU-I               9%
grp03      ITU-N              12%
grp04      ANSI               15%
grp05      ANSI               15%
grp10      ANSI               15%
grp15      ANSI               15%
```

If the desired CSPC group is shown in the `rtrv-cspc` output, re-enter the `rtrv-cspc` command with the CSPC group name. For this example, enter these commands.

```
rtrv-cspc:grp=grp05
```

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP      PCA
grp05         005-005-005
              007-007-007
              008-008-008
              009-009-009
```

```
rtrv-cspc:grp=grp10
```

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:59:31 GMT EAGLE5 36.0.0
CSPC GRP      PCA
grp10         003-003-003
              004-004-004
              008-008-008
              009-009-009
```

```
rtrv-cspc:grp=grp15
```

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP      PCA
grp15         005-005-005
              006-006-006
              008-008-008
              009-009-009
```

Note: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the `rtrv-cspc` output, if point codes of multiple network types are assigned to the CSPC group.

If the CSPC group is not in the database, or if the required point code is not assigned to the CSPC group, perform [Adding a Concerned Signaling Point Code](#) on page 116 and add the required CSPC group or point code to the database.

Note: If the output of the `rtrv-cspc` command performed in [Step 6](#) on page 273 shows CSPC groups containing a mixture of point code types, or if the new CSPC group that was added in [Step 6](#) on page 273 contains a mixture of point code types, continue the procedure with [Step 8](#) on page 274.

7. The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled.

If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to [Adding a Concerned Signaling Point Code](#) on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.

Verify the status of the ANSI-ITU-China SCCP Conversion feature by entering this command:

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
SCCP Conversion       893012001  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 to enable the ANSI-ITU-China SCCP Conversion feature.

8. If the MAPSET column is shown in the `rtrv-map` output in [Step 1](#) on page 268, the Flexible GTT Load Sharing feature is enabled. Continue the procedure with [Step 9](#) on page 275.

If the MAPSET column is not shown in [Step 1](#) on page 268 and you do not wish to provision MAP sets in this procedure, continue the procedure with [Step 9](#) on page 275.

If the MAPSET column is not shown in [Step 1](#) on page 268 and you wish to provision MAP sets in this procedure, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature. After the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 9](#) on page 275.

Note: If you do not wish to assign weight and in-service threshold values to the MAP entries in the MAP group or MAP set, continue the procedure with [Step 10](#) on page 275.

9. If you wish to assign weight and in-service threshold values to the entries in the MAP group or MAP set, and the WT, %WT, and THR columns are shown in the `rtrv-map` output in [Step 1](#) on page 268, then the Weighted GTT Load Sharing feature is enabled and turned on.

If the WT, %WT, and THR columns are not shown in the `rtrv-map` output in [Step 1](#) on page 268, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature.

If the Weighted GTT Load Sharing feature is enabled and turned on, or [Activating the Weighted GTT Load Sharing Feature](#) on page 910 was performed in this step, continue this procedure by performing one of these steps.

- If only one of the point codes that will be specified for the mated application is assigned to other mated applications, perform [Step 10](#) on page 275 for the new point code that is not assigned to other mated applications.
 - If the both point codes that will be specified for the mated application are point codes assigned to other mated applications, continue the procedure by performing one of these steps.
 - If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 278.
 - If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 279.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 282.
10. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
001-207-000	-----	no	---	-----	-----	SS7
001-001-001	-----	no	---	-----	-----	SS7
001-001-002	-----	no	---	-----	-----	SS7
001-005-000	-----	no	---	-----	-----	SS7
001-007-000	-----	no	---	-----	-----	SS7
008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7
DPCI	CLLI	BEI	ELEI	ALIASA	ALIASN/N24	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7

Destination table is (14 of 2000) 1% full

```
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, skip [Step 11](#) on page 276 and [Step 12](#) on page 277, and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 278.
- If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 279.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 282.

11. Display the point code that will be assigned to the mated application by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpc=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA      CLLI      BEI  ELEI  ALIASI      ALIASN/N24  DMN
  010-020-005  ----- no  ---  -----  -----  SS7

  PPCA      NCAI  PRX      RCAUSE  NPRST      SPLITIAM
  009-002-003  ---- no      50      on      20

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

After the new point code has been added, skip [Step 12](#) on page 277 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required

route to the database. After the route has been added, continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 278.
- If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 279.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 282.

12. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point codes to be used with the `ent-map` or `chg-map` commands to verify whether or not the point code is the DPC of a route.

For this example, enter these commands.

```
rtrv-rte:dpca=008-008-008
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA          ALIASI          ALIASN/N24    LSN      RC      APCA
008-008-008 -----
                                ls20      10      008-008-008
                                RTX:No    CLLI=ls20clli
```

```
rtrv-rte:dpca=031-049-100
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA          ALIASI          ALIASN/N24    LSN      RC      APCA
031-049-100 -----
                                ls10      10      031-049-100
                                RTX:No    CLLI=ls10clli
```

```
rtrv-rte:dpca=056-113-200
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA          ALIASI          ALIASN/N24    LSN      RC      APCA
056-113-200 -----
                                ls12      10      056-113-200
                                RTX:No    CLLI=ls12clli
```

```
rtrv-rte:dpca=179-183-050
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA          ALIASI          ALIASN/N24    LSN      RC      APCA
179-183-050 -----
                                ls18      10      179-183-050
                                RTX:No    CLLI=ls18clli
```

```
rtrv-rte:dpca=200-147-100
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
```

DPCA	ALIASI	ALIASN/N24	LSN	RC	APCA
200-147-100	-----	-----	ls19	10	200-147-100
			RTX:No	CLLI=ls19clli	

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

Continue the procedure by performing one of these steps.

- If the `mrnset` and `mrnpc` parameters will be specified for the mated application, continue the procedure with [Step 13](#) on page 278.
 - If the `mrnset` and `mrnpc` parameters will not be specified for the mated application, continue the procedure by performing one of these steps.
 - If a new mated application is being added, continue the procedure with [Step 14](#) on page 279.
 - If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 282.
13. The MRN point code value must be assigned to an MRN set. The MRN set must be shown in the `rtrv-mrn` output. Display the MRN sets by entering the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
DFLT	7	002-002-007	50	005-005-005	10	10	14	1
				006-001-001	10	10	14	1
				006-001-002	10	20	28	1
				006-001-003	10	30	42	1
				006-001-004	20	40	23	1
				006-001-005	20	40	23	1
				006-001-006	20	40	23	1
				006-001-007	20	50	29	1

MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
1	-----	-----	---	007-007-007	10	10	14	1
				008-001-001	10	10	14	1
				008-001-002	10	20	28	1
				008-001-003	10	30	42	1
				008-001-004	20	40	23	1
				008-001-005	20	40	23	1
				008-001-006	20	40	23	1
				008-001-007	20	50	29	1

MRN table is (16 of 5990) 1% full

If any of the following items are not shown in the `rtrv-mrn` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The `MRNSET` field - the Flexible GTT Load Sharing feature is not enabled.
- The `MAPSET`, `MAPPC` and `MAPSSN` fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The `WT`, `%WT`, `THR` columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

Note: The network type of the `pc/pca/pci/pcn/pcn24` and `mrnpc/mrnpc/mrnpci/mrnpcn/mrnpcn24` parameter values must be compatible, as shown

in Note 9 in [Table 31: Combined Dominant/Load Shared Mated Application Parameter Combinations for the ENT-MAP Command](#) on page 279 or in Note 10 in [Table 32: Combined Dominant/Load Shared Mated Application Parameter Combinations for the CHG-MAP Command](#) on page 282.

If the MRN set that you wish to use, containing the desired point code, is not shown in the `rtrv-mrn` output, add the required MRN set by performing [Provisioning MRN Entries](#) on page 367.

If the MRN set that you wish to use is shown in the `rtrv-mrn` output, or [Provisioning MRN Entries](#) on page 367 was performed in this step, continue the procedure by performing one of these steps.

- If a new mated application is being added, continue the procedure with [Step 14](#) on page 279.
- If an entry is being added to an existing mated application, continue the procedure with [Step 15](#) on page 282.

14. Add the mated application to the database using the `ent-map` command. Use [Table 31: Combined Dominant/Load Shared Mated Application Parameter Combinations for the ENT-MAP Command](#) on page 279 as a guide for the parameters and values that can be specified with the `ent-map` command.

Table 31: Combined Dominant/Load Shared Mated Application Parameter Combinations for the ENT-MAP Command

Mandatory Parameters
:pc/pca/pci/pcn/pcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs> (See Notes 6 and 9))
:ssn=<subsystem number, 2 - 255>
:rc=<0 - 99> (See Note 1)
:mpc/mpca/mpci/mpcn/mpcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code of the mate from the <code>rtrv-rte</code> or <code>rtrv-map</code> outputs> (See Notes 3, 6, and 9)
:mssn=<subsystem number of the mate, 2 - 255>
:materc=<0 - 99> (See Note 1)
Optional Parameters
:wt=<1 - 99> (See Note 5)
:mwt=<1 - 99> (See Note 5)
:thr=<1 - 100> (See Note 5)
:grp=<CSPC group name> (See Note 2)
:sso=<on, off>
:srm=<yes, no> (See Note 7)
:mrc=<yes, no>
:mapset=<new, dflt> (See Note 4)

:mrnset = <MRN set ID from the <code>rtrv-mrn</code> output> (See Note 8)
:mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai24=<the point code value in the MRN set> (See Notes 8 and 9)
<p>Notes</p> <ol style="list-style-type: none"> 1. The combined dominant/load shared mated application must contain a minimum of two entries with RC values that are equal and a minimum of one entry with an RC value that is different. 2. The format of the point codes in the CSPC group specified with the <code>grp</code> parameter must be the same as the primary point code specified with the <code>ent-map</code> command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to Adding a Concerned Signaling Point Code on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. 3. For mated applications containing ANSI or 24-bit ITU-N point codes, the format of the point codes specified in the <code>ent-map</code> command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (<code>pcn24</code>), the mate point code must be a 24-bit ITU-N point code (<code>mpcn24</code>). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes. 4. If the Flexible GTT Load Sharing is enabled, the <code>mapset</code> parameter must be specified with the <code>ent-map</code> command. <p>If the Flexible GTT Load Sharing is not enabled, the <code>mapset</code> parameter cannot be specified with the <code>ent-map</code> command.</p> <p>To provision entries in the default MAP set, the <code>mapset=df1t</code> parameter must be specified with the <code>ent-map</code> command.</p> <p>To provision entries in a new MAP set, the <code>mapset=new</code> parameter must be specified with the <code>ent-map</code> command. The <code>mapset=new</code> parameter can be specified only with the <code>ent-map</code> command. When the <code>ent-map</code> command is executed with the <code>mapset=new</code> parameter, the new MAP set ID is automatically generated and displayed in the output of the <code>ent-map</code> command as follows.</p> <pre>New MAPSET Created : MAPSETID = <new MAP set ID></pre> <p>A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point code and subsystem entries.</p> <p>The default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.</p> <p>The point code and subsystem entry can appear only once in the default MAP set, so the point code and subsystem entry can appear in only one MAP group in the default MAP set.</p> <p>The point code and subsystem entry provisioned in a MAP set can be provisioned in multiple MAP sets. If a point code and subsystem entry is provisioned in different MAP</p>

sets, the relative cost value of the entry in each MAP set can be different. All the point code and subsystem entries in a MAP set, including the default MAP set, must be different.

5. Refer to [Provisioning Weights and In-Service Thresholds for Mated Applications](#) on page 266 for information about using the weight (wt and mwt) and in-service threshold (thr) parameters.
6. If the point code selected from either the rtrv-rte or rtrv-map outputs is a 14-bit ITU-N point code, then the pcn/mpcn parameters must be specified. If the point code selected from either the rtrv-rte or rtrv-map outputs is a 24-bit ITU-N point code, then the pcn24/mpcn24 parameters must be specified.
7. The srm=yes parameter can be specified only for mated applications containing ANSI point codes.
8. The mrnset and mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai/mrnpai24 parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Refer to [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 for information about enabling the GTT Load Sharing with Alternate Routing Indicator feature. The mrnset and mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai24 values must be shown in the rtrv-mrn output.
9. The network type of the pc/pca/pci/pcn/pcn24 and mrnpc/mrnpca/mrnpai/mrnpai/mrnpai24 parameter values must be compatible, as shown in this list.

- pc/pca - mrnpc/'mrnpca
- pcn24 - mrnpc24
- pci or pcn - mrnpai or mrnpai

If the network type of the MAP point code parameter is ITU-I (pci), the network type of the MRN point code parameter can be either ITU-I (mrnpai) or ITU-N (mrnpai).

If the network type of the MAP point code parameter is ITU-N (pcn), the network type of the MRN point code parameter can be either ITU-I (mrnpai) or ITU-N (mrnpai).

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
ent-map:pca=008-008-008:ssn=254:rc=10:mpc=200-147-100:mssn=254
:materc=10:grp=grp10:sso=on:wt=10:mwt=30:thr=50

ent-map:pci=5-005-5:ssn=50:rc=10:mpcn=0257:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
ENT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
ent-map:pca=008-008-008:ssn=254:rc=10:mpc=200-147-100:mssn=254
:materc=10:grp=grp10:sso=on:mapset=new:wt=10:mwt=30:thr=50

ent-map:pci=5-005-5:ssn=50:rc=10:mpcn=0257:mssn=50:materc=10
:grp=grp20:mrc=yes:sso=off:mapset=new
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled for this example, enter this command.

```
ent-map:pca=008-008-008:ssn=254:rc=10:mpc=200-147-100:mssn=254
:materc=10:grp=grp10:sso=on:mapset=new:wt=10:mwt=30:thr=50
:mrnset=1:mrnpc=007-007-007
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and a new MAP set was created, a message similar to the following should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
New MAPSET Created : MAPSETID = 10
ENT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled when each of these commands have successfully completed, and the mated application was added to the default MAP set, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
ENT-MAP: MASP A - COMPLTD
```

If no other entries are being added to the mated application, continue the procedure with [Step 16](#) on page 285.

If other entries are being added to the mated application, continue the procedure with [Step 15](#) on page 282.

15. Add the mated point code and subsystem to the mated application using the `chg-map` command. Use [Table 32: Combined Dominant/Load Shared Mated Application Parameter Combinations for the CHG-MAP Command](#) on page 282 as a guide for the parameters and values that can be specified with the `chg-map` command.

Table 32: Combined Dominant/Load Shared Mated Application Parameter Combinations for the CHG-MAP Command

Mandatory Parameters
:pc/pca/pci/pcn/pcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code from the rtrv-rte or rtrv-map outputs> (See Notes 6 and 10)
:ssn=<subsystem number>
:mpc/mpca/mpci/mpcn/mpcn24=<ANSI, ITU-I, ITU-I spare, ITU-N, ITU-N spare, or ITU-N24 point code of the mate from the rtrv-rte or rtrv-map outputs> (See Notes 3, 6, and 10)
:mssn=<subsystem number of the mate, 2 - 255>
:materc=<0 - 99> (See Note 1)
Optional Parameters
:wt=<1 - 99> (See Note 5)
:mwt=<1 - 99> (See Note 5)
:grp=<CSPC group name> (See Notes 2 and 8)

:sso=<on, off> (See Note 8)
:srm=<yes, no> (See Notes 7 and 8)
:mrc=<yes, no> (See Note 8)
:mapset=<dflt or the number of an existing MAP set> (See Note 4)
:mrnset = <MRN set ID from the <code>rtrv-mrn</code> output> (See Note 9)
:mrnpc/mrnpca/mrnpai/mrnpai24=<the point code value in the MRN set> (See Notes 9 and 10)
<p>Notes</p> <ol style="list-style-type: none"> 1. The combined dominant/load shared mated application must contain a minimum of two entries with RC values that are equal and a minimum of one entry with an RC value that is different. 2. The format of the point codes in the CSPC group specified with the <code>grp</code> parameter must be the same as the primary point code specified with the <code>chg-map</code> command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to Adding a Concerned Signaling Point Code on page 116), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. 3. For mated applications containing ANSI or 24-bit ITU-N point codes, the format of the point codes specified in the <code>chg-map</code> command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (<code>pcn24</code>), the mate point code must be a 24-bit ITU-N point code (<code>mpcn24</code>). The mate point codes of mated applications containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The mate point codes of these mated applications can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes. 4. If the Flexible GTT Load Sharing is enabled, the <code>mapset</code> parameter must be specified with the <code>chg-map</code> command. If the Flexible GTT Load Sharing is not enabled, the <code>mapset</code> parameter cannot be specified with the <code>chg-map</code> command. To provision entries in the default MAP set, the <code>mapset=dflt</code> parameter must be specified with the <code>chg-map</code> command. To provision entries in an existing MAP set, the <code>mapset</code> parameter must be specified with the MAP set ID value of that MAP set. A MAP set, other than the default MAP set, is a MAP group provisioned with the MAP set ID and can contain a maximum of 32 point code and subsystem entries. The default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries. The point code and subsystem entry can appear only once in the default MAP set, so the point code and subsystem entry can appear in only one MAP group in the default MAP set.

The point code and subsystem entry provisioned in a MAP set can be provisioned in multiple MAP sets. If a point code and subsystem entry is provisioned in different MAP sets, the relative cost value of the entry in each MAP set can be different. All the point code and subsystem entries in a MAP set, including the default MAP set, must be different.

5. Refer to [Provisioning Weights and In-Service Thresholds for Mated Applications](#) on page 266 for information about using the weight (wt and mwt) and in-service threshold (thr) parameters.
6. If the point code selected from either the `rtrv-rte` or `rtrv-map` outputs is a 14-bit ITU-N point code, then the `pcn/mpcn` parameters must be specified. If the point code selected from either the `rtrv-rte` or `rtrv-map` outputs is a 24-bit ITU-N point code, then the `pcn24/mpcn24` parameters must be specified.
7. The `srn=yes` parameter can be specified only for mated applications containing ANSI point codes.
8. The CSPC group name (`grp`) or `sso` values for a specific point code and SSN in a mated application are changed, these parameter values for this specific point code and SSN in all applicable mated applications will be changed to the new values.
9. The `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai/mrnpai` parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Refer to [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 for information about enabling the GTT Load Sharing with Alternate Routing Indicator feature. The `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai` values must be shown in the `rtrv-mrn` output.
10. The network type of the `pc/pca/pci/pcn/pcn24` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai/mrnpai` parameter values must be compatible, as shown in this list.
 - `pc/pca` - `mrnpc/'mrnpca`
 - `pcn24` - `mrnpc24`
 - `pci` or `pcn` - `mrnpai` or `mrnpai`

If the network type of the MAP point code parameter is ITU-I (`pci`), the network type of the MRN point code parameter can be either ITU-I (`mrnpai`) or ITU-N (`mrnpai`).

If the network type of the MAP point code parameter is ITU-N (`pcn`), the network type of the MRN point code parameter can be either ITU-I (`mrnpai`) or ITU-N (`mrnpai`).

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
chg-map:pca=008-008-008:ssn=254:rc=10:mpc=179-183-050:mssn=250
:materc=10:grp=grp15:sso=off:mwt=40

chg-map:pca=008-008-008:ssn=254:rc=10:mpca=031-049-100
:mssn=250:materc=20:grp=grp15:mrc=yes:srm=yes:sso=on:mwt=60

chg-map:pca=008-008-008:ssn=254:rc=10:mpca=056-113-200
:mssn=251:materc=20:grp=grp05:mrc=yes:srm=yes:sso=off:mwt=70

chg-map:pci=5-005-5:ssn=50:rc=10:mpci=s-5-005-6:mssn=50:materc=20
:grp=grp20:mrc=yes:sso=off

chg-map:pci=5-005-5:ssn=50:rc=10:mpci=5-005-1:mssn=50:materc=20
:grp=grp20:mrc=yes:sso=off
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0  
CHG-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
chg-map:pca=008-008-008:ssn=254:rc=10:mpc=179-183-050:mssn=250  
:materc=11:grp=grp15:sso=off:mapset=10:mwt=40
```

```
chg-map:pca=008-008-008:ssn=254:rc=10:mpca=031-049-100  
:mssn=250:materc=20:grp=grp15:mrc=yes:srm=yes:sso=on:mapset=10:mwt=60
```

```
chg-map:pca=008-008-008:ssn=254:rc=10:mpca=056-113-200  
:mssn=251:materc=20:grp=grp05:mrc=yes:srm=yes:sso=off :mapset=10:mwt=70
```

```
chg-map:pci=5-005-5:ssn=50:rc=10:mpci=s-5-005-6:mssn=50:materc=20  
:grp=grp20:mrc=yes:sso=off:mapset=11
```

```
chg-map:pci=5-005-5:ssn=50:rc=10:mpci=5-005-1:mssn=50:materc=20  
:grp=grp20:mrc=yes:sso=off:mapset=11
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled for this example, enter this command.

```
chg-map:pca=008-008-008:ssn=254:rc=10:mpc=179-183-050:mssn=250  
:materc=11:grp=grp15:sso=off:mapset=10:mwt=40:mrnset=1  
:mrnpc=007-007-007
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0  
CHG-MAP: MASP A - COMPLTD
```

Repeat this step for all new entries being added to the existing mated application.

If the Flexible GTT Load Sharing feature is not enabled, the mated application can contain a maximum of 32 entries.

If the Flexible GTT Load Sharing feature is enabled, and the MAP set is not the default MAP set, the MAP set can contain a maximum of 32 entries.

If the Flexible GTT Load Sharing feature is enabled, and the MAP set is the default MAP set, the default MAP set can contain multiple MAP groups. Each group in the default MAP set can contain a maximum of 32 point code and subsystem entries.

16. Verify the changes using the `rtrv-map` command with the primary point code and subsystem specified in [Step 14](#) on page 279 and [Step 15](#) on page 282.

If the `mapset=dflt` parameter was specified in [Step 14](#) on page 279 and [Step 15](#) on page 282, the `mapset=dflt` parameter should be specified with the `rtrv-map` command.

If a new MAP set was created in [Step 14](#) on page 279, the `mapset` parameter should be specified with the `rtrv-map` command. The value for the `mapset` parameter should be the MAP set ID generated in [Step 14](#) on page 279.

If the mated application was added to an existing MAP set in [Step 15](#) on page 282, the `mapset` parameter and value specified in [Step 15](#) on page 282 should be specified with the `rtrv-map` command.

If the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

```
rtrv-map:pca=008-008-008:ssn=254
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008   200-147-100 254 10 COM YES YES grp10  ON  10   4  50
               179-183-050 250 10 COM YES YES grp15  OFF  40  19  50
               031-049-100 250 20 COM YES YES grp15  ON   60  28  50
               056-113-200 251 20 COM YES YES grp05  OFF  70  33  50

MAP TABLE IS  4 % FULL      (37 of 1024)
```

```
rtrv-map:pci=5-005-5:ssn=50
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCI          NET  Mate PC      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
5-005-5      N    0257          50 10 COM --- --- grp20  OFF -- --- --
               I  s-5-005-6      50 20 COM --- --- grp20  OFF -- --- --
               I    5-005-1      50 20 COM --- --- grp20  OFF -- --- --

MAP TABLE IS  4 % FULL      (37 of 1024)
```

Note: If the Weighted GTTLoad Sharing feature is not enabled or turned on, the WT, %WT, and THR columns are not shown in the rtrv-map output.

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
rtrv-map:pca=008-008-008:ssn=254:mapset=10
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=10      MRNSET ID=----- MRNPC=-----
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008   200-147-100 254 10 COM YES YES grp10  ON  10   4  50
               179-183-050 250 10 COM YES YES grp15  OFF  40  19  50
               031-049-100 250 20 COM YES YES grp15  ON   60  28  50
               056-113-200 251 20 COM YES YES grp05  OFF  70  33  50

MAP TABLE IS  4 % FULL      (37 of 36000)
```

```
rtrv-map:pci=5-005-5:ssn=50:mapset=11
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=11      MRNSET ID=----- MRNPC=-----
PCI          NET  Mate PC      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
5-005-5      N    0257          50 10 COM --- --- grp20  OFF -- --- --
               I  s-5-005-6      50 20 COM --- --- grp20  OFF -- --- --
               I    5-005-1      50 20 COM --- --- grp20  OFF -- --- --
```



```
MAP TABLE IS 4 % FULL (37 of 36000)
```

If the Weighted GTT Load Sharing feature is not enabled, the WT, %WT, and THR columns are not shown in the `rtrv-map` output.

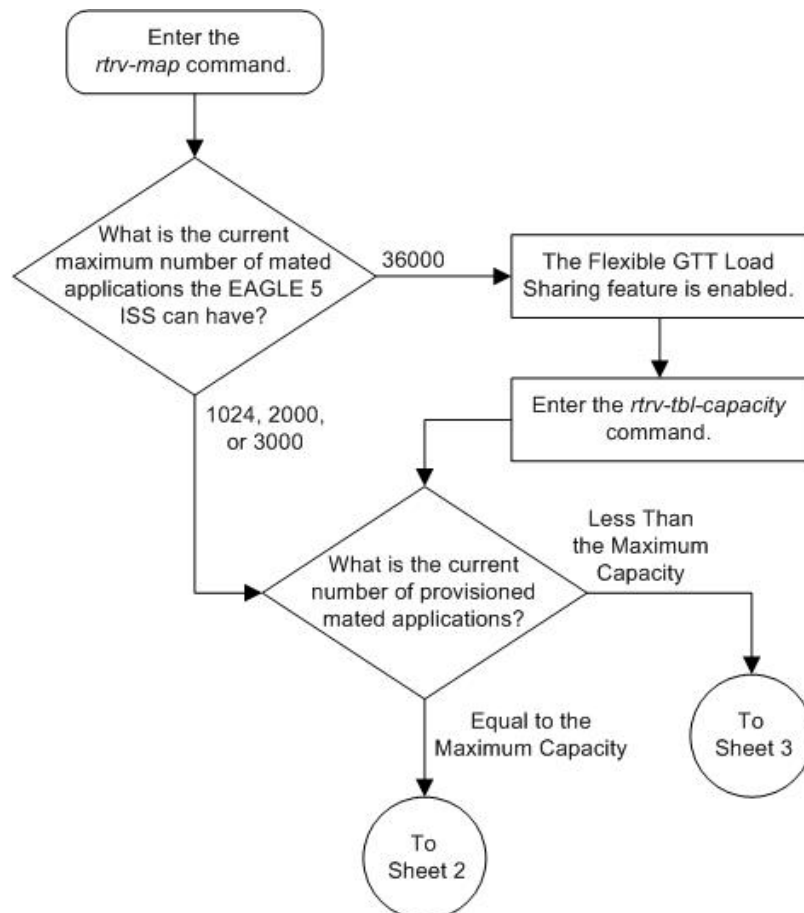
If the GTT Load Sharing with Alternate Routing Indicator feature is not enabled, the MRNSET and MRNPC fields are not shown in the `rtrv-map` output.

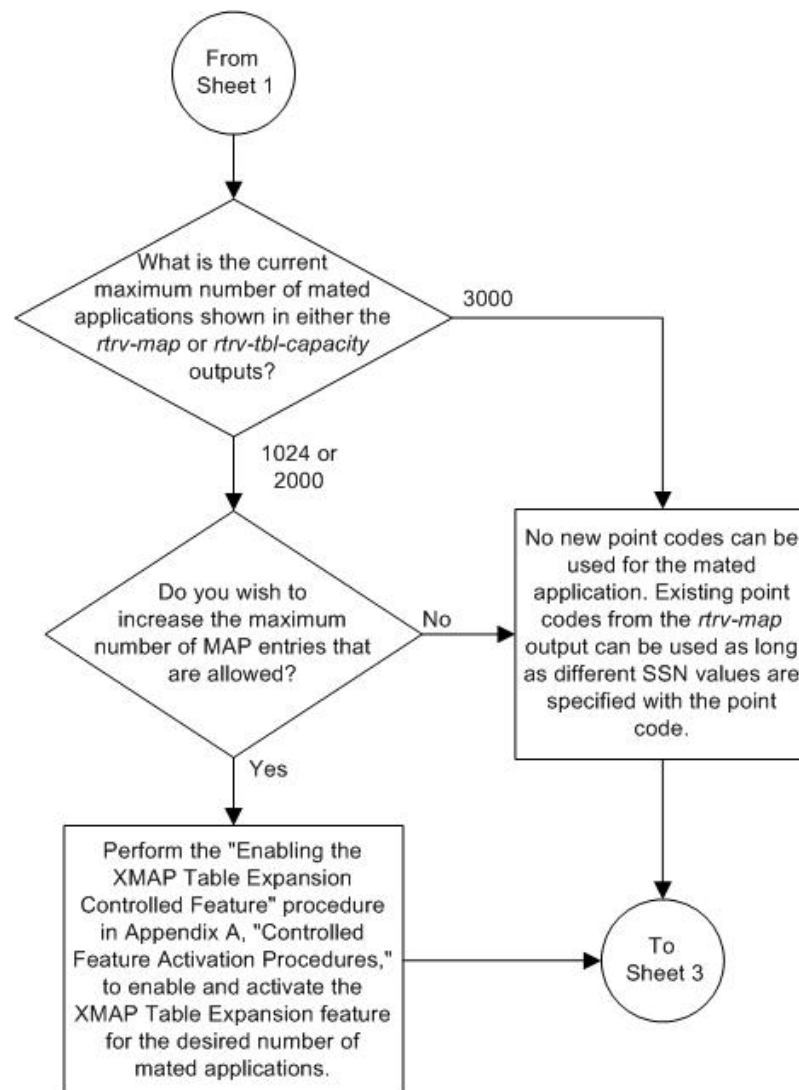
17. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

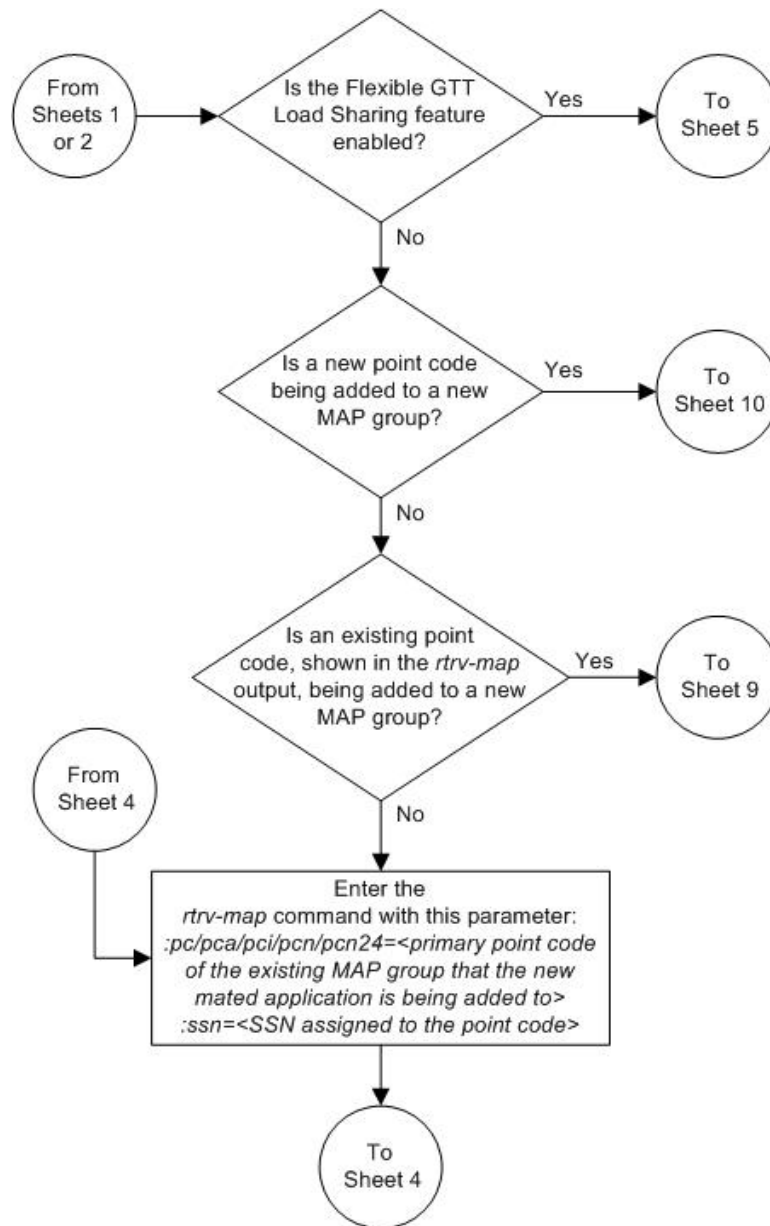
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

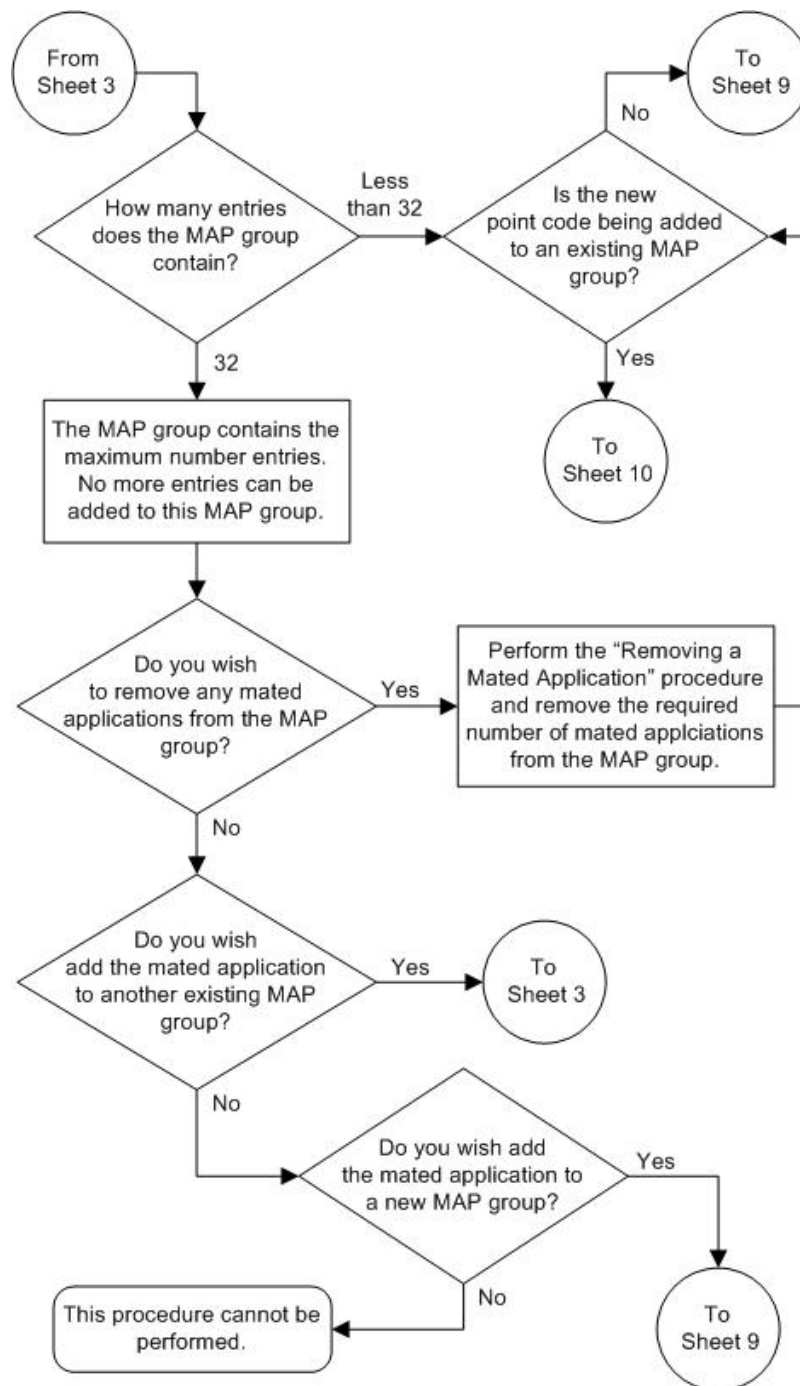
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

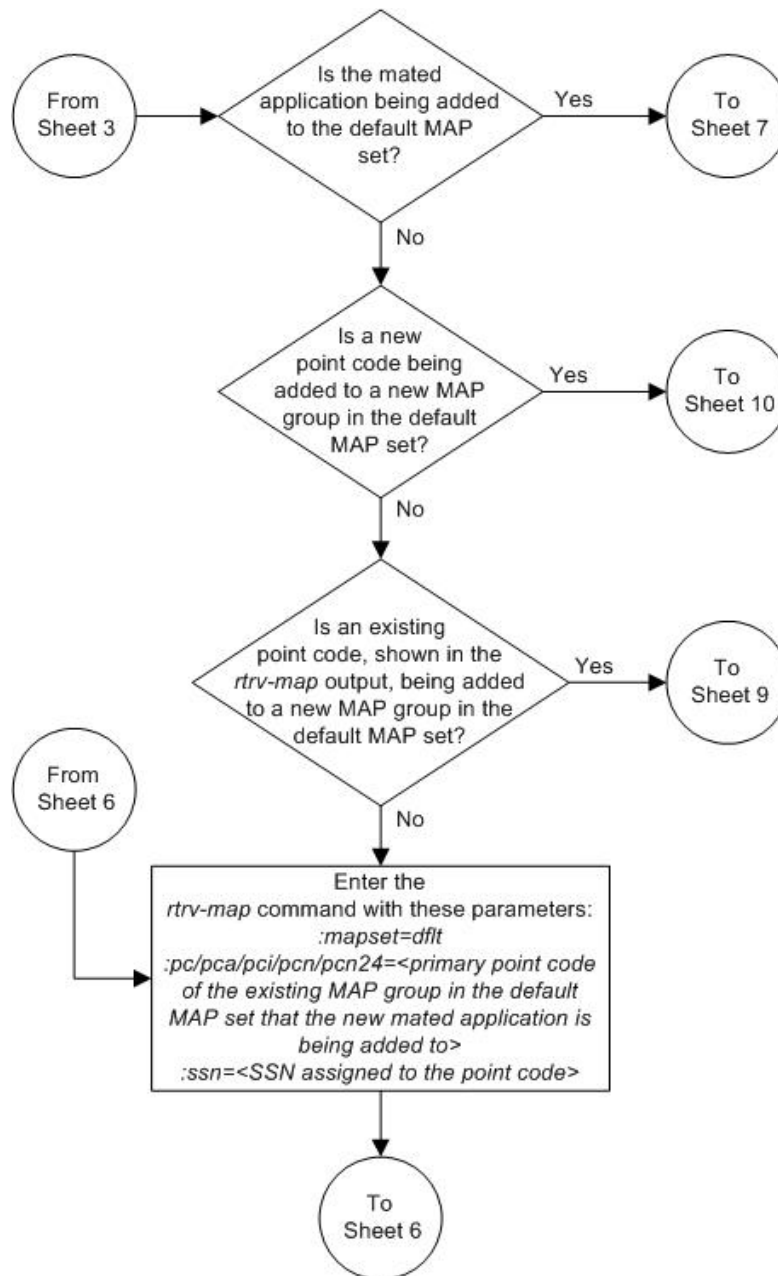
Figure 27: Provisioning a Combined Dominant/Load Shared Mated Application

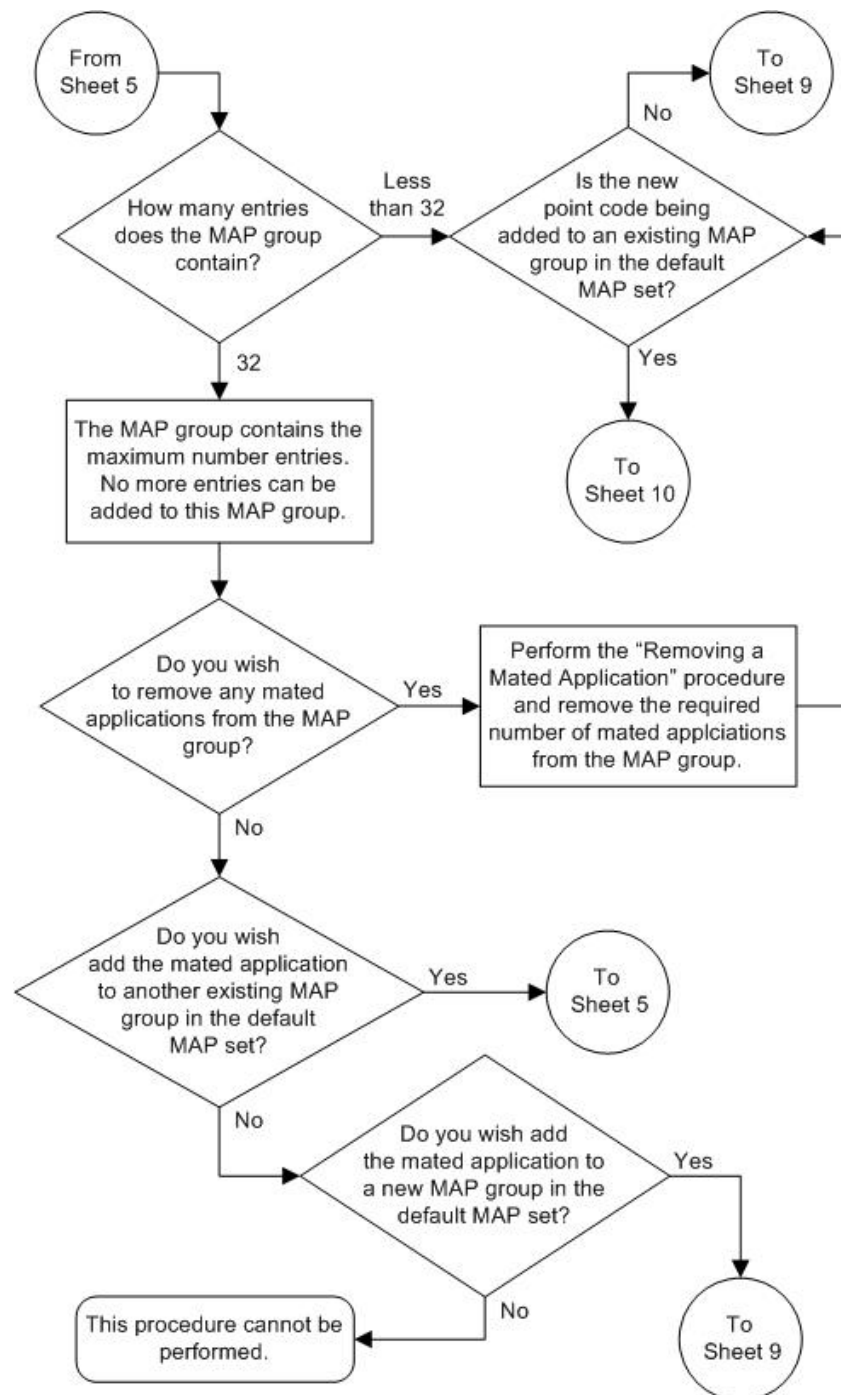


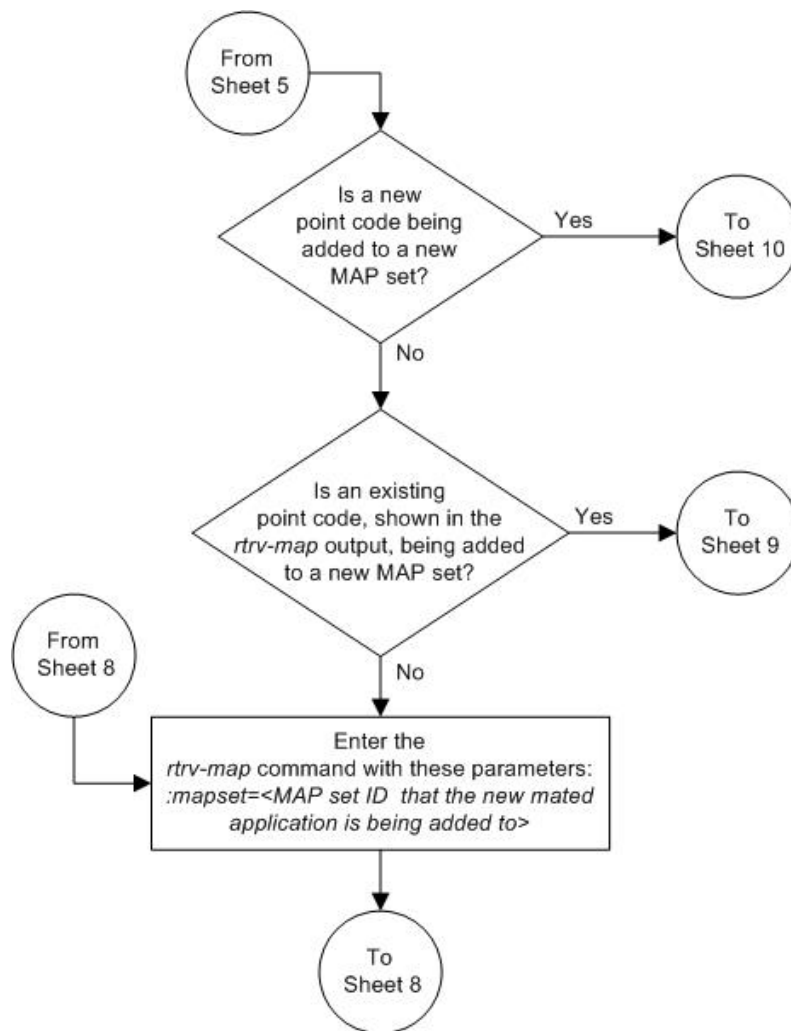


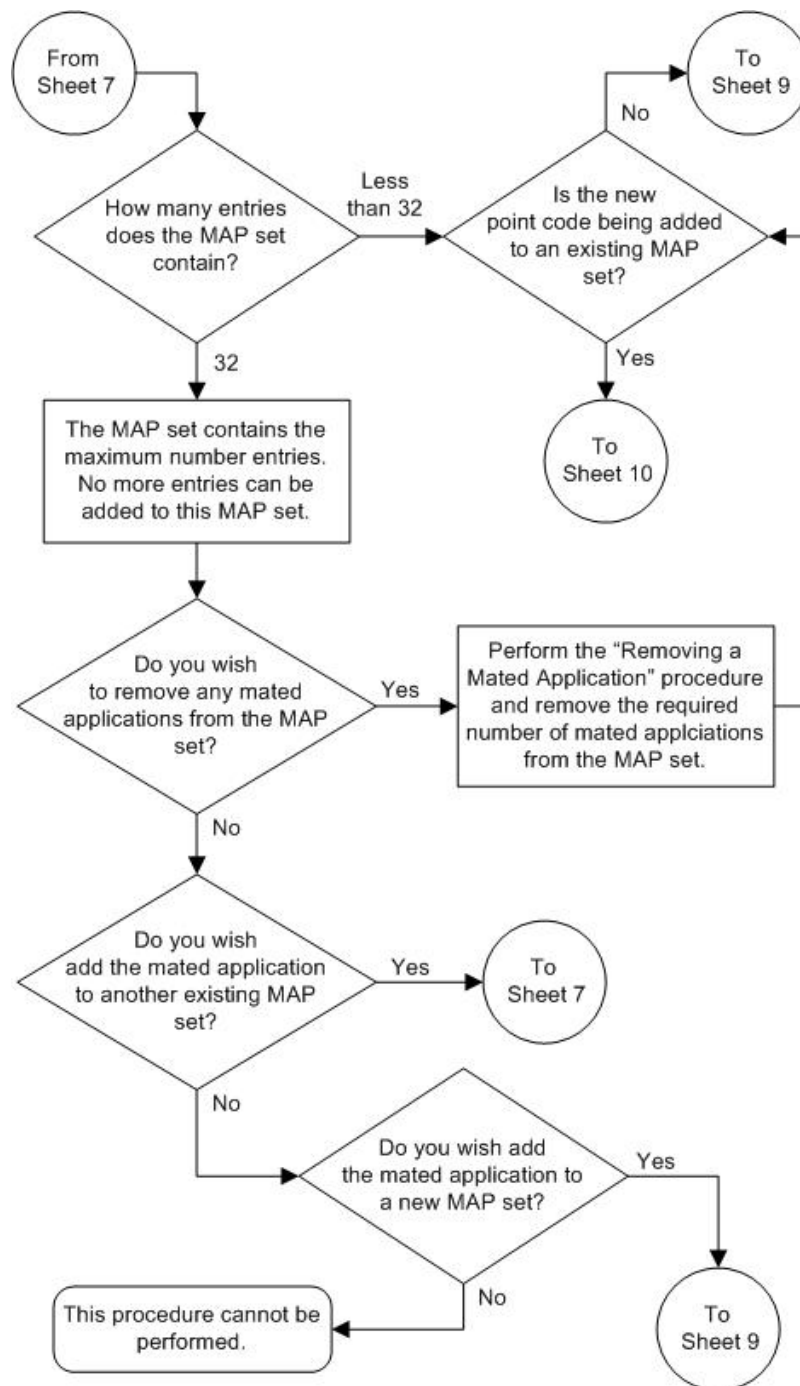


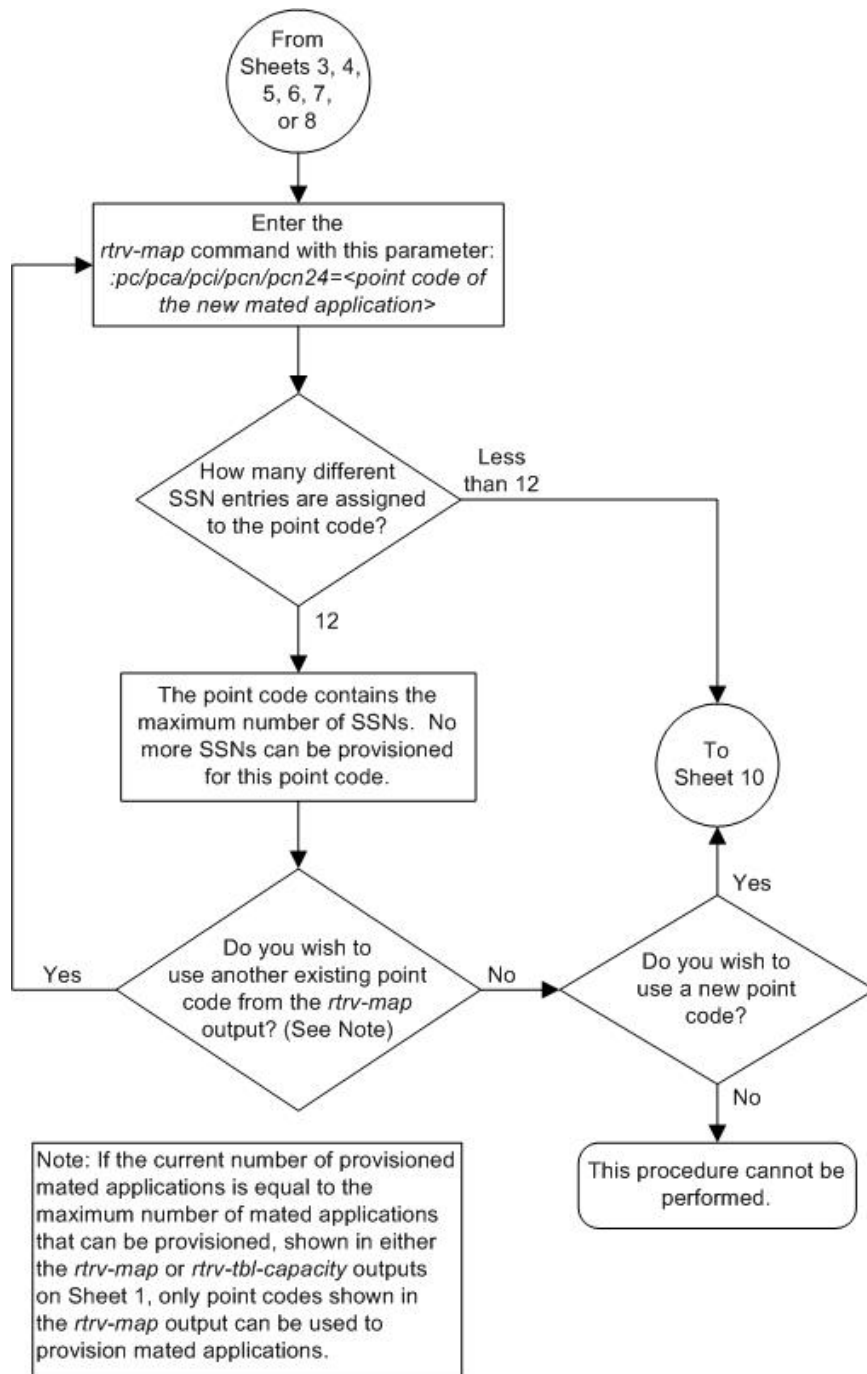


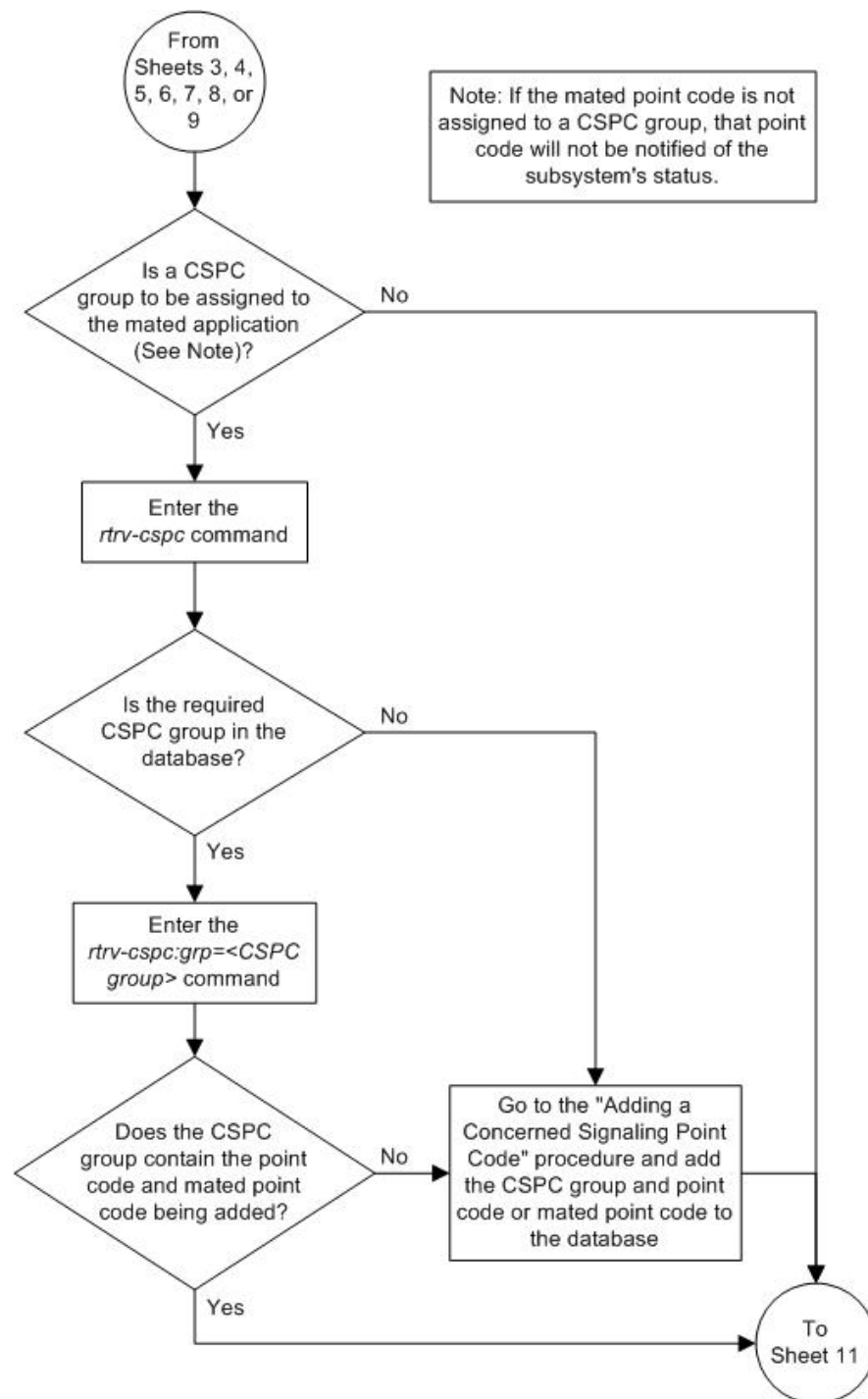


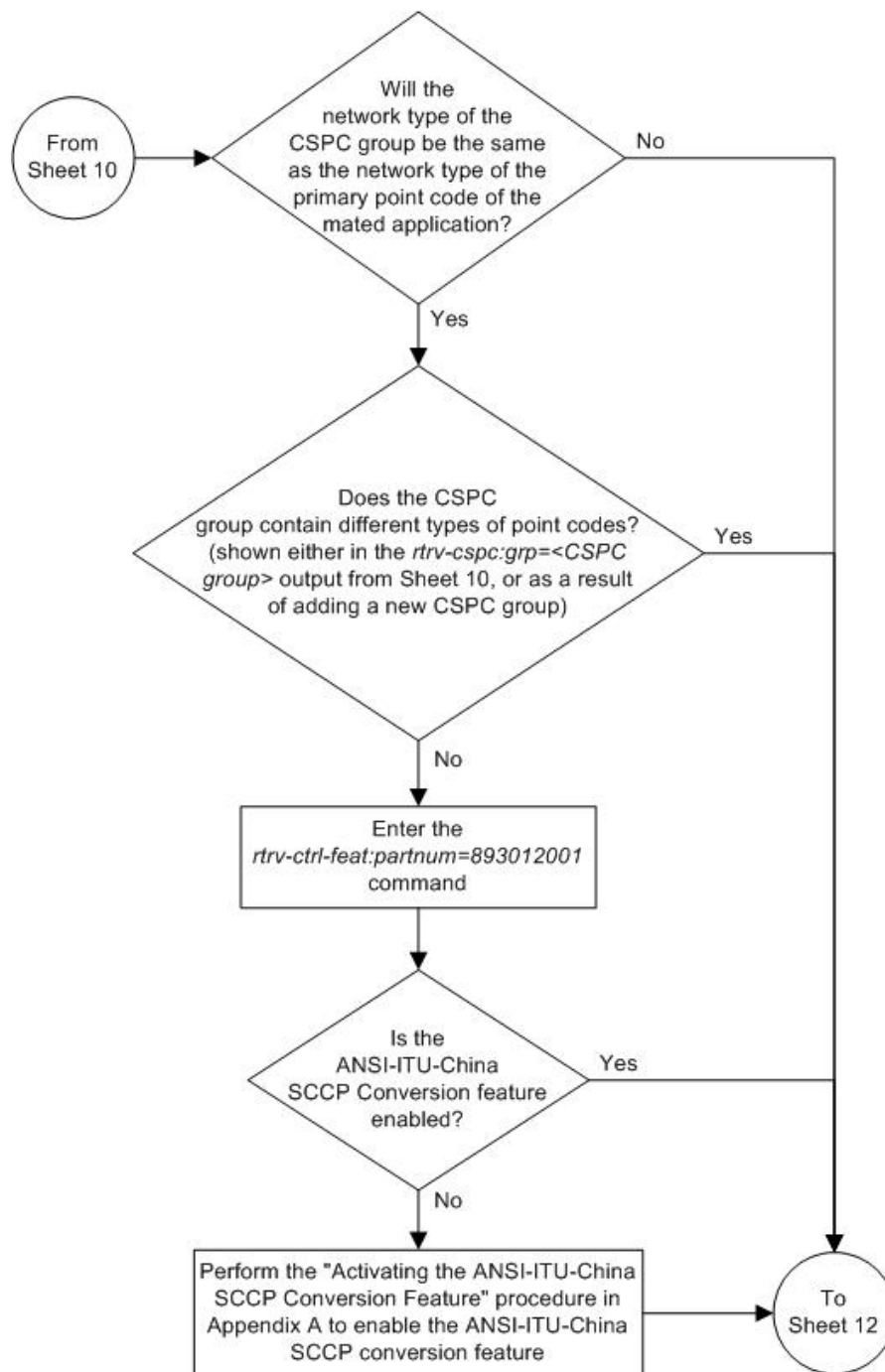


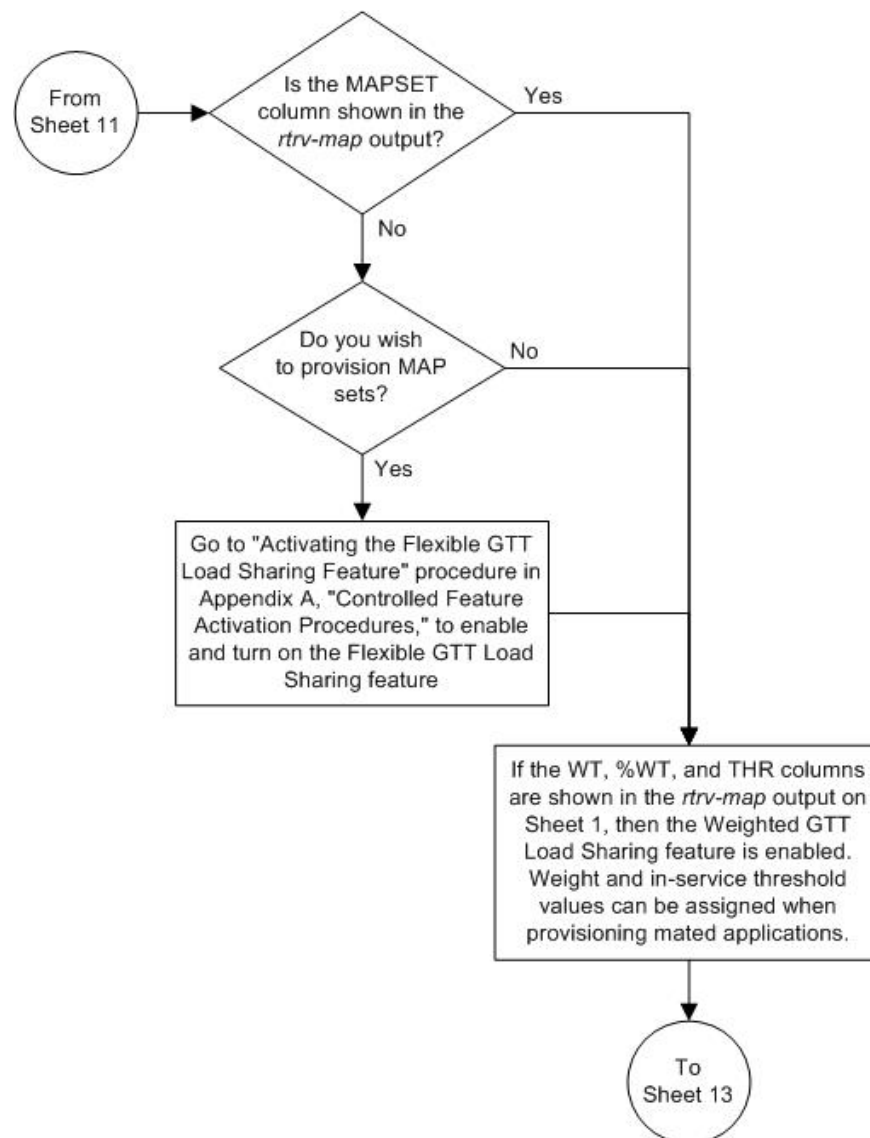


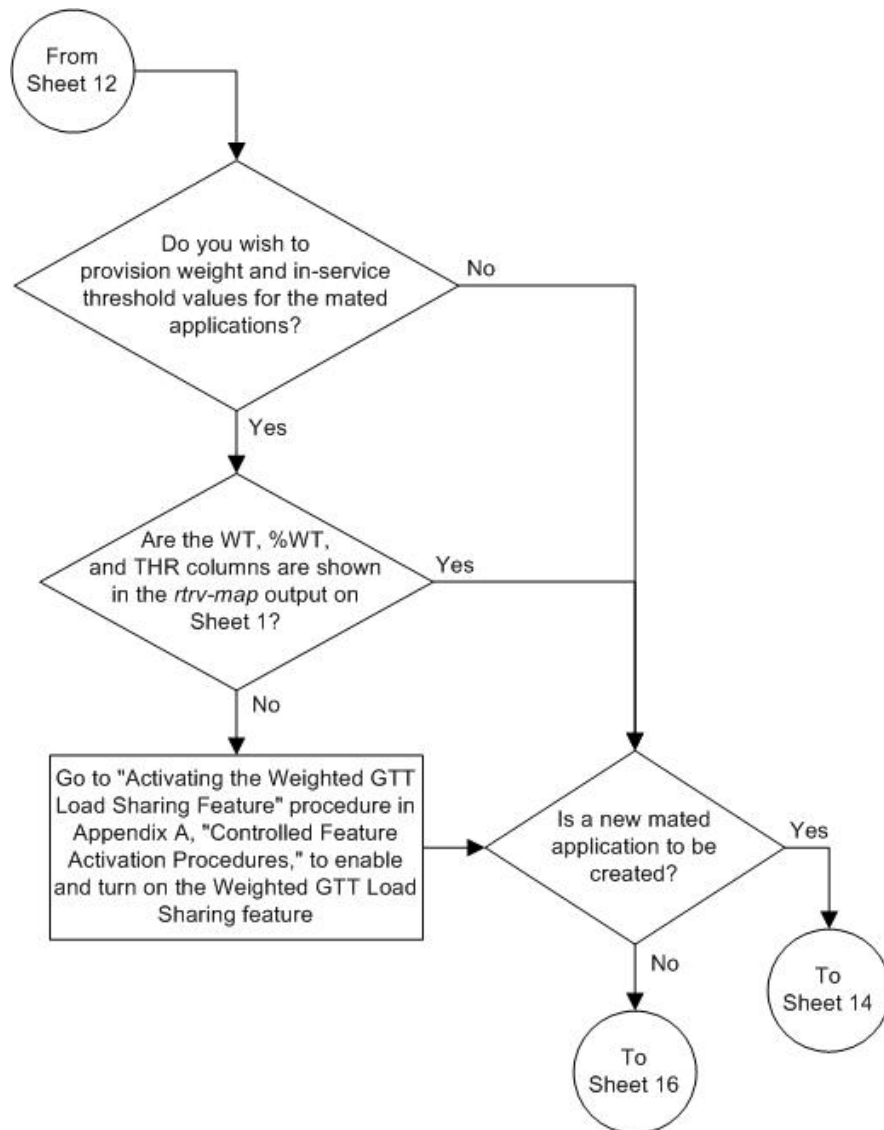


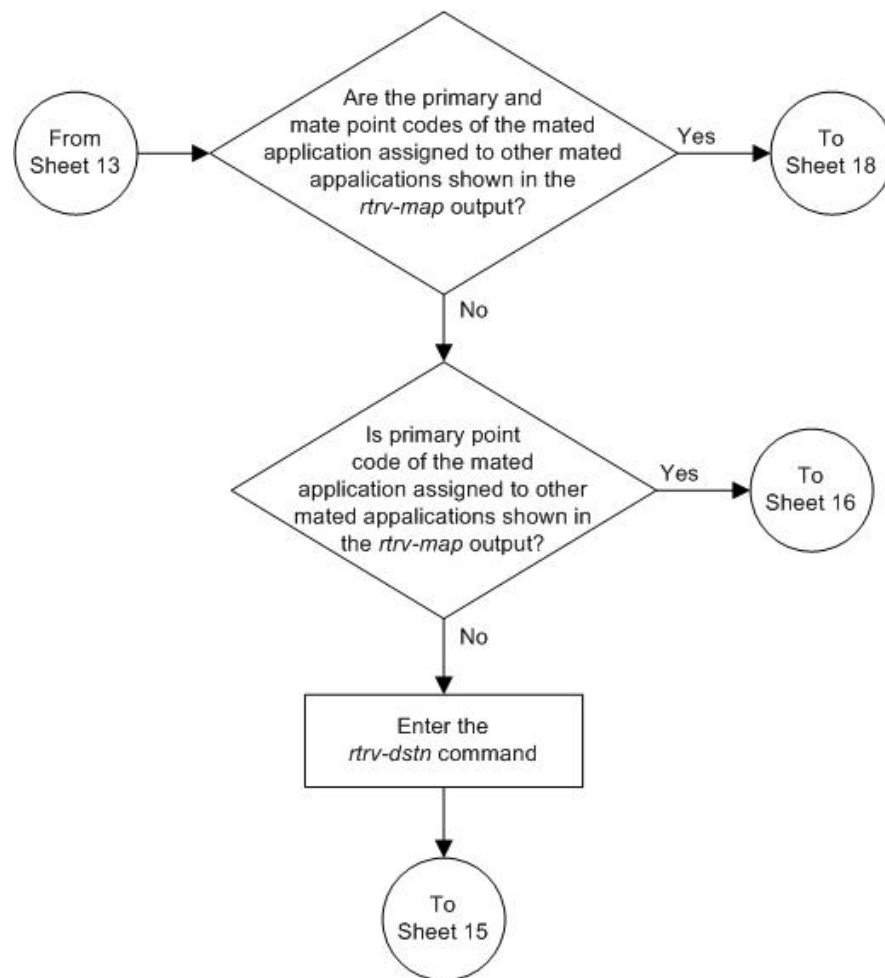


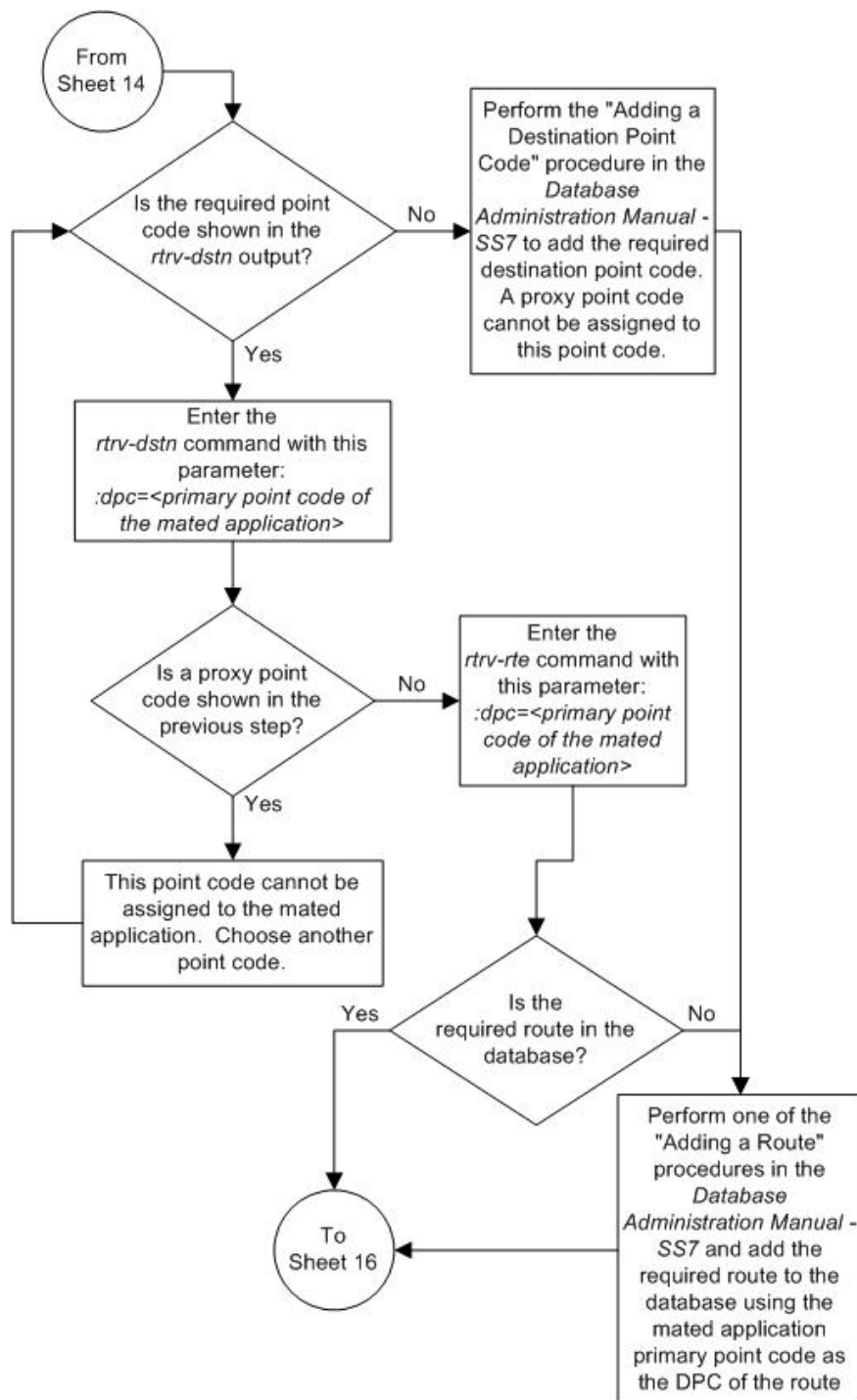


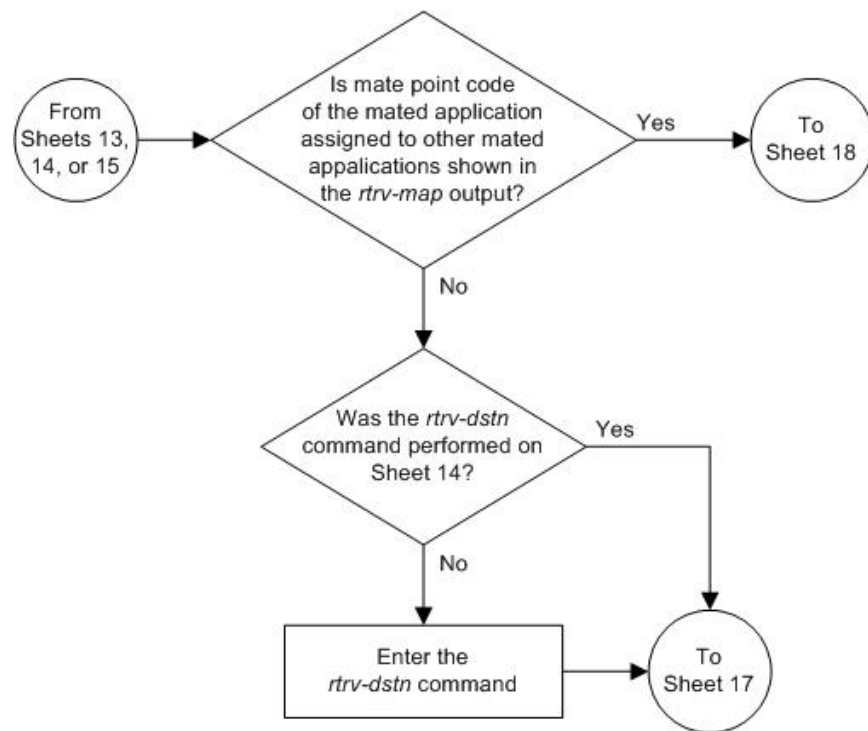


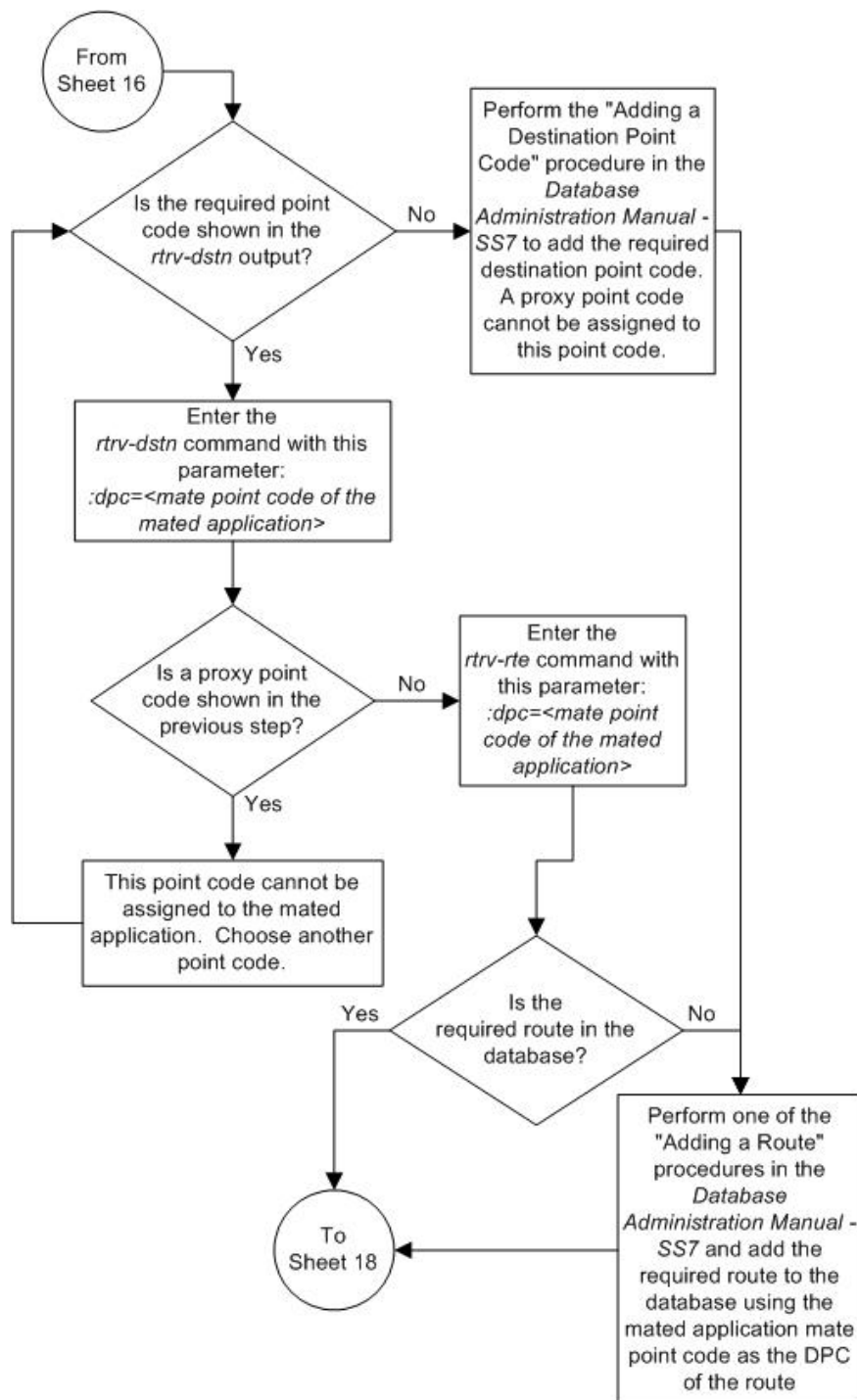


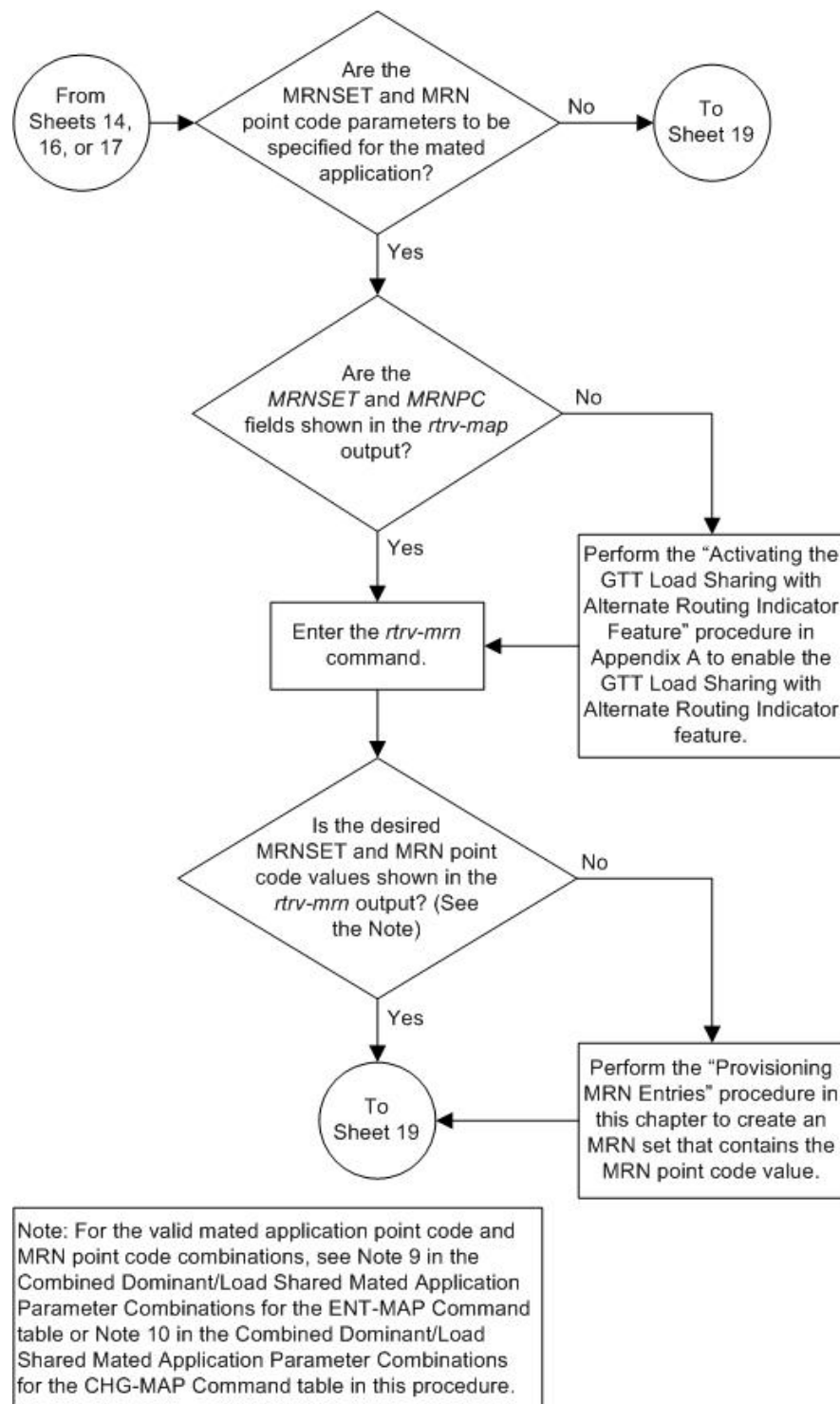


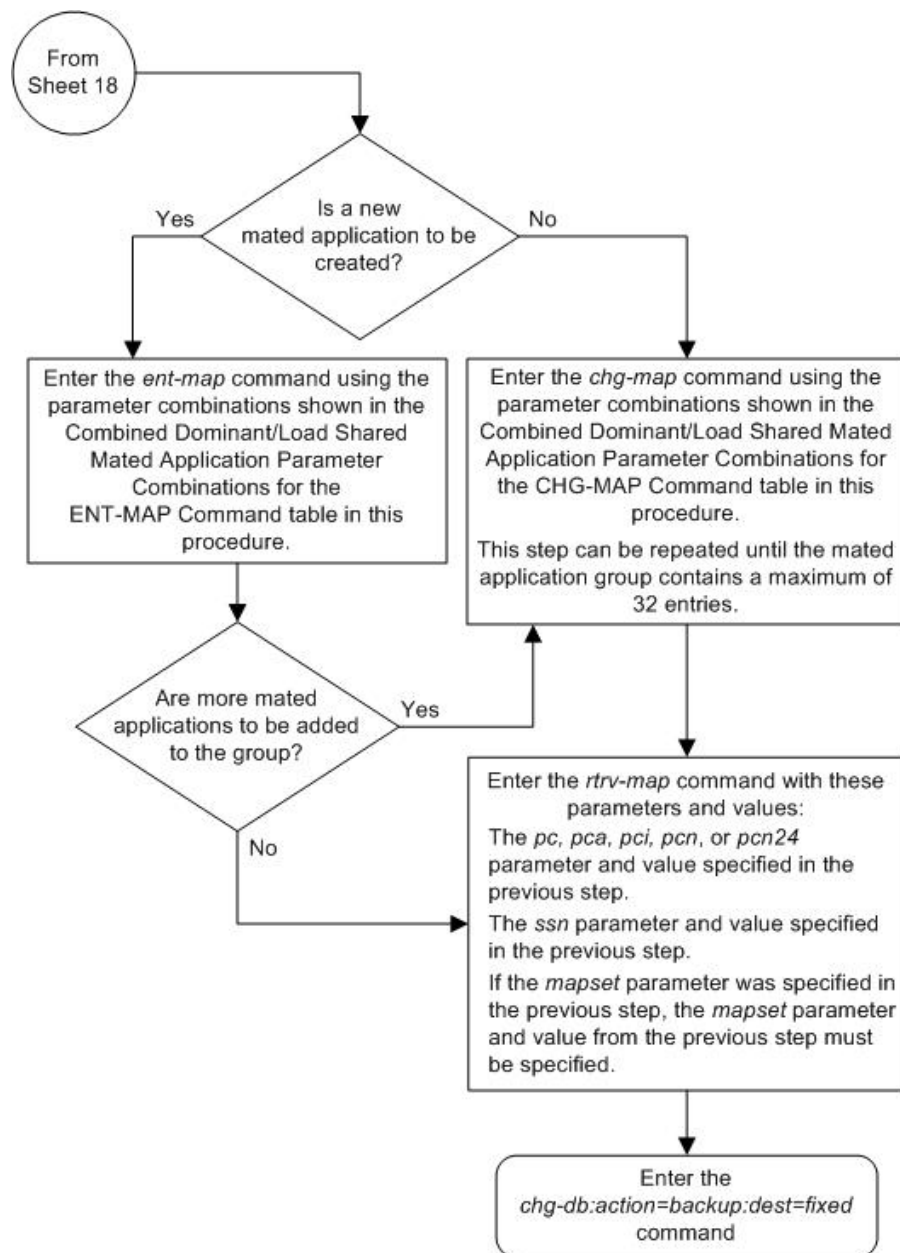












Removing a Mated Application

This procedure is used to remove a mated application from the database using the `dlt-map` command.

The `dlt-map` command uses these parameters.

:pc/pca/pci/pcn/pcn24 – The point code (primary or mate point code) in the mated application group.

Note: Refer to Chapter 2, Configuring Destination Tables, in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:ssn – Subsystem number – the subsystem number of the point code being removed.

:all – Removes all subsystems assigned to the point code being removed. If this parameter is not specified, only the specified subsystem number is removed.

:mapset – The MAP set ID that the mated application is assigned to, shown in the `rtrv-map` output. MAP set IDs are shown only if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the `mapset` parameter must be specified with the `dlt-map` command.

:mrnset – The MRN set ID assigned to the MAP set. This is the MRN set from which alternate routing indicator searches are performed. The `mrnset` parameter is shown in the `rtrv-map` output only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled.

If an entire MAP set is being removed in this procedure (with the `all=yes` parameter), the reference to the MAP set specified in this procedure must be removed from any GTT, GTA, GSM OPCODE, GSM MAP screening, or MRN entries before an entire MAP set can be removed.

Perform one of these procedures to remove the reference to the MAP set.

- If the EGTT feature is not on – Enter the `rtrv-gtt` command to verify the MAP set ID references in the GTT entries. Perform [Changing a Global Title Translation](#) on page 614 to remove the references to the MAP set.
- If the EGTT feature is on – Enter the `rtrv-gta` command to verify the MAP set ID references in the GTA entries. Perform [Changing Global Title Address Information](#) on page 787 to remove the references to the MAP set.
- Enter the `rtrv-gsms-opcode` command to verify the MAP set ID references in the GSM OPCODE entries. Perform the “Changing a GSM MAP Screening Operation Code” procedure in the *Database Administration Manual - Features* to remove the references to the MAP set.
- Enter the `rtrv-gsmmap-scrn` command to verify the MAP set ID references in the GSM MAP screening entries. Perform the “Changing a GSM MAP Screening Entry” procedure in the *Database Administration Manual - Features* to remove the references to the MAP set.
- Enter the `rtrv-ppsopts` command to verify that the mated application's point code (if the Flexible GTT Load Sharing feature is not enabled) or the point code and MAP set ID (if the Flexible GTT Load Sharing feature is enabled) is not shown in the `rtrv-ppsopts` output. Any references to the mated application's point code or the point code and MAP set ID in the `rtrv-ppsopts` output are removed in [Step 15](#) on page 316.
- An entire MAP set cannot be removed if the MAP set is assigned to an MRN set. A specific point code/SSN in a MAP set cannot be removed if the MRN set that is assigned to the MAP set contains the point code that is being removed from the MAP set. Verify that the MAP set is not assigned to any MRN sets by entering the `rtrv-mrn` command.

The last entry of a MAP set, other than the default MAP set, whose MAP set ID is referenced by a GTA entry in the GTT table cannot be removed if the `xlat` and `ri` parameter values for that GTA entry are `dpcssn` and `ssn`. Perform [Changing Global Title Address Information](#) on page 787 to remove the references to the MAP set.

Note: If weight and threshold values are assigned to a load shared or combined dominant/load shared mated application, and if by removing entries from this mated application the mated application becomes either a solitary or dominant mated application, all weight and threshold values are removed from the remaining entries in the mated application.

If the `mapset=df1t` and `all=yes` parameters are specified with the `dlt-map` command, only the MAP group containing the point code value specified in the `dlt-map` command is removed from the default MAP set.

The mated application must be in the database.

Either the `ssn` or `all` parameters can be specified with the `dlt-map` command, but not both.

If the `ssn` parameter is specified, the point code and subsystem pair must exist in the mate application entity set. The point code and subsystem entry is then removed.

The value of the `ssn` parameter must be from 2 to 255.

Removing all point codes but one from a dominant, load shared, or combined dominant/load shared mated application group creates a solitary mated application.

If the primary point code is removed from a dominant mated application group containing more than one mate point code, the mate point code with the lowest relative cost value becomes the new primary point code.

If the primary point code is removed from a load shared mated application group containing more than one mate point code, the next mate point code in the group becomes the new primary point code.

If the primary point code is removed from a combined dominant/load shared mated application group containing more than one mate point code, which mate point code, and the resulting mated application group depends on the resulting relative cost values remaining in the group.

- If the mated application group contains mate point codes with the same relative cost value as the primary point code being removed, the next point code in the group with the same relative cost value as the primary point code becomes the new primary point code, and the mated application group remains a combined dominant/load shared mated application group.
- If the relative cost values of the mate point codes in the group are different from the relative cost value as the primary point code being removed, the next point code in the group with the lowest relative cost value becomes the new primary point code, and the mated application group becomes a load shared mated application group.
- If all the mate point codes in the resulting mated application group have the same relative cost values, the first point code in the resulting group becomes the new primary point code, and the mated application group becomes a load shared mated application group.
- If the primary point code is removed, and the resulting mated application group contains one point code with one relative cost value and a point code with another relative cost value, a dominant mated application group is created. The mate point code with the lowest relative cost value becomes the new primary point code.

Mated applications that contain the EAGLE 5 ISS's true point code and the subsystem number of one of the subsystems shown in [Table 33: Subsystem Features](#) on page 308 cannot be removed from the database unless the subsystem has been removed from the database. The EAGLE 5 ISS's true point code is shown in the PCA, PCI, PCN, or PCN24 fields of the `rtrv-sid` output. The subsystem number is shown in the SSN field of the `rtrv-ss-appl` output.

Table 33: Subsystem Features

Feature	Subsystem	Feature Status	Manual that Contains the Procedures to Remove the Subsystem
LNP	LNP	Enabled	LNP Feature Activation Guide
INP	INP	Enabled and Turned On	Feature Manual - INP/AINPQ
ANSI-41 INP Query			
EIR	EIR	Enabled and Turned On	Feature Manual - EIR
V-Flex	V-Flex	Enabled and Turned On	Feature Manual - V-Flex
ATINP	ATINPQ	Enabled	Feature Manual - ATINP

Canceling the RTRV-MAP Command

Because the `rtrv-map` command used in this procedure can output information for a long period of time, the `rtrv-map` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-map` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-map` command was entered, from another terminal other than the terminal where the `rtrv-map` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated applications in the database using the `rtrv-map` command.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT   MRNSET ID=1      MRNPC   =   001-001-003
PCA             Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
002-002-002      100-130-079      250 10  SHR --- --- grp15   ON  10  16  20
                  068-135-094      251 10  SHR --- --- grp05   OFF 30  50  20

MAPSET ID=DFLT   MRNSET ID=----- MRNPC=-----
PCA             Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
005-005-005      060-060-060      250 20  DOM YES YES grp15   OFF  --  ---  --
                  070-070-070      251 30  DOM YES YES grp05   ON   --  ---  --

MAPSET ID=DFLT   MRNSET ID=----- MRNPC=-----
PCA             Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
007-007-007      251 10  SOL --- --- grp05   ON   --  ---  --

MAPSET ID=DFLT   MRNSET ID=----- MRNPC=-----
```

PCA 255-001-000	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		250 10 SOL --- --- grp01 ON -- --- --
MAPSET ID=DFLT	MRNSET ID=----	MRNPC=-----
PCA 255-001-000	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		253 10 SHR --- --- grp01 OFF 20 66 20
	253-001-004	254 10 SHR --- --- grp01 OFF 10 33 20
MAPSET ID=DFLT	MRNSET ID=----	MRNPC=-----
PCA 255-001-002	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		251 10 SHR --- --- grp01 OFF 10 50 20
	255-001-002	254 10 SHR --- --- grp01 OFF 10 50 20
MAPSET ID=10	MRNSET ID=----	MRNPC=-----
PCA 003-003-003	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		254 10 DOM YES YES grp10 ON -- --- --
	040-040-040	254 20 DOM YES YES grp10 ON -- --- --
MAPSET ID=11	MRNSET ID=----	MRNPC=-----
PCA 004-004-004	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		254 10 SHR --- --- grp10 OFF 10 50 20
	100-100-100	254 10 SHR --- --- grp10 OFF 10 50 20
MAPSET ID=9	MRNSET ID=----	MRNPC=-----
PCA 006-006-006	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		250 10 SOL --- --- grp15 OFF -- --- --
MAPSET ID=12	MRNSET ID=----	MRNPC=-----
PCA 008-008-008	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		254 10 COM YES YES grp10 ON 50 41 20
	200-147-100	254 10 COM YES YES grp10 ON 40 33 20
	179-183-050	250 10 COM YES YES grp15 OFF 30 25 20
	031-049-100	250 20 COM YES YES grp15 ON 20 66 20
	056-113-200	251 20 COM YES YES grp05 OFF 10 33 20
MAPSET ID=1	MRNSET ID=----	MRNPC=-----
PCA 255-001-000	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		251 10 SHR --- --- grp01 OFF 10 33 20
	253-001-002	254 10 SHR --- --- grp01 OFF 20 66 20
MAPSET ID=2	MRNSET ID=----	MRNPC=-----
PCA 255-001-000	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		252 10 SOL --- --- grp01 ON -- --- --
MAPSET ID=3	MRNSET ID=----	MRNPC=-----
PCA 255-001-001	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		255 10 DOM YES YES grp01 ON -- --- --
	253-001-005	254 20 DOM YES YES grp01 ON -- --- --
MAPSET ID=4	MRNSET ID=DFLT	MRNPC=005-005-005
PCA 255-001-001	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		250 10 DOM YES YES grp01 OFF -- --- --
	253-001-001	254 20 DOM YES YES grp01 OFF -- --- --
MAPSET ID=5	MRNSET ID=----	MRNPC=-----
PCA 255-001-002	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		252 10 DOM YES YES grp01 ON -- --- --
	255-001-003	254 20 DOM YES YES grp01 ON -- --- --
MAPSET ID=6	MRNSET ID=1	MRNPC=005-005-005
PCA 255-001-002	Mate PCA	SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
		253 10 SHR --- --- grp01 ON 10 50 20
	255-001-004	254 10 SHR --- --- grp01 ON 10 50 20
MAPSET ID=7	MRNSET ID=----	MRNPC=-----

PCI	Mate PCI	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO	WT	%WT	THR
2-001-2		255	10	DOM	YES	YES	grp03		OFF	--	---	--
	2-001-1	254	20	DOM	YES	YES	grp03		OFF	--	---	--
MAPSET ID=8 MRNSET ID=----- MRNPC=-----												
PCN	Mate PCN	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO	WT	%WT	THR
00347		253	10	SHR	---	---	grp05		OFF	10	50	20
	01387	254	10	SHR	---	---	grp05		OFF	10	50	20
MAP TABLE IS 1 % FULL (37 of 36000)												

Note: If the Weighted GTT Load Sharing feature is not enabled and turned on, the WT, %WT, THR columns and values are not shown in the `rtrv-map` output.

2. Display the EAGLE 5 ISS's true point code by entering the `rtrv-sid` command This is an example of the possible output.

```
rlghncxa03w 07-02-10 11:43:04 GMT EAGLE5 37.0.0
```

PCA	PCI	PCN	CLLI	PCTYPE
010-020-030	1-023-1	12-0-14-1	rlghncxa03w	OTHER
	s-1-023-1	s-12-0-14-1		

CPCA			
002-002-002	002-002-003	002-002-004	002-002-005
002-002-006	002-002-007	002-002-008	002-002-009
004-002-001	004-003-003	050-060-070	

CPCI			
1-001-1	1-001-2	1-001-3	1-001-4
1-002-1	1-002-2	1-002-3	1-002-4
2-001-1	7-222-7		

CPCN			
2-0-10-3	2-0-11-0	2-0-11-2	2-0-12-1
2-2-3-3	2-2-4-0	10-14-10-1	

Continue the procedure by performing one of these steps.

- If the mated application that is being removed contains a point code that is shown in the PCA, PCI, PCN, or PCN24 columns of the `rtrv-sid` output, continue the procedure with [Step 3](#) on page 311.
- If the mated application that is being removed does not contain a point code that is shown in the PCA, PCI, PCN, or PCN24 columns of the `rtrv-sid` output, continue the procedure with by performing one of these steps.
 - If the MAPSET column is not shown in the `rtrv-map` output, then the Flexible GTT Load Sharing feature is not enabled. Continue the procedure with [Step 16](#) on page 318.
 - If only the MAPSET column is shown in the `rtrv-map` output, and a point code/SSN entry is being removed from the default MAP set, continue the procedure with [Step 16](#) on page 318.
 - If only the MAPSET column is shown in the `rtrv-map` output, and entries are being removed from MAP sets other than the default MAP set, continue the procedure with [Step 7](#) on page 313.
 - If the MAPSET and MRNSET columns are shown in the `rtrv-map` output, continue the procedure by performing one of these steps.
 - If an entire MAP set is being removed, continue the procedure with [Step 6](#) on page 312

- If a point code/SSN entry is being removed from the MAP set, continue the procedure with [Step 7](#) on page 313.
- If the MRN set entry is being removed from the MAP set, continue the procedure with [Step 5](#) on page 312.

Note: If the MRNSET column contains dashes, then an MRN set is not assigned to the MAP set.

3. Verify whether or not the any of the features shown in [Table 33: Subsystem Features](#) on page 308 are enabled, and turned on if required, by entering the `rtrv-ctrl-feat` command.

The entry LNP TNs is shown with a quantity greater than zero if the LNP feature is enabled. If the EIR feature is enabled and turned on, the status of the EIR feature should be on. The entry ANSI-41 INP Query is shown if the ANSI-41 INP Query feature is enabled. The entry INP is shown if the INP feature is enabled. If the V-Flex feature is enabled and turned on, the status of the V-Flex feature should be on. The entry ATINP is shown if the ATINP feature is enabled.

Note: The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, refer to the `rtrv-ctrl-feat` command description in the *Commands Manual*.

Continue the procedure by performing one of these steps.

- If none of the features shown in [Table 33: Subsystem Features](#) on page 308 are enabled, and turned on if required, continue the procedure with [Step 7](#) on page 313.
 - If any of the features shown in [Table 33: Subsystem Features](#) on page 308 are enabled, and turned on if required, continue the procedure with [Step 4](#) on page 311.
4. Verify that the subsystem number of the mated application is in the subsystem application table by entering the `rtrv-ss-appl` command.

This is an example of the possible output.

```
rlghncxa03w 08-09-28 14:42:38 GMT EAGLE5 39.2.0
APPL      SSN      STAT
LNP       254      ONLINE
SS-APPL table is 20% FULL (1 of 5)
```

If a subsystem number is not shown in the `rtrv-ss-appl` output, continue the procedure with [Step 7](#) on page 313.

If the LNP feature is enabled and the LNP subsystem number is shown in the `rtrv-ss-appl` output, perform the procedures in the *LNP Feature Activation Guide* and remove the LNP subsystem number from the subsystem application table.

If the INP or ANSI-41 INP Query feature is enabled and turned on, and the INP subsystem number is shown in the `rtrv-ss-appl` output, perform the procedures in the *Feature Manual - INP/AINPQ* and remove the INP subsystem number from the subsystem application table.

If the EIR feature is enabled and turned on and the EIR subsystem number is shown in the `rtrv-ss-appl` output, perform the procedures in the *Feature Manual - EIR* and remove the EIR subsystem number from the subsystem application table.

If the V-Flex feature is enabled and turned on and the V-Flex subsystem number is shown in the `rtrv-ss-appl` output, perform the procedures in the *Feature Manual - V-Flex* and remove the V-Flex subsystem number from the subsystem application table.

If the ATINP feature is enabled and the ATINPQ subsystem number is shown in the `rtrv-ss-appl` output, perform the procedures in the *Feature Manual - ATINP* and remove the ATINP subsystem number from the subsystem application table.

After the subsystem number has been removed from the subsystem application table, continue the procedure with [Step 7](#) on page 313.

5. Remove the MRN set from the MAP set using the `dlt-map` command with the `mapset`, `mrnset`, `pc/pca/pci/pcn/pcn24`, and `ssn` parameters and values shown in [Step 1](#) on page 308. For this example, enter this command.

```
dlt-map:mapset=6:mrnset=1:pca=255-001-002:ssn=252
```

This message should appear.

```
rlghncxa03w 09-02-07 11:48:16 GMT EAGLE5 40.1.0
DLT-MAP: MASP A - COMPLTD
```

If you wish to remove any point code/SSN entries from the MAP set, continue the procedure with [Step 7](#) on page 313.

If you do not wish to remove any point code/SSN entries from the MRN set, continue the procedure with [Step 17](#) on page 319.

6. Display the MRNs by entering the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPCC	MAPSSN	PC	RC	WT	%WT	THR
DFLT	7	002-002-007	50	005-005-005	10	10	50	30
				006-001-001	10	10	50	30
				006-001-002	30	20	100	30
				006-001-003	40	20	100	30
				006-001-004	50	20	100	30
MRNSET	MAPSET	MAPPCC	MAPSSN	PC	RC	WT	%WT	THR
1	5	255-001-002	252	005-005-005	10	10	4	1
				006-001-001	10	10	4	1
				006-001-002	10	30	12	1
				006-001-003	10	40	15	1
				006-001-005	10	40	15	1
				006-001-006	10	40	15	1
				006-001-007	10	40	15	1
				006-001-004	10	50	19	1
				006-001-008	20	20	25	1
				006-001-009	20	30	37	1
				006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

Note: If the Weighted GTT Load Sharing feature is not enabled and turned on, the WT, %WT, THR columns and values are not shown in the `rtrv-mrn` output.

If the MAP set is not assigned to any MRN sets, continue the procedure with [Step 7](#) on page 313.

If the MAP set is assigned to any MRN sets, perform [Removing MRN Entries](#) on page 404 to remove the MAP set from any MRN sets. After the MAP set has been removed from the MAP sets, continue the procedure with [Step 7](#) on page 313.

7. Verify whether or not the EGTT feature is on by entering the `rtrv-feat` command.

The entry `EGTT = on` is shown if the EGTT feature is on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, refer to the `rtrv-feat` command description in the *Commands Manual*.

8. Display the translation types in the database using the `rtrv-tt` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:42:31 GMT EAGLE5 37.0.0
TYPEA      TTN      NDGT
1          lidb      5
2          c800      10
3          d700      6
5          scp1      6
10         scp2      6
15         scp3      3

ALIAS      TYPEA
30         5
40         10
50         3
65         3

TYPEI      TTN      NDGT
105        itudb     8

ALIAS      TYPEI
7          105

TYPEN      TTN      NDGT
120        dbitu     7

ALIAS      TYPEN
8          120
```

9. Display the global title translations in the database using the `rtrv-gtt` command specifying a translation type from the `rtrv-tt` command output shown in [Step 8](#) on page 313, and the MAP set ID that will be removed in [Step 16](#) on page 318.

For this example, enter this command.

```
rtrv-gtt:typea=10:mapset=6
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
10     scp2      6

GTT TABLE IS 10 % FULL (27000 of 269999)

START GTA      END GTA      XLAT  RI      PC
615370         615380         DPCSSN SSN    003-003-003
      MAPSET=6      SSN=254 NGT=---
```

Command Retrieved 1 Entries

If the `rtrv-gtt` output shows any entries, perform [Changing a Global Title Translation](#) on page 614 to change the MAP set assignment for the global title translations displayed in this step.

Repeat [Step 8](#) on page 313 and [Step 9](#) on page 313 for the other translation types shown in [Step 8](#) on page 313.

When [Step 8](#) on page 313 and [Step 9](#) on page 313 have been performed for all the translation types shown in [Step 8](#) on page 313, continue the procedure with [Step 12](#) on page 314.

10. Display the GTT sets in the database using the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:27:31 GMT EAGLE5 37.0.0
GTTSN      NETDOM  NDGT
l1db       ansi    10
t800       ansi    10
si000      itu     15
imsi       itu     15
abcd1234   itu     12
```

11. Display the global title address (GTA) information for a GTT set from [Step 10](#) on page 314.

Use the `rtrv-gta` command with the `gttsn` parameter value shown in the output of [Step 10](#) on page 314, and the MAP set ID that will be removed in [Step 16](#) on page 318. For this example, enter this command.

```
rtrv-gta:gttsn=t800:mapset=6
```

This is an example of the possible output.

```
rlghncxa03w 08-10-07 00:27:31 GMT EAGLE5 39.2.0
GTTSN      NETDOM  NDGT
t800       ansi    10
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI    PC
3365840000 3365849999 dpc   ssn   001-255-001
      MAPSET=6      SSN=0  CCGT=no NTT=---

Command Retrieved 1 Entries
```

If the `rtrv-gta` output shows any entries, perform [Changing Global Title Address Information](#) on page 787 to change the MAP set assignment for the global title translations displayed in this step.

Repeat [Step 10](#) on page 314 and [Step 11](#) on page 314 for the other GTT set names shown in [Step 10](#) on page 314.

When [Step 10](#) on page 314 and [Step 11](#) on page 314 have been performed for all the GTT set names shown in [Step 10](#) on page 314, continue the procedure with [Step 12](#) on page 314.

12. Display the GSM MAP screening operation codes assigned to the MAP set that will be removed in this procedure using the `rtrv-gsms-opcode` command with the MAP set ID that will be removed in [Step 16](#) on page 318.

For this example, enter this command.

```
rtrv-gsms-opcode:mapset=6
```

This is an example of the possible output.

```
rlghncxa03w 08-10-10 11:43:04 GMT EAGLE5 39.2.0

OPCODE  OPNAME      DFLTACT      PCA          SSN  MAPSET RI  TT
 36      for1        fwd          002-002-002  10   6      ssn -

OPCODE  OPNAME      DFLTACT      PCI          SSN  MAPSET RI  TT
OPCODE  OPNAME      DFLTACT      PCN          SSN  MAPSET RI  TT
OPCODE  OPNAME      DFLTACT      PCN24        SSN  MAPSET RI  TT
OPCODE  OPNAME      DFLTACT

GSMMS OPCODE Table (10 of 257) is 4% full
```

If the `rtrv-gsms-opcode` output shows any entries, perform the “Changing a GSM MAP Screening Operation Code” procedure in the Database *Administration Manual - Features* and change the MAP set assignment for the operation code entries displayed in this step.

13. GSM MAP screening entries cannot reference the MAP set being removed in this procedure.

The `opname` parameter value from the `rtrv-gsms-opcode` output must be used to display the GSM MAP screening entries. Display the GSM MAP screening operation codes in the database using the `rtrv-gsms-opcode` command without the `mapset` parameter. This is an example of the possible output.

```
rlghncxa03w 08-10-10 11:43:04 GMT EAGLE5 39.2.0

OPCODE  OPNAME      DFLTACT      PCA          SSN  MAPSET RI  TT
 36      for1        fwd          002-002-002  10   6      ssn -

OPCODE  OPNAME      DFLTACT      PCI          SSN  MAPSET RI  TT
 93      dd93        dupdc        5-25-3       200  DFLT
139      fwd139      fwd          3-159-7      128   3      gt  10

OPCODE  OPNAME      DFLTACT      PCN          SSN  MAPSET RI  TT
187      dup187      dupl         11519        79   DFLT

OPCODE  OPNAME      DFLTACT      PCN24        SSN  MAPSET RI  TT

OPCODE  OPNAME      DFLTACT
22      sri        disc
25      route25    route
50      pass50     pass
71      ati        atierr
150     discard1    disc
*       star       pass

GSMMS OPCODE Table (10 of 257) is 4% full
```

14. Display the GSM MAP screening entries assigned to the MAP set being removed in this procedure.

Enter the `rtrv-gsmmap-scrn` command with an `opname` value shown in the `rtrv-gsms-opcode` command output in [Step 13](#) on page 315 and with the MAP set ID that will be removed in [Step 16](#) on page 318.

For this example, enter this command.

```
rtrv-gsmmap-scrn:opname=dd93:mapset=6
```

This is an example of the possible output.

```
rlghncxa03w 08-10-20 09:07:58 GMT EAGLE5 39.2.0

Single CgPA Entries for OPNAME=dd93
-----

SADDR          NP NAI FORBD ACT      PCA          SSN CGSR      MAPSET      RI
92546          *  *   all   fwd      001-001-001    5   cg07      6          ssn
TT=-

SADDR          NP NAI FORBD ACT      PCI          SSN CGSR      MAPSET
SADDR          NP NAI FORBD ACT      PCN          SSN CGSR      MAPSET
SADDR          NP NAI FORBD ACT      PCN24        SSN CGSR      MAPSET
SADDR          NP NAI FORBD ACT      CGSR

Range CgPA Entries for OPNAME=dd93
-----

SADDR          EADDR          NP NAI FORBD ACT      PCA          SSN CGSR
3234567        3345678        *  *   all   dupl      001-001-001    30  cg15
MAPSET=6 RI=ssn TT=-

SADDR          EADDR          NP NAI FORBD ACT      PCI          SSN CGSR
SADDR          EADDR          NP NAI FORBD ACT      PCN          SSN CGSR
SADDR          EADDR          NP NAI FORBD ACT      PCN24        SSN CGSR
SADDR          EADDR          NP NAI FORBD ACT      CGSR

GSM MAP Screening Table (9 of 4000) is 1% full
```

If the `rtrv-gsmmap-scrn` output shows any entries, perform the “Changing a GSM MAP Screening Entry” procedure in the *Database Administration Manual - Features* and change the MAP set assignment for the GSM MAP screening entries displayed in this step.

Repeat [Step 13](#) on page 315 and [Step 14](#) on page 315 for the other GSM operation code entries shown in [Step 13](#) on page 315.

When [Step 13](#) on page 315 and [Step 14](#) on page 315 have been performed for all the GSM operation code entries shown in [Step 13](#) on page 315, continue the procedure with [Step 15](#) on page 316.

15. The mated application cannot be removed if the point code of the mated application (if the Flexible GTT Load Sharing feature is not enabled) or the point code and MAP set ID of the mated application (if the Flexible GTT Load Sharing feature is enabled) is shown in the `rtrv-ppsopts` command output. Enter the `rtrv-ppsopts` command to verify that the mated application’s point code or point code and MAP set ID is not shown in the `rtrv-ppsopts` output. This is an example of the possible output.

```
rlghncxa03w 09-03-20 09:07:58 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK      = OFF
PPT            PCA/PCI/PCN          SSN      RI      Set ID
-----
1             PCI:      1-001-1      25      SSN      DFLT
2             -----
3             -----
4             PCI:      1-001-1      30      GT       1
```

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NONE
NONE

Note: If the Flexible GTT Load Sharing feature is not enabled, the Set ID column is not displayed in the `rtrv-ppsopts` output.

If the `rtrv-ppsopts` output shows any entries that reference the mated application's point code (if the Flexible GTT Load Sharing feature is not enabled) or the mated application's point code and MAP set ID (if the Flexible GTT Load Sharing feature is enabled), remove the reference using the `chg-ppsopts` command with the prepaid portability type (the `PPT` value) that contains the reference and either the `pci=none` or `pcn=none` parameters (depending on the type of point code the prepaid portability type contains).

```
chg-ppsopts:ppt=4:pci=none
```

This is an example of the possible output.

```
rlghncxa03w 07-05-20 09:07:58 GMT EAGLE5 37.0.0
CHG-PPSOPTS: MASP A - COMPLTD
```

Repeat this step for other entries shown in the `rtrv-ppsopts` output that contain the mated application's point code or point code and MAP set ID.

16. Remove the mated application from the database using the `dlt-map` command with a point code and subsystem number from the `rtrv-map` command output shown in [Step 1](#) on page 308.

If the `MAPSET` field is shown in the `rtrv-map` output in [Step 1](#) on page 308, showing that the Flexible GTT Load Sharing feature is enabled, the `mapset` parameter must be specified with the `dlt-map` command.

If the Flexible GTT Load Sharing feature is not enabled, for this example, enter this command.

```
dlt-map:pca=255-001-002:ssn=253
```

This message should appear.

```
rlghncxa03w 07-05-07 11:48:16 GMT EAGLE5 37.0.0
DLT-MAP: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing feature is enabled, for this example, enter this command.

```
dlt-map:pca=255-001-002:ssn=253:mapset=6
```

This message should appear.

```
rlghncxa03w 07-05-07 11:48:16 GMT EAGLE5 37.0.0
DLT-MAP: MASP A - COMPLTD
```

Note: If all the subsystems for a specified point code (`pc`, `pca`, `pci`, or `pcn`) are being removed from the mated application table, enter the `dlt-map` command with the point code and the `all=yes` parameter. This results in removing the point code from the mated application table. For this example, enter the `dlt-map:pca=255-001-002:all=yes` command. If the Flexible GTT Load Sharing feature is enabled, enter the `dlt-map:pca=255-001-002:all=yes:mapset=6` command.

Note: Removing the last subsystem assigned to a point code removes the point code from the mated application table.

17. Verify the changes using the `rtrv-map` command with the point code and subsystem specified in [Step 5](#) on page 312 or [Step 16](#) on page 318.

If the `mapset` parameter was specified in [Step 16](#) on page 318, the `mapset` parameter should be specified with the `rtrv-map` command.

If the `mapset` parameter was not specified in [Step 16](#) on page 318, for this example, enter this command.

```
rtrv-map:pca=255-001-002:ssn=253
```

If the `mapset` parameter was specified in [Step 16](#) on page 318, for this example, enter this command.

```
rtrv-map:pca=255-001-002:ssn=253:mapset=6
```

The EAGLE 5 ISS responds with this message showing that the subsystem assigned to the point code is no longer in the database.

```
E2456 Cmd Rej: SSN does not exist for given remote point code
```

Note: If all the subsystems for a specified point code (`pc`, `pca`, `pci`, or `pcn`) were removed from the mated application table in [Step 16](#) on page 318 (either by specifying the `all=yes` parameter, or by removing the last subsystem assigned to the point code from the mated application table), resulting in removing the point code from the mated application table, enter the `rtrv-map` command with the point code specified in [Step 16](#) on page 318. For this example, enter the `rtrv-map:pca=255-001-002` command. If the `mapset` parameter was specified in [Step 16](#) on page 318, enter the `rtrv-map:pca=255-001-002:mapset=6` command.

The EAGLE 5 ISS responds with this message showing that the point code is no longer in the database.

```
E2452 Cmd Rej: Remote point code does not exist
```

If the MRN set was removed from the MAP set in [Step 5](#) on page 312, enter the `rtrv-map` command with the `mapset`, point code and `ssn` parameters and values specified in [Step 5](#) on page 312. For this example, enter this command.

```
rtrv-map:mapset=6
```

Note: If the `mapset=dflt` parameter was specified in [Step 5](#) on page 312, the `mapset=dflt`, point code, and `ssn` parameters specified in [Step 5](#) on page 312 must be specified with the `rtrv-map` command.

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=6      MRNSET ID=----- MRNPC=-----
PCA             Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-002      255-001-004      253 10 SHR --- --- grp01  ON  10  50  20
                  255-001-004      254 10 SHR --- --- grp01  ON  10  50  20

MAP TABLE IS    1 % FULL      (37 of 36000)
```

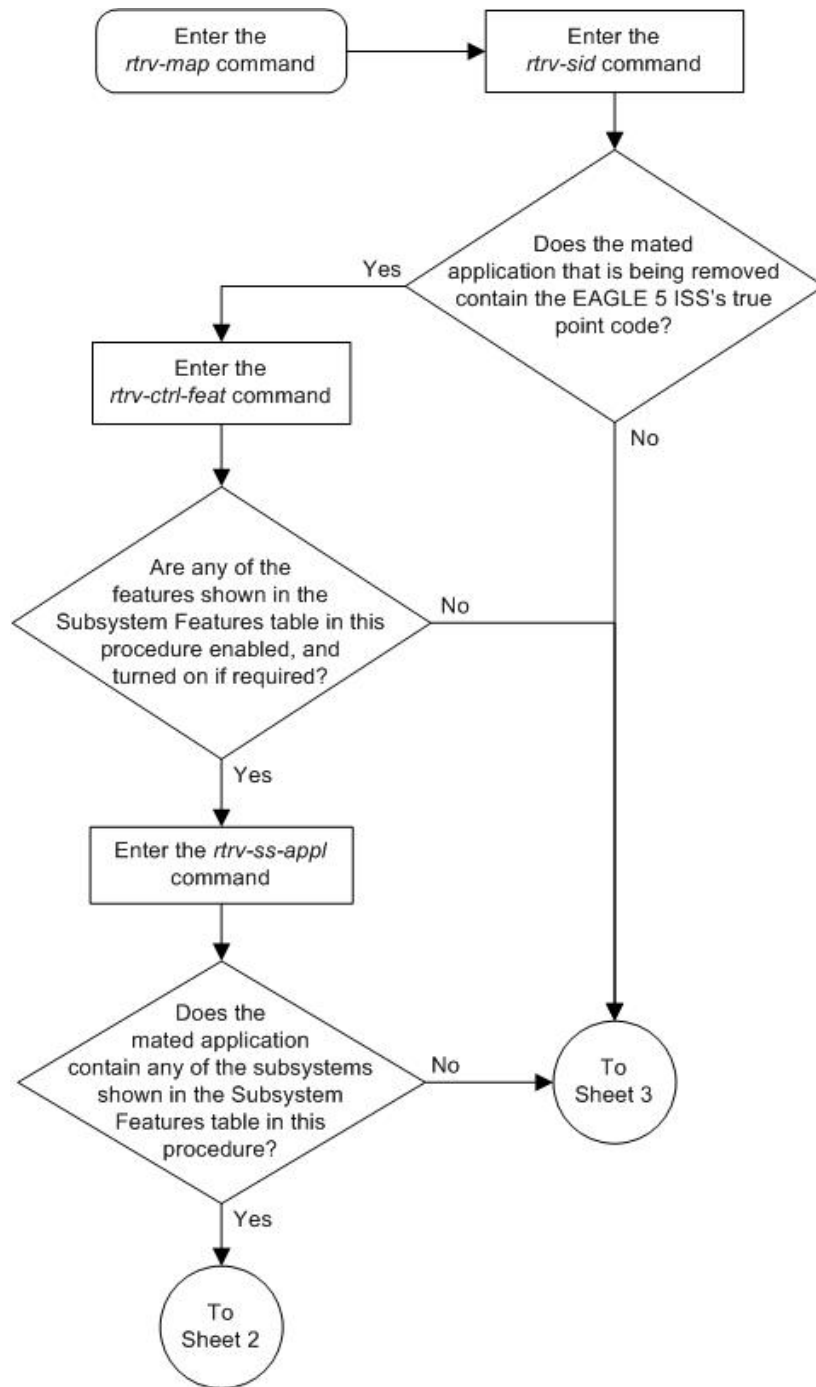
18. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

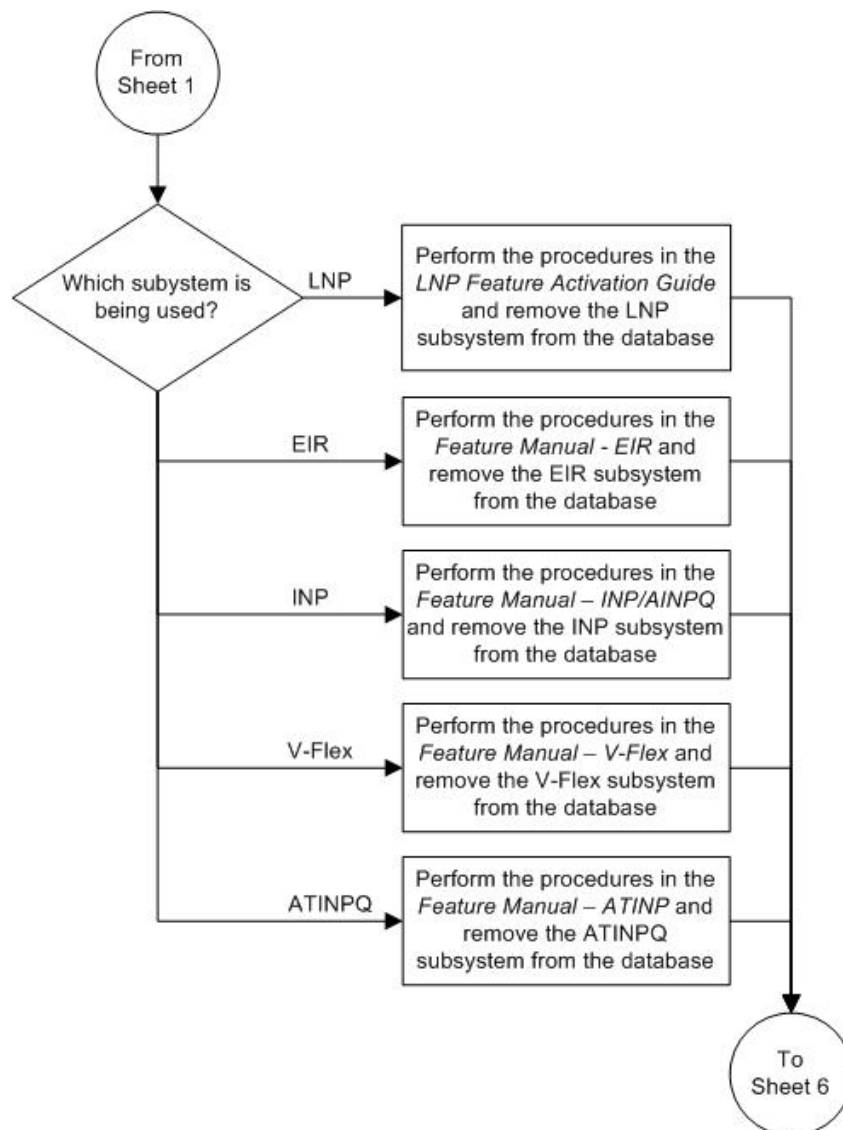
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

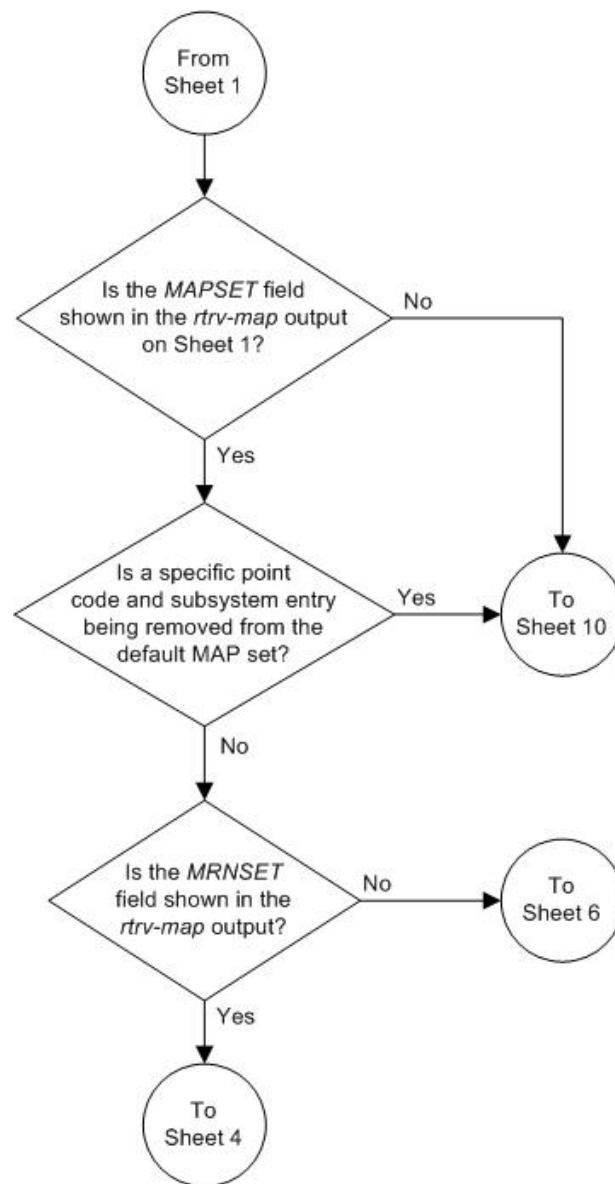
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
```

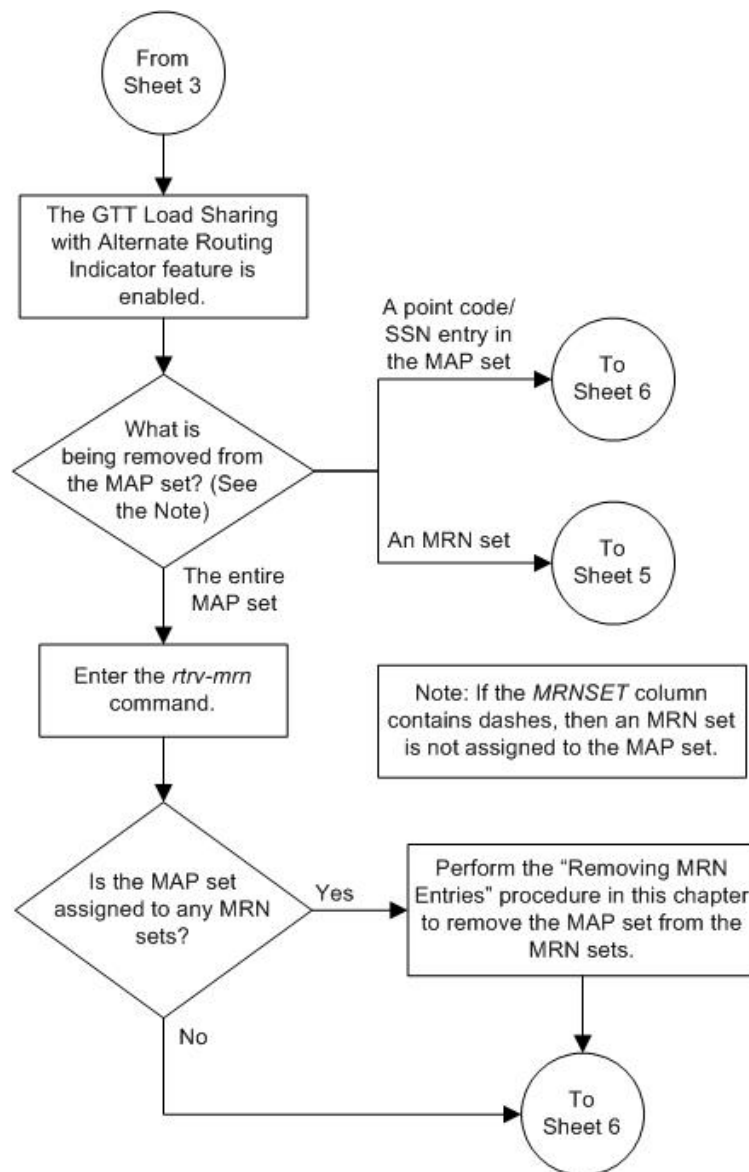
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
 BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
 BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

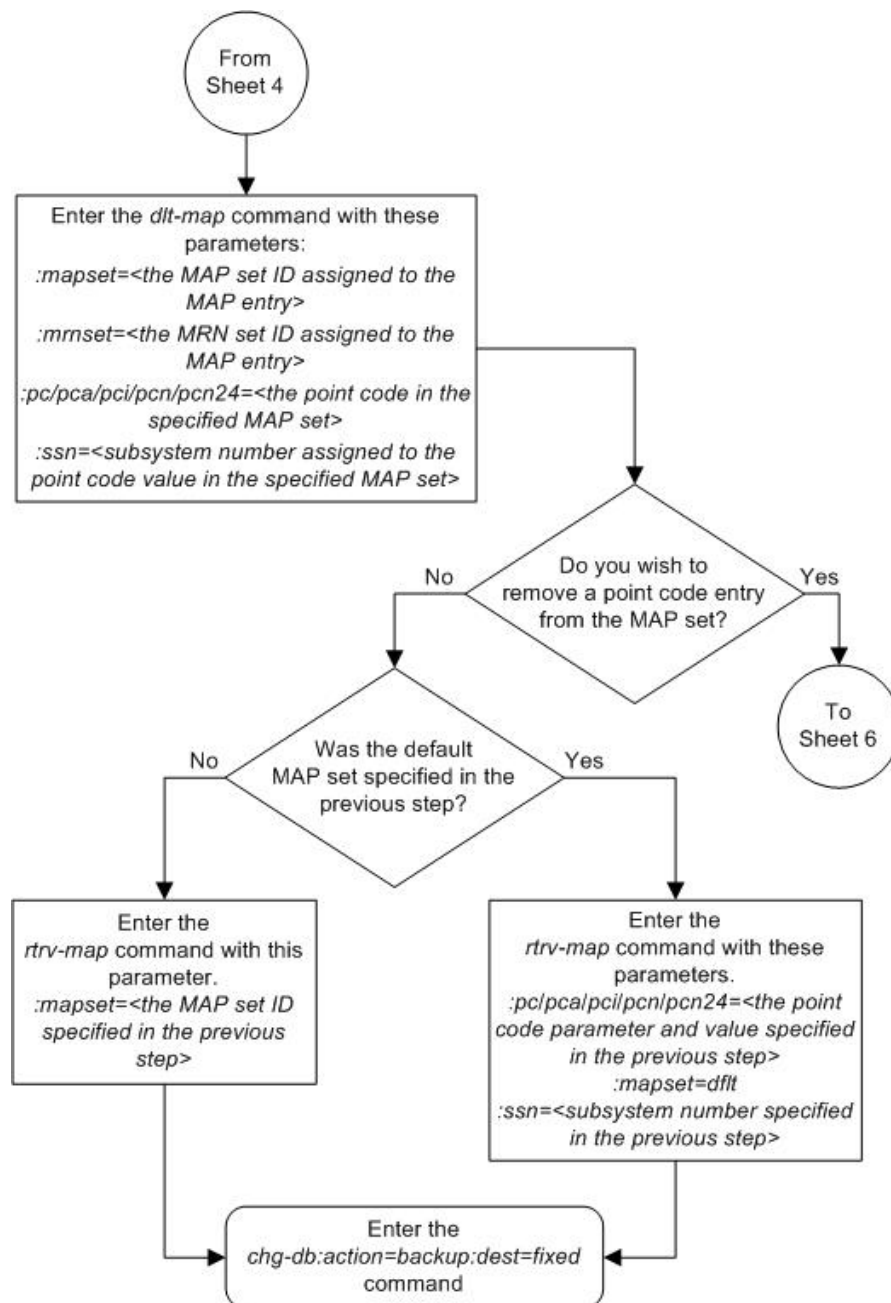
Figure 28: Removing a Mated Application

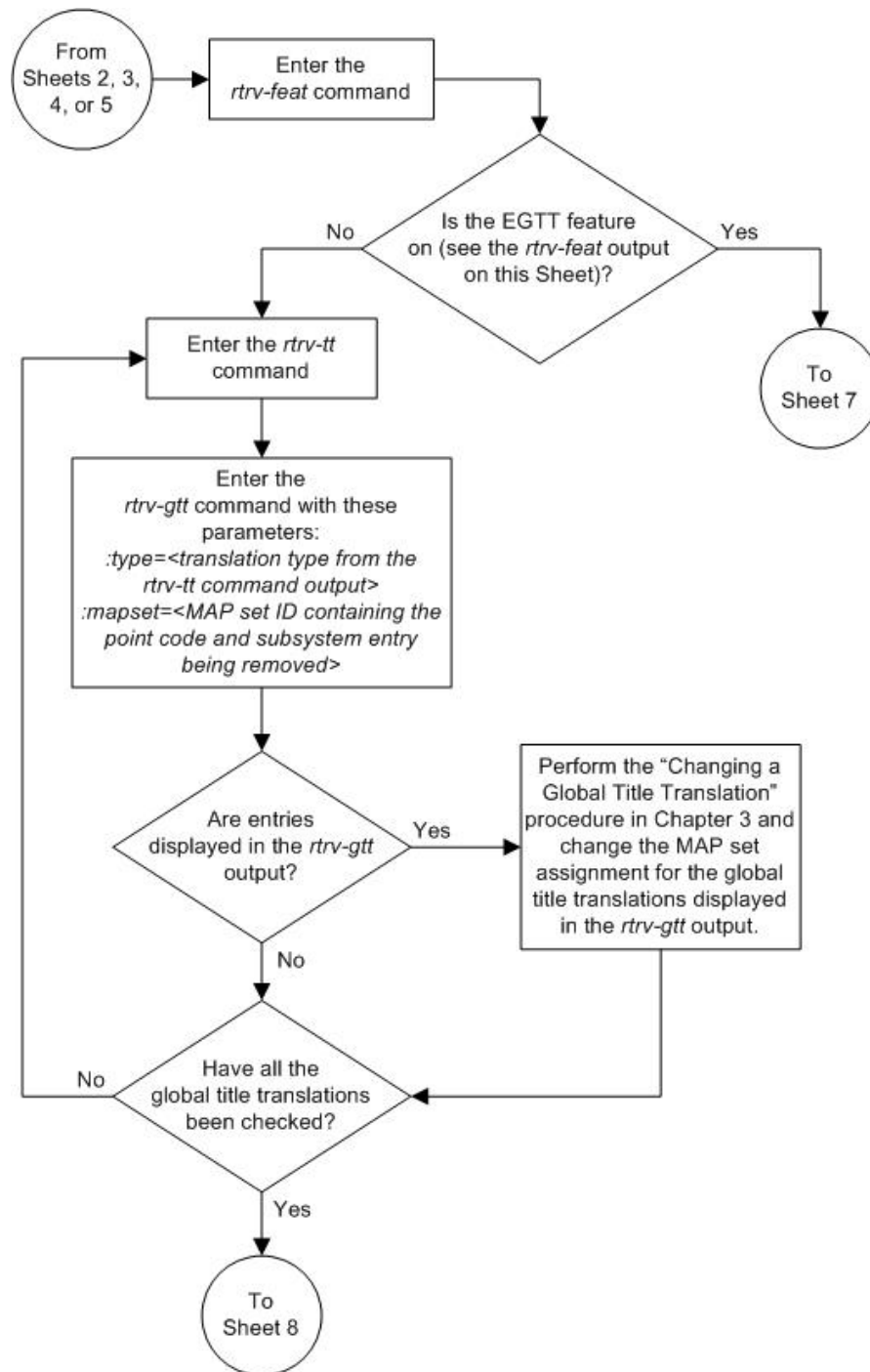


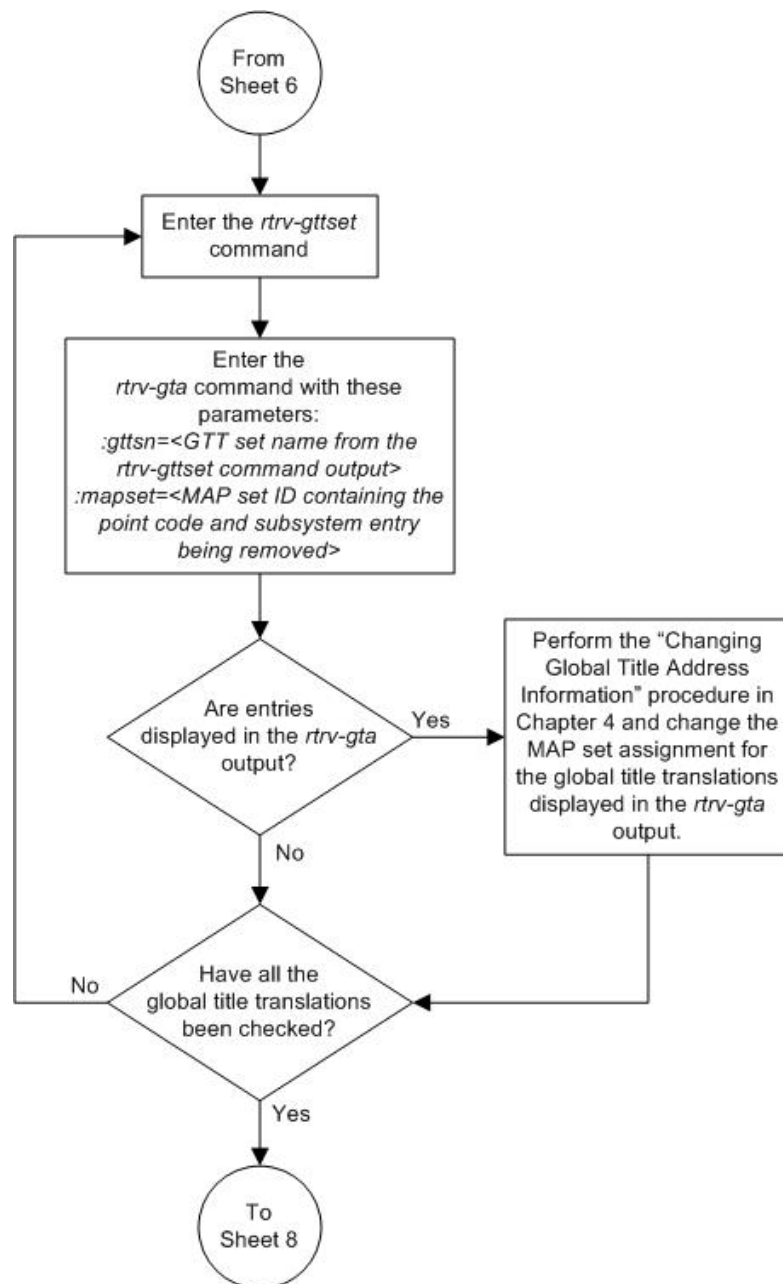


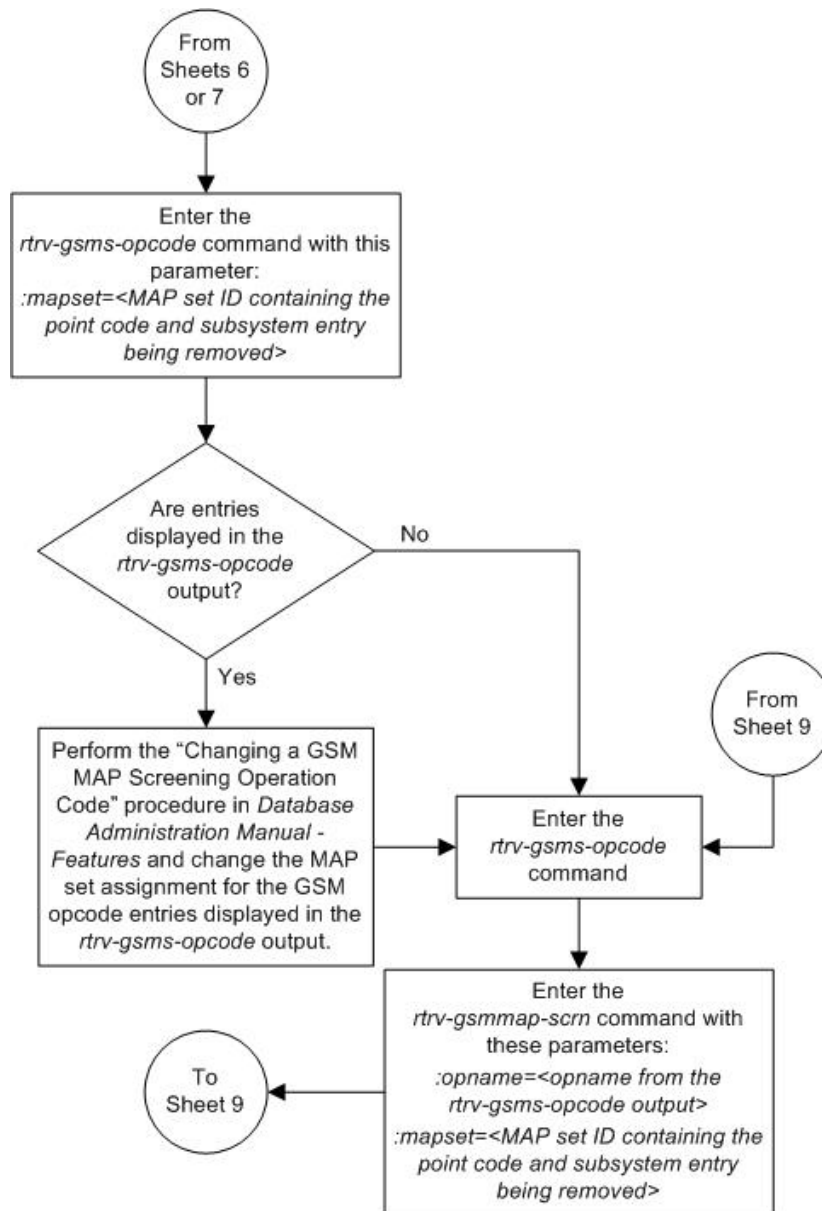


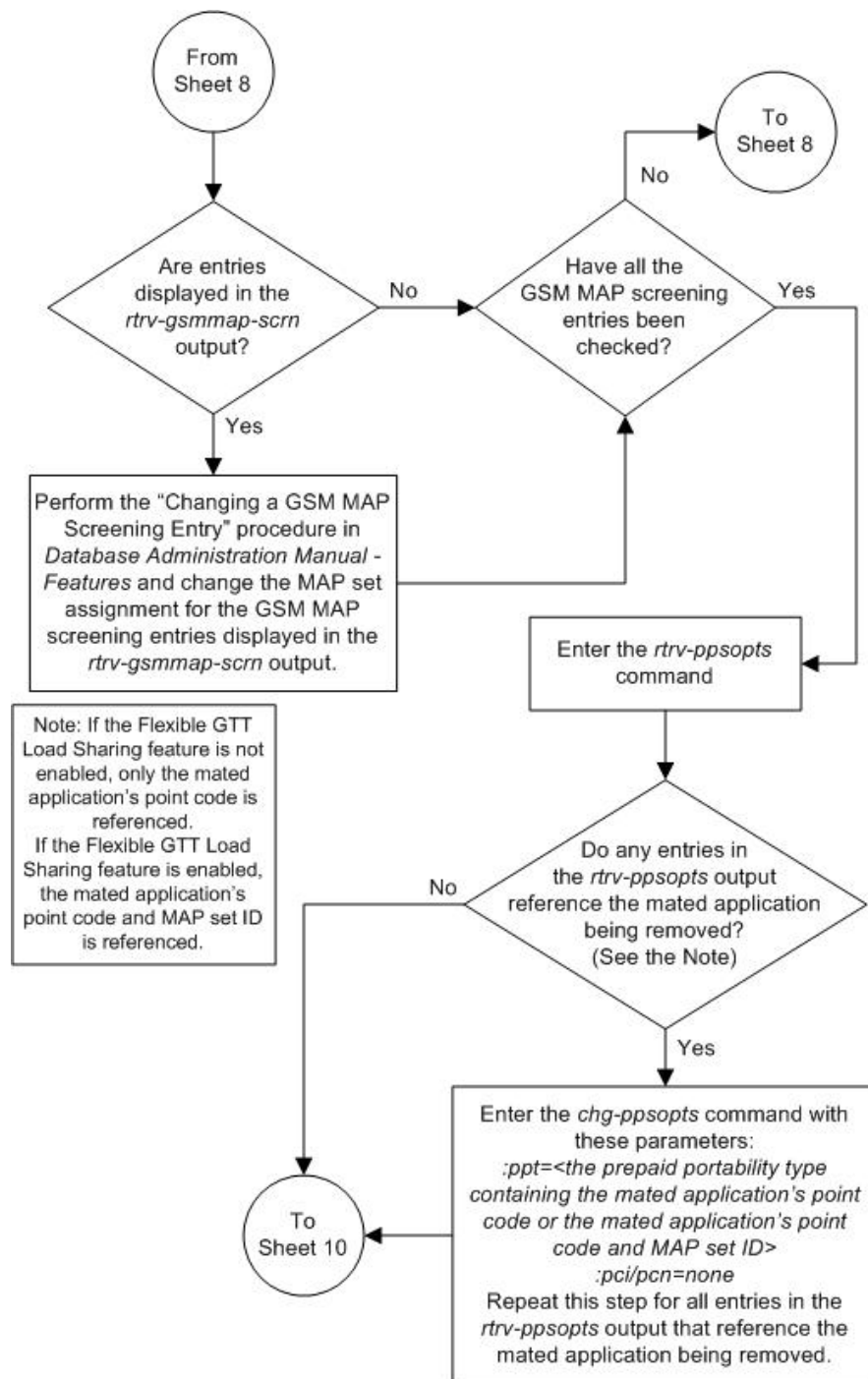


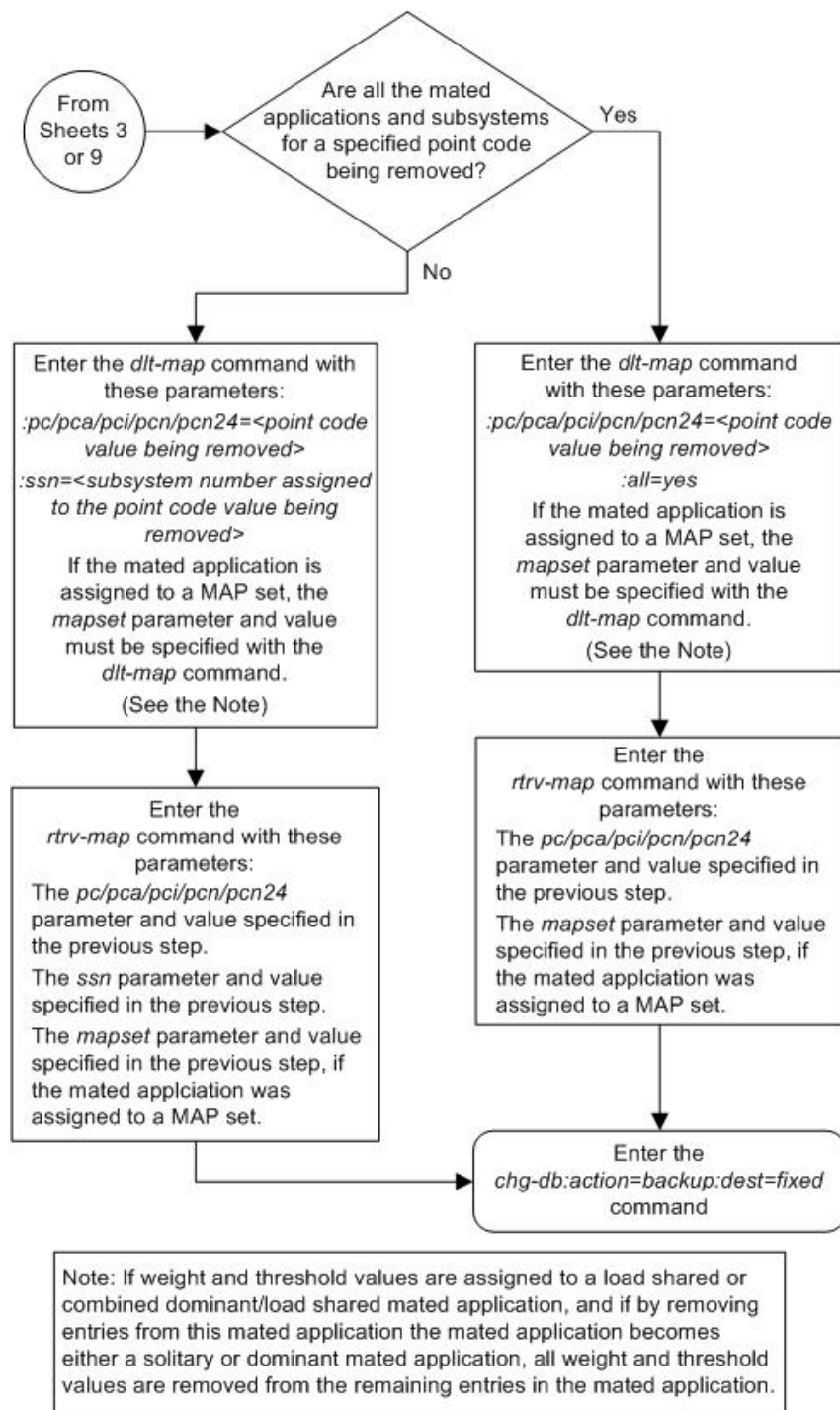












Changing a Mated Application

This procedure is used to change the attributes of entries in an existing mated application (MAP) group or MAP set using the `chg-map` command.

The `chg-map` command can also be used to add point code/SSN entries to an existing MAP group or MAP set. This action is not covered in this procedure. If you wish to add point code/SSN entries to an existing MAP group or MAP set, perform one of these procedures:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

The `chg-map` command can also be used to change the MRNSET and MRN point code values that are assigned the MAP set. This action is not covered in this procedure. If you wish to change the MRNSET and MRN point code values, perform [Changing the MRNSET and MRN Point Code Values of MAP Entries](#) on page 361.

The `chg-map` command uses these parameters in this procedure.

`:pc/pca/pci/pcn/pcn24` – The point code of the primary signaling point that is to receive the message.

Note: The point codes can be either an ANSI point code (`pc/pca`, `mpc/mpca`), ITU-I or ITU-I spare point code (`pci`, `mpci`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`pcn`, `mpcn`), or a 24-bit ITU-N (`pcn24`, `mpcn24`) point code.

Note: Refer to Chapter 2, Configuring Destination Tables, in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

`:ssn` – Subsystem number – the subsystem address of the primary point code that is to receive the message.

`:rc` – The relative cost value of the primary point code and subsystem, defined by the `pc/pca/pci/pcn/pcn24` and `ssn` parameters. The `rc` parameter has a range of values from 0 to 99.

`:grp` – The name of the concerned signaling point code group that contains the point codes that should be notified of the subsystem status. This parameter applies to both RPCs/SSNs.

`:mrc` – Message routing under congestion – defines the handling of Class 0 messages during congestion conditions.

`:srm` – Subsystem routing messages – defines whether subsystem routing messages (SBR, SNR) are transmitted between the mated applications.

`:sso` – Subsystem Status Option – defines whether the subsystem status option is on or off. This parameter allows the user the option to have the specified subsystem marked as prohibited even though an MTP-RESUME message has been received by the indicating that the specified point code is allowed. The `sso` parameter cannot be specified if the `pc/pca/pci/pcn/pcn24` value is the EAGLE 5 ISS's true point code, shown in the `rtrv-sid` output.

:mapset – The MAP set ID that the mated applications are assigned to, shown in the rtrv-map output. MAP set IDs are shown only if the Flexible GTT Load Sharing feature is enabled. The mapset parameter has two values:

- dflt – to change the mated application in the default MAP set.
- the specific number of an existing MAP set if you are changing the mated application in an existing MAP set.

The mapset parameter value cannot be changed in this procedure.

If the rtrv-map output shows the MAPSET field, the mapset parameter must be specified with the chg-map command.

If the rtrv-map output does not show the MAPSET field, the Flexible GTT Load Sharing feature is not enabled. The mapset parameter cannot be specified with the chg-map command.

The EAGLE 5 ISS's true point code (shown in the rtrv-sid output) and subsystem can be assigned only to the default MAP set.

:eswt – The entity set weight value. When this parameter is specified, the same weight value is assigned to all entries in the MAP group or MAP set that contain the point code value specified in the chg-map command. A MAP group or MAP set can also be referred to as an entity set. The value of this parameter is from 1 - 99.

:grpwt – The group weight value. When this parameter is specified, the same weight value is assigned to all entries that have the same RC (relative cost) value in the MAP group or MAP set that contain the point code specified in the chg-map command. The value of this parameter is from 1 - 99.

:wt – The weight value assigned to the point code specified in this procedure. The value of this parameter is from 1 - 99.

:thr – The in-service threshold assigned to the MAP group or MAP set. The in-service threshold is the minimum percentage (from 1 - 100) of weight that must be available for an RC group (a group of entries in the MAP group or MAP set that have the same RC value assigned) to be considered available to carry traffic. If the percentage of the available weight is less than the in-service threshold, then the entire RC group is considered unavailable for traffic. If the percentage of the available weight is equal to or greater than the in-service threshold, then the RC group is considered available, and traffic can be sent to any available entity in the RC group. The value of the thr parameter is assigned to all entries that have the same RC (relative cost) value in the MAP group or MAP set that contain the point code specified in the chg-map command.

Refer to the Provisioning a MAP Set section for information on provisioning MAP groups or MAP sets with weight and in-service threshold values.

:force=yes – This parameter must be specified if the rc parameter is specified with either the srm, mrc, or wt parameters.

The chg-map command also contains these parameters: mpc/mpca/mpci / mpcn/mpcn24, mssn, materc, and mwt. These parameters are not used in this procedure. If you wish to use these parameters, perform one of these procedures.

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

At least one optional parameter must be specified.

The mated application to be changed must be in the database.

If the primary point code and subsystem are being changed, the current mated application must be removed from the database and a new mated application with the new primary point code and subsystem, containing the mated point codes and subsystems from the mated application that was removed, should be added to the database.

If an existing dominant, load shared, or combined dominant/load shared mated application is being changed to a solitary mated application, the existing mated application must be removed from the database, and the new solitary mated application, containing the primary point code and subsystem from the mated application that was removed, must be added to the database.

If a solitary mated application is being changed and is to remain a solitary mated application, only the `sso` parameter value and CSPC group name can be changed. The CSPC group name is changed with the `grp` parameter.

If the point code is entered with the `pc` or `pcn` parameters, the specified point codes in the concerned point code broadcast group must have been entered with the `pc` or `pcn` parameters of the `ent-cspc` command. If the point code is entered with the `pci`, `pcn`, or `pcn24` parameters, the specified point codes in the concerned point code broadcast group must have been entered with the `pci`, `pcn`, or `pcn24` parameters of the `ent-cspc` command, respectively.

If the mated application contains the EAGLE 5 ISS's true point code, the relative cost value assigned to this point code must be the lowest value in the mated application.

The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `chg-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to the [Adding a Concerned Signaling Point Code](#) on page 116 procedure), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application. The status of the ANSI-ITU-China SCCP Conversion feature can be verified with the `rtrv-ctrl-feat` command.

If the point code values are ITU values (`pci` , `pcn` , or `pcn24`), the `srm=yes` parameter cannot be specified.

The EAGLE 5 ISS can contain 1024, 2000, or 3000 mated applications. The EAGLE 5 ISS default is 1024 mated applications. This quantity can be increased to 2000 by enabling the feature access key for part number 893-0077-01, or to 3000 by enabling the feature access key for part number 893-0077-10. For more information on enabling these feature access keys, refer to the [Enabling the XMAP Table Expansion Feature](#) on page 867 procedure.

Provisioning Weights and In-Service Thresholds for Mated Applications

Weighted GTT Load Sharing allows unequal traffic loads to be provisioned in MAP load sharing groups or MAP load sharing sets. This feature also allows provisioning control over load sharing groups or sets so that if insufficient capacity within the load sharing group or set is available, the load sharing group or set is not used.

To provision the weight values and in-service threshold values for existing MAP groups or MAP sets, the `eswt`, `grpwt`, `wt`, and `thr` parameters are used.

The `eswt`, `grpwt`, `wt`, and `thr` parameters can be used only:

- If the MAP group or MAP set is either a load shared or combined dominant/load shared MAP group or MAP set.
- If the Weighted GTT Load Sharing feature is enabled and turned on.

The status of the Weighted GTT Load Sharing feature can be verified by entering the `rtrv-ctrl-feat` command. If the Weighted GTT Load Sharing feature is not enabled or not turned on, perform the [Activating the Weighted GTT Load Sharing Feature](#) on page 910 procedure to enable and turn on the Weighted GTT Load Sharing feature.

To assign the same weight value to all the entries in the MAP group or MAP set that contains the point code value specified in the `chg-map` command, use the `eswt` parameter.

To assign the same weight value to all the entries of the MAP group or MAP set that have the same RC value as the point code value specified in the `chg-map` command, use the `grpwt` parameter.

To assign an in-service threshold value to the entries of a MAP group or MAP set that contains the point code value specified in the `chg-map` command, use the `thr` parameter. When the `thr` parameter is specified with the `eswt` parameter, the in-service threshold value is assigned to all the entries of the MAP group or MAP set. When the `thr` parameter is specified with the `grpwt` parameter, or without either the `eswt` or `grpwt` parameters, the in-service threshold value is assigned to all the entries of the MAP group or MAP set that have the same RC value as the point code specified with the `chg-map` command.

To assign different weight values to the entries in the MAP group or MAP set, use the `wt` parameter with the corresponding point code parameters.

The `eswt` or `grpwt` parameters and the individual weight parameter (`wt`) cannot be specified together in the `chg-map` command.

Specifying the `eswt`, `grpwt`, or `thr` parameter with the `chg-map` command can be done when specifying only the point code and SSN parameters.

The weight values assigned to the entries in the MAP group or MAP set are shown in the `WT` column in the `rtrv-map` output.

The in-service threshold values assigned to the entries in the MAP group or MAP set are shown in the `THR` column in the `rtrv-map` output.

The `%WT` column in the `rtrv-map` output shows the percentage of the traffic the particular entry in the entity set will handle.

The `WT`, `%WT`, and `THR` columns are shown in the `rtrv-map` output only if the Weighted GTT Load Sharing feature is enabled and turned on.

For more information on the Weighted GTT Load Sharing feature, refer to the [Weighted GTT Load Sharing](#) on page 45 section.

Canceling the RTRV-MAP Command

Because the `rtrv-map` command used in this procedure can output information for a long period of time, the `rtrv-map` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-map` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-map` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-map` command was entered.

- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-map` command was entered, from another terminal other than the terminal where the `rtrv-map` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated applications in the database using the `rtrv-map` command.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT      MRNSET ID=1      MRNPC =      001-001-003
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
002-002-002      250 10  SHR --- --- grp15      ON  10  16  20
      100-130-079      250 10  SHR --- --- grp15      ON  20  33  20
      068-135-094      251 10  SHR --- --- grp05      OFF 30  50  20

MAPSET ID=DFLT      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
005-005-005      250 10  DOM YES YES grp15      OFF -- --- --
      060-060-060      250 20  DOM YES YES grp15      OFF -- --- --
      070-070-070      251 30  DOM YES YES grp05      ON  -- --- --

MAPSET ID=DFLT      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
007-007-007      251 10  SOL --- --- grp05      ON  -- --- --

MAPSET ID=DFLT      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-000      250 10  SOL --- --- grp01      ON  -- --- --

MAPSET ID=DFLT      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-000      253 10  SHR --- --- grp01      OFF 20  66  20
      253-001-004      254 10  SHR --- --- grp01      OFF 10  33  20

MAPSET ID=DFLT      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-002      251 10  SHR --- --- grp01      OFF 10  50  20
      255-001-002      254 10  SHR --- --- grp01      OFF 10  50  20

MAPSET ID=10      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
003-003-003      254 10  DOM YES YES grp10      ON  -- --- --
      040-040-040      254 20  DOM YES YES grp10      ON  -- --- --

MAPSET ID=11      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
004-004-004      254 10  SHR --- --- grp10      OFF 10  50  20
      100-100-100      254 10  SHR --- --- grp10      OFF 10  50  20

MAPSET ID=9      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
006-006-006      250 10  SOL --- --- grp15      OFF -- --- --

MAPSET ID=12      MRNSET ID=----      MRNPC=-----
PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008      254 10  COM YES YES grp10      ON  50  41  20
      200-147-100      254 10  COM YES YES grp10      ON  40  33  20
```


	179-183-050	250	10	COM	YES	YES	grp15	OFF	30	25	20
	031-049-100	250	20	COM	YES	YES	grp15	ON	20	66	20
	056-113-200	251	20	COM	YES	YES	grp05	OFF	10	33	20
MAPSET ID=1	MRNSET ID=----	MRNPC=-----									
PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
255-001-000		251	10	SHR	---	---	grp01	OFF	10	33	20
	253-001-002	254	10	SHR	---	---	grp01	OFF	20	66	20
MAPSET ID=2	MRNSET ID=----	MRNPC=-----									
PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
255-001-000		252	10	SOL	---	---	grp01	ON	--	---	--
MAPSET ID=3	MRNSET ID=----	MRNPC=-----									
PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
255-001-001		255	10	DOM	YES	YES	grp01	ON	--	---	--
	253-001-005	254	20	DOM	YES	YES	grp01	ON	--	---	--
MAPSET ID=4	MRNSET ID=DFLT	MRNPC=005-005-005									
PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
255-001-001		250	10	DOM	YES	YES	grp01	OFF	--	---	--
	253-001-001	254	20	DOM	YES	YES	grp01	OFF	--	---	--
MAPSET ID=5	MRNSET ID=----	MRNPC=-----									
PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
255-001-002		252	10	DOM	YES	YES	grp01	ON	--	---	--
	255-001-003	254	20	DOM	YES	YES	grp01	ON	--	---	--
MAPSET ID=6	MRNSET ID=1	MRNPC=005-005-005									
PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
255-001-002		253	10	SHR	---	---	grp01	ON	10	50	20
	255-001-004	254	10	SHR	---	---	grp01	ON	10	50	20
MAPSET ID=7	MRNSET ID=----	MRNPC=-----									
PCI	Mate PCI	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
2-001-2		255	10	DOM	YES	YES	grp03	OFF	--	---	--
	2-001-1	254	20	DOM	YES	YES	grp03	OFF	--	---	--
MAPSET ID=8	MRNSET ID=----	MRNPC=-----									
PCN	Mate PCN	SSN	RC	MULT	SRM	MRC	GRP NAME	SSO	WT	%WT	THR
00347		253	10	SHR	---	---	grp05	OFF	10	50	20
	01387	254	10	SHR	---	---	grp05	OFF	10	50	20
MAP TABLE IS 1 % FULL (37 of 36000)											

If any of the following items are not shown in the `rtrv-map` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MAPSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MRNSET and MRNPC fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

This procedure is used only to change the `rc`, `grp`, `sso`, `srn`, `mrc` values in the MAP group or MAP set, or if Weighted GTT Load Sharing feature is enabled and turned on, to change the weight and in-service threshold values assigned to the MAP entries. Adding new point code/SSN entries to the MAP groups or MAP sets is not discussed in this procedure. If you wish to add new point code/SSN entries to existing MAP groups or MAP sets, do not perform this procedure but perform one of these procedures in this chapter.

- [Provisioning a Solitary Mated Application](#) on page 133

- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

If you wish to change the point code and SSN of a mated application, record the data for the mated application. Remove the mated application by performing the [Removing a Mated Application](#) on page 305 procedure. Add the mated application with the new point code and SSN by performing the one of the Provisioning a Mated Application procedures.

A solitary mated application has only one entry. If you wish to change a solitary mated application to a dominant, load shared, or combined dominant/load shared mated application, perform the one of the Provisioning a Mated Application procedures.

If you wish to change a dominant, load shared, or combined dominant/load shared mated application to a solitary mated application, record the data for the mated application. Remove the mated application by performing the [Removing a Mated Application](#) on page 305 procedure. Add the solitary mated application with the point code and SSN from the previous mated application by performing the [Provisioning a Solitary Mated Application](#) on page 133 procedure.

2. Display the point codes in the CSPC group that you wish to assign to the mated application by first entering the `rtrv-cspc` command with no parameters.

Note: If a concerned signaling point code (CSPC) group name is not being changed, skip steps 2 and 3, and go to step 4. If a solitary mated application being changed is to remain a solitary mated application, only the CSPC group name and `sso` parameter value can be changed. If you do not wish to change the CSPC group name, but wish to change the `sso` parameter value for the solitary mated application, skip steps 2 and 3, and go to step 4. If the CSPC group name and `sso` parameter value are not being changed for the solitary mated application, no further action can be performed. This procedure is finished.

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP    NETWORK          PERCENT FULL
grp01      ANSI              6%
grp02      ITU-I              9%
grp03      ITU-N              12%
grp04      ANSI              15%
grp05      ANSI              15%
grp10      ANSI              15%
grp15      ANSI              15%
```

If the desired CSPC group is shown in the `rtrv-cspc` output, re-enter the `rtrv-cspc` command with the CSPC group name. For this example, enter this command.

```
rtrv-cspc:grp=grp05
```

This is an example of the possible output.

```
rlghncxa03w 06-10-25 09:48:31 GMT EAGLE5 36.0.0
CSPC GRP    PCA
grp05      005-005-005
           007-007-007
           008-008-008
           009-009-009
```

Note: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the `rtrv-cspc` output, if point codes of multiple network types are assigned to the CSPC group.

If the CSPC group is not in the database, or if the required point code is not assigned to the CSPC group, perform the [Adding a Concerned Signaling Point Code](#) on page 116 procedure and add the required CSPC group or point code to the database.

3. The format of the point codes in the CSPC group specified with the `grp` parameter must be the same as the primary point code specified with the `ent-map` command only if the ANSI-ITU-China SCCP Conversion feature is not enabled.

Note: If the output of the `rtrv-cspc` command performed in step 7 shows CSPC groups containing a mixture of point code types, or if the new CSPC group that was added in step 7 contains a mixture of point code types, skip this step and go to step 9.

If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (refer to the [Adding a Concerned Signaling Point Code](#) on page 116 procedure), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.

Verify the status of the ANSI-ITU-China SCCP Conversion feature by entering this command:

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
SCCP Conversion       893012001  on        ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enable the ANSI-ITU-China SCCP Conversion feature.

4. The `sso` parameter cannot be specified for a mated application if the `pc/pca/pci/pcn/pcn24` value is the EAGLE 5 ISS's point code. A load shared or combined dominant/load shared mated application cannot contain the EAGLE 5 ISS's point code. A dominant mated application containing the EAGLE 5 ISS's point code can contain only one mate point code and SSN. The EAGLE 5 ISS's point code in the dominant mated application must have the lowest RC value.

Verify the EAGLE 5 ISS's point code by entering the `rtrv-sid` command. The EAGLE 5 ISS's point code is shown in the PCA, PCI, PCN, and PCN24 fields. This is an example of the possible output.

```
rlghncxa03w 06-10-10 11:43:04 GMT EAGLE5 36.0.0
PCA          PCI          PCN          CLLI          PCTYPE
010-020-030  1-023-1      12-0-14-1    rlghncxa03w   OTHER
              s-1-023-1      s-12-0-14-1

CPCA
001-001-001  002-002-003  002-002-004  002-002-005
```

002-002-006	002-002-007	002-002-008	002-002-009
004-002-001	004-003-003	050-060-070	
CPCI			
1-001-1	1-001-2	1-001-3	1-001-4
1-002-1	1-002-2	1-002-3	1-002-4
2-001-1	7-222-7		
CPCN			
2-0-10-3	2-0-11-0	2-0-11-2	2-0-12-1
2-2-3-3	2-2-4-0	10-14-10-1	

- If you wish to assign weight and in-service threshold values to the entries in the MAP group or MAP set, and the WT, %WT, and THR columns are shown in the `rtrv-map` output in step 1, then the Weighted GTT Load Sharing feature is enabled and turned on. Go to step 6.

Note: If you do not wish to assign weight and in-service threshold values to the MAP entries in the MAP group or MAP set, skip steps 5 through 10, and go to step 11.

If the WT, %WT, and THR columns are not shown in the `rtrv-map` output in step 1, perform the [Activating the Weighted GTT Load Sharing Feature](#) on page 910 procedure to enable and turn on the Weighted GTT Load Sharing feature. After the Weighted GTT Load Sharing feature is enabled and turned on, go to step 6.

- To assign weight and in-service threshold values to a dominant MAP group or MAP set, the dominant MAP group or MAP set must be changed to either a load shared or combined dominant/load shared MAP group or MAP set.

Note: If existing MAP group or MAP set that the weight and in-service threshold values are being assigned to is a load shared or combined dominant/load shared MAP group or MAP set, and the MAP group or MAP set type will not be changed, skip this step and go to step 7.

To change the MAP group or MAP set to a load shared or combined dominant/load shared MAP group or MAP set, enter the `chg-map` command specifying the point code in the MAP group or MAP set with the new RC value.

To create a load shared MAP group or MAP set, the new RC values for all the entries in the MAP group or MAP set must be equal. The `grp` and `ssn` parameter values can also be changed.

To create a combined dominant/load shared MAP group or MAP set, the MAP group or MAP set must contain a minimum of two RC values that are equal and a minimum of one RC value that is different. The `grp`, `srn`, `mrc`, and `ssn` parameter values can also be changed.

If the MAPSET column is not shown in the `rtrv-map` output in step 1, the `mapset` parameter cannot be specified with the `chg-map` command.

For this example, enter this command.

```
chg-map:pca=060-060-060:ssn=250:rc=10
```

If the MAPSET column is shown in the `rtrv-map` output in step 1, the `mapset=<MAP Set ID>` parameter, specifying the MAP set containing the point code specified in this step, must be specified with the `chg-map` command. To change the RC values in an MAP set, for this example enter this command.

```
chg-map:pca=060-060-060:ssn=250:rc=10:mapset=df1t
```

This step must be repeated until the RC values for all the entries in the MAP group or MAP set have been changed as necessary.

After this step is performed, go to step 7.

7. Change the weight and in-service threshold values of the load shared or combined dominant/load shared MAP group or MAP set by entering the `chg-map` command with the `eswt` and `thr` parameters.

Note: If the mated application being changed has weight and in-service threshold values assigned to it, and you do not wish to change the weight values of all the entries in the mated application, skip this step and go to step 8.

The `eswt` parameter assigns the same weight value to all the entries in the MAP group or MAP set. If step 6 was performed, or if the Weighted GTT Load Sharing feature was enabled and turned on in step 5, the `eswt` parameter must be used to assign weight values to the MAP group or MAP set.

For this example, enter one of these commands.

To assign only weight values to all entries in the MAP group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=005-005-005:ssn=250:eswt=30
```

To change the weight and in-service threshold values of all the entries in the MAP group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=005-005-005:ssn=250:eswt=20:thr=30
```

To change only weight values of all the entries in the MAP set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=005-005-005:ssn=250:eswt=30:mapset=df1t
```

To change the weight and in-service threshold values of all the entries in the MAP set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=005-005-005:ssn=250:eswt=20:thr=30:mapset=df1t
```

If the MAP group or MAP set did not have weight and in-service threshold values assigned before this step was performed, and the `thr` parameter is not specified in this step, the in-service threshold value 1 (1%) is assigned to the entries.

When the `chg-map` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0  
CHG-MAP: MASP A - COMPLTD
```

If step 6 was performed, or if the Weighted GTT Load Sharing feature was enabled and turned on in step 5, individual weight values in the MAP group or MAP set can be changed, or the weight values in an RC group can be changed.

- To change the weight values of all entries in an RC group - perform step 9.
- To change the individual weight values of entries in an MAP group or MAP set - perform step 10.

If the MAP group or MAP set changed in this step had weight and in-service threshold values assigned before this step was performed, one or more of the following steps can be performed.

- To change only the in-service threshold value in the MAP group or MAP set - perform step 8.
- To change the weight values of all entries in an RC group - perform step 9.

- To change the individual weight values of entries in an MAP group or MAP set - perform step 10.
8. The in-service threshold value is changed by specifying the `thr` parameter. The `thr` parameter can be specified by itself only if the MAP set or MAP group currently has weight values assigned.

The new `thr` value is assigned to all entries in the MAP group or MAP set that have the same RC value as the specified point code (an RC group).

For this example, enter one of these commands.

To change the in-service threshold value of all entries in the MAP group that have the same RC value as the point code specified in this step without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:thr=50
```

To change the in-service threshold value of all entries in the MAP set that have the same RC value as the point code specified in this step with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:thr=30:mapset=12
```

When the `chg-map` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MAP: MASP A - COMPLTD
```

If the mated application is a combined dominant/load shared mated application, this step can be repeated for other RC groups in the MAP group or MAP set.

If the mated application is a load shared mated application, the in-service threshold value was changed for all entries in the MAP group or MAP set.

After this step has been performed, one or more of the following steps can be performed.

- To change the weight values of all entries in an RC group - perform step 9.
- To change the individual weight values of entries in an MAP group or MAP set - perform step 10.

If you wish to change the non-Weighted GTT Load Sharing feature parameter values: `rc`, `grp`, `srm`, `mrc`, and `sso`, go to step 11.

If no other actions are being performed on the MAP group or MAP set, go to step 12.

9. An RC group is a group of point code entries that have the same RC value. This step is used to change the weight values of all the point codes in a combined dominant/load shared MAP group or MAP set that have the same RC value to the same weight value using the `chg-map` command with the `grpwt` parameter.

A load shared MAP group or MAP set can be considered an RC group as all the entries in the group or set have the same RC value, but changing all the weight values in a load shared group or set to the same weight value can be accomplished by using the `eswt` parameter as described in step 7.

The in-service threshold value of the MAP group or MAP set can be changed by specifying the `thr` parameter with the `chg-map` command.

For this example, enter one of these commands.

To change only weight values of all entries in an RC group of the MAP group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:grpwt=30
```

To change the weight and in-service threshold values of all entries in an RC group of the MAP group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:grpwt=20:thr=30
```

To change only weight values of all entries in an RC group of the MAP set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:grpwt=30:mapset=12
```

To change the weight and in-service threshold values of all entries in an RC group of the MAP set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:grpwt=20:thr=30:mapset=12
```

If the MAP group or MAP set did not have weight and in-service threshold values assigned before this step was performed, and the `thr` parameter is not specified in this step, the in-service threshold value 1 (1%) is assigned to the entries.

When the `chg-map` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0  
CHG-MAP: MASP A - COMPLTD
```

This step can be repeated for other RC groups in the MAP group or MAP set.

After this step has been performed, the individual weight values of entries in an MAP group or MAP set can be changed.

To change the individual weight values of entries in an MAP group or MAP set - perform step 10.

If you wish to change the non-Weighted GTT Load Sharing feature parameter values: `rc`, `grp`, `srn`, `mrc`, and `ssn`, go to step 11.

If no other actions are being performed on the MAP group or MAP set, go to step 12.

10. Change the individual weight values of the MAP group or MAP set by entering the `chg-map` command with the point code parameters and the weight parameter `wt`.

If step 6 was performed, or if the Weighted GTT Load Sharing feature was enabled and turned on in step 5, and step 7 was not performed, this step cannot be performed. The `wt` parameter can be specified only for MAP groups or MAP sets that currently have weight values assigned.

The `thr` parameter cannot be specified with the `wt` parameter.

For this example, enter one of these commands.

To change the individual weight values of the entries in the MAP group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:wt=30
```

To change the individual weight values of the entries in the MAP set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-map:pca=008-008-008:ssn=254:wt=30:mapset=12
```

When the `chg-map` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0  
CHG-MAP: MASP A - COMPLTD
```

This step can be repeated for other entries in the MAP group or MAP set.

Note: The `rc` parameter can be specified with the `wt` parameter in this step. The `force=yes` parameter must be specified if the `rc` and `wt` parameters are specified with the `chg-map` command. However, if a dominant mated application results from changing the mated application, it is recommended that you skip this step and perform step 11.

Note: A weight value cannot be assigned to a dominant mated application. If a dominant mated application is created in this step, the `WT`, `%WT`, and `THR` values are removed from the mated application and are not displayed in the `rtrv-map` output.

11. Change the `rc`, `grp`, `sso`, `srn`, or `mrc` parameter values, as applicable, in the mated application using the `chg-map` command with the point code and subsystem number from the `rtrv-map` command output shown in step 1.

If the `MAPSET` field is shown in the `rtrv-map` output in step 1, the `mapset` parameter must be specified with the `chg-map` command. If the `MAPSET` field is not shown in the `rtrv-map` output in step 1, the `mapset` parameter cannot be specified with the `chg-map` command.

If a solitary mated application is being changed, only the `grp` and `sso` parameter values can be changed. If the point code of the solitary mated application is the EAGLE 5 ISS's point code, only the `grp` parameter value can be changed.

If a dominant mated application is being changed, or a load shared or combined dominant/load shared mated application is being changed to a dominant mated application, the `rc`, `grp`, `mrc`, `srn`, and `sso` parameter values can be changed. The `rc` parameter values for this mated application must be unique. If the EAGLE 5 ISS's point code is assigned to the mated application, only the `sso` parameter cannot be specified.

If the mated application being changed is a load shared or combined dominant/load shared mated application and this mated application has weight and in-service threshold values assigned to it, when this mated application is changed to a dominant mated application, the `WT`, `%WT`, and `THR` values are removed from the mated application and are not displayed in the `rtrv-map` output.

If this dominant mated application is changed to a load shared or combined dominant/load shared mated application in the future, weight and threshold values can be applied to the mated application only by specifying the `eswt` and `thr` parameters with the `chg-map` command as shown in step 7.

If a load shared mated application is being changed, and will remain a load shared mated application, the `rc`, `grp`, and `sso` parameter values can be changed. The `rc` parameter values for this mated application must be equal.

If a combined dominant/load shared mated application is being changed, and will remain a combined dominant/load shared mated application, the `rc`, `grp`, `srn`, `mrc`, and `sso` parameter values can be changed. This mated application must contain a minimum of two `RC` values that are equal and a minimum of one `RC` value that is different.

If the `MAPSET` field is not shown in the `rtrv-map` output in step 1, meaning that the Flexible GTT Load Sharing feature is not enabled, for this example, enter this command.

```
chg-map:pca=255-001-001:ssn=250:grp=grp05:srn=yes:mrc=yes :sso=on
```


This message should appear.

```
rlghncxa03w 06-10-25 09:43:31 GMT EAGLE5 36.0.0
CHG-MAP: MASP A - COMPLTD
```

If the MAPSET field is shown in the `rtrv-map` output in step 1, meaning that the Flexible GTT Load Sharing feature is enabled, for this example, enter this command.

```
chg-map:pca=255-001-001:ssn=250:grp=grp05:srm=yes:mrc=yes
:sso=on:mapset=4
```

This message should appear.

```
rlghncxa03w 06-10-25 09:43:31 GMT EAGLE5 36.0.0
CHG-MAP: MASP A - COMPLTD
```

Note: The `force=yes` parameter must be specified when the `rc` parameter is specified with either the `srm` or `mrc` parameters.

If a load shared mated application is created in this step and the `srm` and `mrc` parameters are specified in this step, the changes to the `srm` and `mrc` parameters are accepted, but the `srm` and `mrc` parameter values are not displayed in the `rtrv-map` output for this mated application.

If this load shared mated application is changed to either a dominant or combined dominant/load shared mated application in the future, and no SRM and MRC values are specified

If this load shared mated application is changed to either a dominant or combined dominant/load shared mated application in the future, and no SRM and MRC values are specified at the time, the SRM and MRC values that were assigned to the mated application when the mated application was changed to a load shared mated application are displayed in the `rtrv-map` output.

If the Flexible GTT Load Sharing feature is enabled, the changes to the `srm` and `mrc` parameter values, as well as the `grp` and `sso` parameter values if they are changed, are made to all mated applications containing the point code and subsystem number specified in this step.

This step can be repeated to change other entries in the MAP group or MAP set.

12. Verify the changes using the `rtrv-map` command with the primary point code and subsystem specified in steps 7, 8, 9, 10 or 11. If the `mapset` parameter was specified in steps 7, 8, 9, 10 or 11, the `mapset` parameter and value specified in steps 7, 8, 9, 10 or 11 must be specified with the `rtrv-map` command in this step.

For the examples specified in step 7, enter these commands.

```
rtrv-map:pca=005-005-005:ssn=250 (if only the weights of all entries
were changed)
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO	WT	%WT	THR
005-005-005		250	10	SHR	---	---	grp15		OFF	30	33	1
	060-060-060	250	10	SHR	---	---	grp15		OFF	30	33	1
	070-070-070	251	10	SHR	---	---	grp05		ON	30	33	1

```
MAP TABLE IS 4 % FULL (37 of 1024)
```

rtrv-map:pca=005-005-005:ssn=250 (if the weights and in-service thresholds of all entries were changed)

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO	WT	%WT	THR
005-005-005		250	10	SHR	---	---	grp15		OFF	20	33	30
	060-060-060	250	10	SHR	---	---	grp15		OFF	20	33	30
	070-070-070	251	10	SHR	---	---	grp05		ON	20	33	30

```
MAP TABLE IS 4 % FULL (37 of 1024)
```

rtrv-map:pca=005-005-005:ssn=250:mapset=df1t (if only the weights of all entries were changed)

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
MAPSET ID=DFLT MRNSET ID=---- MRNPC=-----
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO	WT	%WT	THR
005-005-005		250	10	SHR	---	---	grp15		OFF	30	33	1
	060-060-060	250	10	SHR	---	---	grp15		OFF	30	33	1
	070-070-070	251	10	SHR	---	---	grp05		ON	30	33	1

```
MAP TABLE IS 4 % FULL (37 of 1024)
```

rtrv-map:pca=005-005-005:ssn=250:mapset=df1t (if the weights and in-service thresholds of all entries were changed)

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
MAPSET ID=DFLT MRNSET ID=---- MRNPC=-----
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO	WT	%WT	THR
005-005-005		250	10	SHR	---	---	grp15		OFF	20	33	30
	060-060-060	250	10	SHR	---	---	grp15		OFF	20	33	30
	070-070-070	251	10	SHR	---	---	grp05		ON	20	33	30

```
MAP TABLE IS 4 % FULL (37 of 1024)
```

For the examples specified in step 8, enter these commands.

```
rtrv-map:pca=008-008-008:ssn=254
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

PCA	Mate PCA	SSN	RC	MULT	SRM	MRC	GRP	NAME	SSO	WT	%WT	THR
008-008-008		254	10	COM	YES	YES	grp10		ON	10	33	50
	200-147-100	254	10	COM	YES	YES	grp10		ON	10	33	50
	179-183-050	250	10	COM	YES	YES	grp15		OFF	10	33	50
	031-049-100	250	20	COM	YES	YES	grp15		ON	10	50	20
	056-113-200	251	20	COM	YES	YES	grp05		OFF	10	50	20

```
MAP TABLE IS      4 % FULL      (37 of 1024)
```

```
rtrv-map:pca=008-008-008:ssn=254:mapset=dflt
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
MAPSET ID=12      MRNSET ID=----- MRNPC=-----
PCA              Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008      254 10  COM YES YES  grp10  ON  10  33  30
                  200-147-100      254 10  COM YES YES  grp10  ON  10  33  30
                  179-183-050      250 10  COM YES YES  grp15  OFF 10  33  30
                  031-049-100      250 20  COM YES YES  grp15  ON  10  50  20
                  056-113-200      251 20  COM YES YES  grp05  OFF 10  50  20
```

```
MAP TABLE IS      4 % FULL      (37 of 1024)
```

For the examples specified in step 9, enter these commands.

```
rtrv-map:pca=008-008-008:ssn=254 (if only the weights of an RC group were changed)
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
PCA              Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008      254 10  COM YES YES  grp10  ON  30  33  20
                  200-147-100      254 10  COM YES YES  grp10  ON  30  33  20
                  179-183-050      250 10  COM YES YES  grp15  OFF 30  33  20
                  031-049-100      250 20  COM YES YES  grp15  ON  10  50  20
                  056-113-200      251 20  COM YES YES  grp05  OFF 10  50  20
```

```
MAP TABLE IS      4 % FULL      (37 of 1024)
```

```
rtrv-map:pca=008-008-008:ssn=254 (if only the weights and in-service thresholds of
an RC group were changed)
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
PCA              Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008      254 10  COM YES YES  grp10  ON  20  33  30
                  200-147-100      254 10  COM YES YES  grp10  ON  20  33  30
                  179-183-050      250 10  COM YES YES  grp15  OFF 20  33  30
                  031-049-100      250 20  COM YES YES  grp15  ON  10  50  20
                  056-113-200      251 20  COM YES YES  grp05  OFF 10  50  20
```

```
MAP TABLE IS      4 % FULL      (37 of 1024)
```

```
rtrv-map:pca=008-008-008:ssn=254:mapset=12 (if only the weights of an RC group
were changed)
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
MAPSET ID=12      MRNSET ID=----- MRNPC=-----
PCA              Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008      254 10  COM YES YES  grp10  ON  30  33  20
```

```

200-147-100 254 10 COM YES YES grp10 ON 30 33 20
179-183-050 250 10 COM YES YES grp15 OFF 30 33 20
031-049-100 250 20 COM YES YES grp15 ON 10 50 20
056-113-200 251 20 COM YES YES grp05 OFF 10 50 20

MAP TABLE IS 4 % FULL (37 of 1024)

```

rtrv-map:pca=008-008-008:ssn=254:mapset=12 (if only the weights and in-service thresholds of an RC group were changed)

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=12      MRNSET ID=----- MRNPC=-----
PCA               Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008
    200-147-100    254 10 COM YES YES grp10  ON  20  33  30
    179-183-050    250 10 COM YES YES grp15  OFF  20  33  30
    031-049-100    250 20 COM YES YES grp15  ON   10  50  20
    056-113-200    251 20 COM YES YES grp05  OFF  10  50  20

MAP TABLE IS 4 % FULL (37 of 1024)

```

For the examples specified in step 10, enter these commands.

rtrv-map:pca=008-008-008:ssn=254

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PCA               Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008
    200-147-100    254 10 COM YES YES grp10  ON  30  60  50
    179-183-050    250 10 COM YES YES grp15  OFF  10  20  50
    031-049-100    250 20 COM YES YES grp15  ON   10  50  20
    056-113-200    251 20 COM YES YES grp05  OFF  10  50  20

MAP TABLE IS 4 % FULL (37 of 1024)

```

rtrv-map:pca=008-008-008:ssn=254:mapset=dflt

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=12      MRNSET ID=----- MRNPC=-----
PCA               Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
008-008-008
    200-147-100    254 10 COM YES YES grp10  ON  30  60  30
    179-183-050    250 10 COM YES YES grp15  OFF  10  20  30
    031-049-100    250 20 COM YES YES grp15  ON   10  50  20
    056-113-200    251 20 COM YES YES grp05  OFF  10  50  20

MAP TABLE IS 4 % FULL (37 of 1024)

```

For the examples specified in step 11, enter these commands.

rtrv-map:pca=255-001-001:ssn=250

This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

```

```
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-001          253-001-001  250 10  DOM YES YES grp05  ON  -- ---  --
                254 20  DOM NO  NO  grp01  OFF  -- ---  --
```

```
MAP TABLE IS  4 % FULL      (37 of 1024)
```

```
rtrv-map:pca=255-001-001:ssn=250:mapset=4
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

```
MAPSET ID=4          MRNSET ID=----- MRNPC=-----
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
255-001-001          253-001-001  250 10  DOM YES YES grp05  ON  -- ---  --
                254 20  DOM NO  NO  grp01  OFF  -- ---  --
```

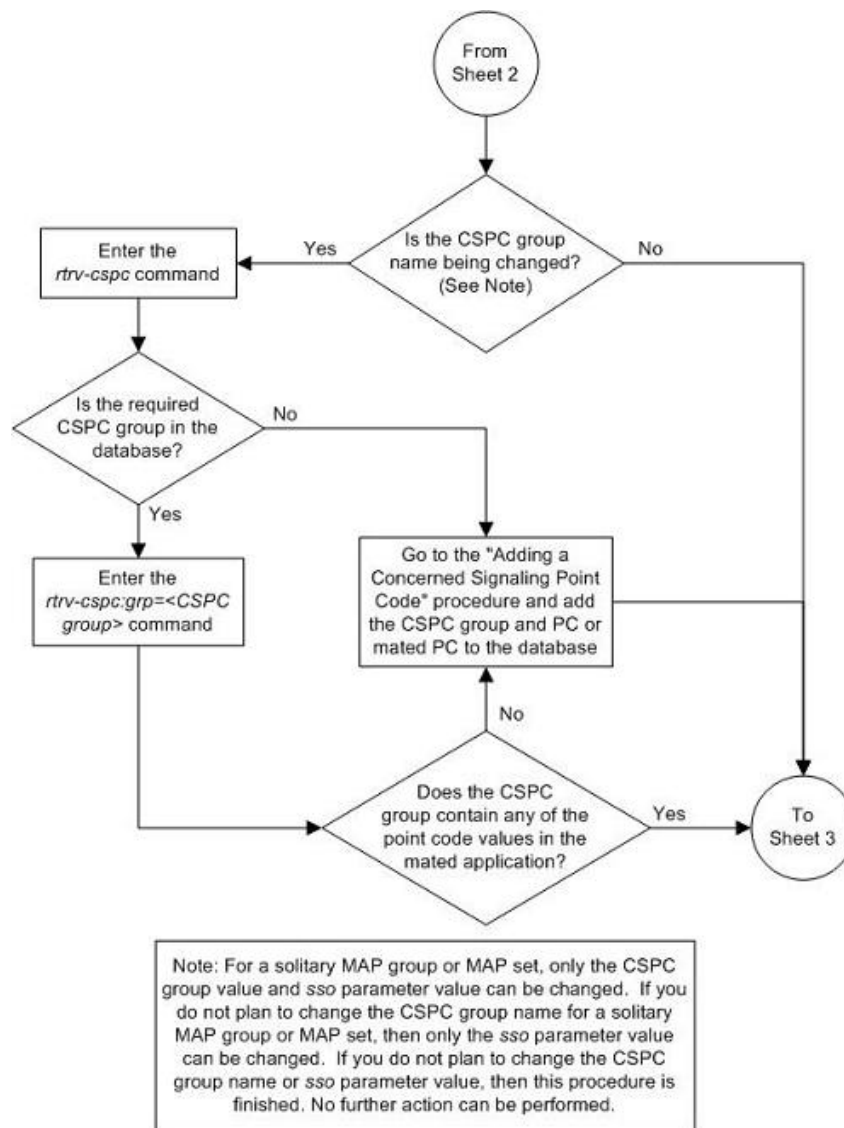
```
MAP TABLE IS  1 % FULL      (37 of 36000)
```

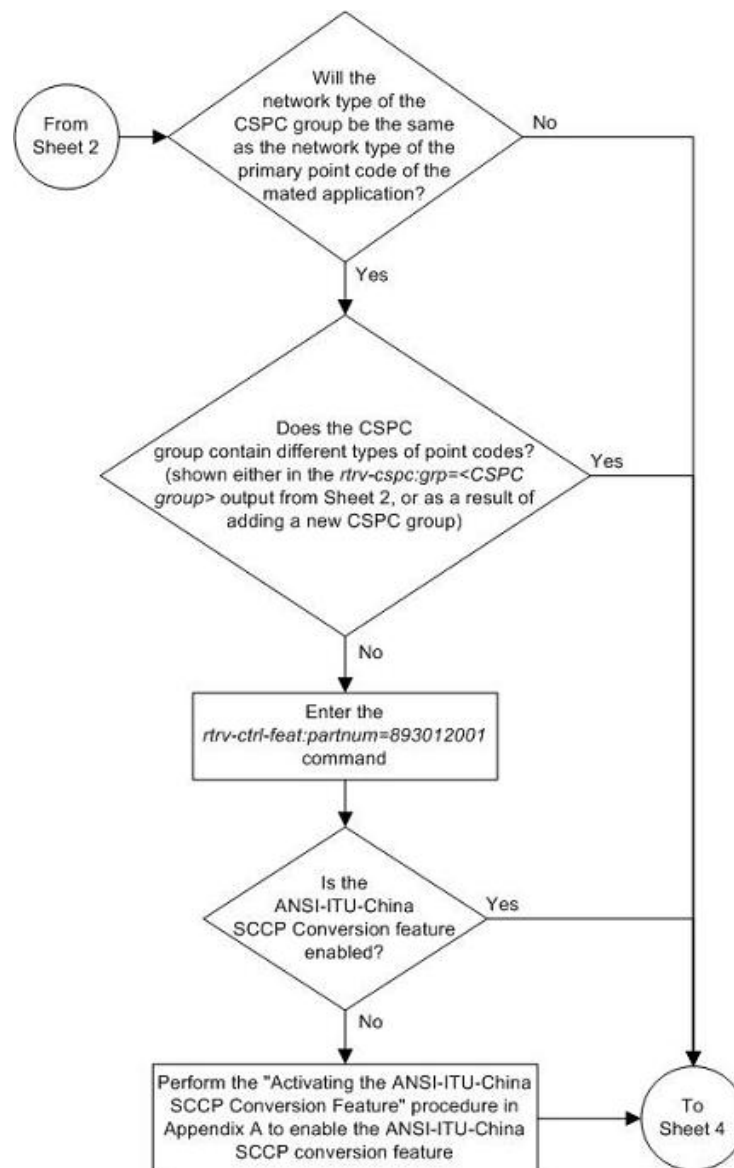
13. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

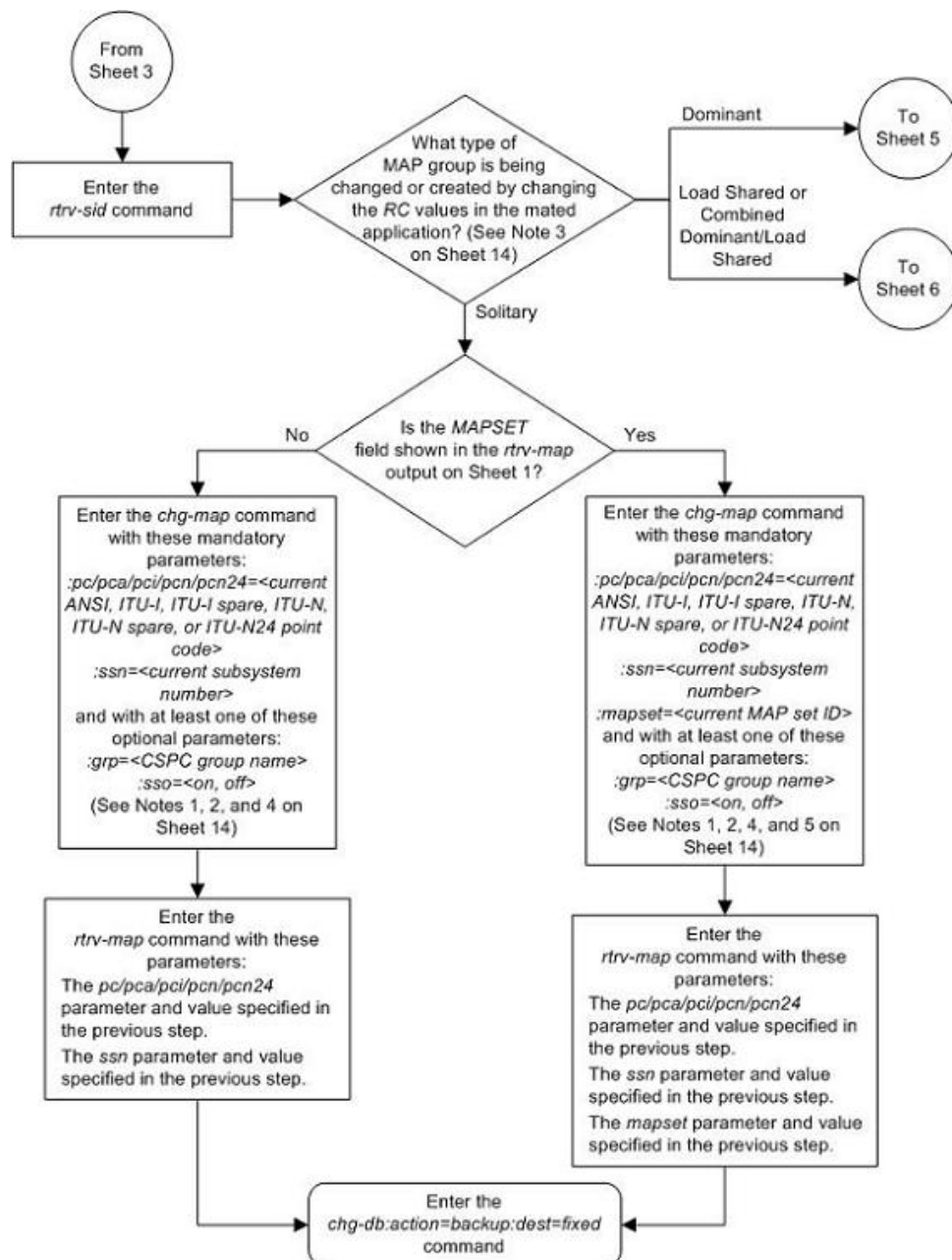
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

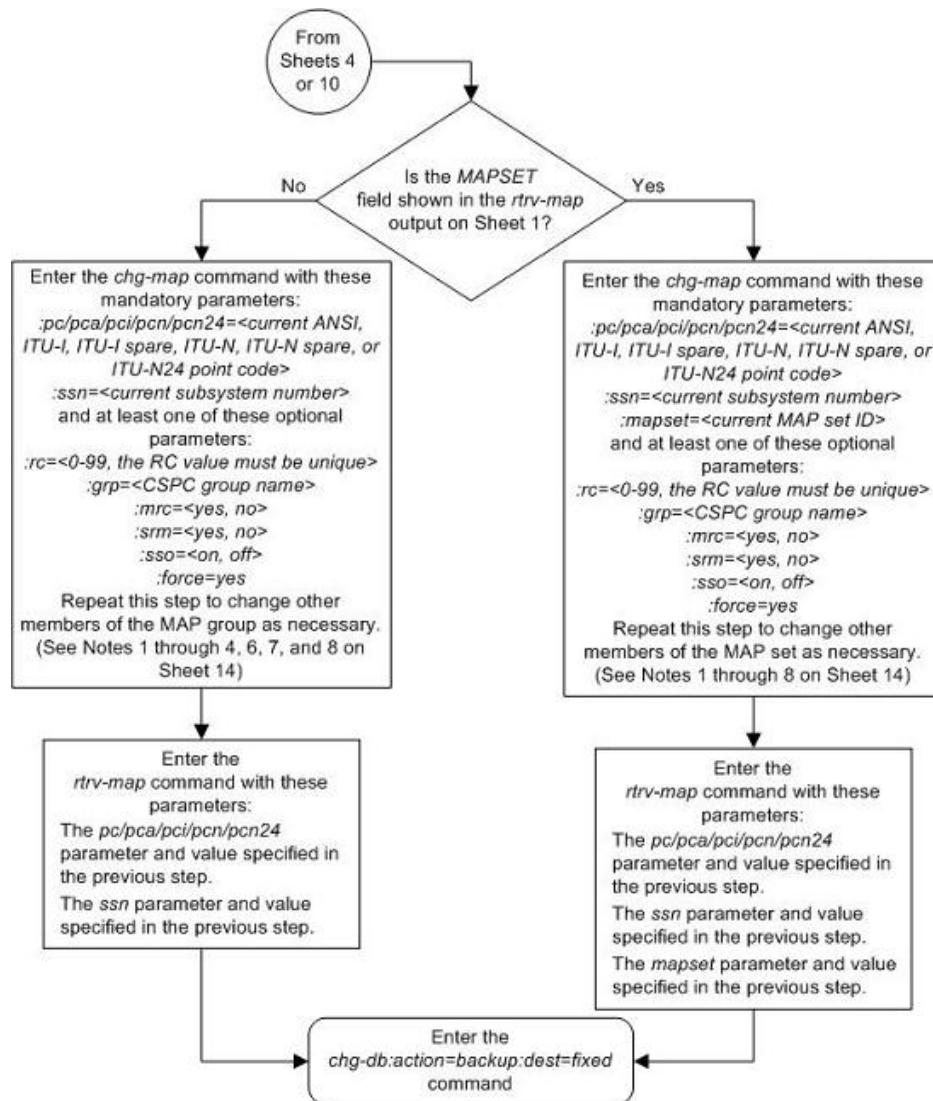
Figure 29: Changing a Mated Application

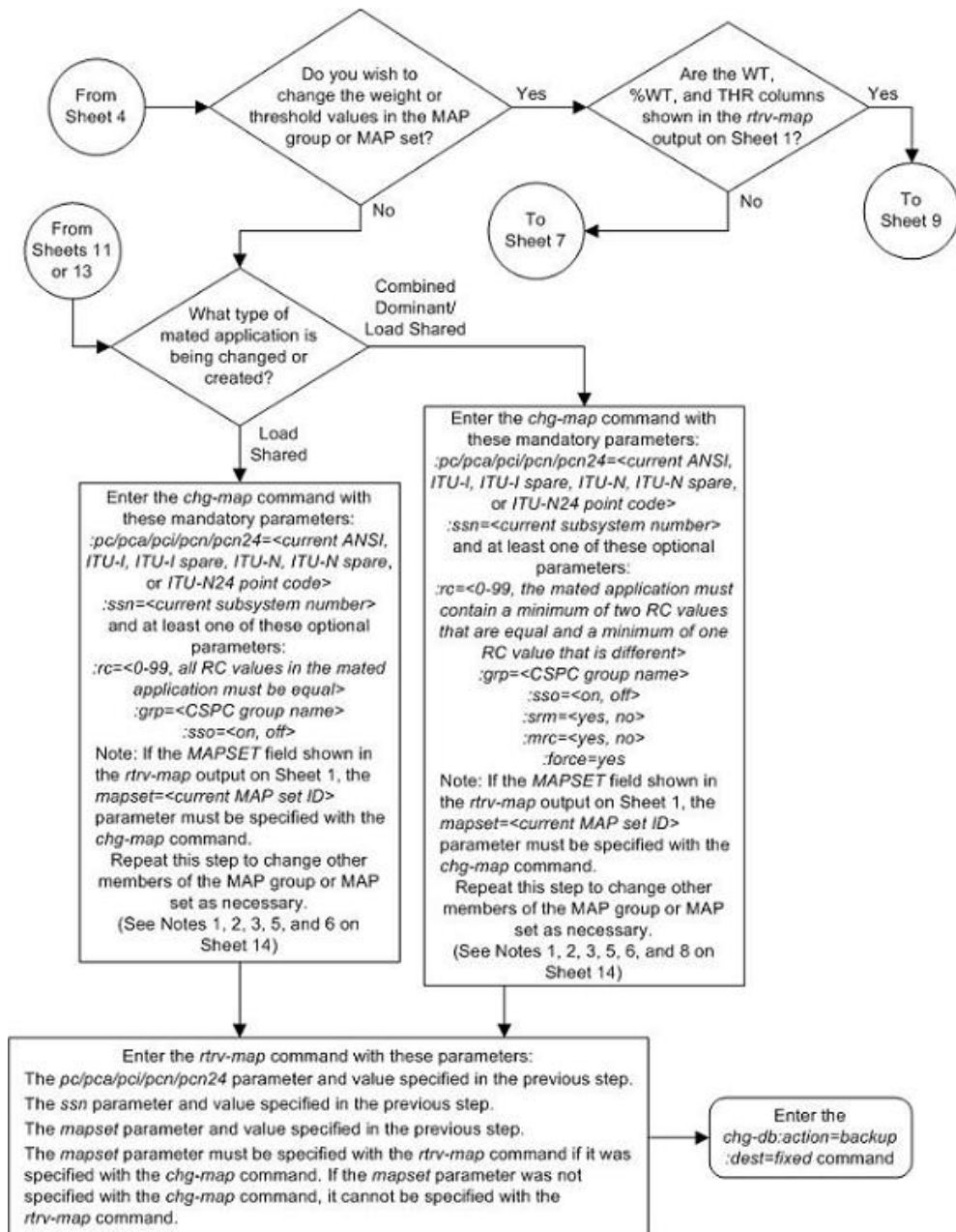


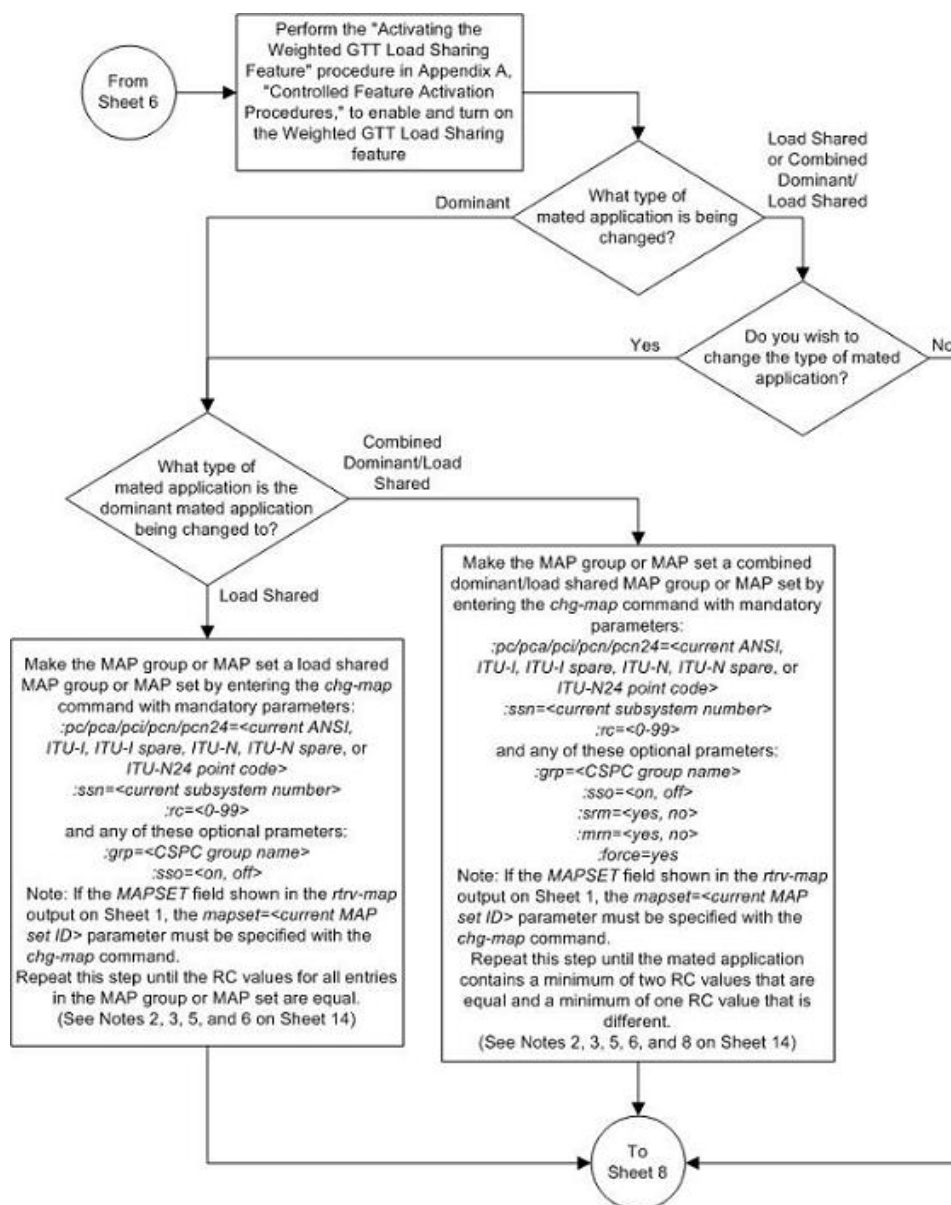


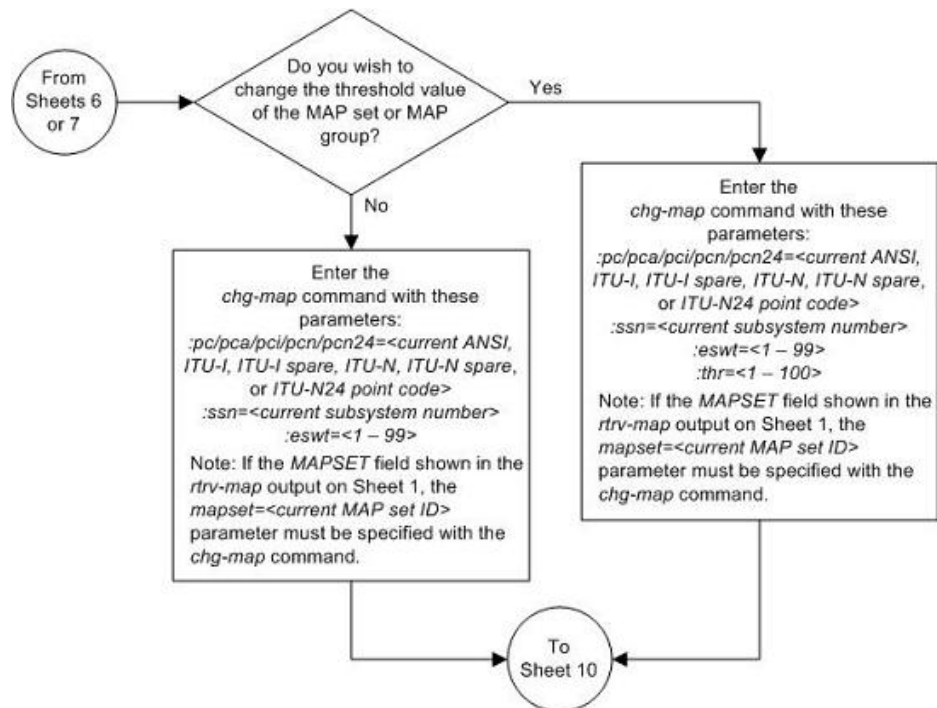


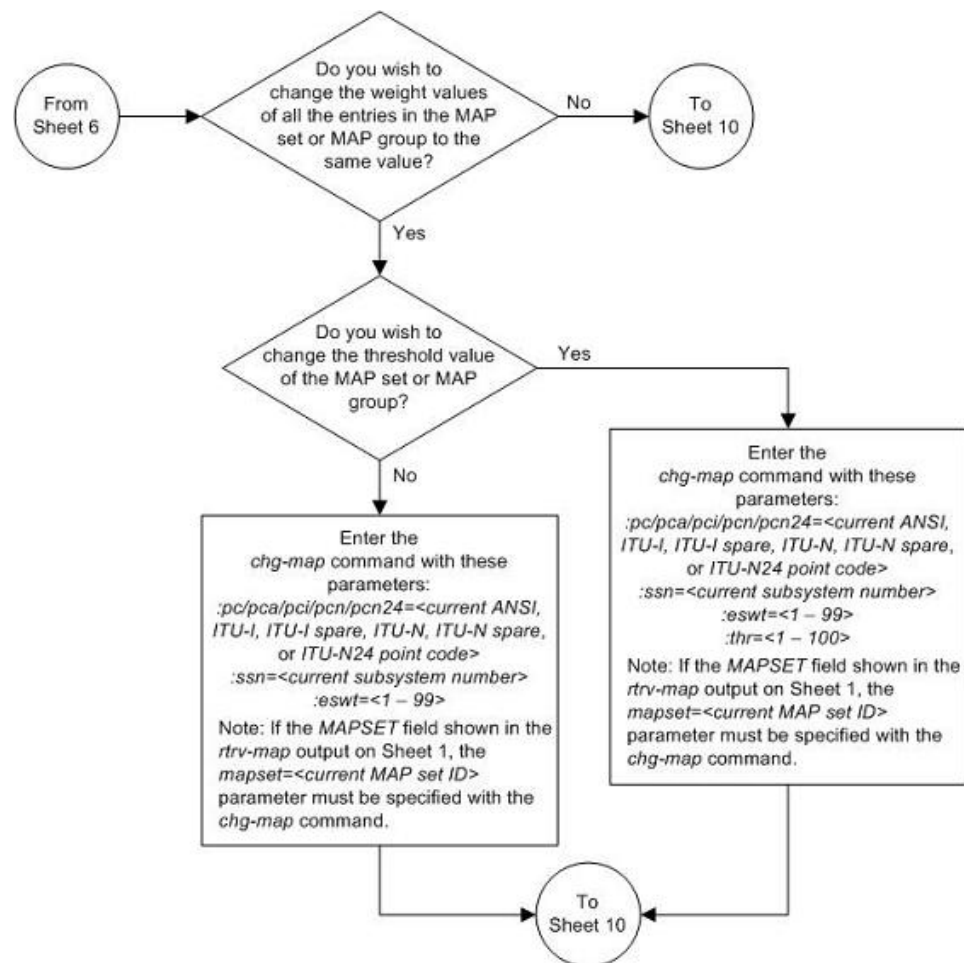


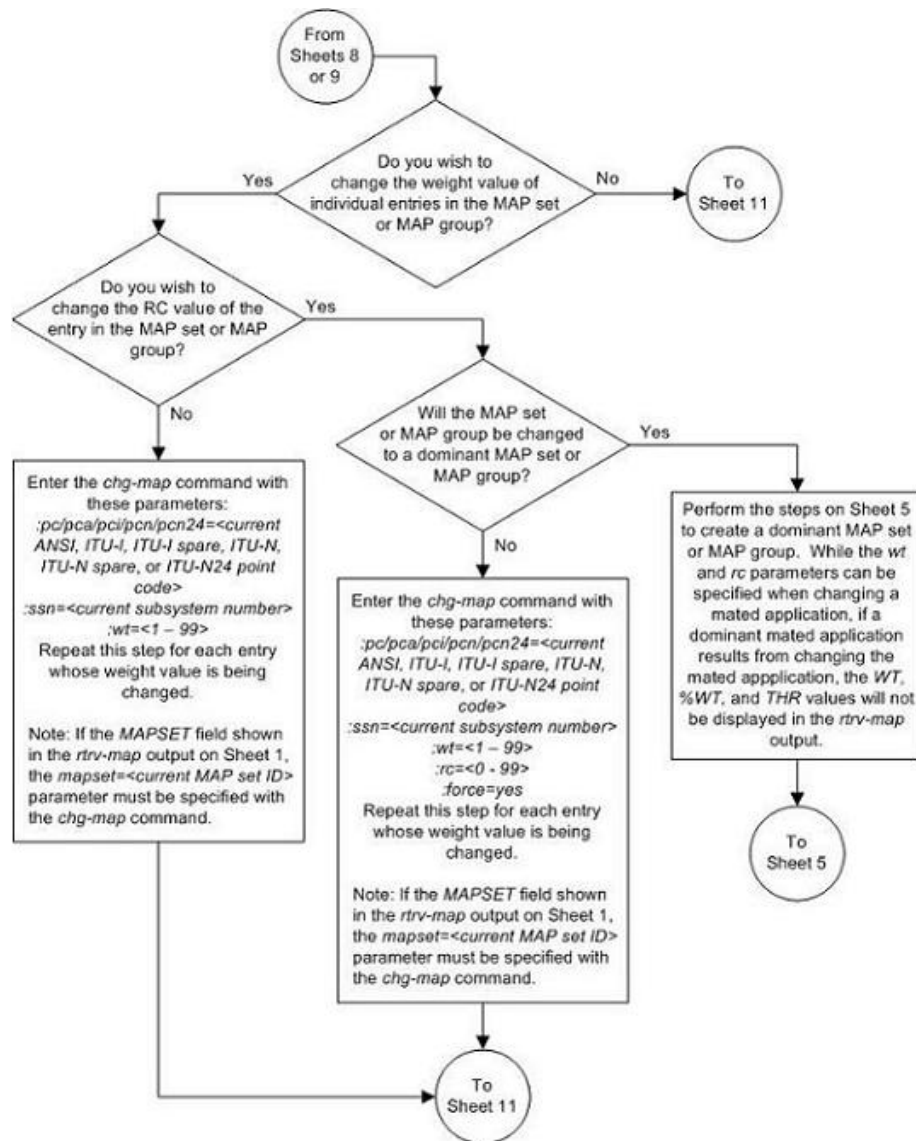


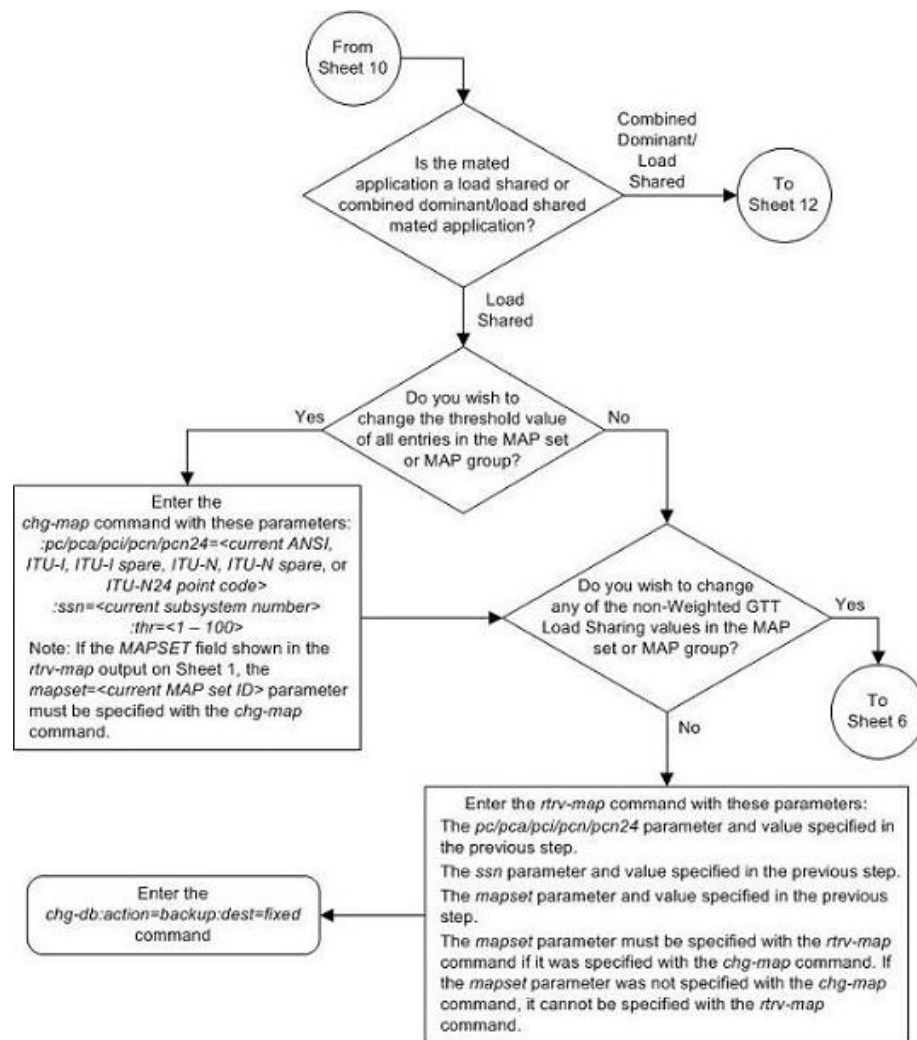


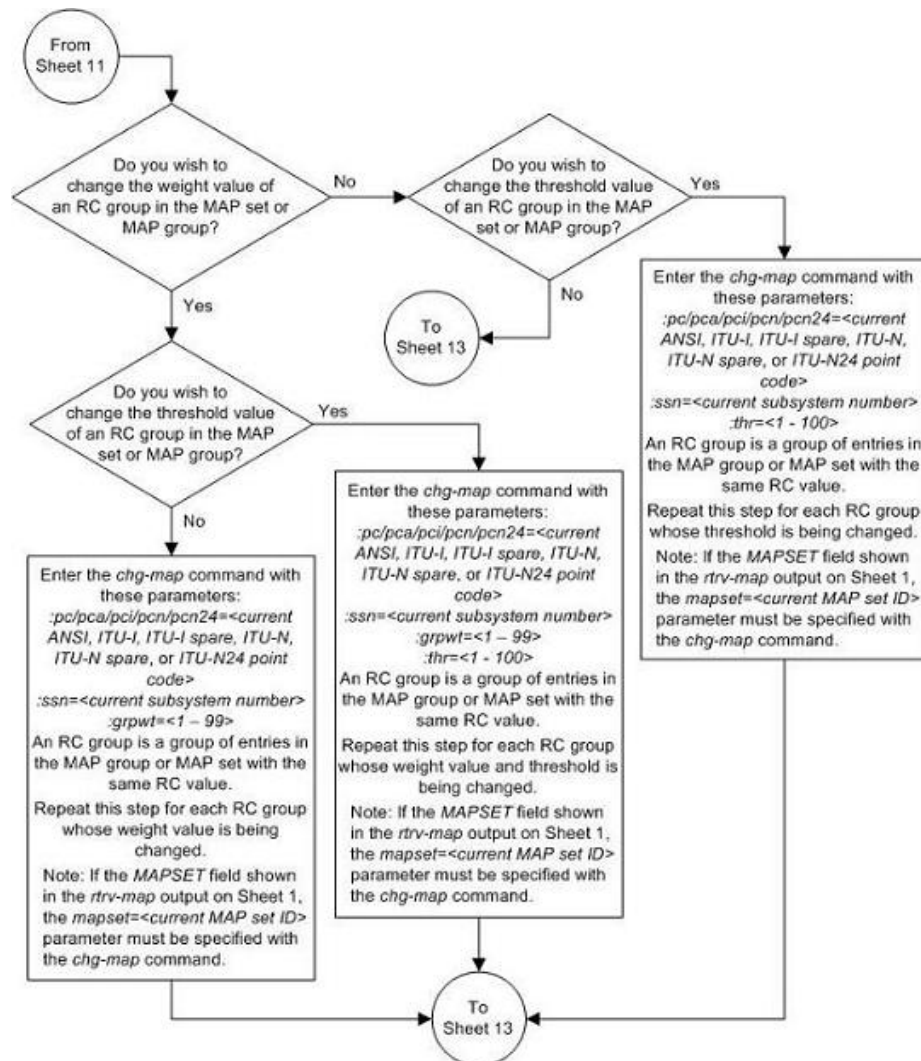


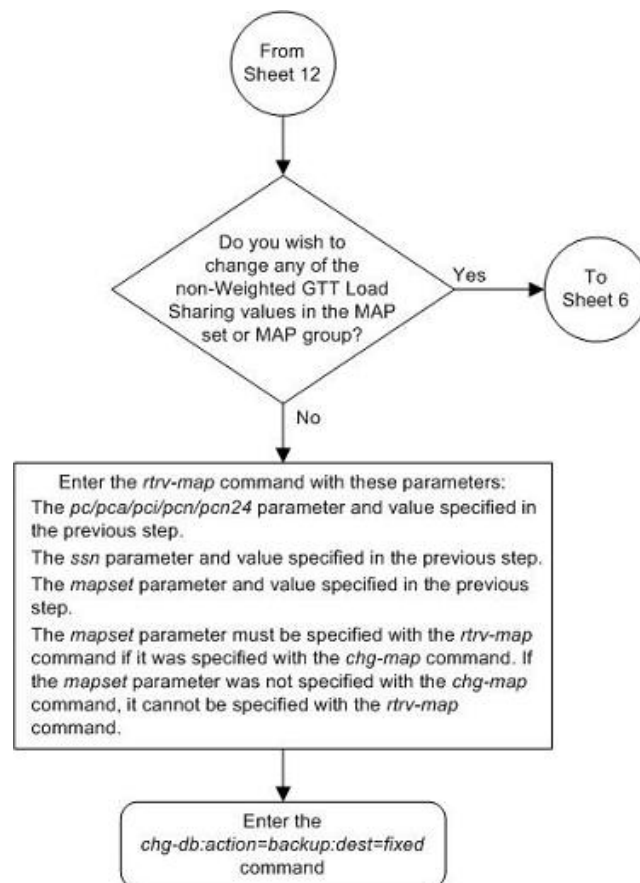












Notes:

1. The *sso* parameter cannot be specified if the point code value for the mated application is the EAGLE 5 ISS's point code, shown in the *rtrv-sid* output.
2. The format of the point codes in the CSPC group specified with the *grp* parameter must be the same as the primary point code specified with the *chg-map* command only if the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, the CSPC group may contain a mixture of point code types (see the "Adding a Concerned Signaling Point Code" procedure in this chapter), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.
3. The mated application containing the EAGLE 5 ISS's point code can have only one mate point code assigned to it. The relative cost value assigned to the EAGLE 5 ISS's point code must be less than the relative cost value the mate point code. The EAGLE 5 ISS's true point code and subsystem cannot be specified for a load shared or combined dominant/load shared mated application.
4. The *mapset* parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled. If the *rtrv-map* output contains the *MAPSET* column, the Flexible GTT Load Sharing feature is enabled.
5. If the Flexible GTT Load Sharing feature is enabled, the new *grp*, *mrc*, *srm*, or *sso* values specified in the *chg-map* command are applied to all mated applications containing the point code and SSN specified in the *chg-map* command.
6. The *srm=yes* parameter cannot be specified for mated applications containing ITU point codes (*pci/mpci*, *pcn/mpcn*, or *pcn24/mpcn24* parameter values).
7. If the mated application being changed is either a load shared or combined dominant/load shared mated application, and this mated application has weight and in-service threshold values assigned, when this mated application is changed to a dominant mated application, the weight and in-service threshold values will be removed from the mated application.
8. The *force=yes* parameter must be specified and can be specified only when the *rc* and either the *srm*, *mrc*, or *wt* parameters are specified.

Changing the MRNSET and MRN Point Code Values of MAP Entries

This procedure is used to change the MRNSET and MRN point code values in an existing mated application (MAP) set using the *mrnset* and *mrnpc*/*mrnpca*/*mrnpci*/*mrnpcn*/*mrnpcn24* parameters of the *chg-map* command.

The *chg-map* command can also be used to add point code/SSN entries to an existing MAP set. This action is not covered in this procedure. If you wish to add point code/SSN entries to an existing MAP set, perform one of these procedures.

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

Parameter values other than the *mrnset* and MRN point code parameter values can be changed with the *chg-mrn* command. This action is not covered in this procedure. Perform [Changing a Mated Application](#) on page 330 to change these parameter values.

These parameters are used with the *chg-map* command in this procedure.

:mapset – The MAP set ID that is being changed.

:pc/pca/pci/pcn/pcn24 – The point code in the MAP set.

:ssn – The subsystem number assigned to the point code in the MAP set.

:mrnset – The MRN set ID that is being assigned to the mated application. This is the MRN set from which alternate routing indicator searches are performed.

:mrnpc/mrnpca/mrnpci/mrnpcn/mrnpcn24 – The point code assigned to the mrnset that is being assigned to the MAP set.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

The current values of the mrnset and :mrnpc/mrnpca/mrnpci/mrnpcn/mrnpcn24 parameters are shown in the rtrv-map output only if the Flexible GTT Load Sharing and the GTT Load Sharing with Alternate Routing Indicator features are enabled.

The new values for the mrnset and mrnpc/mrnpca/mrnpci/mrnpcn/mrnpcn24 parameters must be shown in the rtrv-mrn output.

The network type of the pc/pca/pci/pcn/pcn24 and mrnpc/mrnpca/mrnpci/mrnpcn/mrnpcn24 parameter values must be compatible, as shown in the following table.

Table 34: MAP and MRN Point Code Parameter Combinations

MAP Point Code Parameter	MRN Point Code Parameter
pc/pca	mrnpc/mrnpca
pci or pcn (See Notes 1 and 2)	mrnpci or mrnpcn (See Notes 1 and 2)
pcn24	mrnpcn24
Notes: 1. If the network type of the MAP point code parameter is ITU-I (pci), the network type of the MRN point code parameter can be either ITU-I (mappci) or ITU-N (mappcn). 2. If the network type of the MAP point code parameter is ITU-N (pcn), the network type of the MRN point code parameter can be either ITU-I (mappci) or ITU-N (mappcn).	

Canceling the RTRV-MAP Command

Because the rtrv-map command used in this procedure can output information for a long period of time, the rtrv-map command can be canceled and the output to the terminal stopped. There are three ways that the rtrv-map command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the rtrv-map command was entered.
- Enter the cancel-cmd without the trm parameter at the terminal where the rtrv-map command was entered.
- Enter the cancel-cmd:trm=<xx>, where <xx> is the terminal where the rtrv-map command was entered, from another terminal other than the terminal where the rtrv-map command was entered. To enter the cancel-cmd:trm=<xx> command, the terminal must allow Security

Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated applications in the database using the `rtrv-map` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000   250 10  SOL --- --- grp01  ON

MAPSET ID=1
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000   251 10  SHR --- --- grp01  OFF
                253-001-002 254 10  SHR --- --- grp01  OFF

MAPSET ID=2
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000   252 10  SOL --- --- grp01  ON

MAPSET ID=DFLT
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000   253 10  SHR --- --- grp01  OFF
                253-001-004 254 10  SHR --- --- grp01  OFF

MAPSET ID=3
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001   255 10  DOM YES YES grp01  ON
                253-001-005 254 20  DOM YES YES grp01  ON

MAPSET ID=4
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-001   250 10  DOM YES YES grp01  OFF
                253-001-001 254 20  DOM YES YES grp01  OFF

MAPSET ID=DFLT
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002   251 10  SHR --- --- grp01  OFF
                255-001-002 254 10  SHR --- --- grp01  OFF

MAPSET ID=5
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002   252 10  DOM YES YES grp01  ON
                255-001-003 254 20  DOM YES YES grp01  ON

MAPSET ID=6
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-002   253 10  SHR --- --- grp01  ON
                255-001-004 254 10  SHR --- --- grp01  ON

MAPSET ID=7
PCA           Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
002-002-007   50 10  COM YES YES grp01  OFF
                002-002-008 30 10  COM YES YES grp01  OFF
                002-002-009 30 10  COM YES YES grp01  OFF
                002-002-010 30 20  COM YES YES grp01  OFF
                002-002-011 30 20  COM YES YES grp01  OFF
```

```

MAPSET ID=8
PCI           Mate PCI           SSN RC MULT SRM MRC GRP NAME SSO
2-001-2       2-001-1           255 10  DOM NO  YES grp03  OFF
                254 20  DOM NO  YES grp03  OFF

MAPSET ID=9
PCN           Mate PCN           SSN RC MULT SRM MRC GRP NAME SSO
00347         01387           253 10  SHR --- --- grp05  OFF
                254 10  SHR --- --- grp05  OFF

MAP TABLE IS 1 % FULL (20 of 36000)

```

Note: If the Weighted GTT Load Sharing feature is enabled and turned on, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the MRNSET and MRNPC columns are not shown in the `rtrv-map` output, the GTT Load Sharing with Alternate Routing Indicator feature is not enabled. Perform [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 to enable the GTT Load Sharing with Alternate Routing Indicator feature.. After [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 has been performed, continue the procedure with [Step 2](#) on page 364.

If the MRNSET and MRNPC columns are shown in the `rtrv-map` output, the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Continue the procedure with [Step 2](#) on page 364.

2. The MRN point code value must be assigned to an MRN set. The MRN set must be shown in the `rtrv-mrn` output. Display the MRN sets by entering the `rtrv-mrn` command. This is an example of the possible output.

```

rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MRNSET      PC           RC
DFLT        005-005-005  10
            006-001-001  20
            006-001-002  30
            006-001-003  40
            006-001-004  50
            006-001-005  60
            006-001-006  70
            006-001-007  80

MRNSET      PC           RC
1           007-007-007  10
            008-001-001  20
            008-001-002  30
            008-001-003  40
            008-001-004  50
            008-001-005  60
            008-001-006  70

MRN table is (15 of 5990) 1% full

```

Note: If the Weighted GTT Load Sharing feature is enabled and turned on, the WT, %WT, and THR columns are shown in the `rtrv-mrn` output.

If the MRN set that you wish to use, containing the desired point code and subsystem number, is shown in the `rtrv-mrn` output, continue the procedure with [Step 3](#) on page 365.

Note: The network type of the `pc/pca/pci/pcn/pcn24` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai24` parameter values must be the same, as shown in [Table 34: MAP and MRN Point Code Parameter Combinations](#) on page 362.

If the MRN set that you wish to use is not shown in the `rtrv-mrn` output, add the required MRN set by performing [Provisioning MRN Entries](#) on page 367.

After the MRN set has been added, continue the procedure with [Step 3](#) on page 365.

3. Change the MRNSET and MRN point code values in the MAP set by entering the `chg-map` command with the `mrnset` and `mrnpc/mrnpca/mrnpai/mrnpai/mrnpai24` parameters.

For this example, enter this command.

```
chg-map:mapset=7:pca=002-002-007:ssn=50:mrnset=1:mrnpca=007-007-007
```

When the `chg-map` command has successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
CHG-MAP: MASP A - COMPLTD
```

4. Verify the changes using the `rtrv-map` command with the point code (`pca/pci/pcn/pcn24`), `ssn`, and `mapset` values specified in [Step 3](#) on page 365.

For this example, enter this command.

```
rtrv-map:mapset=7:pca=002-002-007:ssn=50
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

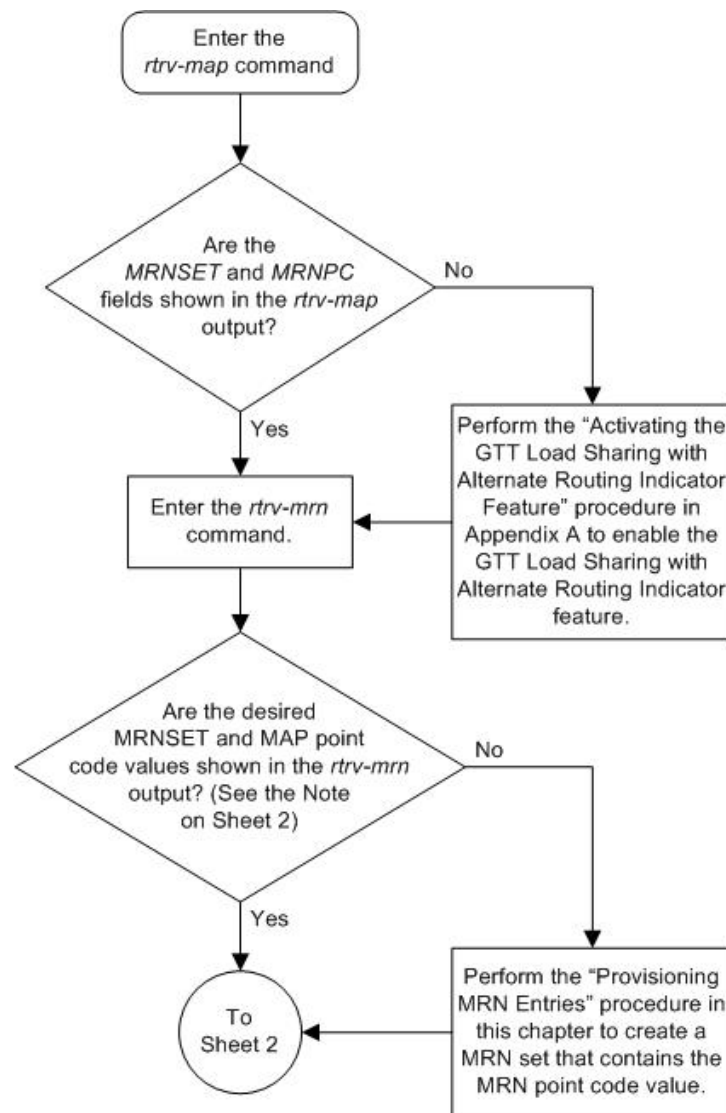
MAPSET ID=7      MRNSET ID=1      MRNPC      =      007-007-007
PCA              Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
002-002-007      002-002-008      30 10  COM YES YES grp01  OFF
                  002-002-009      30 10  COM YES YES grp01  OFF
                  002-002-010      30 20  COM YES YES grp01  OFF
                  002-002-011      30 20  COM YES YES grp01  OFF
```

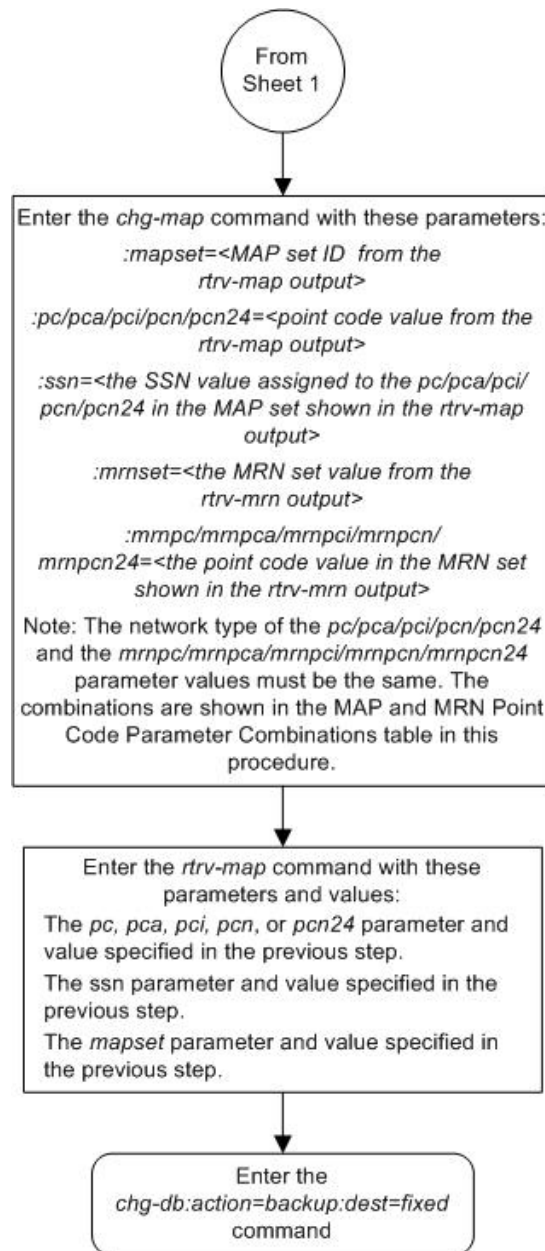
Note: If the Weighted GTT Load Sharing feature is enabled and turned on, the `WT`, `%WT`, and `THR` columns are shown in the `rtrv-map` output.

5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 30: Changing the MAPSET, MAP Point Code, and MAP SSN Values of MRN Entries





Provisioning MRN Entries

This procedure is used to provision an Mated Relay Node (MRN) group or MRN set in the database or to add a point code to an existing MRN group or MRN set for the Intermediate Global Title Load Sharing feature using the `ent-mrn` and `chg-mrn` commands.

An MRN group or MRN set contains alternate point codes, up to 32, that are used for load sharing between multiple nodes when the EAGLE 5 ISS is performing intermediate global title translation. This load sharing is performed after intermediate global title translation is performed on the

message. The point code in the message is changed to the selected point code in the MRN table. If the translated point code is not found in the MRN table, the translated point code in the message is not changed, the message is routed using route for the translated point code.

The `ent-mrn` and `chg-mrn` command uses these parameters.

`:pc/pca/pci/pcn/pcn24` – The point code in the message after intermediate global title translation has been performed.

`:rc` – The relative cost value of point code in the message

`:pc1/pca1/pci1/pcn1/pcn241` – The first alternate point code value

`:rc1` – The relative cost value of the first alternate point code

`:pc2/pca2/pci2/pcn2/pcn242` – The second alternate point code value

`:rc2` – The relative cost value of the second alternate point code

`:pc3/pca3/pci3/pcn3/pcn243` – The third alternate point code value

`:rc3` – The relative cost value of the third alternate point code

`:pc4/pca4/pci4/pcn4/pcn244` – The fourth alternate point code value

`:rc4` – The relative cost value of the fourth alternate point code

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

`:mrnset` – The MRN set ID that the point codes are assigned to. This parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the point code specified for the global title translation must be assigned to the MRN set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the `rtrv-ctrl-feat` output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

The MRN set ID has one of three values:

- `df1t` – to assign the MRN to the default MRN set.
- `new` – to assign the MRN to a new MRN set. This value can be specified only with the `ent-mrn` command.
- the specific number of an existing MRN set if you are assigning the point codes to an existing MRN set.

Refer to [Provisioning an MRN Set](#) on page 371 for information on provisioning MRN sets.

`:df1tw` – The default weight value. When this parameter is specified, the same weight value is assigned to all entries specified in the `ent-mrn` command. The value of this parameter is from 1 - 99. This parameter can be specified only with the `ent-mrn` command.

`:wt` – The weight value assigned to the `pc/pca/pci/pcn/pcn24` parameter value. The value of this parameter is from 1 - 99.

`:wt1` – The weight value assigned to the `pc1/pca1/pci1/pcn1/pcn241` parameter value. The value of this parameter is from 1 - 99.

`:wt2` – The weight value assigned to the `pc2/pca2/pci2/pcn2/pcn242` parameter value. The value of this parameter is from 1 - 99.

:wt3 – The weight value assigned to the pc3/pca3/pci3/pcn3/pcn243 parameter value. The value of this parameter is from 1 - 99.

:wt4 – The weight value assigned to the pc4/pca4/pci4/pcn4/pcn244 parameter value.

:thr – The in-service threshold assigned to the MRN group or MRN set. The in-service threshold is the minimum percentage (from 1 - 100) of weight that must be available for an RC group (a group of entries in the MRN group or MRN set that have the same RC value assigned) to be considered available to carry traffic. If the percentage of the available weight is less than the in-service threshold, then the entire RC group is considered unavailable for traffic. If the percentage of the available weight is equal to or greater than the in-service threshold, then the RC group is considered available, and traffic can be sent to any available entity in the RC group. The value of the thr parameter is assigned to all entries in the MRN group or MRN set that have the same RC value that is specified in the ent-mrn command. The thr parameter can be used in this procedure only with the ent-mrn command.

Refer to [Provisioning Weights and In-Service Thresholds for MRNs](#) on page 372 for information on provisioning MRN groups or MRN sets with weight and in-service threshold values.

The following parameters of the chg-mrn command cannot be used in this procedure: thr, grpwt, eswt, and force=yes. These parameters can be used with the chg-mrn command only when changing the attributes of specific entries in an existing MRN group or MRN set, and not when adding entries to an existing MRN group or MRN set. If you wish to change specific entries in an existing MRN group or MRN set, perform either [Changing MRN Entries with the ESWT Parameter](#) on page 430 or [Changing the Weight and Threshold Values of MRN Entries](#) on page 442.

:mapset – The MAP set ID that is being assigned to the MRN. This is the MAP set from which alternate routing indicator searches are performed.

:mappc/mappca/mappci/mappcn/mappcn24 – The point code assigned to the mapset that is being assigned to the MRN set.

:mapssn – The subsystem number assigned to the point code in the MAP set that is being assigned to the MRN.

The current values of the mapset, mappc/mappca/mappci/mappcn/mappcn24, and mapssn parameters are shown in the rtrv-mrn output only if the Flexible GTT Load Sharing and the GTT Load Sharing with Alternate Routing Indicator features are enabled.

The new values for the mapset, mappc/mappca/mappci/mappcn/mappcn24, and mapssn parameters must be shown in the rtrv-map output. If no values are specified for the mapset, mappc/mappca/mappci/mappcn/mappcn24, and mapssn parameters when the ent-mrn command is entered, then no values for these parameters are assigned to the MRN set. If no values are specified for the mapset, mappc/mappca/mappci/mappcn/mappcn24, and mapssn parameters when the chg-mrn command is entered, then the values for these parameters in the MRN set are not changed.

To add a new MRN group, the group must be provisioned in the database with the ent-mrn command, specifying up to four alternate point codes. If more point codes are to be added to the MRN group, either the ent-mrn or chg-mrn command to add the additional point codes to the MRN group. A maximum of 32 point codes can be assigned to an MRN group. If the Flexible GTT Load Sharing feature is enabled, refer to [Provisioning an MRN Set](#) on page 371 for information on provisioning MRN sets.

A point code and rc value must be entered as a pair. For example, the pc3 and rc3 parameters must be specified together in the ent-mrn or chg-mrn commands if the alternate point code value is being specified.

The point codes specified with the `ent-mrn` or `chg-mrn` commands can be in only one MRN group. If the Flexible GTT Load Sharing feature is enabled, refer to [Provisioning an MRN Set](#) on page 371 for information on provisioning point codes in MRN sets.

The relative cost parameters (`rc/rc1/rc2/rc3/rc4`) determine how the global title translation load is to be shared among the alternate point codes. There are three types of load sharing that can be performed: dominant, load shared, or combined dominant/load shared.

All the point codes in a dominant MRN group or MRN set have different relative cost values. The translated point code in the message is the preferred point code that the message is routed on. The relative cost value assigned to the preferred point code does not have to be the lowest value in the MRN group or MRN set. All traffic is routed to the preferred point code, if it is available. If the preferred point code becomes unavailable, the traffic is routed to highest priority alternate point code that is available. When the preferred point code becomes available again, the traffic is then routed back to the preferred point code. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10
006-001-001	20
006-001-002	30
006-001-003	40
006-001-004	50
006-001-005	60
006-001-006	70
006-001-007	80

If the preferred point code is 006-001-001 and it becomes unavailable, the traffic will be routed to point code 006-001-002.

All the point codes in a load shared MRN group or MRN set have the same relative cost value. Traffic is shared equally between the point codes in this MRN group or MRN set.

A combined dominant/load shared MRN group or MRN set is a combination of the dominant and load sharing MRN groups or MRN sets. A combined dominant/load shared MRN group or MRN set must contain a minimum of two entries with the same relative cost value and a minimum of one entry with a different relative cost value. Traffic is routed to the point code or point codes with the lowest relative cost value. If more than one point code has the lowest relative cost value, the traffic is shared between these point codes. If the point code or point codes with the lowest relative cost value become unavailable, traffic is routed to the the point code or point codes with the next higher relative cost value. If more than one point code has this relative cost value, the traffic is shared between these point codes. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10
006-001-001	10
006-001-002	10
006-001-003	20
006-001-004	20
006-001-005	20
006-001-006	20
006-001-007	20

If the preferred point code is 006-001-001, the traffic is shared equally between point codes 005-005-005, 006-001-001, and 006-001-002. If point codes 005-005-005, 006-001-001, and 006-001-002 become unavailable, the traffic will be shared equally between point codes, 006-001-003, 006-001-004, 006-001-005, 006-001-006, and 006-001-007.

The point codes in the MRN group or MRN set must be a full point code with a route assigned to it. Cluster point codes, network routing point codes, or the EAGLE 5 ISS's true point code cannot be specified in an MRN group or MRN set. The `rtrv-rte` command can be used to verify the point codes in the routing table. The point codes in the routing table are shown in the `DPCA`, `DPCI`, `DPCN`, or `DPCN24` fields of the `rtrv-rte` command output. The EAGLE 5 ISS's true point code is shown in the `PCA`, `PCI`, `PCN`, or `PCN24` fields of the `rtrv-sid` command output.

The Intermediate GTT Load Sharing controlled feature must be enabled and activated before an MRN group can be provisioned in the database. This can be verified with the `rtrv-ctrl-feat` command. If this controlled feature is enabled and activated, the Intermediate GTT Load Sharing feature is shown as either temporarily or permanently enabled in the `rtrv-ctrl-feat` output, and the entry `on` is shown in the `Status` column for this feature. If this controlled feature is off, perform [Activating the IGTTLS feature](#) on page 845 to enable and turn on this feature.

For MRNs containing ANSI or 24-bit ITU-N point codes, the format of the point codes specified in the `ent-mrn` command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (`pcn24`), the alternate point code must be a 24-bit ITU-N point code (`mpcn24`). The alternate point codes of MRNs containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The alternate point codes of these MRNs can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes.

If only the Intermediate GTT Load Sharing feature is enabled and turned on, the MRN table can contain a maximum of 3000 entries. If the Flexible GTT Load Sharing feature is enabled, the MRN table can contain a maximum of 6000 entries. If entries are provisioned in the SCCP-SERV table, shown by the `rtrv-sccp-serv` command output, the maximum number of entries that the MRN table can contain is reduced by the number of entries shown in the `rtrv-sccp-serv` command output.

If adding the new MRN entries will exceed the maximum capacity of the MRN table, shown in the `rtrv-mrn` command output, entries in the MRN or SCCP-SERV tables must be removed so that the new MRN entries can be added. Perform [Removing MRN Entries](#) on page 404 to remove the required number of MRN entries to allow the addition of the new MRN entries or enter the `dlt-sccp-serv` command to remove the required number of entries in the SCCP-SERV table to allow the addition of the new MRN entries.

Provisioning an MRN Set

The Flexible GTT Load Sharing feature provides the ability to define multiple load sharing sets in the MRN table where the same point code can be assigned to different load sharing sets.

The MRN table contains specific load sharing sets, designated by numbers, and a default MRN set.

The MRN table without the Flexible GTT Load Sharing feature enabled, is used by MPS-based features and all global title translation features.

The Flexible GTT Load Sharing feature provides flexible load sharing for global title translations defined in the GTT table and not for the MPS based features. The MPS based features do not support the MRN set ID parameter. The MPS based features perform lookups for load sharing in the default MRN set and the GTT table. The entries in the GTT table can be linked to an MRN set ID, allowing lookups in a specific MRN set other than the default MRN set.

Any MRN entries that were provisioned in the database before the Flexible GTT Load Sharing feature is enabled are placed in the default MRN set when the Flexible GTT Load Sharing feature is enabled.

Any GTT entries that were provisioned in the database before the Flexible GTT Load Sharing feature is enabled are assigned to the default MRN set when the Flexible GTT Load Sharing feature is enabled.

If the Flexible GTT Load Sharing is enabled, the `mrnset` parameter must be specified with the `ent-mrn` or `chg-mrn` commands.

To provision entries in the default MRN set, the `mrnset=dflt` parameter must be specified with the `ent-mrn` or `chg-mrn` commands.

To provision entries in an existing MRN set other than the default MRN set, the `mrnset=<MRN set ID>` parameter must be specified with the `ent-mrn` or `chg-mrn` commands. The `rc` parameter value for this point code should not be specified. If the `rc` parameter is specified, an attempt will be made to provision another MRN group in this MRN set. Multiple MRN groups in one MRN set is supported only in the default MRN set. The new entries to this MRN set must be specified with the alternate point code parameters and their corresponding `rc` parameters.

To provision entries in a new MRN set, the `mrnset=new` parameter must be specified with the `ent-mrn` command. The `mrnset=new` parameter can be specified only with the `ent-mrn` command. When the `ent-mrn` command is executed with the `mrnset=new` parameter, the new MRN set ID is automatically generated and displayed in the output of the `ent-mrn` command as follows.

```
New MRNSET Created : MRNSETID = <new MRN set ID>
```

An MRN set, other than the default MRN set, is an MRN group provisioned with the MRN set ID and can contain a maximum of 32 point codes.

The default MRN set can contain multiple MRN groups. Each group in the default MRN set can contain a maximum of 32 point codes. The point code value can appear only once in the default MRN set, so the point code value can appear in only one MRN group in the default MRN set.

The point code provisioned in an MRN set can be provisioned in multiple MRN sets. All the point codes in an MRN set must be different.

Provisioning Weights and In-Service Thresholds for MRN Entries

Weighted GTT Load Sharing allows unequal traffic loads to be provisioned in load sharing groups. This feature also allows provisioning control over load sharing groups so that if insufficient capacity within the load sharing group is available, the load sharing group is not used.

To provision the weight values and in-service threshold values for new MRN groups or MRN sets or new entries in existing MRN groups or MRN sets, the `dfldwt`, `wt`, `wt1`, `wt2`, `wt3`, `wt4`, and `thr` parameters are used.

The `dfldwt`, `wt`, `wt1`, `wt2`, `wt3`, `wt4`, and `thr` parameters can be used only:

- If the MRN group or MRN set is either a load shared or combined dominant/load shared MRN group or MRN set.
- If the Weighted GTT Load Sharing feature is enabled and turned on.

The status of the Weighted GTT Load Sharing feature can be verified by entering the `rtrv-ctrl-feat` command. If the Weighted GTT Load Sharing feature is not enabled or not turned on, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature.

To assign the same weight value to all the entries specified in the `ent-mrn` command, use the `dfldwt` parameter.

To assign an in-service threshold value to all the entries specified in the `ent-mrn` command, use the `thr` parameter.

To assign different weight values to the entries specified in either the `ent-mrn` or `chg-mrn` commands, use the `wt`, `wt1`, `wt2`, `wt3`, and `wt4` parameters with the corresponding point code parameters.

The `df1twt` parameter and the individual weight parameters (`wt`, `wt1`, `wt2`, `wt3`, `wt4` parameters) cannot be specified together in the `ent-mrn` command.

The `thr` parameter cannot be specified in this procedure with the `chg-mrn` command. Specifying the `thr` parameter with the `chg-mrn` command can be done when specifying only the `pc/pca/pci/pcn/pcn24` parameter and without the alternate point code parameters. To specify the `thr` parameter with the `chg-mrn` command, perform either [Changing MRN Entries with the ESWT Parameter](#) on page 430 or [Changing the Weight and Threshold Values of MRN Entries](#) on page 442.

The weight values assigned to the entires in the MRN group or MRN set are shown in the `WT` column in the `rtrv-mrn` output.

The in-service threshold values assigned to the entires in the MRN group or MRN set are shown in the `THR` column in the `rtrv-mrn` output.

The `%WT` column in the `rtrv-mrn` output shows the percentage of the traffic the particular entry in the entity set will handle.

The `WT`, `%WT`, and `THR` columns are shown in the `rtrv-mrn` output only if the Weighted GTT Load Sharing feature is enabled and turned on.

For more information on the Weighted GTT Load Sharing feature, refer to the [Weighted GTT Load Sharing](#) on page 45 section.

Canceling the RTRV-MRN Command

Because the `rtrv-mrn` command used in this procedure can output information for a long period of time, the `rtrv-mrn` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-mrn` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-mrn` command was entered, from another terminal other than the terminal where the `rtrv-mrn` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated relay node groups in the database using the `rtrv-mrn` command.

This is an example of the possible output if the Flexible GTT Load Sharing feature is not enabled.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```


MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
DFLT	-----	-----	---	007-007-007	10	10	14	1
				008-001-001	10	10	14	1
				008-001-002	10	20	28	1
				008-001-003	10	30	42	1
				008-001-004	20	40	23	1
				008-001-005	20	40	23	1
				008-001-006	20	40	23	1
				008-001-007	20	50	29	1

MRN table is (8 of 2990) 1% full

If any of the following items are not shown in the `rtrv-mrn` output, then the feature corresponding to these items is not enabled, or turned on if required.

- The MRNSET field - the Flexible GTT Load Sharing feature is not enabled.
- The MAPSET, MAPPC, and MAPSSN fields - the GTT Load Sharing with Alternate Routing Indicator feature is not enabled.
- The WT, %WT, THR columns - the Weighted GTT Load Sharing feature is not enabled and turned on.

Continue the procedure by performing one of these steps.

- If MRN entries are not shown in the `rtrv-mrn` output in this step, continue the procedure with [Step 5](#) on page 375.
 - If the addition of the new MRN entries in this procedure will not exceed the maximum capacity of the MRN table shown in this step, continue the procedure with [Step 6](#) on page 376.
 - If the addition of the new MRN entries in this procedure will exceed the maximum capacity of the MRN table shown in this step, continue the procedure with [Step 2](#) on page 374.
2. If only the Intermediate GTT Load Sharing feature is enabled and turned on, the MRN table can contain a maximum of 3000 entries.

If the Flexible GTT Load Sharing feature is enabled, the MRN table can contain a maximum of 6000 entries. If entries are provisioned in the SCCP-SERV table, shown by the `rtrv-sccp-serv` command output, the maximum number of entries that the MRN table can contain is reduced by the number of entries shown in the `rtrv-sccp-serv` command output.

If adding the new MRN entries will exceed the maximum capacity of the MRN table, shown in the `rtrv-mrn` command output, entries in the MRN or SCCP-SERV tables must be removed so that the new MRN entries can be added.

If you wish to remove MRN entries from the MRN table, perform [Removing MRN Entries](#) on page 404 to remove the required number of MRN entries to allow the addition of the new MRN entries. After the MRN entries have been removed, continue the procedure with [Step 6](#) on page 376.

If you wish to remove entries from the SCCP-SERV table, continue the procedure with [Step 3](#) on page 374.

If no MRN or SCCP-SERV table entries are removed, the new MRNs cannot be added and this procedure cannot be performed.

3. Display the entries in the SCCP-SERV table by entering the `rtrv-sccp-serv` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

```
-----
Service      : GFLEX
State        : Online
GTT Option   : Yes
-----
```

```
ITUI PC      RC
1-002-5      10
1-002-6      20
-----
```

```
Service      : GPORT
State        : Online
GTT Option   : Yes
-----
```

```
ITUI PC      RC
1-002-4      10
2-003-4      10
1-002-5      20
2-003-5      20
2-003-6      30
2-003-7      40
-----
```

```
SCCP-SRV table is (10 of 96) 10% full.
```

4. Remove enough entries from the SCCP-SERV table to allow the addition of the new MRN entries by entering the `dlt-sccp-serv` command.

For this example, enter this command.

```
dlt-sccp-serv:serv=gport:pci1=1-002-5:pci2=2-003-6
```

This example removes only the specified point codes. If you wish to remove all the entries for the G-Port or G-Flex service, specify one of the point codes for the service and the `all=yes` parameter.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
DLT-SCCP-SRV: MASP A - COMPLTD
```

Continue the procedure with [Step 6](#) on page 376.

5. Display the status of the Intermediate GTT Load Sharing (IGTTLS) feature by entering the `rtrv-ctrl-feat` command with the IGTTLS feature part number.

Enter this command.

```
rtrv-ctrl-feat:partnum=893006901
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Intermed GTT Load Sharing	893006901	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
--------------	---------	--------	----------	-------------------

```
Zero entries found.
```

```
The following features have expired temporary keys:
```

```
Feature Name          Partnum
Zero entries found.
```

If the IGTTLS controlled feature has not been enabled or turned on, perform [Activating the IGTTLS feature](#) on page 845 to enable and turn on the IGTTLS feature.

6. If the WT, %WT, and THR columns are shown in the `rtrv-mrn` output in [Step 1](#) on page 373, the Weighted GTT Load Sharing feature is enabled and turned on. Continue the procedure with [Step 7](#) on page 376.

If the WT, %WT, and THR columns are not shown in [Step 1](#) on page 373 and you do not wish to assign weights and in-service thresholds to the entries in the MRN group or MRN set in this procedure, continue the procedure with [Step 7](#) on page 376.

If the WT, %WT, and THR columns are not shown in [Step 1](#) on page 373 and you wish to assign weights and in-service thresholds to the entries in the MRN group or MRN set in this procedure, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature.

7. If the MRNSET column is shown in the `rtrv-mrn` output in [Step 1](#) on page 373, the Flexible GTT Load Sharing feature is enabled. Continue the procedure with [Step 8](#) on page 377.

If the MRNSET column is not shown in [Step 1](#) on page 373 and you do not wish to provision MRN sets in this procedure, continue the procedure with [Step 8](#) on page 377.

If the MRNSET column is not shown in [Step 1](#) on page 373 and you wish to provision MRN sets in this procedure, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature.

Notes:

1. If the Flexible GTT Load Sharing feature is not enabled, the point code can appear only once in the `rtrv-mrn` output, cannot be shown in the `rtrv-sid` output, but must be the DPC of a route. A proxy point code cannot be assigned to the point code. Perform [Step 8](#) on page 377 to verify that the point code assigned to the MRN group is not shown in the `rtrv-sid` output. Perform [Step 9](#) on page 377 and [Step 10](#) on page 378 to verify that a proxy point code is not assigned to the point code. Perform [Step 11](#) on page 378 to verify that the point code is the DPC of a route.
2. If the Flexible GTT Load Sharing feature is enabled, a specific point code can be assigned to multiple MRN sets, but cannot be shown in the `rtrv-sid` output, and must be the DPC of a route. A proxy point code cannot be assigned to the point code. Because the point code can be assigned to multiple MRN sets, the point code you wish to assign to the MRN set could be assigned to other MRN sets.

If the point code is shown in the `rtrv-mrn` output in [Step 1](#) on page 373, [Step 8](#) on page 377, [Step 9](#) on page 377, [Step 10](#) on page 378, and [Step 11](#) on page 378 do not need to be performed. For the point code to be shown in [Step 1](#) on page 373 it has already been determined that the point code is not shown in the `rtrv-sid` output, is the DPC of a route, and a proxy point code is not assigned to the point code. Continue the procedure with [Step 13](#) on page 381.

If the point code is not shown in the `rtrv-mrn` output in [Step 1](#) on page 373, [Step 8](#) on page 377, [Step 9](#) on page 377, [Step 10](#) on page 378, and [Step 11](#) on page 378 need to be performed. Perform [Step 8](#) on page 377 to verify that the point code assigned to the MRN group is not shown in the `rtrv-sid` output. Perform [Step 9](#) on page 377 and [Step 10](#) on page 378 to verify

that a proxy point code is not assigned to the point code. Perform [Step 11](#) on page 378 to verify that the point code is the DPC of a route.

8. Display the EAGLE 5 ISS self-identification, using the `rtrv-sid` command.

```
rlghncxa03w 06-10-10 11:43:04 GMT EAGLE5 36.0.0
PCA          PCI          PCN          CLLI          PCTYPE
010-020-030  1-023-1      12-0-14-1      rlghncxa03w    OTHER
              s-1-023-1    s-12-0-14-1

CPCA
002-002-002      002-002-003      002-002-004      002-002-005
002-002-006      002-002-007      002-002-008      002-002-009
004-002-001      004-003-003      050-060-070

CPCI
1-001-1          1-001-2          1-001-3          1-001-4
1-002-1          1-002-2          1-002-3          1-002-4
2-001-1          7-222-7

CPCN
2-0-10-3        2-0-11-0        2-0-11-2        2-0-12-1
2-2-3-3        2-2-4-0        10-14-10-1
```

9. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

DPCA          CLLI          BEI  ELEI    ALIASI          ALIASN/N24    DMN
001-207-000   -----   no   ---   -----   -----   SS7
001-001-001   -----   no   ---   -----   -----   SS7
001-001-002   -----   no   ---   -----   -----   SS7
001-005-000   -----   no   ---   -----   -----   SS7
001-007-000   -----   no   ---   -----   -----   SS7
008-012-003   -----   no   ---   -----   -----   SS7
003-002-004   -----   no   ---   -----   -----   SS7
009-002-003   -----   no   ---   -----   -----   SS7
010-020-005   -----   no   ---   -----   -----   SS7

DPCI          CLLI          BEI  ELEI    ALIASA          ALIASN/N24    DMN
1-207-0       -----   no   ---   -----   -----   SS7
0-015-0       -----   no   ---   -----   -----   SS7
0-017-0       -----   no   ---   -----   -----   SS7
1-011-1       -----   no   ---   -----   -----   SS7
1-011-2       -----   no   ---   -----   -----   SS7
```

```
Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, skip [Step 10](#) on page 378 and [Step 11](#) on page 378 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 13](#) on page 381.

10. Display the point code that will be assigned to the MRN by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA          CLLI          BEI ELEI    ALIASI          ALIASN/N24    DMN
  010-020-005  ----- no    --- -----          -----          SS7

  PPCA          NCAI PRX      RCAUSE    NPRST          SPLITIAM
  009-002-003  ---- no          50          on          20

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the adjacent point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in [Step 9](#) on page 377 and repeat this step.

After the new point code has been added, skip [Step 11](#) on page 378 and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 13](#) on page 381.

11. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `ent-mrn` command to verify whether or not the point code is the DPC of a route.

For this example, enter these commands.

```
rtrv-rte:dpca=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0

  DPCA          ALIASI          ALIASN/N24    LSN          RC          APCA
  005-005-005  -----          -----          ls05          10          005-005-005
                                     ls15          30          089-047-123
                                     lsa8          50          077-056-000
                                     RTX:No    CLLI=ls05clli
```

```
rtrv-rte:dpca=006-001-001
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0

  DPCA          ALIASI          ALIASN/N24    LSN          RC          APCA
```

```
006-001-001 ----- ls65 10 006-001-001
RTX:No CLLI=ls65c1li
```

```
rtrv-rte:dpca=006-001-002
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA ALIASI ALIASN/N24 LSN RC APCA
006-001-002 ----- ls66 10 006-001-002
RTX:No CLLI=ls66c1li
```

```
rtrv-rte:dpca=006-001-003
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA ALIASI ALIASN/N24 LSN RC APCA
006-001-003 ----- ls67 10 006-001-003
RTX:No CLLI=ls67c1li
```

```
rtrv-rte:dpca=006-001-004
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA ALIASI ALIASN/N24 LSN RC APCA
006-001-004 ----- ls68 10 006-001-004
RTX:No CLLI=ls68c1li
```

```
rtrv-rte:dpca=006-001-005
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA ALIASI ALIASN/N24 LSN RC APCA
006-001-005 ----- ls69 10 006-001-005
RTX:No CLLI=ls69c1li
```

```
rtrv-rte:dpca=006-001-006
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA ALIASI ALIASN/N24 LSN RC APCA
006-001-006 ----- ls70 10 006-001-006
RTX:No CLLI=ls70c1li
```

```
rtrv-rte:dpca=006-001-007
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
DPCA ALIASI ALIASN/N24 LSN RC APCA
006-001-007 ----- ls71 10 006-001-007
RTX:No CLLI=ls71c1li
```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

Continue the procedure by performing one of these steps.

- If the mapset, MAP point code, and mapssn parameters will not be specified for the MRN entry, continue the procedure with [Step 13](#) on page 381.
- If the mapset, MAP point code, and mapssn parameters will be specified for the MRN entry, continue the procedure by performing one of these steps.
 - If the MAPSET, MAPPC, and MAPSSN columns are not shown in the rtrv-mrn output, the GTT Load Sharing with Alternate Routing Indicator feature is not enabled. Perform [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 to enable the GTT Load Sharing with Alternate Routing Indicator feature. After [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 has been performed, continue the procedure with [Step 12](#) on page 380.
 - If the MAPSET, MAPPC, and MAPSSN columns are shown in the rtrv-mrn output, the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Continue the procedure with [Step 12](#) on page 380.

12. The MAP point code and MAP SSN values must be assigned to a MAP set. The MAP set must be shown in the rtrv-map output. Display the MAP sets by entering the rtrv-map command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT   MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      250 10  SOL  ---  --- grp01  ON

MAPSET ID=1      MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      251 10  SHR  ---  --- grp01  OFF
                  253-001-002  254 10  SHR  ---  --- grp01  OFF

MAPSET ID=2      MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      252 10  SOL  ---  --- grp01  ON

MAPSET ID=DFLT   MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-000      253 10  SHR  ---  --- grp01  OFF
                  253-001-004  254 10  SHR  ---  --- grp01  OFF

MAPSET ID=3      MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      255 10  DOM YES YES grp01  ON
                  253-001-005  254 20  DOM YES YES grp01  ON

MAPSET ID=4      MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-001      250 10  DOM YES YES grp01  OFF
                  253-001-001  254 20  DOM YES YES grp01  OFF

MAPSET ID=DFLT   MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      251 10  SHR  ---  --- grp01  OFF
                  255-001-002  254 10  SHR  ---  --- grp01  OFF

MAPSET ID=5      MRNSET ID=----   MRNPC=-----
PCA             Mate PCA         SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      252 10  DOM YES YES grp01  ON
                  255-001-003  254 20  DOM YES YES grp01  ON
```

```

MAPSET ID=6      MRNSET ID=----- MRNPC=-----
PCA             Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002      255-001-004      253 10 SHR --- --- grp01  ON
                  254 10  SHR --- --- grp01  ON

MAPSET ID=7      MRNSET ID=----- MRNPC=-----
PCA             Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
002-002-007      002-002-008      50 10 COM YES YES grp01  OFF
                  30 10 COM YES YES grp01  OFF
                  002-002-009      30 10 COM YES YES grp01  OFF
                  002-002-010      30 20 COM YES YES grp01  OFF
                  002-002-011      30 20 COM YES YES grp01  OFF

MAPSET ID=8      MRNSET ID=----- MRNPC=-----
PCI             Mate PCI          SSN RC MULT SRM MRC GRP NAME SSO
2-001-2          2-001-1          255 10 DOM NO  YES grp03  OFF
                  254 20 DOM NO  YES grp03  OFF

MAPSET ID=9      MRNSET ID=----- MRNPC=-----
PCN             Mate PCN          SSN RC MULT SRM MRC GRP NAME SSO
00347            01387            253 10 SHR --- --- grp05  OFF
                  254 10  SHR --- --- grp05  OFF

MAP TABLE IS    1 % FULL      (25 of 36000)

```

Note: If the Weighted GTT Load Sharing feature is enabled and turned on, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the MAP set that you wish to use, containing the desired point code and subsystem number, is shown in the `rtrv-map` output, continue the procedure with [Step 13](#) on page 381.

Note: The network type of the `pc/pca/pci/pcn/pcn24` and `mappc/mappca/mappci/mappcn/mappcn24` parameter values must be compatible, as shown in Note 12 of [Table 35: Parameter Combinations for the ENT-MRN Command](#) on page 381 or Note 11 of [Table 36: Parameter Combinations for the CHG-MRN Command](#) on page 387.

If the MAP set that you wish to use is not shown in the `rtrv-map` output, add the required MAP set by performing one of these procedures.

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

After the MAP set has been added, continue the procedure with [Step 13](#) on page 381.

13. Add the MRN group or MRN set to the database using the `ent-mrn` command. Use [Table 35: Parameter Combinations for the ENT-MRN Command](#) on page 381 as a guide for the parameters and values that can be specified with the `ent-mrn` command.

Table 35: Parameter Combinations for the ENT-MRN Command

No Weights and In-Service Thresholds Assigned to the MRN Group or MRN Set	Same Weight Value Assigned to all Entries in the MRN Group or MRN Set	Individual Weight Values Assigned to the Entries in the MRN Group or MRN Set
Mandatory Parameters		
:pc/pca/pci/pcn/pcn24 (See Notes 5, 6, 7, and 12)	:pc/pca/pci/pcn/pcn24 (See Notes 5, 6, 7, and 12)	:pc/pca/pci/pcn/pcn24 (See Notes 5, 6, 7, and 12)

No Weights and In-Service Thresholds Assigned to the MRN Group or MRN Set	Same Weight Value Assigned to all Entries in the MRN Group or MRN Set	Individual Weight Values Assigned to the Entries in the MRN Group or MRN Set
:rc=<0 - 99> (See Notes 1, 2, 3, and 10)	:rc=<0 - 99> (See Notes 1, 2, 3, and 10)	:rc=<0 - 99> (See Notes 1, 2, 3, and 10)
	:dflwt=<1 - 99 > (See Note 8)	:wt=<1 - 99 > (See Notes 8 and 10)
Optional Parameters		
:pc1/pca1/pci1/pcn1/pcn241 (See Notes 4, 5, 6, 7, and 12)	:pc1/pca1/pci1/pcn1/pcn241 (See Notes 4, 5, 6, 7, and 12)	:pc1/pca1/pci1/pcn1/pcn241 (See Notes 4, 5, 6, 7, and 12)
:rc1=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc1=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc1=<0 - 99> (See Notes 1, 2, 3, and 4)
:pc2/pca2/pci2/pcn2/pcn242 (See Notes 4, 5, 6, 7, and 12)	:pc2/pca2/pci2/pcn2/pcn242 (See Notes 4, 5, 6, 7, and 12)	:wt1=<1 - 99 > (See Note 8)
:rc2=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc2=<0 - 99> (See Notes 1, 2, 3, and 4)	:pc2/pca2/pci2/pcn2/pcn242 (See Notes 4, 5, 6, 7, and 12)
:pc3/pca3/pci3/pcn3/pcn243 (See Notes 4, 5, 6, 7, and 12)	:pc3/pca3/pci3/pcn3/pcn243 (See Notes 4, 5, 6, 7, and 12)	:rc2=<0 - 99> (See Notes 1, 2, 3, and 4)
:rc3=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc3=<0 - 99> (See Notes 1, 2, 3, and 4)	:wt2=<1 - 99 > (See Note 8)
:pc4/pca4/pci4/pcn4/pcn244 (See Notes 4, 5, 6, 7, and 12)	:pc4/pca4/pci4/pcn4/pcn244 (See Notes 4, 5, 6, 7, and 12)	:pc3/pca3/pci3/pcn3/pcn243 (See Notes 4, 5, 6, 7, and 12)
:rc4=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc4=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc3=<0 - 99> (See Notes 1, 2, 3, and 4)
:mrnset=<new, dflt, or the number of an existing MRN set> (See Note 9)	:mrnset=<new, dflt, or the number of an existing MRN set> (See Note 9)	:wt3=<1 - 99 > (See Note 8)
:mapset = <MAP set ID from the rtrv-map output> (See Note 11)	:thr=<1 - 100> (See Note 8)	:pc4/pca4/pci4/pcn4/pcn244 (See Notes 4, 5, 6, 7, and 12)
:mappc/mappca/ mappci/mappcn/ mappcn24=<the point code value in the MAP set> (See Notes 11 and 12)	:mapset = <MAP set ID from the rtrv-map output> (See Note 11)	:rc4=<0 - 99> (See Notes 1, 2, 3, and 4)
:mapssn=<the SSN value assigned to the point code in the MAP set> (See Note 11)	:mappc/mappca/ mappci/mappcn/	:wt4=<1 - 99 > (See Note 8)

No Weights and In-Service Thresholds Assigned to the MRN Group or MRN Set	Same Weight Value Assigned to all Entries in the MRN Group or MRN Set	Individual Weight Values Assigned to the Entries in the MRN Group or MRN Set
	mappcn24=<the point code value in the MAP set> (See Notes 11 and 12)	
	:mapssn=<the SSN value assigned to the point code in the MAP set> (See Note 11)	:mrnset=<new, dflt, or the number of an existing MRN set> (See Note 9)
		:thr=<1 - 100> (See Note 8)
		:mapset = <MAP set ID from the rtrv-map output> (See Note 11)
		:mappc/mappca/ mappci/mappcn/ mappcn24=<the point code value in the MAP set> (See Notes 11 and 12)
		:mapssn=<the SSN value assigned to the point code in the MAP set> (See Note 11)

Notes

1. To provision a dominant MRN group or MRN set, the RC values for each entry must be unique.
2. To provision a load shared MRN group or MRN set, the RC values for each entry must be equal.
3. To provision a combined dominant/load shared MRN group or MRN set, the MRN group or MRN set must contain a minimum of two entries with equal RC values, and a minimum of one entry with a different RC value.
4. The MRN group can contain a maximum of 32 alternate point code entries. The alternate point code and its corresponding rc parameter must be specified together. For example, if the pcn3 parameter is specified, the rc3 parameter must be specified.
5. The point codes specified must have a route assigned to it, or must be a part of a cluster that has a route assigned to it (shown in [Step 11](#) on page 378), cannot be in the Self ID table (shown in [Step 8](#) on page 377), and proxy point codes cannot be assigned to the point codes (shown in [Step 10](#) on page 378).
6. For MRNs containing ANSI or 24-bit ITU-N point codes, the format of the point codes specified in the ent-mrn command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (pcn24), the alternate point code must be a 24-bit ITU-N point code (pcn241/pcn242/pcn243/pcn244). The alternate point codes of MRNs containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The alternate point

No Weights and In-Service Thresholds Assigned to the MRN Group or MRN Set	Same Weight Value Assigned to all Entries in the MRN Group or MRN Set	Individual Weight Values Assigned to the Entries in the MRN Group or MRN Set
<p>codes of these MRNs can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes.</p> <ol style="list-style-type: none"> If the <code>rtrv-rte</code> and <code>rtrv-sid</code> outputs show 14-bit ITU-N point codes (<code>dpcn</code> and <code>pcn</code>), then the <code>pcn/pcn1/pcn2/pcn3/pcn4</code> parameters must be used. If the <code>rtrv-rte</code> and <code>rtrv-sid</code> outputs show 24-bit ITU-N point codes (<code>dpcn24</code> and <code>pcn24</code>), then the <code>pcn24/pcn241/pcn242/pcn243/pcn244</code> parameters must be used. Refer to Provisioning Weights and In-Service Thresholds for MRNs on page 372 for information about using the weight (<code>wt</code> and <code>mwt</code>) and in-service threshold (<code>thr</code>) parameters. Refer to Provisioning an MRN Set on page 371 for information about how to provision an MRN set. If the entry is being added to an existing MRN group or MRN set, the <code>rc</code> and <code>wt</code> parameters cannot be specified with the <code>ent-mrn</code> command. The <code>mapset</code>, <code>mappc/mappca/mappci/mappcn/mappcn24</code>, and <code>mapssn</code> parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. If either the <code>mapset</code>, <code>mappc/mappca/mappci/mappcn/mappcn24</code>, or <code>mapssn</code> parameters are specified, then all three parameters must be specified. The values of the <code>mapset</code>, <code>mappc/mappca/mappci/mappcn/mappcn24</code>, and <code>mapssn</code> parameters are shown in the <code>rtrv-map</code> output. The network type of the <code>pc/pca/pci/pcn/pcn24</code> and <code>mappc/mappca/mappci/mappcn/mappcn24</code> parameter values must be compatible, as shown in this list. <ul style="list-style-type: none"> <code>pc/pca</code> - <code>mappc/'mappca</code> <code>pcn24</code> - <code>mappc24</code> <code>pci</code> or <code>pcn</code> - <code>mappci</code> or <code>mappcn</code> <p>If the network type of the MRN point code parameter is ITU-I (<code>pci</code>), the network type of the MAP point code parameter can be either ITU-I (<code>mappci</code>) or ITU-N (<code>mappcn</code>).</p> <p>If the network type of the MRN point code parameter is ITU-N (<code>pcn</code>), the network type of the MAP point code parameter can be either ITU-I (<code>mappci</code>) or ITU-N (<code>mappcn</code>).</p> 		

For this example, enter these commands.

If the Flexible GTT Load Sharing is not enabled, enter these commands.

```
ent-mrn:pca=005-005-005:rc=10:pca1=006-001-001:rc1=20
:pca2=006-001-002:rc2=30:pca3=006-001-003:rc3=40
:pca4=006-001-004:rc4=50
```

```
ent-mrn:pci=5-005-5:rc=10:pci1=6-001-1:rc1=20
:pcn2=1062:rc2=30:pci3=6-001-3:rc3=40 :pcn4=1065:rc4=50
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0  
ENT-MRN: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing is enabled and a new MRN set, other than the default MRN set, is being provisioned, enter these commands.

```
ent-mrn:pca=005-005-005:rc=10:pca1=006-001-001:rc1=20  
:pca2=006-001-002:rc2=30:pca3=006-001-003:rc3=40  
:pca4=006-001-004:rc4=50:mrnset=new  
  
ent-mrn:pci=5-005-5:rc=10:pci1=6-001-1:rc1=20  
:pcn2=1062:rc2=30:pci3=6-001-3:rc3=40 :pcn4=1065:rc4=50:mrnset=new
```

When these commands have successfully completed, a message similar to the following message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0  
New MRNSET Created : MRNSETID = 2  
ENT-MRN : MASP A - COMPLTD
```

If the Flexible GTT Load Sharing is enabled and a new MRN group is being added to the default MRN set, enter these commands.

```
ent-mrn:pca=005-005-005:rc=10:pca1=006-001-001:rc1=20  
:pca2=006-001-002:rc2=30:pca3=006-001-003:rc3=40  
:pca4=006-001-004:rc4=50:mrnset=df1t  
  
ent-mrn:pci=5-005-5:rc=10:pci1=6-001-1:rc1=20  
:pcn2=1062:rc2=30:pci3=6-001-3:rc3=40:pcn4=1065:rc4=50:mrnset=df1t
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0  
ENT-MRN : MASP A - COMPLTD
```

If the Flexible GTT Load Sharing is enabled and entries are being added to an existing MRN set, enter these commands.

```
ent-mrn:pca=005-005-005:pca1=006-001-001:rc1=20  
:pca2=006-001-002:rc2=30:pca3=006-001-003:rc3=40  
:pca4=006-001-004:rc4=50:mrnset=1  
  
ent-mrn:pci=5-005-5:rc=10:pci1=6-001-1:rc1=20  
:pcn2=1062:rc2=30:pci3=6-001-3:rc3=40:pcn4=1065:rc4=50:mrnset=2
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0  
ENT-MRN: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing is not enabled and the Weighted GTT Load Sharing feature is enabled and turned on, enter these commands. This example creates a combined dominant/load shared MRN group with the same weight value for each entry in the group, and an in-service threshold value assigned to each entry in the set.

```
ent-mrn:pca=005-005-005:rc=10:dfltw=20:pca1=006-001-001
:rc1=10:pca2=006-001-002:rc2=30:pca3=006-001-003:rc3=10
:pca4=006-001-004:rc4=30:thr=40
```

```
ent-mrn:pci=5-005-5:rc=10:pci1=6-001-1:rc1=10 :pcn2=1062:rc2=10
:pci3=6-001-3:rc3=30:pcn4=1065:rc4=30:thr=40:dfltw=20
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
ENT-MRN: MASP A - COMPLTD
```

If the Flexible GTT Load Sharing is enabled, the Weighted GTT Load Sharing feature is enabled and turned on, and a new MRN set, other than the default MRN set, is being provisioned, enter these commands. This example creates a new load shared MRN set with different weight values for each entry in the set.

```
ent-mrn:pca=005-005-005:rc=10:wt=10:pca1=006-001-001:rc1=10
:wt1=20:pca2=006-001-002:rc2=10:wt2=30:pca3=006-001-003:rc3=10
:wt3=40:pca4=006-001-004:rc4=10:wt4=50:mrnset=new
```

```
ent-mrn:pci=5-005-5:rc=10:wt=10:pci1=6-001-1:rc1=10:wt1=20:pcn2=1062:rc2=10
:wt2=30:pci3=6-001-3:rc3=10:wt3=40:pcn4=1065:rc4=10:wt4=50:mrnset=new
```

When these commands have successfully completed, a message similar to the following message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
New MRNSET Created : MRNSETID = 2
ENT-MRN : MASP A - COMPLTD
```

If the Flexible GTT Load Sharing is enabled, the Weighted GTT Load Sharing feature is enabled and turned on, and a new MRN group is being added to the default MRN set, enter these commands. This example creates a combined dominant/load shared MRN set with different weight values for each entry in the set, and an in-service threshold value assigned to each entry in the set.

```
ent-mrn:pca=005-005-005:rc=10:wt=10:pca1=006-001-001:rc1=10
:wt1=10:pca2=006-001-002:rc2=30:wt2=20:pca3=006-001-003:rc3=40
:wt3=20:pca4=006-001-004:rc4=50:wt4=20:mrnset=dflt:thr=30
```

```
ent-mrn:pci=5-005-5:rc=10:wt=10:pci1=6-001-1:rc1=10:wt1=10:pcn2=1062:rc2=30
:wt2=20:pci3=6-001-3:rc3=40:wt3=20:pcn4=1065:rc4=50:wt4=20:mrnset=dflt:thr=30
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
ENT-MRN : MASP A - COMPLTD
```

If the Flexible GTT Load Sharing is enabled, the Weighted GTT Load Sharing feature is enabled and turned on, and entries are being added to an existing MRN set, enter these commands. This example adds entries to an existing MRN set to create a combined dominant/load shared MRN set. Each entry specified in the ent-mrn command has different weight values assigned. Entry specified in the ent-mrn command has an in-service threshold value assigned.

```
ent-mrn:pca=005-005-005:pca1=006-001-001:rc1=20:wt1=20
:pca2=006-001-002:rc2=20:wt2=40:pca3=006-001-003:rc3=40:wt3=30
:pca4=006-001-004:rc4=40:wt4=50:mrnset=1:thr=30
```

```
ent-mrn:pci=5-005-5:pci1=6-001-1:rc1=20:wt1=20:pcn2=1062:rc2=20
:wt2=40:pci3=6-001-3:rc3=40:wt3=30:pcn4=1065:rc4=40:wt4=50:mrnset=2:thr=30
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
ENT-MRN : MASP A - COMPLTD
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled and a new MRN set, other than the default MRN set, is being provisioned, enter these commands.

```
ent-mrn:pca=005-005-005:rc=10:pca1=006-001-001:rc1=20
:pca2=006-001-002:rc2=30:pca3=006-001-003:rc3=40
:pca4=006-001-004:rc4=50:mrnset=new:mapset=7:mappc=002-002-007:mapssn=50

ent-mrn:pci=5-005-5:rc=10:pci1=6-001-1:rc1=20
:pcn2=1062:rc2=30:pci3=6-001-3 :rc3=40
:pcn4=1065:rc4=50:mrnset=new:mapset=9:mappcn=347:mapssn=253
```

When these commands have successfully completed, a message similar to the following message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
New MRNSET Created : MRNSETID = 2
ENT-MRN : MASP A - COMPLTD
```

If no more entries will be added to the MRN group or MRN set specified in this step, continue the procedure with [Step 15](#) on page 391.

If more entries will be added to the MRN group or MRN set specified in this step, continue the procedure with [Step 14](#) on page 387.

14. Enter the `ent-mrn` or `chg-mrn` command without the `rc` parameter to add more entries to the MRN group or MRN set specified in [Step 13](#) on page 381. If the `ent-mrn` command will be specified in this step, use [Table 35: Parameter Combinations for the ENT-MRN Command](#) on page 381 as a guide for the parameters and values that can be specified with the `ent-mrn` command. If the `chg-mrn` command will be used in this step, use [Table 36: Parameter Combinations for the CHG-MRN Command](#) on page 387 as a guide for the parameters and values that can be specified with the `chg-mrn` command.

Table 36: Parameter Combinations for the CHG-MRN Command

No Weight Values Assigned to the Entries in the MRN Group or MRN Set	Weight Values Assigned to the Entries in the MRN Group or MRN Set
Mandatory Parameter	
:pc/pca/pci/pcn/pcn24 (See Notes 5, 6, 7, and 11)	:pc/pca/pci/pcn/pcn24 (See Notes 5, 6, 7, and 11)
Optional Parameters	
:pc1/pca1/pci1/pcn1/pcn241 (See Notes 4, 5, 6, 7, and 11)	:pc1/pca1/pci1/pcn1/pcn241 (See Notes 4, 5, 6, 7, and 11)
:rc1=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc1=<0 - 99> (See Notes 1, 2, 3, and 4)

No Weight Values Assigned to the Entries in the MRN Group or MRN Set	Weight Values Assigned to the Entries in the MRN Group or MRN Set
:pc2/pca2/pci2/pcn2/pcn242 (See Notes 4, 5, 6, 7, and 11)	:wt1=<1 - 99 > (See Note 8)
:rc2=<0 - 99> (See Notes 1, 2, 3, and 4)	:pc2/pca2/pci2/pcn2/pcn242 (See Notes 4, 5, 6, 7, and 11)
:pc3/pca3/pci3/pcn3/pcn243 (See Notes 4, 5, 6, 7, and 11)	:rc2=<0 - 99> (See Notes 1, 2, 3, and 4)
:rc3=<0 - 99> (See Notes 1, 2, 3, and 4)	:wt2=<1 - 99 > (See Note 8)
:pc4/pca4/pci4/pcn4/pcn244 (See Notes 4, 5, 6, 7, and 11)	:pc3/pca3/pci3/pcn3/pcn243 (See Notes 4, 5, 6, 7, and 11)
:rc4=<0 - 99> (See Notes 1, 2, 3, and 4)	:rc3=<0 - 99> (See Notes 1, 2, 3, and 4)
:mrnset=<the mrnset parameter value shown in the ent-mrn output in Step 13 on page 381> (See Note 9)	:wt3=<1 - 99 > (See Note 8)
:mapset = <MAP set ID from the rtrv-map output> (See Note 10)	:pc4/pca4/pci4/pcn4/pcn244 (See Notes 4, 5, 6, 7, and 11)
:mappc/mappca/mappci/mappcn/ mappcn24=<the point code value in the MAP set> (See Notes 10 and 11)	:rc4=<0 - 99> (See Notes 1, 2, 3, and 4)
:mapssn=<the SSN value assigned to the point code in the MAP set> (See Note 10)	:wt4=<1 - 99 > (See Note 8)
	:mrnset=<the mrnset parameter value shown in the ent-mrn output in Step 13 on page 381> (See Note 9)
	:mapset = <MAP set ID from the rtrv-map output> (See Note 10)
	:mappc/mappca/mappci/mappcn/ mappcn24=<the point code value in the MAP set> (See Notes 10 and 11)
	:mapssn=<the SSN value assigned to the point code in the MAP set> (See Note 10)
<p>Notes</p> <ol style="list-style-type: none"> 1. To provision a dominant MRN group or MRN set, the RC values for each entry must be unique. 2. To provision a load shared MRN group or MRN set, the RC values for each entry must be equal. 	

No Weight Values Assigned to the Entries in the MRN Group or MRN Set	Weight Values Assigned to the Entries in the MRN Group or MRN Set
<ol style="list-style-type: none"> 3. To provision a combined dominant/load shared MRN group or MRN set, the MRN group or MRN set must contain a minimum of two entries with equal RC values, and a minimum of one entry with a different RC value. 4. The MRN group can contain a maximum of 32 alternate point code entries. The alternate point code and its corresponding rc parameter must be specified together. For example, if the pcn3 parameter is specified, the rc3 parameter must be specified. 5. The point codes specified must have a route assigned to it, or must be a part of a cluster that has a route assigned to it (shown in Step 11 on page 378), cannot be in the Self ID table (shown in Step 8 on page 377), and proxy point codes cannot be assigned to the point codes (shown in Step 10 on page 378). 6. For MRNs containing ANSI or 24-bit ITU-N point codes, the format of the point codes specified in the chg-mrn command must be the same. For example, if the primary point code is a 24-bit ITU-N point code (pcn24), the alternate point code must be a 24-bit ITU-N point code (mpcn24). The alternate point codes of MRNs containing either ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare primary point codes do not have to be the same format as the primary point code. The alternate point codes of these MRNs can be a mixture of ITU-I, ITU-I spare, 14-bit ITU-N, or 14-bit ITU-N spare point codes. 7. If the rtrv-rte and rtrv-sid outputs show 14-bit ITU-N point codes (dpcn & pcn), then the pcn/pcn1/pcn2/pcn3/pcn4 parameters must be used. If the rtrv-rte and rtrv-sid outputs show 24-bit ITU-N point codes (dpcn24 & pcn24), then the pcn24/pcn241/pcn242/pcn243/pcn244 parameters must be used. 8. Refer to Provisioning Weights and In-Service Thresholds for MRNs on page 372 for information about using the weight (wt) parameter. 9. Refer to Provisioning an MRN Set on page 371 for information about how to provision an MRN set. 10. The mapset, mappc/mappca/mappci/mappcn/mappcn24, and mapssn parameters can be specified only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. If either the mapset, mappc/mappca/mappci/mappcn/mappcn24, or mapssn parameters are specified, then all three parameters must be specified. The values of the mapset, mappc/mappca/mappci/mappcn/mappcn24, and mapssn parameters are shown in the rtrv-map output. 11. The network type of the pc/pca/pci/pcn/pcn24 and mappc/mappca/mappci/mappcn/mappcn24 parameter values must be compatible, as shown in this list. <ul style="list-style-type: none"> • pc/pca - mappc/'mappca • pcn24 - mappc24 • pci or pcn - mappci or mappcn <p>If the network type of the MRN point code parameter is ITU-I (pci), the network type of the MAP point code parameter can be either ITU-I (mappci) or ITU-N (mappcn).</p> <p>If the network type of the MRN point code parameter is ITU-N (pcn), the network type of the MAP point code parameter can be either ITU-I (mappci) or ITU-N (mappcn).</p> 	

For this example, enter these commands.

```
ent-mrn:pca=005-005-005:pca1=006-001-005:rc1=60
:pca2=006-001-006:rc2=70:pca3=006-001-007:rc3=80:mrnset=1

ent-mrn:pci=5-005-5:pci1=6-001-5:rc1=60:pcn2=1070:rc2=70:pci3=6-001-7
:rc3=80:mrnset=2
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
ENT-MRN: MASP A - COMPLTD
```

```
chg-mrn:pca=005-005-005:pca1=006-001-005:rc1=60
:pca2=006-001-006:rc2=70:pca3=006-001-007:rc3=80:mrnset=1

chg-mrn:pci=5-005-5:pci1=6-001-5:rc1=60:pcn2=1070:rc2=70:pci3=6-001-7
:rc3=80:mrnset=2
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MRN: MASP A - COMPLTD
```

If the Weighted GTT Load Sharing feature is enabled and turned on, enter these commands.

```
ent-mrn:pca=005-005-005:df1wt=40:pca1=006-001-005:rc1=10
:pca2=006-001-006:rc2=10:pca3=006-001-007:rc3=10:mrnset=1

ent-mrn:pci=5-005-5:df1wt=40:pci1=6-001-5:rc1=10
:pcn2=1070:rc2=10:pci3=6-001-7:rc3=10:mrnset=2
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
ENT-MRN: MASP A - COMPLTD
```

```
chg-mrn:pca=005-005-005:pca1=006-001-008:rc1=20:wt1=20
:pca2=006-001-009:rc2=20:wt2=30:pca3=006-001-010:rc3=20:wt3=30
:mrnset=1:force=yes

chg-mrn:pci=5-005-5:pci1=6-001-5:rc1=20:wt1=20:pcn2=1070:rc2=20
:wt2=30:pci3=6-001-7:rc3=20:wt3=30:mrnset=2
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MRN: MASP A - COMPLTD
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled, and you wish to add the mapset, MAP point code, and mapssn values to the MRN entry, and these values were not specified in [Step 13](#) on page 381, for this example, enter these commands.

```
ent-mrn:pca=005-005-005:pca1=006-001-005:rc1=60:pca2=006-001-006
:rc2=70:pca3=006-001-007:rc3=80:mrnset=1:mapset=7:mappc=002-002-007
:mapssn=50

ent-mrn:pci=5-005-5:pci1=6-001-5:rc1=60:pcn2=1070:rc2=70:pci3=6-001-7
:rc3=80:mrnset=2
```


When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
ENT-MRN: MASP A - COMPLTD
```

```
chg-mrn:pca=005-005-005:pca1=006-001-005:rc1=60:pca2=006-001-006
:rc2=70:pca3=006-001-007:rc3=80:mrnset=1:mapset=7:mappc=002-002-007
:mapssn=50
```

```
chg-mrn:pci=5-005-5:pci1=6-001-5:rc1=60:pcn2=1070:rc2=70:pci3=6-001-7
:rc3=80:mrnset=2:mapset=9:mappcn=347:mapssn=253
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
CHG-MRN: MASP A - COMPLTD
```

15. Verify the changes using the `rtrv-mrn` command with the point code (pca/pci/pcn/pcn24 parameters) specified in [Step 13](#) on page 381 and [Step 14](#) on page 387.

If the `mrnset` parameter was specified in [Step 13](#) on page 381 and [Step 14](#) on page 387, the `mrnset` parameter and value specified in [Step 13](#) on page 381 and [Step 14](#) on page 387 must be specified with the `rtrv-mrn` command in this step.

For this example, enter one of these commands. If the Flexible GTT Load Sharing is not enabled, enter this command.

```
rtrv-mrn:pca=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

PC	RC
005-005-005	10
006-001-001	20
006-001-002	30
006-001-003	40
006-001-004	50
006-001-005	60
006-001-006	70
006-001-007	80

```
MRN table is (24 of 2990) 1% full
```

```
rtrv-mrn:pci=5-005-5
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

NET	PC	RC
I	5-005-5	10
I	6-001-1	20
N	1062	30
I	6-001-3	40
N	1065	50

```
MRN table is (24 of 2990) 1% full
```

If the Flexible GTT Load Sharing is enabled and a new MRN set, other than the default MRN set, was provisioned in [Step 13](#) on page 381 and [Step 14](#) on page 387, enter this command.

```
rtrv-mrn:pca=005-005-005:mrnset=1
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	PC	RC
1	005-005-005	10
	006-001-001	20
	006-001-002	30
	006-001-003	40
	006-001-004	50
	006-001-005	60
	006-001-006	70
	006-001-007	80

```
MRN table is (24 of 5990) 1% full
```

```
rtrv-mrn:pci=5-005-5:mrnset=2
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	NET	PC	RC
2	I	5-005-5	10
	I	6-001-1	20
	N	1062	30
	I	6-001-3	40
	N	1065	50
	I	6-001-5	60
	N	1070	70
	I	6-001-7	80

```
MRN table is (24 of 2990) 1% full
```

If the Flexible GTT Load Sharing is enabled and a new MRN group was added to the default MRN set in [Step 13](#) on page 381 and [Step 14](#) on page 387, enter this command.

```
rtrv-mrn:pca=005-005-005:mrnset=dflt
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	PC	RC
DFLT	005-005-005	10
	006-001-001	20
	006-001-002	30
	006-001-003	40
	006-001-004	50
	006-001-005	60
	006-001-006	70
	006-001-007	80

```
MRN table is (24 of 5990) 1% full
```

```
rtrv-mrn:pci=5-005-5:mrnset=dflt
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MRNSET NET PC RC
DFLT I 5-005-5 10
I 6-001-1 20
N 1062 30
I 6-001-3 40
N 1065 50

MRN table is (24 of 2990) 1% full
```

If the Flexible GTT Load Sharing is enabled and entries were added to an existing MRN set in [Step 13](#) on page 381, enter this command.

```
rtrv-mrn:pca=005-005-005:mrnset=1
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MRNSET PC RC
1 005-005-005 10
003-003-003 15
006-001-001 20
004-004-004 25
006-001-002 30
006-001-003 40
006-001-004 50
009-009-009 60

MRN table is (24 of 5990) 1% full
```

```
rtrv-mrn:pci=5-005-5:mrnset=2
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MRNSET NET PC RC
2 I 5-005-5 10
I 6-001-1 20
N 1062 30
I 6-001-3 40
N 1065 50

MRN table is (24 of 2990) 1% full
```

If the Weighted GTT Load Sharing feature is enabled and turned on, for this example, enter one of these commands. If the Flexible GTT Load Sharing is not enabled, enter this command.

```
rtrv-mrn:pca=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

PC RC WT %WT THR
005-005-005 10 20 33 40
006-001-001 10 20 33 40
006-001-003 10 20 33 40
006-001-002 30 20 50 40
```

```
006-001-004    30 20  50  40
MRN table is (24 of 2990) 1% full
```

```
rtrv-mrn:pci=5-005-5
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

NET	PC	RC	WT	%WT	THR
I	5-005-5	10	20	33	40
I	6-001-1	10	20	33	40
N	1062	10	20	33	40
I	6-001-3	30	20	50	40
N	1065	30	20	50	40

```
MRN table is (24 of 2990) 1% full
```

If the Flexible GTT Load Sharing feature is enabled and a new MRN set, other than the default MRN set, was provisioned in [Step 13](#) on page 381 and [Step 14](#) on page 387, enter this command.

```
rtrv-mrn:pca=005-005-005:mrnset=1
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	10	4	1
	006-001-001	10	10	4	1
	006-001-002	10	30	12	1
	006-001-003	10	40	15	1
	006-001-005	10	40	15	1
	006-001-006	10	40	15	1
	006-001-007	10	40	15	1
	006-001-004	10	50	19	1
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

```
MRN table is (24 of 5990) 1% full
```

```
rtrv-mrn:pci=5-005-5:mrnset=2
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	NET	PC	RC	WT	%WT	THR
2	I	5-005-5	10	10	8	1
	I	6-001-1	10	10	8	1
	N	1062	10	30	23	1
	I	6-001-3	10	40	30	1
	N	1065	10	40	30	1
	I	6-001-5	20	20	25	1
	N	1070	20	30	37	1
	I	6-001-7	20	30	37	1

```
MRN table is (24 of 2990) 1% full
```

If the Flexible GTT Load Sharing is enabled and a new MRN group was added to the default MRN set in [Step 13](#) on page 381 and [Step 14](#) on page 387, enter this command.

```
rtrv-mrn:pca=005-005-005:mrnset=dflt
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	PC	RC	WT	%WT	THR
DFLT	005-005-005	10	10	50	30
	006-001-001	10	10	50	30
	006-001-002	30	20	100	30
	006-001-003	40	20	100	30
	006-001-004	50	20	100	30

```
MRN table is (24 of 5990) 1% full
```

```
rtrv-mrn:pci=5-005-5:mrnset=dflt
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	NET	PC	RC	WT	%WT	THR
DFLT	I	5-005-5	10	10	50	30
	I	6-001-1	10	10	50	30
	N	1062	30	20	100	30
	I	6-001-3	40	20	100	30
	N	1065	50	20	100	30

```
MRN table is (24 of 2990) 1% full
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled, and you wish to add the mapset, MAP point code, and mapssn values to the MRN entry, and these values were not specified in [Step 13](#) on page 381, for this example, enter these commands.

```
rtrv-mrn:mrnset=1:pca=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPCC	MAPSSN	PC	RC
1	7	002-002-007	50	005-005-005	10
				006-001-001	20
				006-001-002	30
				006-001-003	40
				006-001-004	50
				006-001-005	60
				006-001-006	70
				006-001-007	80

```
MRN table is (24 of 5990) 1% full
```

```
rtrv-mrn:mrnset=2:pci=5-005-5
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPCCN	MAPSSN	NET	PC	RC
2	9	00347	253	I	5-005-5	10
				I	6-001-1	20
				N	1062	30
				I	6-001-3	40

N	1065	50
I	6-001-5	60
N	1070	70
I	6-001-7	80

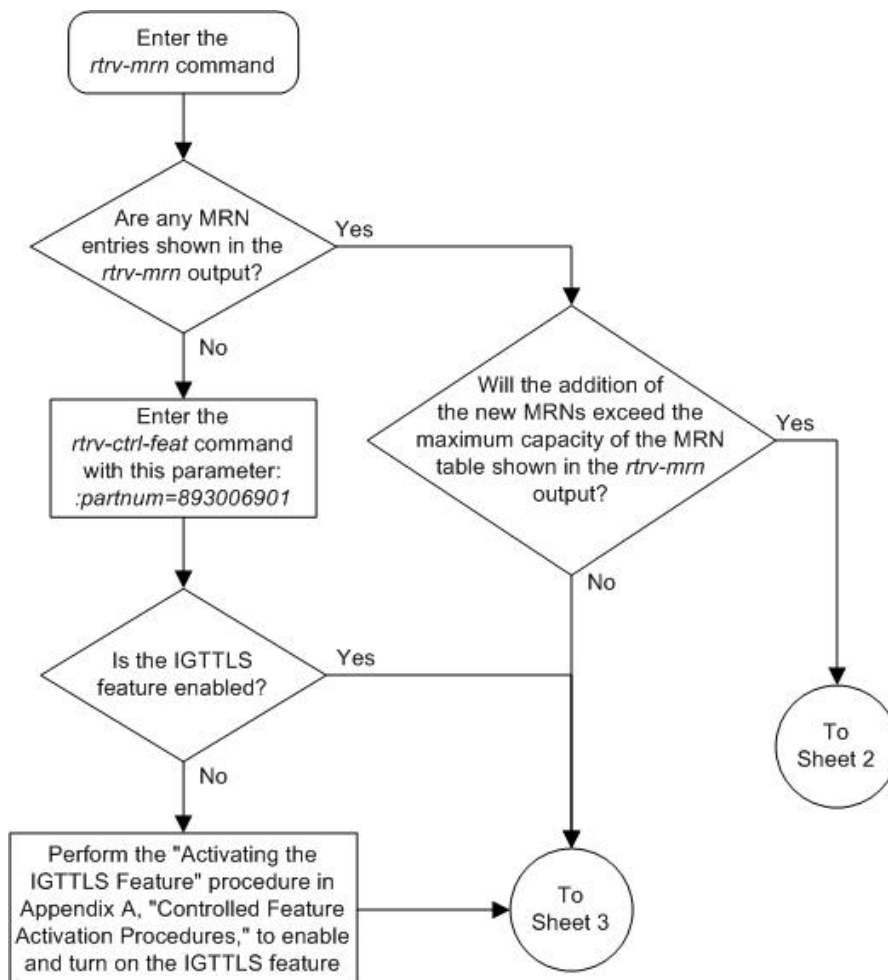
MRN table is (24 of 2990) 1% full

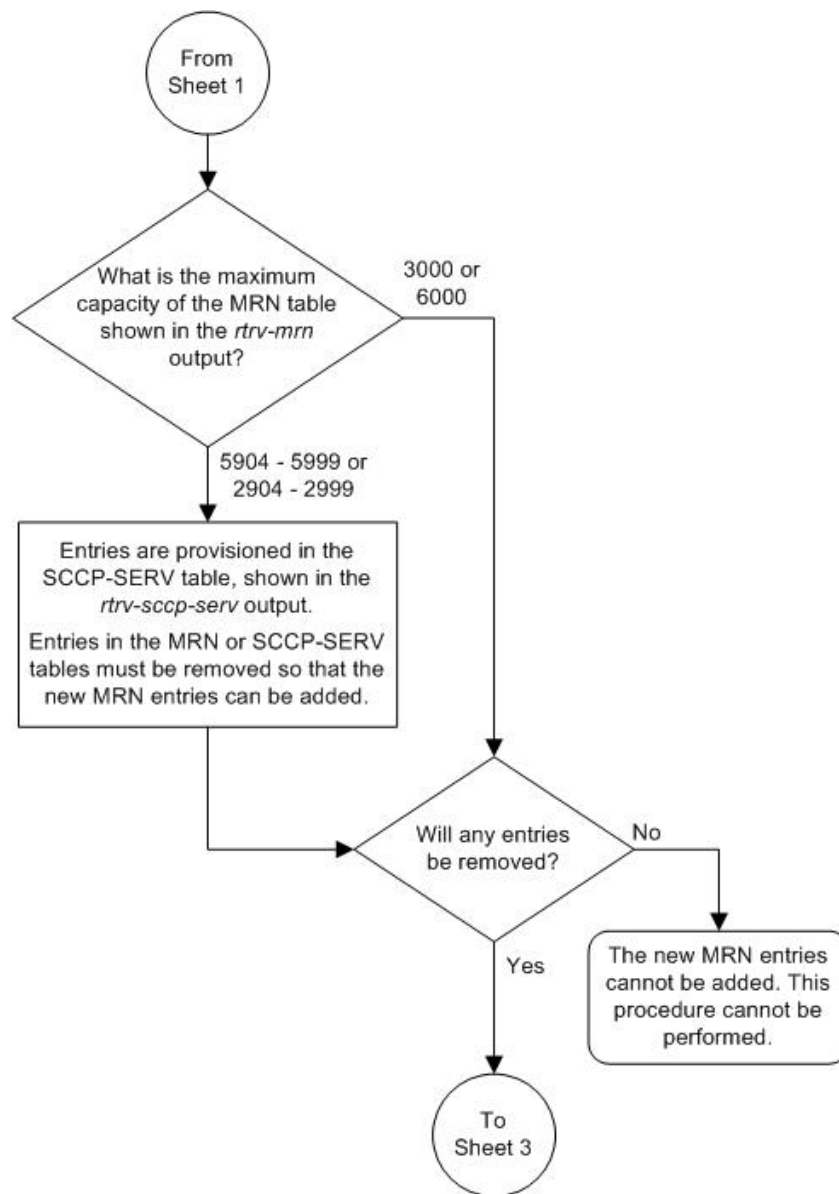
16. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

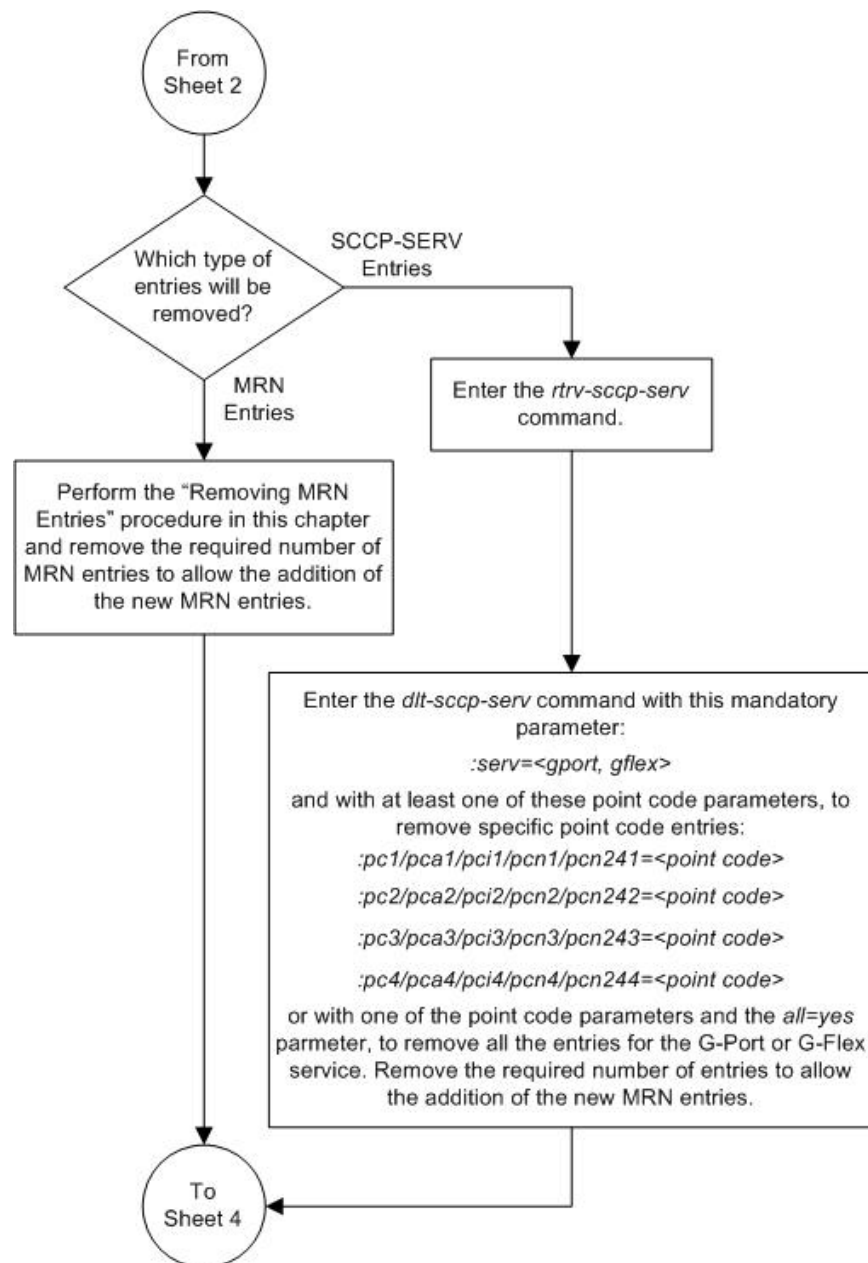
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

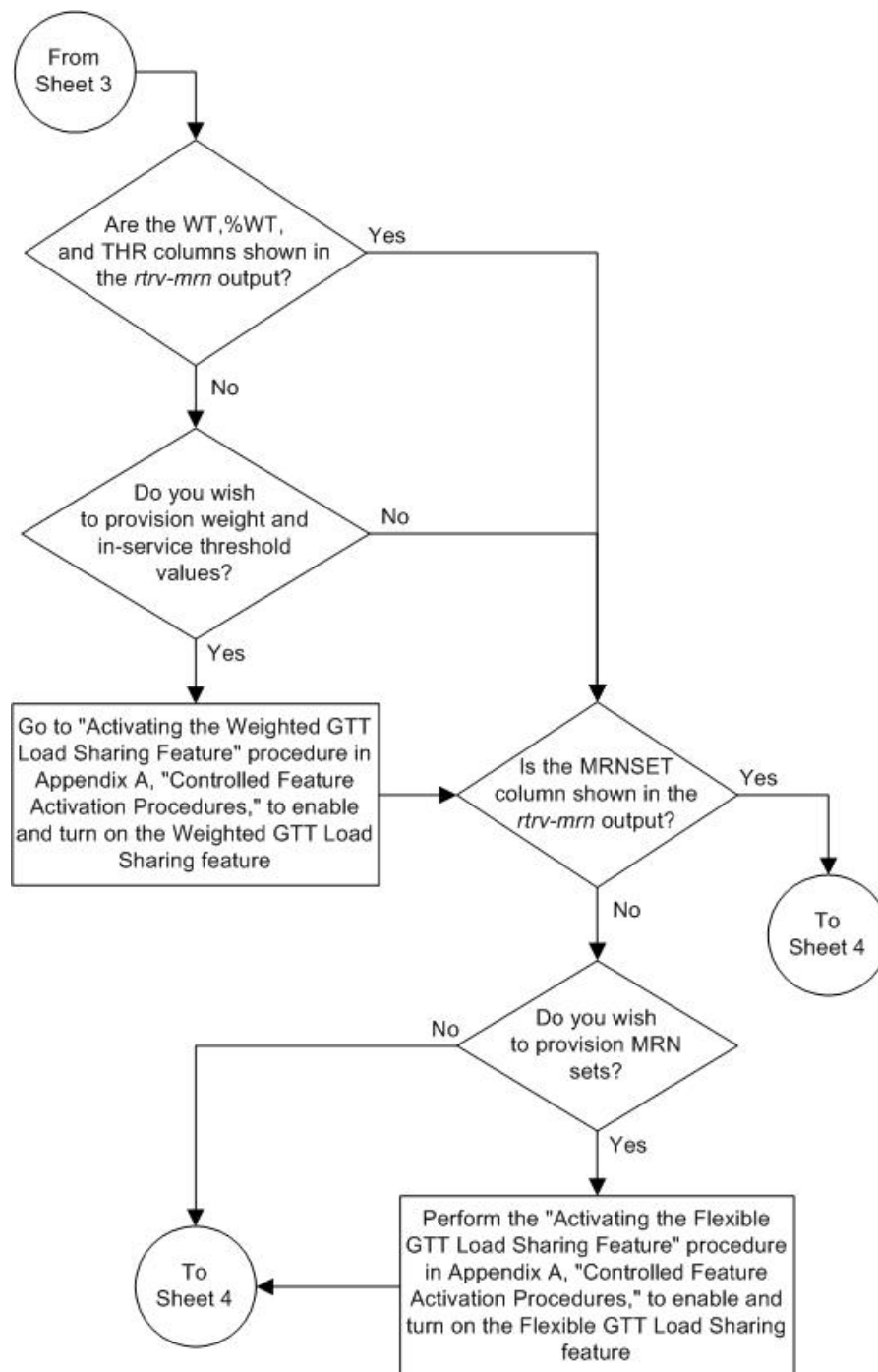
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

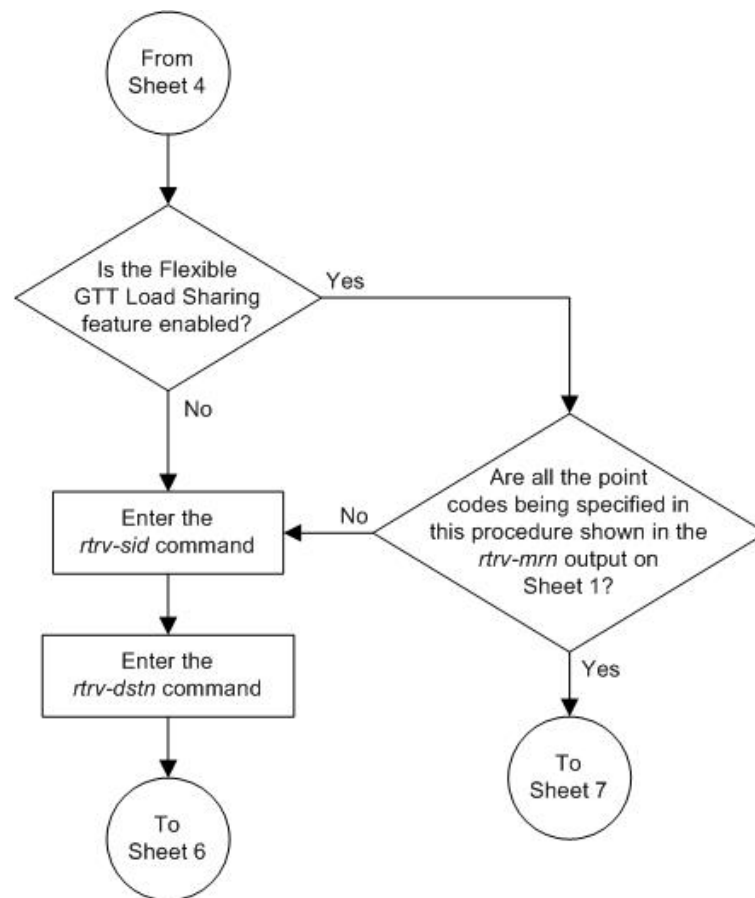
Figure 31: Provisioning MRN Entries

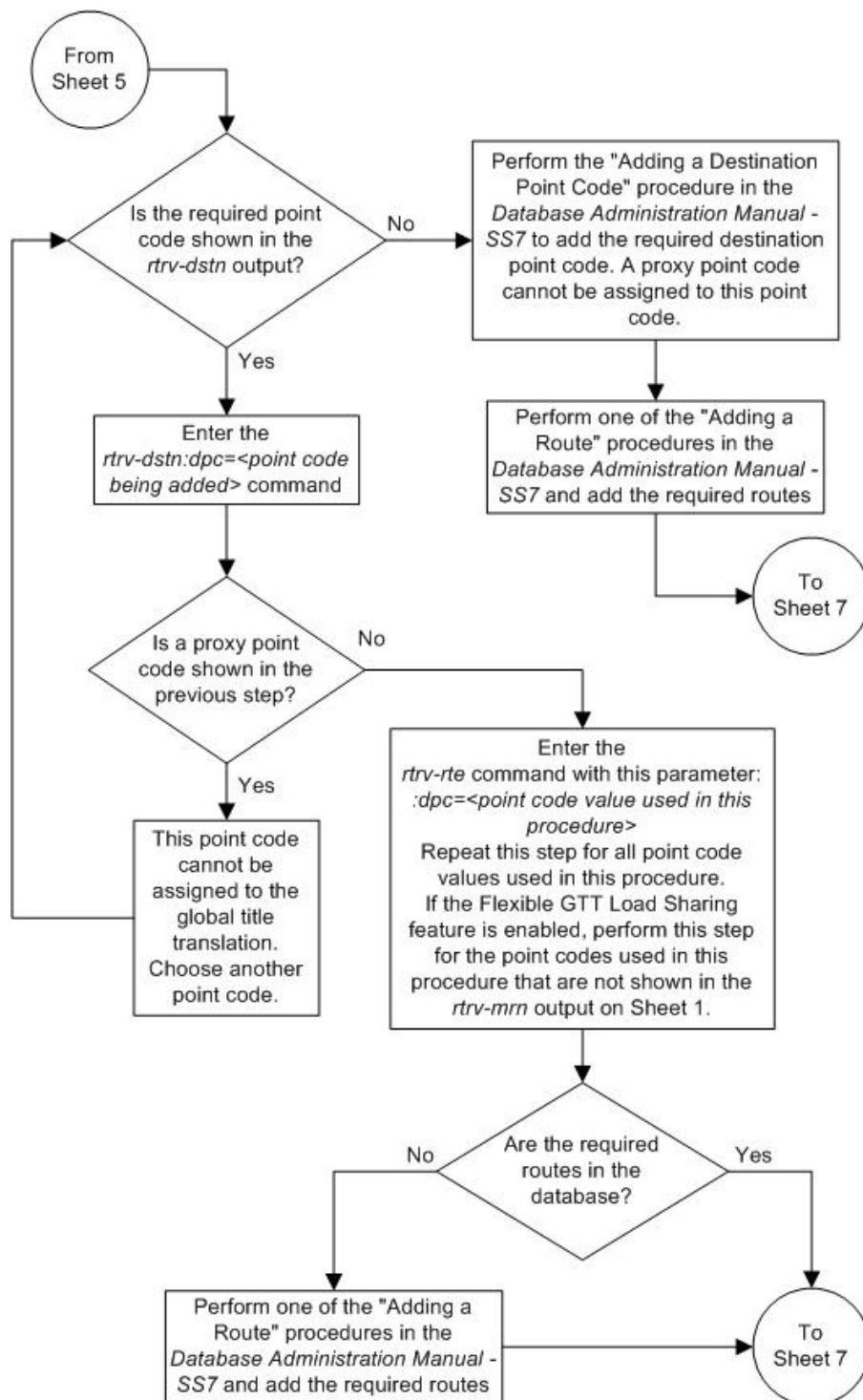


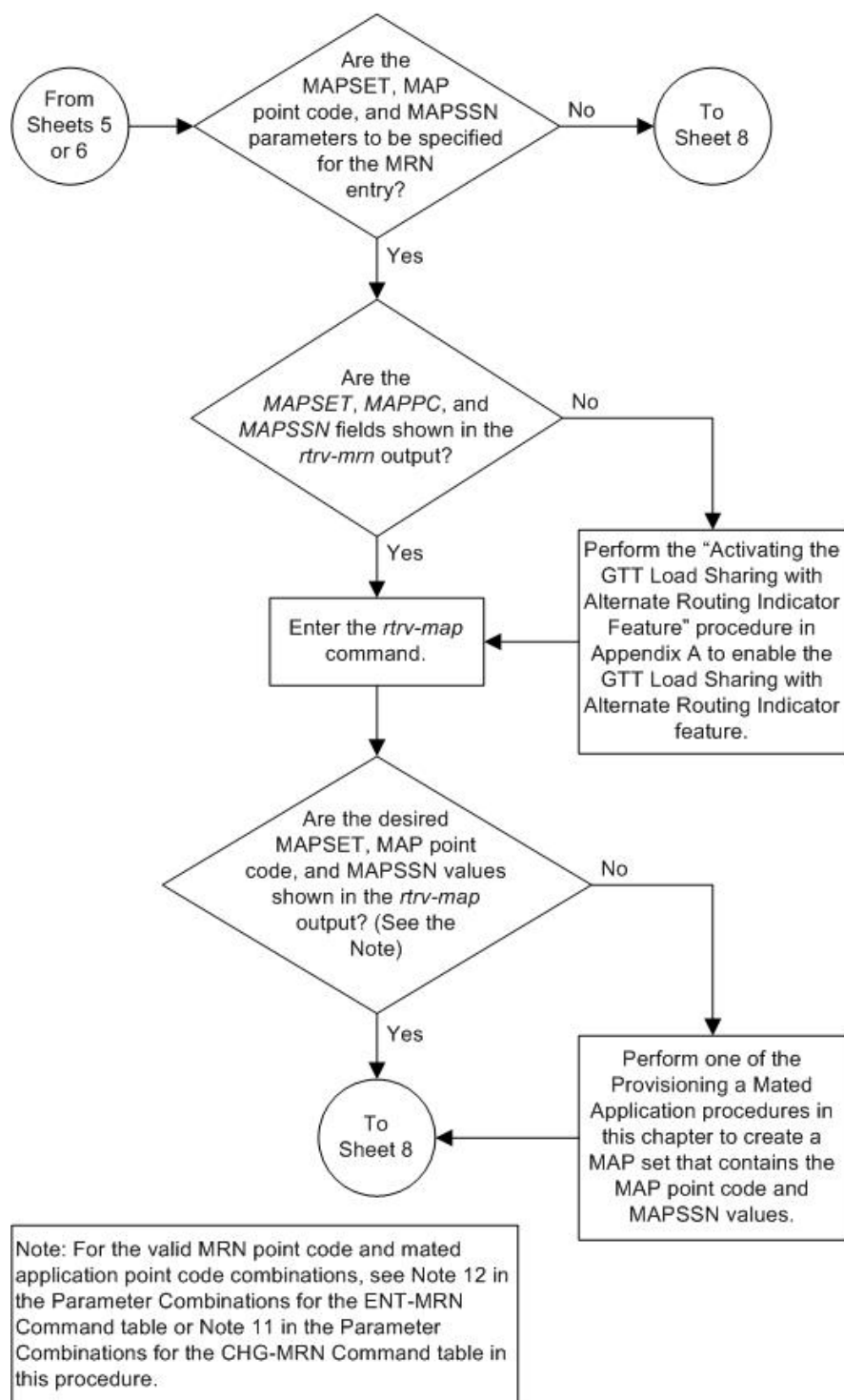


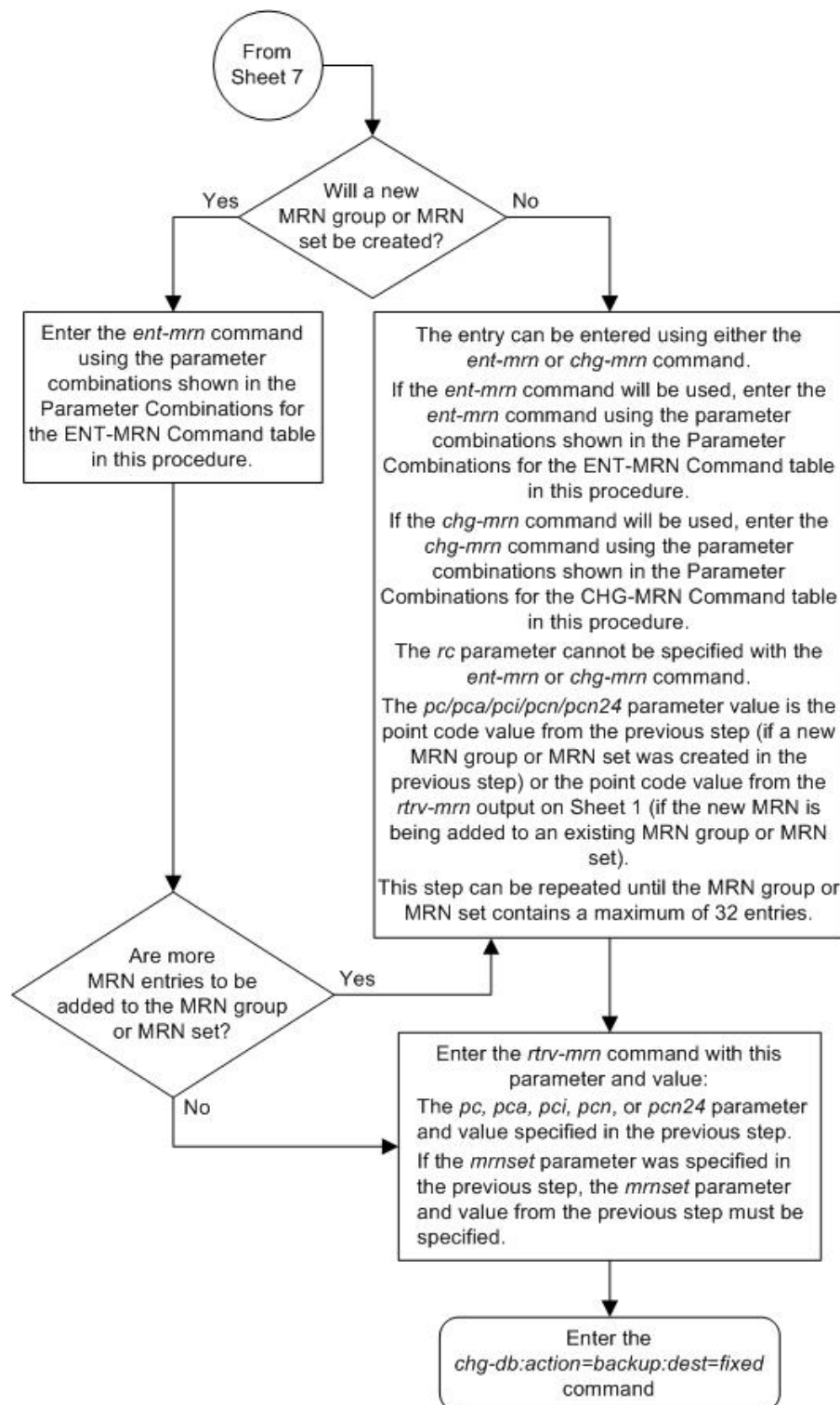












Removing MRN Entries

This procedure is used to remove an entry from an mated relay node (MRN) group or an entire MRN group from the database using the `dlt-mrn` command.

The `dlt-mrn` command uses these parameters.

`:pc/pca/pci/pcn/pcn24` – The point code in the message after intermediate global title translation has been performed.

`:pc1/pca1/pci1/pcn1/pcn241` – The first alternate point code value

`:pc2/pca2/pci2/pcn2/pcn242` – The second alternate point code value

`:pc3/pca3/pci3/pcn3/pcn243` – The third alternate point code value

`:pc4/pca4/pci4/pcn4/pcn244` – The fourth alternate point code value

Note: Refer to Chapter 2, "Configuring Destination Tables," in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

`:all` – Removes the entire MRN group or MRN set containing the point code specified by the `pc/pca/pci/pcn/pcn24` parameter.

`:mrnset` – The MRN set ID that the MRN is assigned to, shown in the `rtrv-mrn` output. MRN set IDs are shown only if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the `mrnset` parameter must be specified with the `dlt-mrn` command.

`:mapset` – The MAP set ID assigned to the MRN set. This is the MAP set from which alternate routing indicator searches are performed. The `mapset` parameter is shown in the `rtrv-mrn` output only if the GTT Load Sharing with Alternate Routing Indicator feature is enabled. An MRN set or a point code in an MRN set cannot be removed if a MAP set is assigned to the MRN set.

If an entire MRN set is being removed in this procedure (with the `all=yes` parameter), or if a point code entry in an MRN set is being removed in this procedure, the reference to the MRN set specified in this procedure must be removed from any GTT or GTA entries before the point code can be removed from an MRN set, or before an entire MRN set can be removed.

Perform one of these procedures to remove the reference to the MRN set, depending on whether or not the EGTT feature is on. The status of the EGTT feature is shown in the `rtrv-feat` command output.

- If the EGTT feature is not on – Enter the `rtrv-gtt` command to verify the MRN set ID references. Perform the [Changing a Global Title Translation](#) on page 614 procedure to remove the references to the MRN set.
- If the EGTT feature is on – Enter the `rtrv-gta` command to verify the MRN set ID references. Perform [Changing Global Title Address Information](#) on page 787 to remove the references to the MRN set. The MRN set ID is not shown in the `rtrv-ppsopt` output.
- Any references to the MRN's point code and non-default MRN set ID in the `rtrv-ppspts` output are removed in [Step 9](#) on page 410 of this procedure.

Note: If weight and in-service threshold values are assigned to a load shared or combined dominant/load shared MRN group or MRN set, and if by removing entries from this MRN group or MRN set, the MRN group or MRN set becomes a dominant MRN group or MRN set,

all weight and threshold values are removed from the remaining entries in the MRN group or MRN set.

The mated relay node group being removed, or the point code value being removed from a MRN group must be in the database.

When removing point codes from an MRN group, the MRN group must contain the `pc` parameter value and at least one alternate point code value.

If the `mrnset=dflt` and `all=yes` parameters are specified with the `dlt-mrn` command, only the MRN group containing the point code value specified in the `dlt-mrn` command is removed from the default MRN set.

Canceling the RTRV-MRN Command

Because the `rtrv-mrn` command used in this procedure can output information for a long period of time, the `rtrv-mrn` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-mrn` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-mrn` command was entered, from another terminal other than the terminal where the `rtrv-mrn` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated relay nodes in the database using the `rtrv-mrn` command.

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
DFLT	7	002-002-007	50	005-005-005	10	10	50	30
				006-001-001	10	10	50	30
				006-001-002	30	20	100	30
				006-001-003	40	20	100	30
				006-001-004	50	20	100	30
MRNSET	MAPSET	MAPPC	MAPSSN	PC	RC	WT	%WT	THR
1	5	255-001-002	252	005-005-005	10	10	4	1
				006-001-001	10	10	4	1
				006-001-002	10	30	12	1
				006-001-003	10	40	15	1
				006-001-005	10	40	15	1
				006-001-006	10	40	15	1
				006-001-007	10	40	15	1
				006-001-004	10	50	19	1
				006-001-008	20	20	25	1
				006-001-009	20	30	37	1
				006-001-010	20	30	37	1

```
MRN table is (16 of 5990) 1% full
```

Note: If the Weighted GTT Load Sharing feature is not enabled and turned on, the WT, %WT, THR columns and values are not shown in the `rtrv-mrn` output.

Continue the procedure by performing one of these steps.

- If the MRNSET column is not shown in the `rtrv-mrn` output, then the Flexible GTT Load Sharing feature is not enabled. Continue the procedure with [Step 10](#) on page 411.
- If only the MRNSET column is shown in the `rtrv-mrn` output, continue the procedure with [Step 4](#) on page 407.
- If the MRNSET and MAPSET columns are shown in the `rtrv-mrn` output, continue the procedure by performing one of these steps.
 - If an entire MRN set is being removed, continue the procedure with [Step 3](#) on page 406.
 - If a point code entry is being removed from the MRN set, continue the procedure with [Step 4](#) on page 407.
 - If the MAP set entry is being removed from the MRN set, continue the procedure with [Step 2](#) on page 406.

Note: If the MAPSET column contains dashes, then a MAP set is not assigned to the MRN set.

2. Remove the MAP set from the MRN set using the `dlt-mrn` command with the `mrnset`, `mapset`, and `pc/pca/pci/pcn/pcn24` parameters and values shown in [Step 1](#) on page 405. For this example, enter this command.

```
dlt-mrn:mrnset=1:mapset=5:pca=005-005-005
```

This message should appear.

```
rlghncxa03w 09-02-07 11:48:16 GMT EAGLE5 40.1.0
DLT-MRN: MASP A - COMPLTD
```

If you wish to remove any point code entries from the MRN set, continue the procedure with [Step 4](#) on page 407.

If you do not wish to remove any point code entries from the MRN set, continue the procedure with [Step 11](#) on page 412.

3. Display the mated applications by entering the `rtrv-map` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT      MRNSET ID=----- MRNPC    =  -----
PCA                Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000        250 10  SOL --- --- grp01  ON

MAPSET ID=1         MRNSET ID=1      MRNPC    =  005-005-005
PCA                Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000        251 10  SHR --- --- grp01  OFF
                   253-001-002  254 10  SHR --- --- grp01  OFF

MAPSET ID=2         MRNSET ID=DFLT MRNPC    =  005-005-005
PCA                Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
255-001-000        252 10  SOL --- --- grp01  ON
```



```

MAPSET ID=DFLT      MRNSET ID=----- MRNPC   =  -----
PCA                 Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000         253 10 SHR --- --- grp01  OFF
                   253-001-004 254 10 SHR --- --- grp01  OFF

MAPSET ID=3         MRNSET ID=----- MRNPC   =  -----
PCA                 Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-001         255 10 DOM YES YES grp01  ON
                   253-001-005 254 20 DOM YES YES grp01  ON

MAPSET ID=4         MRNSET ID=----- MRNPC   =  -----
PCA                 Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-001         250 10 DOM YES YES grp01  OFF
                   253-001-001 254 20 DOM YES YES grp01  OFF

MAPSET ID=DFLT      MRNSET ID=----- MRNPC   =  -----
PCA                 Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002         251 10 SHR --- --- grp01  OFF
                   255-001-002 254 10 SHR --- --- grp01  OFF

MAPSET ID=5         MRNSET ID=----- MRNPC   =  -----
PCA                 Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002         252 10 DOM YES YES grp01  ON
                   255-001-003 254 20 DOM YES YES grp01  ON

MAPSET ID=6         MRNSET ID=----- MRNPC   =  -----
PCA                 Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002         253 10 SHR --- --- grp01  ON
                   255-001-004 254 10 SHR --- --- grp01  ON

MAPSET ID=7         MRNSET ID=----- MRNPC   =  -----
PCA                 Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
002-002-007         50 10 COM YES YES grp01  OFF
                   002-002-008 30 10 COM YES YES grp01  OFF
                   002-002-009 30 10 COM YES YES grp01  OFF
                   002-002-010 30 20 COM YES YES grp01  OFF
                   002-002-011 30 20 COM YES YES grp01  OFF

MAPSET ID=8         MRNSET ID=----- MRNPC   =  -----
PCI                 Mate PCI          SSN RC MULT SRM MRC GRP NAME SSO
2-001-2             255 10 DOM NO YES grp03  OFF
                   2-001-1      254 20 DOM NO YES grp03  OFF

MAPSET ID=9         MRNSET ID=----- MRNPC   =  -----
PCN                 Mate PCN          SSN RC MULT SRM MRC GRP NAME SSO
00347               253 10 SHR --- --- grp05  OFF
                   01387       254 10 SHR --- --- grp05  OFF

MAP TABLE IS      1 % FULL      (25 of 36000)

```

If the MRN set is not assigned to any MAP sets, continue the procedure with [Step 4](#) on page 407.

If the MRN set is assigned to any MAP sets, perform [Removing a Mated Application](#) on page 305 to remove the MRN set from the MAP sets. After the MRN set has been removed from the MAP sets, continue the procedure with [Step 4](#) on page 407.

4. Verify whether or not the Enhanced GTT feature is on by entering the `rtrv-feat` command.
If the EGTT feature is on, the EGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, refer to the `rtrv-feat` command description in the *Commands Manual*.

If the EGTT feature is on, continue the procedure with [Step 7](#) on page 409 .

If the EGTT feature is off, continue the procedure with [Step 5](#) on page 408 .

5. Display the translation types in the database by entering the `rtrv-tt` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:42:31 GMT EAGLE5 37.0.0
TYPEA      TTN      NDGT
1          lidb      5
2          c800      10
3          d700      6
5          scp1      6
10         scp2      6
15         scp3      3

ALIAS      TYPEA
30         5
40         10
50         3
65         3

TYPEI      TTN      NDGT
105        itudb     8

ALIAS      TYPEI
7          105

TYPEN      TTN      NDGT
120        dbitu     7

ALIAS      TYPEN
8          120
```

6. Before an MRN set can be removed from the database, or a point code entry can be removed from an MRN set, all references to the specific MRN set must be removed from the global title translations.

Select a translation type from [Step 5](#) on page 408 . Display the global title translations assigned to the translation type from [Step 5](#) on page 408 that contain either the point code being removed from the MRN set, or a point code in the MRN set that is being removed in this procedure.

For this example, enter this command.

```
rtrv-gtt:typea=15:pca=006-001-002
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:48:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15     scp3      3
GTT TABLE IS 10 % FULL      (27000 of 269999)

START GTA      END GTA      XLAT  RI      PC
800           900          DPC   GT      006-001-002
      MRNSET=1      SSN=--- NGT=---
```

Command Retrieved 1 Entries

If entries are displayed, perform the [Changing a Global Title Translation](#) on page 614 procedure and change the MRN reference to NONE, or remove the global title translation by performing the [Removing a Global Title Translation](#) on page 607 procedure.

If no entries are displayed, repeat this step with the other translation types displayed in [Step 5](#) on page 408 .

When all the translation types have been displayed and all applicable global title translation entries have been changed or removed in this step, continue the procedure with [Step 9](#) on page 410.

7. Display the existing GTT sets in the database using the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:27:31 GMT EAGLE5 37.0.0
GTTSN      NETDOM  NDGT
lidx       ansi    10
t800       ansi    10
si000      itu     15
imsi       itu     15
abcd1234   itu     12
```

8. Before an MRN set can be removed from the database, all references to the specific MRN set must be removed from the global title translations displayed in the `rtrv-gta` output. Before a point code entry can be removed from an MRN set, all references to the specific MRN set must be removed from the global title translations displayed in the `rtrv-gta` output.

Select a GTT set name from [Step 7](#) on page 409 . Display the global title translations assigned to the GTT set name from [Step 7](#) on page 409 that contain either the point code being removed from the MRN set, or a point code in the MRN set that is being removed in this procedure.

For this example, enter this command.

```
rtrv-gta:gttsn=t800:pca=006-001-002
```

This is an example of the possible output.

```
rlghncxa03w 08-10-07 00:28:31 GMT EAGLE5 39.2.0
GTTSN      NETDOM  NDGT
t800       ansi    10
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA  XLAT  RI  PC
8005550000 8005551999 dpcssn gt 006-001-002
MRNSET=1   SSN=50   CCGT=yes NTT=---
```

Command Retrieved 1 Entries

If entries are displayed, perform [Changing Global Title Address Information](#) on page 787 and change the MRN reference to NONE, or remove the entry by performing the [Removing Global Title Address Information](#) on page 777 procedure.

If no entries are displayed, repeat this step with the other GTT set names displayed in [Step 7](#) on page 409 .

When all the GTT set names have been displayed and all applicable global title translation entries have been changed or removed in this step, continue the procedure with [Step 9](#) on page 410.

Note: If the MRN being removed is in the default MRN set, continue the procedure with [Step 10](#) on page 411.

- The MRN cannot be removed if the point code and non-default MRN set ID of the MRN is shown in the `rtrv-ppsopts` command output. Enter the `rtrv-ppsopts` command to verify that the MRN's point code and non-default MRN set ID is not shown in the `rtrv-ppsopts` output. This is an example of the possible output.

```
rlghncxa03w 09-03-20 09:07:58 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK          = OFF
PPT                PCA/PCI/PCN                SSN      RI      Set ID
---                -
1                 PCI:      1-001-1            25      SSN     DFLT
2                 -----                NONE     GT      DFLT
3                 -----                NONE     GT      DFLT
4                 PCI:      1-001-1            30      GT      1
5                 -----                NONE     GT      DFLT
6                 -----                NONE     GT      DFLT
7                 -----                NONE     GT      DFLT
8                 PCI:      1-001-1            75      SSN     1
9                 -----                NONE     GT      DFLT
10                -----                NONE     GT      DFLT
11                -----                NONE     GT      DFLT
12                -----                NONE     GT      DFLT
13                -----                NONE     GT      DFLT
14                -----                NONE     GT      DFLT
15                -----                NONE     GT      DFLT
16                -----                NONE     GT      DFLT
17                -----                NONE     GT      DFLT
18                -----                NONE     GT      DFLT
19                -----                NONE     GT      DFLT
20                -----                NONE     GT      DFLT
21                -----                NONE     GT      DFLT
22                -----                NONE     GT      DFLT
23                -----                NONE     GT      DFLT
24                -----                NONE     GT      DFLT
25                -----                NONE     GT      DFLT
26                -----                NONE     GT      DFLT
27                -----                NONE     GT      DFLT
28                -----                NONE     GT      DFLT
29                -----                NONE     GT      DFLT
30                -----                NONE     GT      DFLT
31                -----                NONE     GT      DFLT
32                -----                NONE     GT      DFLT

GTA
---
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
```

```
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE  
NONE
```

If the `rtrv-ppsopts` output shows any entries that reference the MRN's point code and non-default MRN set ID, remove the reference using the `chg-ppsopts` command with the prepaid portability type (the PPT value) that contains the reference and either the `pci=none` or `pcn=none` parameters (depending on the type of point code the prepaid portability type contains).

```
chg-ppsopts:ppt=8:pci=none
```

This is an example of the possible output.

```
rlghncxa03w 07-05-20 09:07:58 GMT EAGLE5 37.0.0  
CHG-PPSOPTS: MASP A - COMPLTD
```

Repeat this step for other entries shown in the `rtrv-ppsopts` output that contain the MRN's point code and non-default MRN set ID.

10. Remove the mated relay node from the MRN group or MRN set using the `dlt-mrn` command with a point code from the `rtrv-mrn` command output shown in [Step 1](#) on page 405 . For this example, enter this command.

Note: If the MRNSET column is shown in the `rtrv-mrn` output in [Step 1](#) on page 405 , then the `mrnset` parameter must be specified with the `dlt-mrn` command. The `mrnset` parameter value must be the MRN set ID containing the point code specified in this step. If the MRNSET column is not shown in the `rtrv-mrn` output in [Step 1](#) on page 405 , the `mrnset` parameter cannot be specified with the `dlt-mrn` command.

For this example, enter this command.

```
dlt-mrn:pca=006-001-002:mrnset=1
```

Note: If the entire MRN group or MRN set is not being removed in this step, the MRN group or MRN set must contain at least two entries after this step is performed.

This message should appear.

```
rlghncxa03w 07-05-07 11:48:16 GMT EAGLE5 37.0.0  
DLT-MRN: MASP A - COMPLTD
```

Note: If the MRNSET column is not shown in [Step 1](#) on page 405 and an entire MRN group is being removed from the database, enter the `dlt-mrn` command with the point code and the `all=yes` parameter. For this example, enter the `dlt-mrn:pca=006-001-002:all=yes` command.

Note: If the MRNSET column is shown in [Step 1](#) on page 405 and an entire MRN set is being removed from the database, enter the `dlt-mrn` command with the point code, the `mrnset` parameter value containing a point code in the MRN set, and the `all=yes` parameter. For this example, enter the `dlt-mrn:pca=006-001-002:mrnset=1:all=yes` command. If the `mrnset=dflt` and `all=yes` parameters are specified with the `dlt-mrn` command, only the MRN group containing the point code value specified in the `dlt-mrn` command is removed from the default MRN set.

Note: If weight and in-service threshold values are assigned to a load shared or combined dominant/load shared MRN group or MRN set, and if by removing entries from this MRN group or MRN set, the MRN group or MRN set becomes a dominant MRN group or MRN set, all weight and threshold values are removed from the remaining entries in the MRN group or MRN set.

11. Verify the changes using the `rtrv-mrn` command with the point code specified in [Step 2](#) on page 406 or [Step 10](#) on page 411 .

If the `mrnset` parameter was specified in [Step 10](#) on page 411 , the `mrnset` parameter and the `mrnset` parameter value specified in [Step 10](#) on page 411 must be specified in this step. For this example, enter this command.

```
rtrv-mrn:pca=006-001-002:mrnset=1
```

This message should appear.

```
E4483 Cmd Rej: PC does not exist in specified MRNSET
```

Note: When an entire MRN group is removed from the default MRN set, this message, E4483, will appear when the `rtrv-mrn` command is specified with the `mrnset=dflt` and the point code value specified in [Step 10](#) on page 411 .

If an entire MRN set was removed in [Step 10](#) on page 411 , the following message appears when this step is performed.

```
E4480 Cmd Rej: Specified MRNSET does not exist
```

If the Flexible GTT Load Sharing feature is not enabled, the `mrnset` parameter cannot be specified with the `rtrv-mrn` command. When this step is performed (without the Flexible GTT Load Sharing feature enabled and without the `mrnset` parameter), the following message appears.

```
E2849 Cmd Rej: PC must already exist in the MRN table
```

If the MAP set was removed from the MRN set in [Step 2](#) on page 406, enter the `rtrv-mrn` command with the `mrnset` and point code parameters and values specified in [Step 2](#) on page 406. For this example, enter this command.

```
rtrv-mrn:mrnset=1:pca=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPCC	MAPSSN	PC	RC	WT	%WT	THR
1	-----	-----	---	005-005-005	10	10	4	1
				006-001-001	10	10	4	1
				006-001-002	10	30	12	1
				006-001-003	10	40	15	1
				006-001-005	10	40	15	1
				006-001-006	10	40	15	1
				006-001-007	10	40	15	1

006-001-004	10	50	19	1
006-001-008	20	20	25	1
006-001-009	20	30	37	1
006-001-010	20	30	37	1

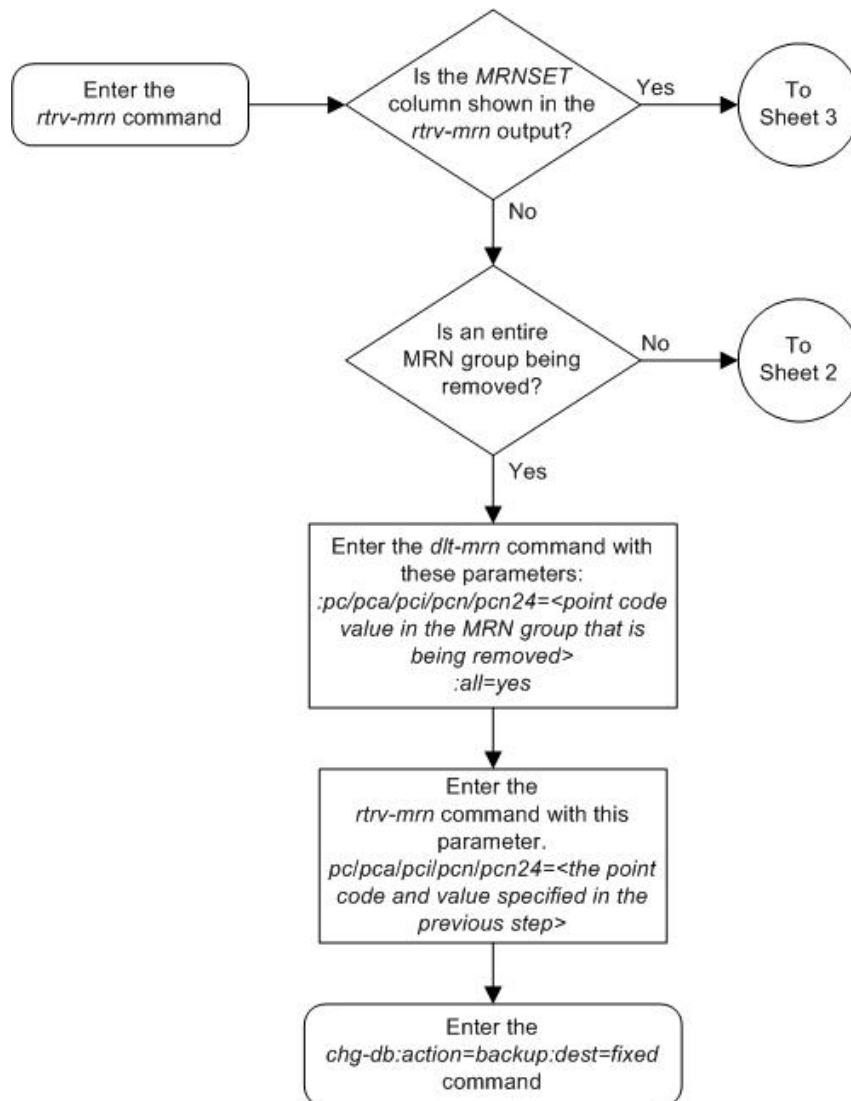
MRN table is (16 of 5990) 1% full

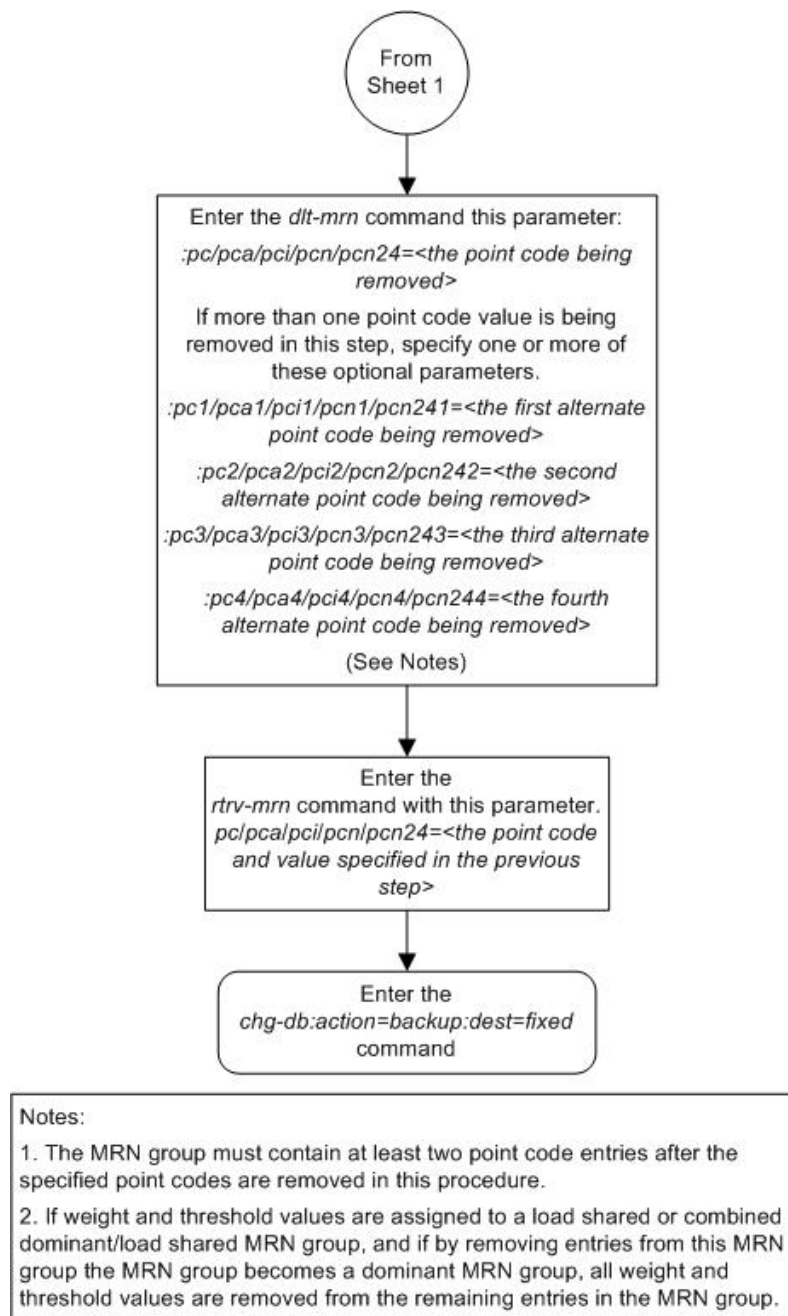
- Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

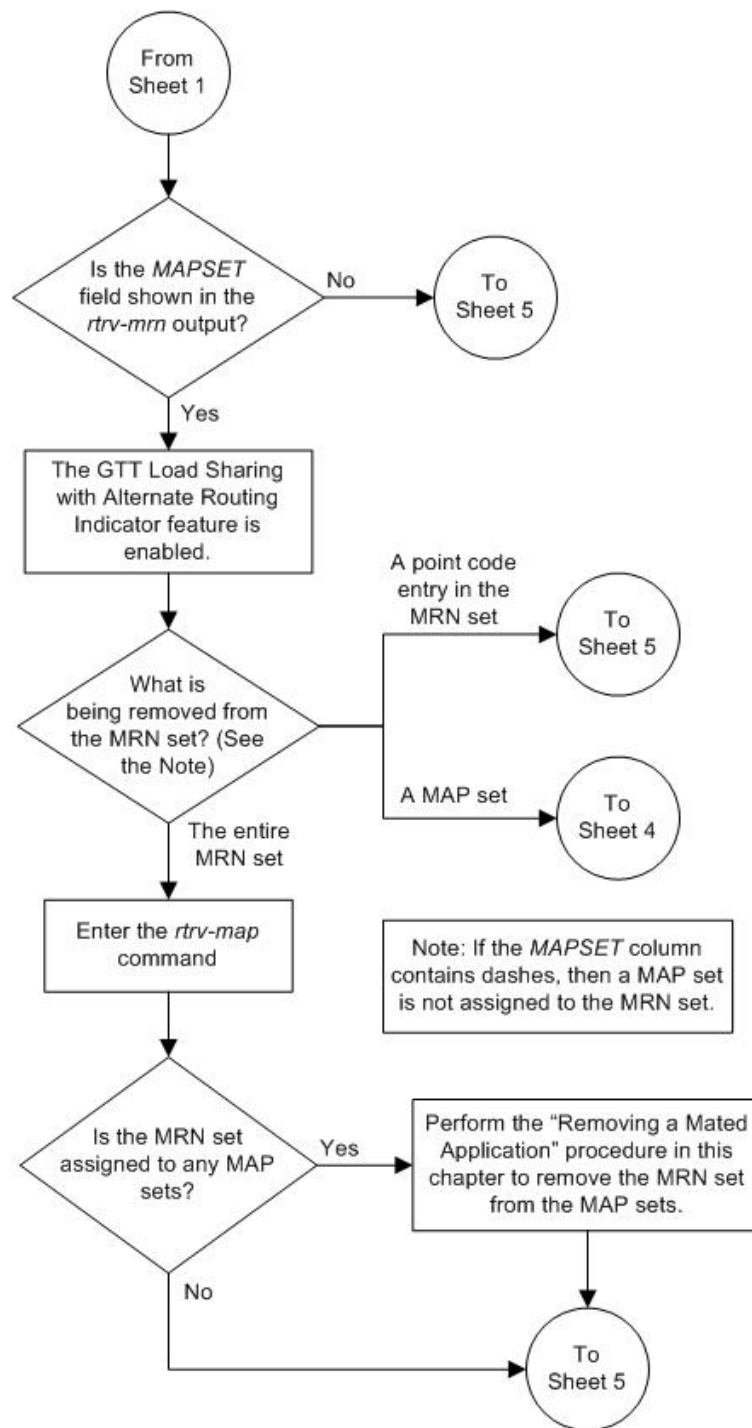
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

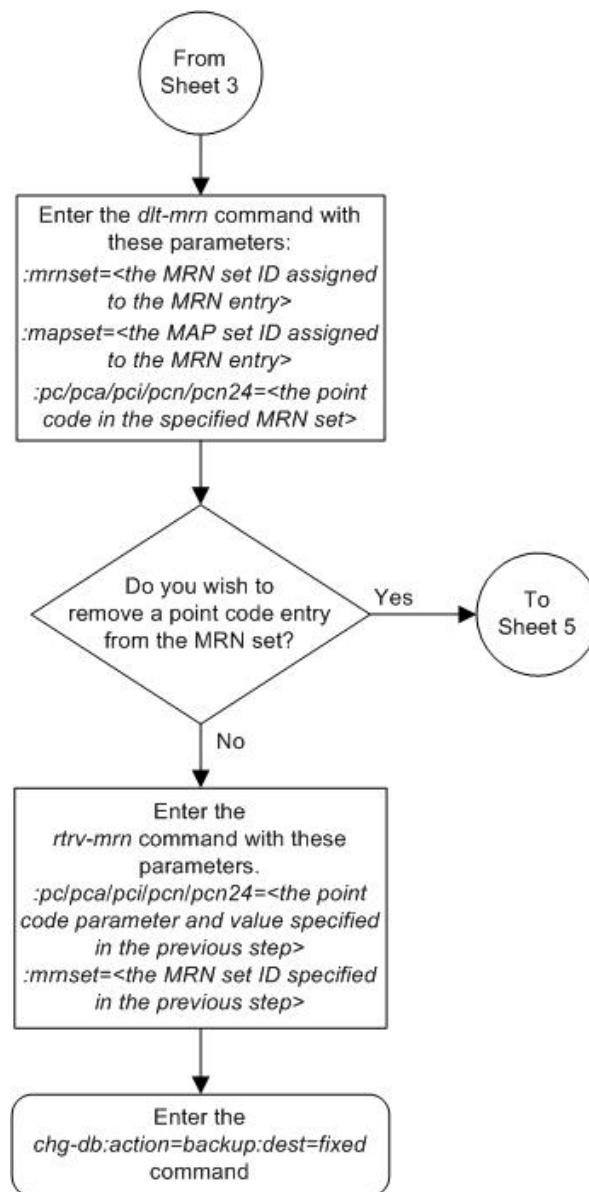
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

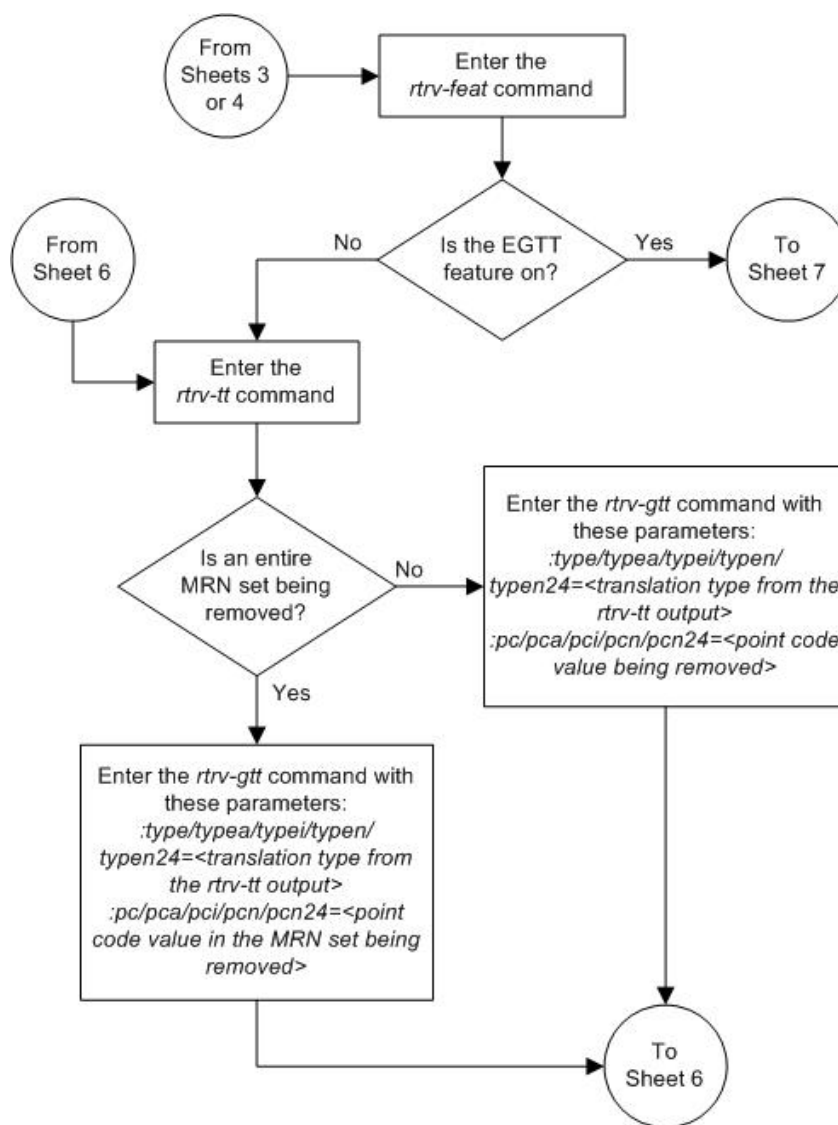
Figure 32: Removing MRN Entries

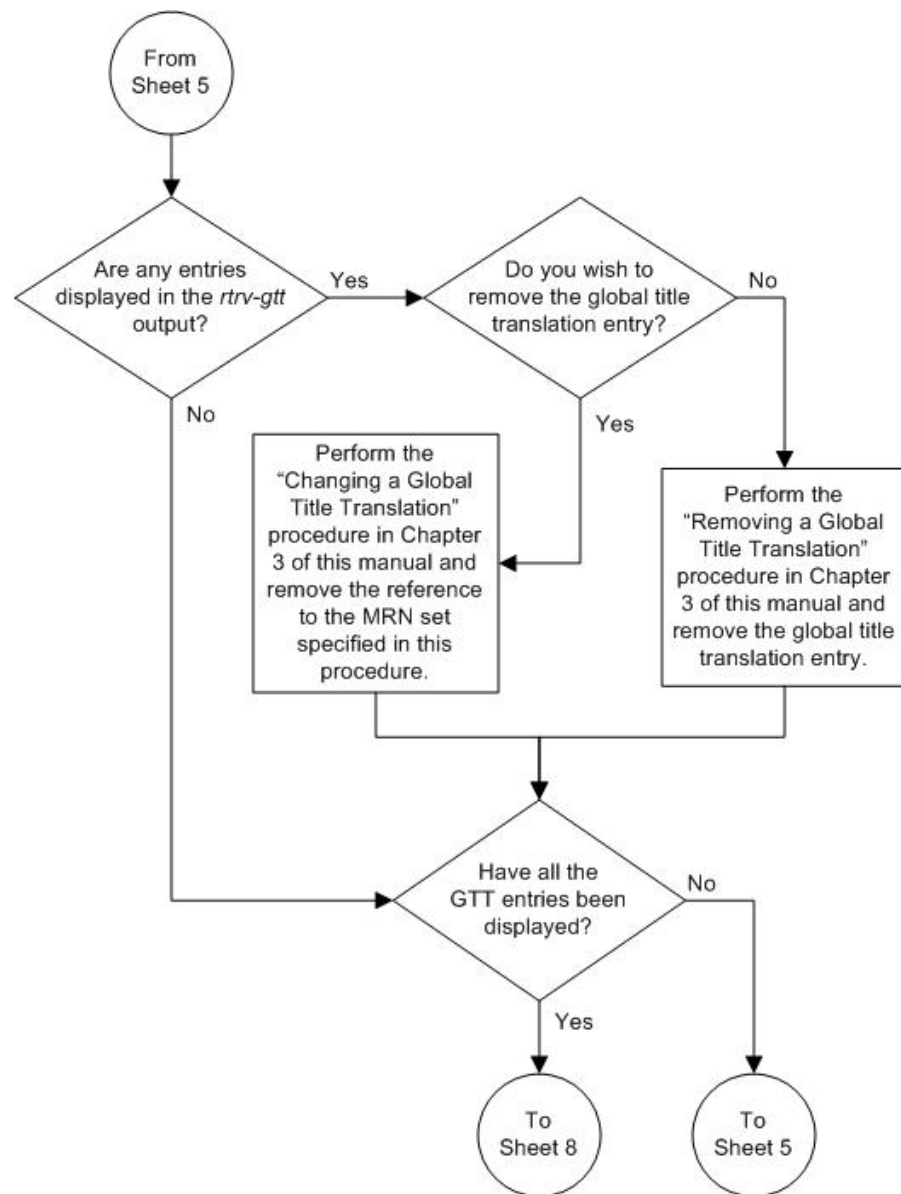


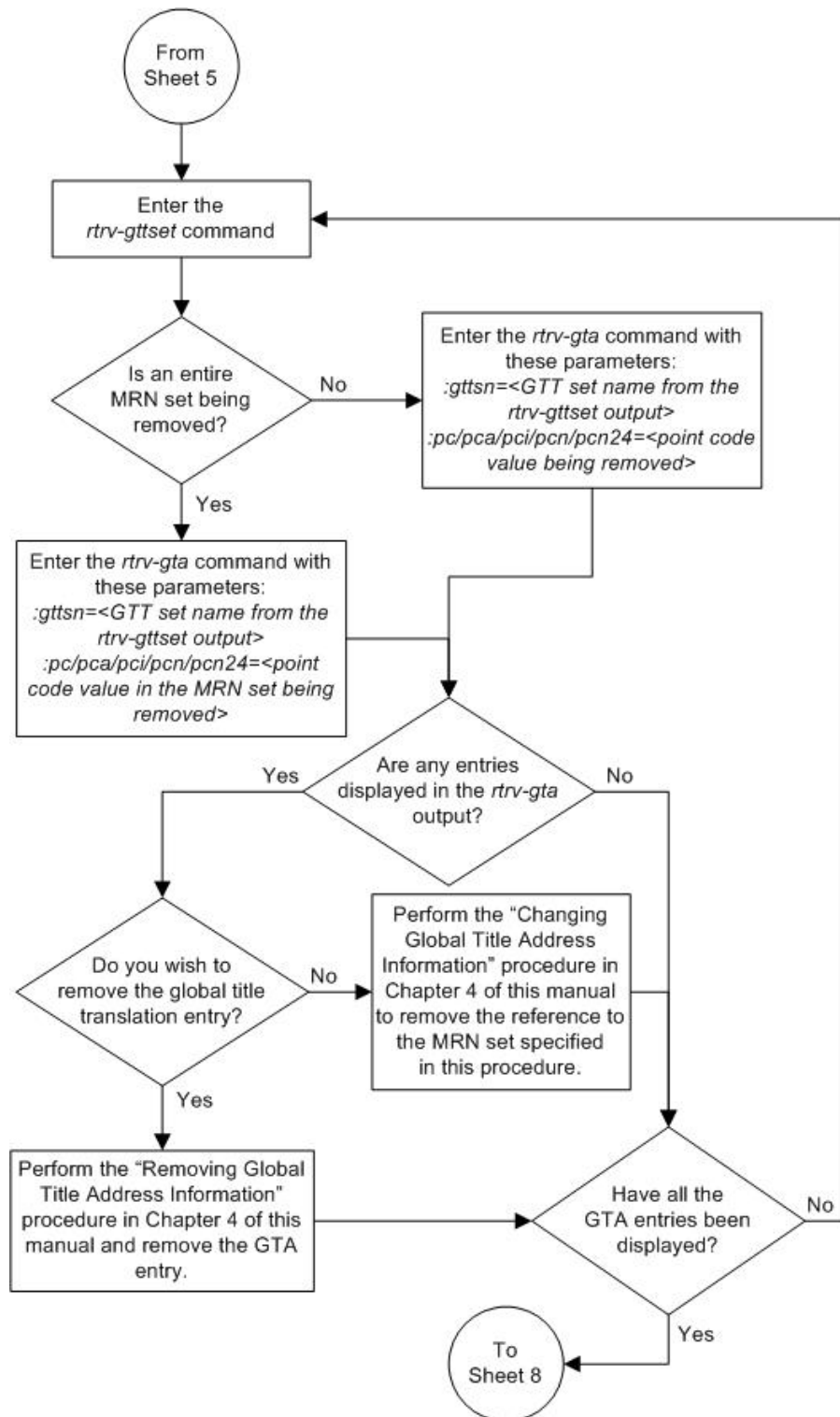


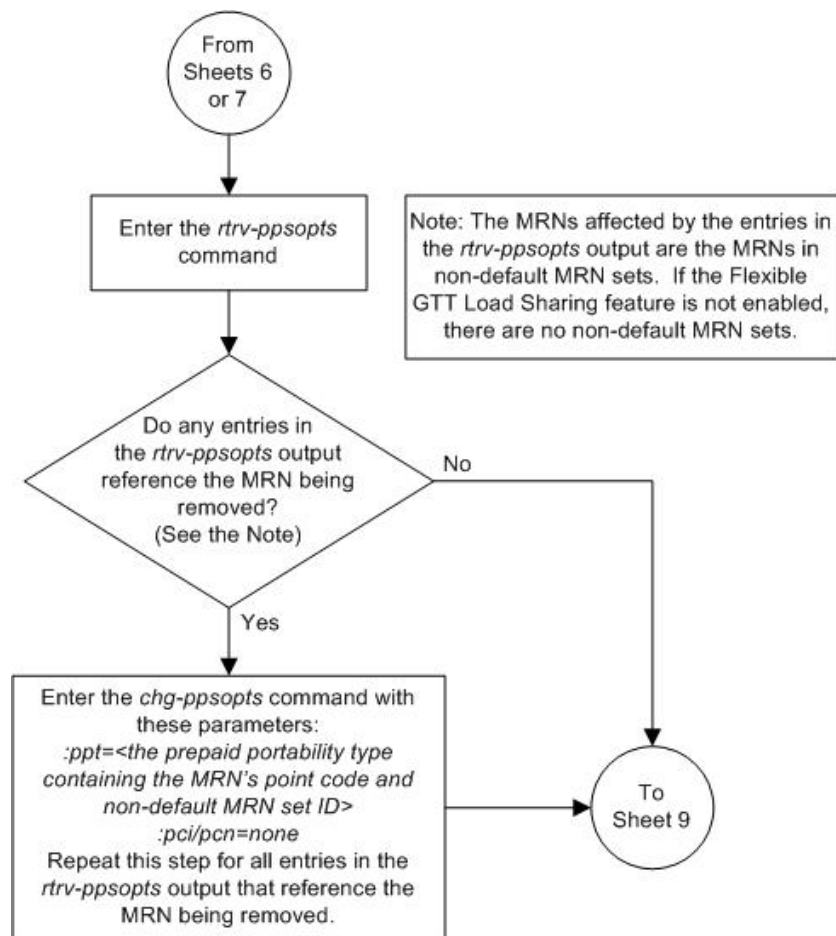


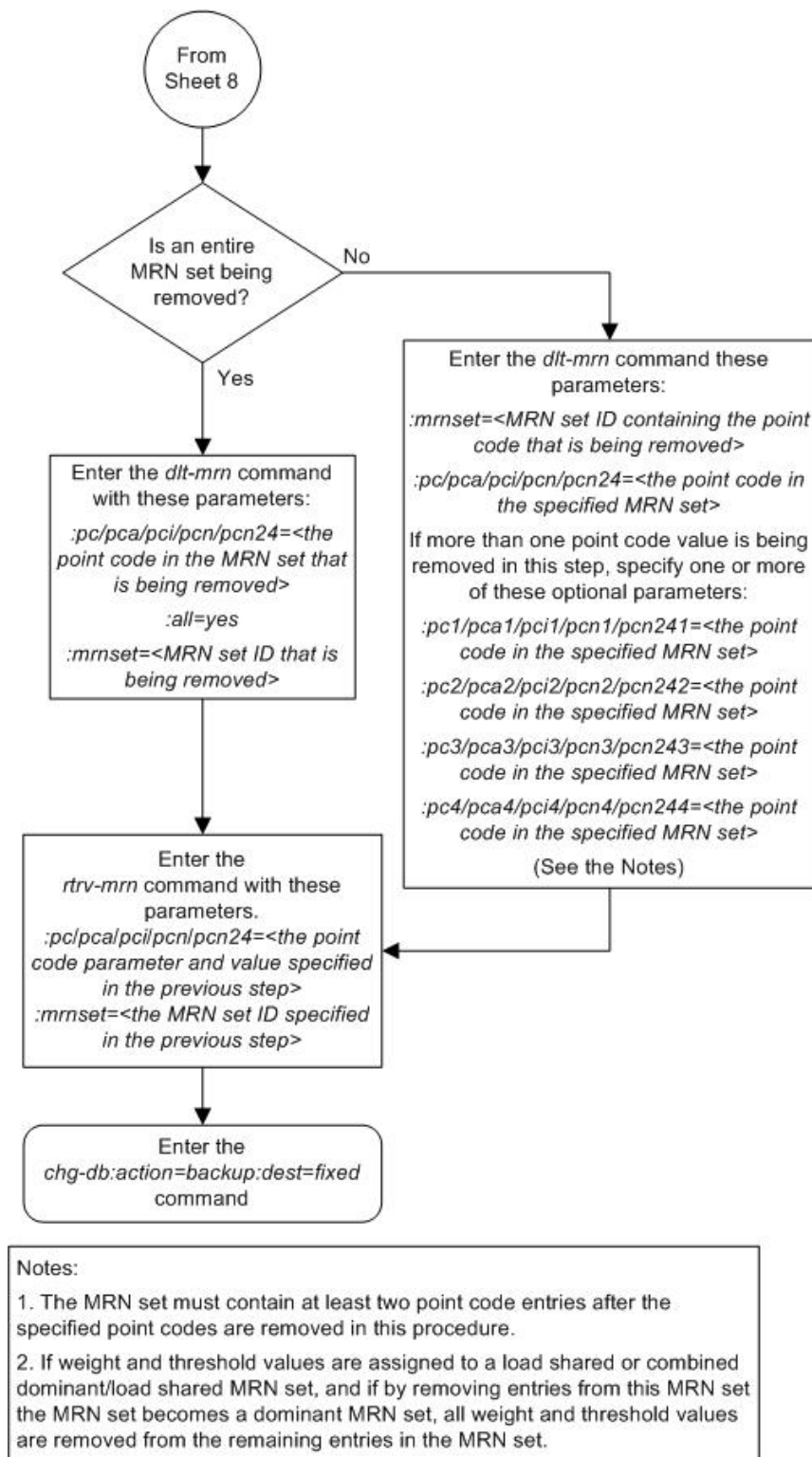












Changing the Relative Cost Values of MRN Entries

This procedure is used to change the relative cost attributes of entries in an existing Mated Relay Node (MRN) group or MRN set using `rc/rc1/rc2/rc3/rc4` parameters of the `chg-mrn` command.

The `chg-mrn` command can also be used to add point code entries to an existing MRN group or MRN set. This action is not covered in this procedure. If you wish to add point code entries to an existing MRN group or MRN set, perform [Provisioning MRN Entries](#) on page 367.

If you wish to assign the same weight and threshold value to all the MRN entries in the MRN group or MRN set with the `eswt` and `thr` parameters, or to remove the weight and threshold values from all the MRN entries in the MRN group or MRN set with the `eswt=none` parameter, perform [Changing MRN Entries with the ESWT Parameter](#) on page 430. The `eswt` and `thr` parameters cannot be used in this procedure.

If you wish to change individual weight values for MRN entries with the `wt/wt1/wt2/wt3/wt4` parameters, the weight values for an RC group with the `grpwt` parameter, the threshold values for an MRN group or MRN set with the `thr` parameter, or the relative cost and weight values for an MRN group or MRN set with the `force=yes` parameter, perform [Changing the Weight and Threshold Values of MRN Entries](#) on page 442. The `wt/wt1/wt2/wt3/wt4`, `grpwt`, `thr`, and `force=yes` parameters cannot be used in this procedure.

If you wish to change the MAP set, MAP point code, and MAP SSN values assigned to an MRN set, using the `mapset`, `mappc/mappca/mappci/mappcn/mappcn24`, and `mapssn` parameters, perform [Changing the MAPSET, MAP Point Code, and MAP SSN Values of MRN Entries](#) on page 460. The `mapset`, `mappc/mappca/mappci/mappcn/mappcn24`, and `mapssn` parameters cannot be used in this procedure.

An MRN group or MRN set contains alternate point codes, up to 32, that are used for load sharing between multiple nodes when the EAGLE 5 ISS is performing intermediate global title translation. This load sharing is performed after intermediate global title translation is performed on the message. The point code in the message is changed to the selected point code in the MRN table. If the translated point code is not found in the MRN table, the translated point code in the message is not changed, the message is routed using route for the translated point code.

These parameters are used with the `chg-mrn` command in this procedure.

`:pc/pca/pci/pcn/pcn24` – The point code in the message after intermediate global title translation has been performed.

`:rc` – The relative cost value of point code in the message

`:pc1/pca1/pci1/pcn1/pcn241` – The first alternate point code value

`:rc1` – The relative cost value of the first alternate point code

`:pc2/pca2/pci2/pcn2/pcn242` – The second alternate point code value

`:rc2` – The relative cost value of the second alternate point code

`:pc3/pca3/pci3/pcn3/pcn243` – The third alternate point code value

`:rc3` – The relative cost value of the third alternate point code

`:pc4/pca4/pci4/pcn4/pcn244` – The fourth alternate point code value

:rc4 – The relative cost value of the fourth alternate point code

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:mrnset – The MRN set ID that the MRN is assigned to, shown in the `rtrv-mrn` output. MRN set IDs are shown only if the Flexible GTT Load Sharing feature is enabled. The `mrnset` parameter value cannot be changed in this procedure. For more information on the Flexible GTT Load Sharing feature, refer to [Flexible GTT Load Sharing](#) on page 32.

The relative cost parameter values (`rc/rc1/rc2/rc3/rc4`) determine how the global title translation load is to be shared among the alternate point codes. There are three types of load sharing that can be performed: dominant, load shared, or combined dominant/load shared.

All the point codes in a dominant MRN group or MRN set have different relative cost values. The translated point code in the message is the preferred point code that the message is routed on. The relative cost value assigned to the preferred point code does not have to be the lowest value in the MRN group or MRN set. All traffic is routed to the preferred point code, if it is available. If the preferred point code becomes unavailable, the traffic is routed to highest priority alternate point code that is available. When the preferred point code becomes available again, the traffic is then routed back to the preferred point code. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10
006-001-001	20
006-001-002	30
006-001-003	40
006-001-004	50
006-001-005	60
006-001-006	70
006-001-007	80

If the preferred point code is 006-001-001 and it becomes unavailable, the traffic will be routed to point code 006-001-002.

All the point codes in a load shared MRN group have the same relative cost value. Traffic is shared equally between the point codes in this MRN group.

A combined dominant/load shared MRN group or MRN set is a combination of the dominant and load sharing MRN groups or MRN sets. A combined dominant/load shared MRN group or MRN set must contain a minimum of two entries with the same relative cost value and a minimum of one entry with a different relative cost value. Traffic is routed to the point code or point codes with the lowest relative cost value. If more than one point code has the lowest relative cost value, the traffic is shared between these point codes. If the point code or point codes with the lowest relative cost value become unavailable, traffic is routed to the the point code or point codes with the next higher relative cost value. If more than one point code has this relative cost value, the traffic is shared between these point codes. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10
006-001-001	10
006-001-002	10
006-001-003	20
006-001-004	20
006-001-005	20

006-001-006	20
006-001-007	20

If the preferred point code is 006-001-001, the traffic is shared equally between point codes 005-005-005, 006-001-001, and 006-001-002. If point codes 005-005-005, 006-001-001, and 006-001-002 become unavailable, the traffic will be shared equally between point codes, 006-001-003, 006-001-004, 006-001-005, 006-001-006, and 006-001-007.

Canceling the RTRV-MRN Command

Because the `rtrv-mrn` command used in this procedure can output information for a long period of time, the `rtrv-mrn` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-mrn` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-mrn` command was entered, from another terminal other than the terminal where the `rtrv-mrn` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated relay node groups in the database using the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0
```

PC	RC
005-005-005	10
006-001-001	20
006-001-002	30
006-001-003	40
006-001-004	50
006-001-005	60
006-001-006	70
006-001-007	80

PC	RC
007-007-007	10
008-001-001	20
008-001-002	30
008-001-003	40
008-001-004	50
008-001-005	60
008-001-006	70

```
MRN table is (15 of 5990) 1% full
```

If the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

MRNSET	PC	RC
DFLT	005-005-005	10
	006-001-001	20

	006-001-002	30
	006-001-003	40
	006-001-004	50
	006-001-005	60
	006-001-006	70
	006-001-007	80
MRNSET	PC	RC
1	007-007-007	10
	008-001-001	20
	008-001-002	30
	008-001-003	40
	008-001-004	50
	008-001-005	60
	008-001-006	70

MRN table is (15 of 5990) 1% full

If the Weighted GTT Load Sharing feature is enabled and turned on, and the Flexible GTT Load Sharing feature is not enabled, this is an example of the possible output.

rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0					
PC	RC	WT	%WT	THR	
005-005-005	10	10	50	30	
006-001-001	10	10	50	30	
006-001-002	30	20	100	30	
006-001-003	40	20	100	30	
006-001-004	50	20	100	30	
PC	RC	WT	%WT	THR	
007-007-007	10	10	17	1	
008-001-001	10	20	33	1	
008-001-002	10	30	50	1	
008-001-003	20	20	25	1	
008-001-004	20	20	25	1	
008-001-005	20	20	25	1	
008-001-006	20	20	25	1	

MRN table is (16 of 5990) 1% full

If the Weighted GTT Load Sharing feature is enabled and turned on, and the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0					
MRNSET	PC	RC	WT	%WT	THR
DFLT	005-005-005	10	10	50	30
	006-001-001	10	10	50	30
	006-001-002	30	20	100	30
	006-001-003	40	20	100	30
	006-001-004	50	20	100	30
MRNSET	PC	RC	WT	%WT	THR
1	007-007-007	10	10	17	1
	008-001-001	10	20	33	1
	008-001-002	10	30	50	1
	008-001-003	20	20	25	1
	008-001-004	20	20	25	1
	008-001-005	20	20	25	1
	008-001-006	20	20	25	1

MRN table is (16 of 5990) 1% full

2. Change the RC values in the MRN group or MRN set by entering the `chg-mrn` command with the point code parameters and their corresponding RC parameters `rc`, `rc1`, `rc2`, `rc3`, and `rc4` parameters.

If only one RC value is being changed, specify the point code value with the `pc/pca/pci/pcn/pcn24` parameter and specify the new RC value with the `rc` parameter. For example, enter this command to change the RC value of the point code 005-005-005 from 10 to 45.

```
chg-mrn:pca=005-005-005:rc=45
```

More than one RC value in the MRN group or MRN set can be changed with the `chg-mrn` command. To change more than one RC value, specify the first point code value with the `pc/pca/pci/pcn/pcn24` parameter and the other point code values with the appropriate alternate point code parameters. The new RC values are specified with the `rc` parameters that correspond to the point code parameters. For example, enter this command to change some of the RC values in the MRN group containing these point codes: 005-005-005, 006-001-001, 006-001-003, 006-001-004, and 006-001-007.

```
chg-mrn:pca=007-007-007:rc=5:pca=008-001-003:rc=10:pca=008-001-004:rc=15  
:pca=008-001-001:rc=35:pca=008-001-006:rc=45
```

If the MRNSET column is shown in the `rtrv-mrn` output in step 1, the `mrnset=<MRN Set ID>` parameter, specifying the MRN set containing the point code specified in this step, must be specified with the `chg-mrn` command. To change the RC values in an MRN set, for this example enter these commands.

```
chg-mrn:pca=005-005-005:rc=45:mrnset=df1t
```

```
chg-mrn:pca=007-007-007:rc=5:pca=008-001-003:rc=10:pca=008-001-004:rc=15  
:pca=008-001-001:rc=35:pca=008-001-006:rc=45:mrnset=1
```

Note: If the RC values are changed so that the resulting MRN group or MRN set becomes a dominant MRN group or MRN set (the RC values are unique), and the MRN group or MRN set had weight and in-service thresholds assigned, the weight and in-service threshold values will be removed from the MRN group or MRN set.

When the `chg-mrn` command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 11:44:13 GMT EAGLE5 37.0.0  
CHG-MRN: MASP A - COMPLTD
```

Repeat this step to change other entries in the MRN group or MRN set.

3. Verify the changes using the `rtrv-mrn` command with the point code (`pca/pci/pcn/pcn24` parameters) specified in step 2. If the `mrnset` parameter was specified in step 2, the `mrnset` parameter and value specified in step 2 must be specified with the `rtrv-mrn` command in this step.

For this example, enter these commands.

```
rtrv-mrn:pca=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0  
  
PC          RC  
006-001-001 20
```

```
006-001-002    30
006-001-003    40
005-005-005    45
006-001-004    50
006-001-005    60
006-001-006    70
006-001-007    80
```

```
MRN table is (15 of 2990) 1% full
```

```
rtrv-mrn:pca=007-007-007
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0
```

PC	RC
007-007-007	5
008-001-003	10
008-001-004	15
008-001-002	30
008-001-001	35
008-001-006	45
008-001-005	60

```
MRN table is (15 of 5990) 1% full
```

If the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

```
rtrv-mrn:pca=005-005-005:mrnset=dflt
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0
```

MRNSET	PC	RC
DFLT	006-001-001	20
	006-001-002	30
	006-001-003	40
	005-005-005	45
	006-001-004	50
	006-001-005	60
	006-001-006	70
	006-001-007	80

```
MRN table is (15 of 5990) 1% full
```

```
rtrv-mrn:pca=007-007-007:mrnset=1
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0
```

MRNSET	PC	RC
1	007-007-007	5
	008-001-003	10
	008-001-004	15
	008-001-002	30
	008-001-001	35
	008-001-006	45
	008-001-005	60

```
MRN table is (15 of 5990) 1% full
```

If the Weighted GTT Load Sharing feature is enabled and turned on, and the Flexible GTT Load Sharing feature is not enabled for this example, enter these commands.

This is an example of the possible output.

```
rtrv-mrn:pca=005-005-005
```

```
rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0
```

PC	RC	WT	%WT	THR
006-001-001	10	--	--	--
006-001-002	30	--	--	--
006-001-003	40	--	--	--
005-005-005	45	--	--	--
006-001-004	50	--	--	--

```
rtrv-mrn:pca=007-007-007
```

PC	RC	WT	%WT	THR
007-007-007	5	10	100	1
008-001-002	10	30	60	1
008-001-003	10	20	40	1
008-001-004	15	20	100	1
008-001-005	20	20	100	1
008-001-001	35	20	100	1
008-001-006	45	20	100	1

If the Weighted GTT Load Sharing feature is enabled and turned on, and the Flexible GTT Load Sharing feature is enabled for this example, enter these commands.

This is an example of the possible output.

```
rtrv-mrn:pca=005-005-005:mrnset=dflt
```

```
rlghncxa03w 07-05-07 00:34:31 GMT EAGLE5 37.0.0
```

MRNSET	PC	RC	WT	%WT	THR
DFLT	006-001-001	10	--	--	--
	006-001-002	30	--	--	--
	006-001-003	40	--	--	--
	005-005-005	45	--	--	--
	006-001-004	50	--	--	--

```
rtrv-mrn:pca=007-007-007:mrnset=1
```

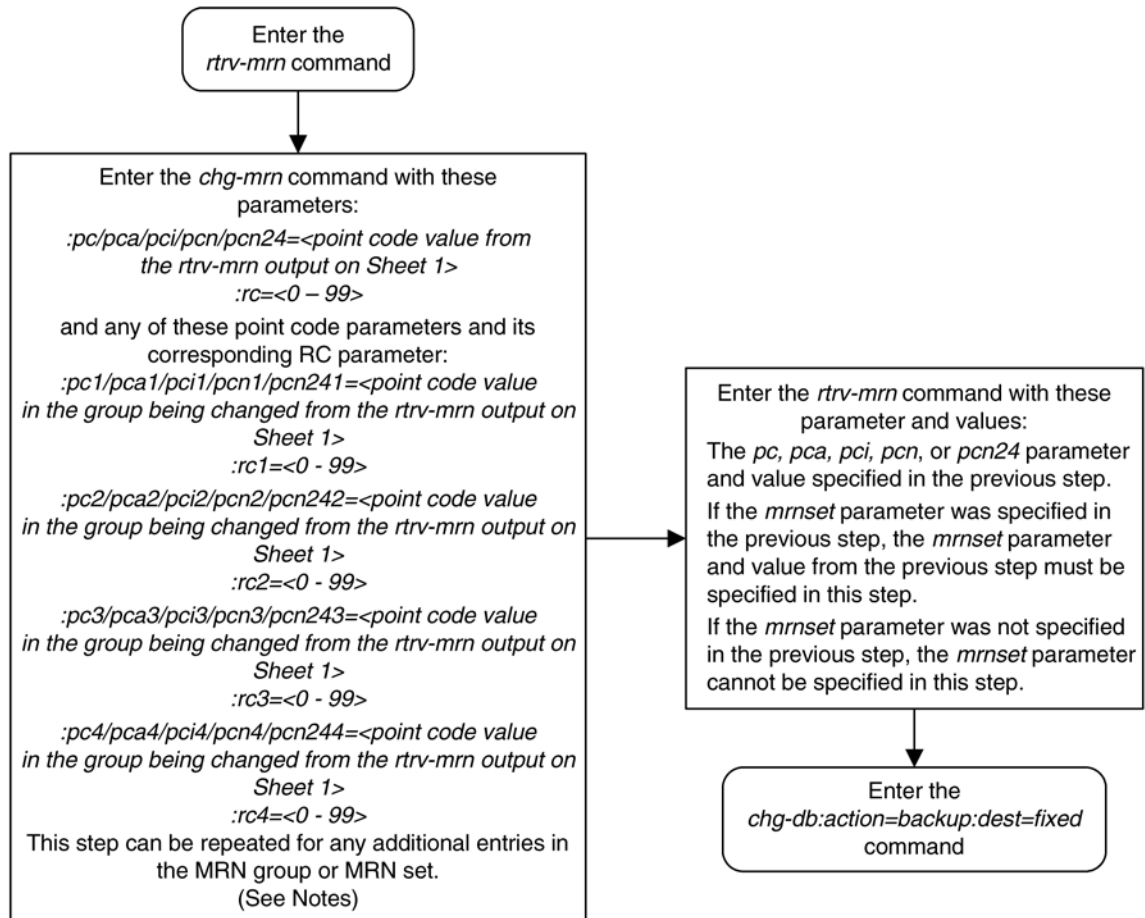
MRNSET	PC	RC	WT	%WT	THR
1	007-007-007	5	10	100	1
	008-001-002	10	30	60	1
	008-001-003	10	20	40	1
	008-001-004	15	20	100	1
	008-001-005	20	20	100	1
	008-001-001	35	20	100	1
	008-001-006	45	20	100	1

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
```

BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

Figure 33: Changing Relative Cost Values of MRN Entries



Notes:

1. If the *MRNSET* field is shown in the *rtrv-mrn* output on Sheet 1, the *mrnset*=<current MRN set ID> parameter, specifying the MRN set containing the point code specified in this step, must be specified with the *chg-mrn* or *rtrv-mrn* command.
2. If the *MRNSET* field is not shown in the *rtrv-mrn* output on Sheet 1, the *mrnset* parameter cannot be specified with the *chg-mrn* or *rtrv-mrn* command.
3. A dominant MRN group or MRN set contains entries whose RC values are unique.
4. A load shared MRN group or MRN set contains entries whose RC values are equal.
5. A combined dominant/load shared MRN group or MRN set contains a minimum of two entries shows RC values are equal, and a minimum of one entry whose RC value is different.
6. If weights and in-service thresholds are assigned to the MRN group or MRN set being changed, and the MRN group or MRN set is being changed to a dominant MRN group or MRN set, the weight and in-service threshold values will be removed from the MRN group or MRN set.

Changing MRN Entries with the ESWT Parameter

This procedure is used to change the weight values of all the entries in an existing Mated Relay Node (MRN) group or MRN set using the `eswt` parameter of the `chg-mrn` command.

The `chg-mrn` command can also be used to add point code entries to an existing MRN group or MRN set. This action is not covered in this procedure. If you wish to add point code entries to an existing MRN group or MRN set, perform [Provisioning MRN Entries](#) on page 367.

If the MRN entries being changed do not have weight and threshold values assigned to them, perform [Changing the Relative Cost Values of MRN Entries](#) on page 422.

If you wish to change individual weight values for MRN entries with the `wt/wt1/wt2/wt3/wt4` parameters, the weight values for an RC group with the `grpwt` parameter, the threshold values for an MRN group or MRN set with the `thr` parameter, or the relative cost and weight values for an MRN group or MRN set with the `force=yes` parameter, perform [Changing the Weight and Threshold Values of MRN Entries](#) on page 442. The `wt/wt1/wt2/wt3/wt4`, `grpwt`, `thr`, and `force=yes` parameters cannot be used in this procedure.

If you wish to change the MAP set, MAP point code, and MAP SSN values assigned to an MRN set, using the `mapset`, `mappc/mappca/mappci/mappcn/mappcn24`, and `mapssn` parameters, perform [Changing the MAPSET, MAP Point Code, and MAP SSN Values of MRN Entries](#) on page 460. The `mapset`, `mappc/mappca/mappci/mappcn/mappcn24`, and `mapssn` parameters cannot be used in this procedure.

An MRN group or MRN set contains alternate point codes, up to 32, that are used for load sharing between multiple nodes when the EAGLE 5 ISS is performing intermediate global title translation. This load sharing is performed after intermediate global title translation is performed on the message. The point code in the message is changed to the selected point code in the MRN table. If the translated point code is not found in the MRN table, the translated point code in the message is not changed, the message is routed using route for the translated point code.

These parameters are used with the `chg-mrn` command in this procedure.

`:pc/pca/pci/pcn/pcn24` – The point code in the message after intermediate global title translation has been performed.

`:rc` – The relative cost value of point code in the message

`:pc1/pca1/pci1/pcn1/pcn241` – The first alternate point code value

`:rc1` – The relative cost value of the first alternate point code

`:pc2/pca2/pci2/pcn2/pcn242` – The second alternate point code value

`:rc2` – The relative cost value of the second alternate point code

`:pc3/pca3/pci3/pcn3/pcn243` – The third alternate point code value

`:rc3` – The relative cost value of the third alternate point code

`:pc4/pca4/pci4/pcn4/pcn244` – The fourth alternate point code value

`:rc4` – The relative cost value of the fourth alternate point code

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:mrnset – The MRN set ID that the MRN is assigned to, shown in the `rtrv-mrn` output. MRN set IDs are shown only if the Flexible GTT Load Sharing feature is enabled. The `mrnset` parameter value cannot be changed in this procedure. For more information on the Flexible GTT Load Sharing feature, refer to [Flexible GTT Load Sharing](#) on page 32.

:eswt – The entity set weight value. When this parameter is specified, the same weight value is assigned to all entries in the MRN group or MRN set that contain the point code value specified in the `chg-mrn` command. A MRN group or MRN set can also be referred to as an entity set. The value of this parameter is from 1 - 99.

:thr – The in-service threshold assigned to the MRN group or MRN set. The in-service threshold is the minimum percentage (from 1 - 100) of weight that must be available for an RC group (a group of entries in the MRN group or MRN set that have the same RC value assigned) to be considered available to carry traffic. If the percentage of the available weight is less than the in-service threshold, then the entire RC group is considered unavailable for traffic. If the percentage of the available weight is equal to or greater than the in-service threshold, then the RC group is considered available, and traffic can be sent to any available entity in the RC group. When the `thr` parameter is specified with the `eswt` parameter in this procedure, the in-service threshold value is assigned to all the entries of the MRN group or MRN set.

The relative cost parameter values (`rc/rc1/rc2/rc3/rc4`) determine how the global title translation load is to be shared among the alternate point codes. There are three types of load sharing that can be performed: dominant, load shared, or combined dominant/load shared.

All the point codes in a dominant MRN group or MRN set have different relative cost values. The translated point code in the message is the preferred point code that the message is routed on. The relative cost value assigned to the preferred point code does not have to be the lowest value in the MRN group or MRN set. All traffic is routed to the preferred point code, if it is available. If the preferred point code becomes unavailable, the traffic is routed to highest priority alternate point code that is available. When the preferred point code becomes available again, the traffic is then routed back to the preferred point code. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10
006-001-001	20
006-001-002	30
006-001-003	40
006-001-004	50
006-001-005	60
006-001-006	70
006-001-007	80

If the preferred point code is 006-001-001 and it becomes unavailable, the traffic will be routed to point code 006-001-002.

All the point codes in a load shared MRN group have the same relative cost value. Traffic is shared equally between the point codes in this MRN group.

A combined dominant/load shared MRN group or MRN set is a combination of the dominant and load sharing MRN groups or MRN sets. A combined dominant/load shared MRN group or MRN set must contain a minimum of two entries with the same relative cost value and a minimum of one entry with a different relative cost value. Traffic is routed to the point code or point codes

with the lowest relative cost value. If more than one point code has the lowest relative cost value, the traffic is shared between these point codes. If the point code or point codes with the lowest relative cost value become unavailable, traffic is routed to the the point code or point codes with the next higher relative cost value. If more than one point code has this relative cost value, the traffic is shared between these point codes. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10
006-001-001	10
006-001-002	10
006-001-003	20
006-001-004	20
006-001-005	20
006-001-006	20
006-001-007	20

If the preferred point code is 006-001-001, the traffic is shared equally between point codes 005-005-005, 006-001-001, and 006-001-002. If point codes 005-005-005, 006-001-001, and 006-001-002 become unavailable, the traffic will be shared equally between point codes, 006-001-003, 006-001-004, 006-001-005, 006-001-006, and 006-001-007.

The `eswt` and `thr` parameters can be used only:

- If the MRN group or MRN set is either a load shared or combined dominant/load shared MRN group or MRN set.
- If the Weighted GTT Load Sharing feature is enabled and turned on.

The status of the Weighted GTT Load Sharing feature can be verified by entering the `rtrv-ctrl-feat` command. If the Weighted GTT Load Sharing feature is not enabled or not turned on, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature.

The `eswt` parameter assigns same weight value to all the entries in the MRN group or MRN set that contains the point code value specified in the `chg-mrn` command.

The `eswt` and `thr` parameters can be specified with the `chg-mrn` command only with the `pc/pca/pci/pcn/pcn24` parameter and without the alternate point code, relative cost (`rc`, `rc1`, `rc2`, `rc3`, `rc4`), group weight (`grpwt`), and individual weight (`wt`, `wt1`, `wt2`, `wt3`, `wt4`) parameters.

The weight values assigned to the entires in the MRN group or MRN set are shown in the `WT` column in the `rtrv-mrn` output.

The in-service threshold values assigned to the entires in the MRN group or MRN set are shown in the `THR` column in the `rtrv-mrn` output.

The `%WT` column in the `rtrv-mrn` output shows the percentage of the traffic the particular entry in the entity set will handle.

The `WT`, `%WT`, and `THR` columns are shown in the `rtrv-mrn` output only if the Weighted GTT Load Sharing feature is enabled and turned on.

For more information on the Weighted GTT Load Sharing feature, refer to [Weighted GTT Load Sharing](#) on page 45.

Canceling the RTRV-MRN Command

Because the `rtrv-mrn` command used in this procedure can output information for a long period of time, the `rtrv-mrn` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-mrn` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-mrn` command was entered, from another terminal other than the terminal where the `rtrv-mrn` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated relay node groups in the database using the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC
005-005-005	10
006-001-001	20
006-001-002	30
006-001-003	40
006-001-004	50
006-001-005	60
006-001-006	70
006-001-007	80

PC	RC
007-007-007	10
008-001-001	20
008-001-002	30
008-001-003	40
008-001-004	50
008-001-005	60
008-001-006	70

```
MRN table is (15 of 5990) 1% full
```

If the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

MRNSET	PC	RC
DFLT	007-007-007	10
	008-001-001	20
	008-001-002	30
	008-001-003	40
	008-001-004	50
	008-001-005	60
	008-001-006	70
MRNSET 1	PC	RC
	005-005-005	10
	006-001-001	20
	006-001-002	30
	006-001-003	40

```

006-001-004    50
006-001-005    60
006-001-006    70
006-001-007    80

```

MRN table is (15 of 5990) 1% full

If the Weighted GTT Load Sharing feature is enabled and turned on, and the Flexible GTT Load Sharing feature is not enabled, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

```

PC          RC WT %WT THR
008-005-005 10 10  50  30
008-001-001 10 10  50  30
008-001-002 30 20 100  30
008-001-003 40 20 100  30
008-001-004 50 20 100  30

```

```

PC          RC WT %WT THR
009-005-005 10 10   4   1
009-001-001 10 10   4   1
009-001-002 10 30  12   1
009-001-003 10 40  15   1
009-001-005 10 40  15   1
009-001-006 10 40  15   1
009-001-007 10 40  15   1
009-001-004 10 50  19   1
009-001-008 20 20  25   1
009-001-009 20 30  37   1
009-001-010 20 30  37   1

```

MRN table is (16 of 5990) 1% full

If the Weighted GTT Load Sharing feature is enabled and turned on, and the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

```

MRNSET      PC          RC WT %WT THR
DFLT        005-005-005 10 10  50  30
            006-001-001 10 10  50  30
            006-001-002 30 20 100  30
            006-001-003 40 20 100  30
            006-001-004 50 20 100  30

```

```

MRNSET      PC          RC WT %WT THR
1           005-005-005 10 10   4   1
            006-001-001 10 10   4   1
            006-001-002 10 30  12   1
            006-001-003 10 40  15   1
            006-001-005 10 40  15   1
            006-001-006 10 40  15   1
            006-001-007 10 40  15   1
            006-001-004 10 50  19   1
            006-001-008 20 20  25   1
            006-001-009 20 30  37   1
            006-001-010 20 30  37   1

```

MRN table is (16 of 5990) 1% full

2. If you wish to assign weight and in-service threshold values to the MRN entries in the MRN group or MRN set, and the WT, %WT, and THR columns are shown in the `rtrv-mrn` output in step 1, then the Weighted GTT Load Sharing feature is enabled and turned on. Go to step 3.

Note: If weight and threshold values are assigned to the MRN group or MRN set, skip this step and go to step 3.

Note: If weight and threshold values are assigned to the MRN group or MRN set, and the weight and threshold values are being removed from the MRN group or MRN set, skip steps 2 and 3 and go to step 4.

If the WT, %WT, and THR columns are not shown in the `rtrv-mrn` output in step 1, perform [Activating the Weighted GTT Load Sharing Feature](#) on page 910 to enable and turn on the Weighted GTT Load Sharing feature. After the Weighted GTT Load Sharing feature is enabled and turned on, go to step 3.

3. To assign weight and in-service threshold values to a dominant MRN group or MRN set, the dominant MRN group or MRN set must be changed to either a load shared or combined dominant/load shared MRN group or MRN set.

Note: If existing MRN group or MRN set that the weight and in-service threshold values are being assigned to is a load shared or combined dominant/load shared MRN group or MRN set, skip step 3 and go to step 4.

If you wish to change the dominant MRN group or MRN set to a load shared or combined dominant/load shared MRN group or MRN set by adding additional entries to the MRN group or MRN set, perform [Provisioning MRN Entries](#) on page 367 .

To change the dominant MRN group or MRN set to a load shared or combined dominant/load shared MRN group or MRN set without adding any additional entries to the MRN group or MRN set, enter the `chg-mrn` command specifying the point codes in the MRN group or MRN set with the point codes corresponding RC parameters with the new RC values.

To create a load shared MRN group or MRN set, the new RC values for all the entries in the MRN group or MRN set must be equal.

To create a combined dominant/load shared MRN group or MRN set, a minimum of two the new RC values must be equal and a minimum of one other RC value must be different.

If the MRNSET column is not shown in the `rtrv-mrn` output in step 1, the `mrnset` parameter cannot be specified with the `chg-mrn` command.

For this example, enter this command.

```
chg-mrn:pca=007-007-007:rc=10:pca1=008-001-001:rc1=10
:pca2=008-001-002:rc2=10:pca3=008-001-003:rc3=10
:pca4=008-001-004:rc4=10
```

If the MRNSET column is shown in the `rtrv-mrn` output in step 1, the `mrnset=<MRN Set ID>` parameter, specifying the MRN set containing the point code specified in this step, must be specified with the `chg-mrn` command. To change the RC values in an MRN set, for this example enter this command.

```
chg-mrn:pca=007-007-007:rc=10:pca1=008-001-001:rc1=10
:pca2=008-001-002:rc2=10:pca3=008-001-003:rc3=10
:pca4=008-001-004:rc4=10:mrnset=df1t
```

This step must be repeated until the RC values for all the entries in the MRN group or MRN set have been changed.

After this step is performed, skip steps 4, 5, and 6, and go to step 7.

4. Change the weight and in-service threshold values of the load shared or combined dominant/load shared MRN group or MRN set.

Enter the `chg-mrn` command with the `eswt` and `thr` parameters to make these changes:

- Assign weight and threshold values to a non-weighted MRN group or MRN set.
- Change the existing weight values of a weighted MRN group or MRN set to the same weight value. The threshold can also be changed.

The `eswt` parameter assigns the same weight value to all the entries in the MRN group or MRN set. The `thr` parameter assigns the same threshold value to all the entries in the MRN group or MRN set.

If you wish to remove all the weight and threshold values from the MRN group or MRN set, enter the `chg-mrn` command with the `eswt=none` parameter. The `thr` parameter cannot be specified with the `eswt=none` parameter.

For this example, enter one of these commands.

To assign only weight values to all entries in the MRN group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=007-007-007:eswt=30
```

To change the weight and in-service threshold values of all the entries in the MRN group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=007-007-007:eswt=20:thr=30
```

To change only weight values of all the entries in the MRN set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=007-007-007:eswt=30:mrnset=df1t
```

To change the weight and in-service threshold values of all the entries in the MRN set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=007-007-007:eswt=20:thr=30:mrnset=df1t
```

To remove the weight and in-service threshold values from all the entries in the MRN set without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=007-007-007:eswt=none
```

To remove the weight and in-service threshold values from all the entries in the MRN set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=007-007-007:eswt=none:mrnset=df1t
```

If the MRN group or MRN set did not have weight and in-service threshold values assigned before this step was performed, and the `thr` parameter is not specified in this step, the in-service threshold value 1 (1%) is assigned to the entries.

When the `chg-mrn` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MRN: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-mrn` command with the point code (`pca/pci/pcn/pcn24` parameters) specified in step 4. If the `mrnset` parameter was specified in step 4, the `mrnset`

parameter and value specified in step 4 must be specified with the `rtrv-mrn` command in this step.

For this example, enter these commands.

```
rtrv-mrn:pca=007-007-007
```

If only the weight values were changed in step 4, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
007-007-007	10	30	14	1
008-001-001	10	30	14	1
008-001-002	10	30	14	1
008-001-003	10	30	14	1
008-001-004	10	30	14	1
008-001-005	10	30	14	1
008-001-006	10	30	14	1

```
MRN table is (15 of 5990) 1% full
```

If the weight and in-service threshold values were changed in step 4, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
007-007-007	10	20	14	30
008-001-001	10	20	14	30
008-001-002	10	20	14	30
008-001-003	10	20	14	30
008-001-004	10	20	14	30
008-001-005	10	20	14	30
008-001-006	10	20	14	30

```
MRN table is (15 of 5990) 1% full
```

```
rtrv-mrn:pca=007-007-007:mrnset=dflt
```

If an MRN set was changed in step 4, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
DFLT	007-007-007	10	30	14	1
	008-001-001	10	30	14	1
	008-001-002	10	30	14	1
	008-001-003	10	30	14	1
	008-001-004	10	30	14	1
	008-001-005	10	30	14	1
	008-001-006	10	30	14	1

```
MRN table is (15 of 5990) 1% full
```

If the weight and in-service threshold values were changed in an MRN set in step 4, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
DFLT	007-007-007	10	20	14	30
	008-001-001	10	20	14	30

```

008-001-002    10 20 14 30
008-001-003    10 20 14 30
008-001-004    10 20 14 30
008-001-005    10 20 14 30
008-001-006    10 20 14 30

```

MRN table is (15 of 5990) 1% full

If the weight and in-service threshold values were removed in step 4, and the Flexible GTT Load Sharing feature is not enabled, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
007-007-007	10	--	--	--
008-001-001	10	--	--	--
008-001-002	10	--	--	--
008-001-003	10	--	--	--
008-001-004	10	--	--	--
008-001-005	10	--	--	--
008-001-006	10	--	--	--

MRN table is (15 of 5990) 1% full

```
rtrv-mrn:pca=007-007-007:mrnset=dflt
```

If the weight and in-service threshold values were removed from an MRN set was changed in step 4, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
DFLT	007-007-007	10	--	--	--
	008-001-001	10	--	--	--
	008-001-002	10	--	--	--
	008-001-003	10	--	--	--
	008-001-004	10	--	--	--
	008-001-005	10	--	--	--
	008-001-006	10	--	--	--

MRN table is (15 of 5990) 1% full

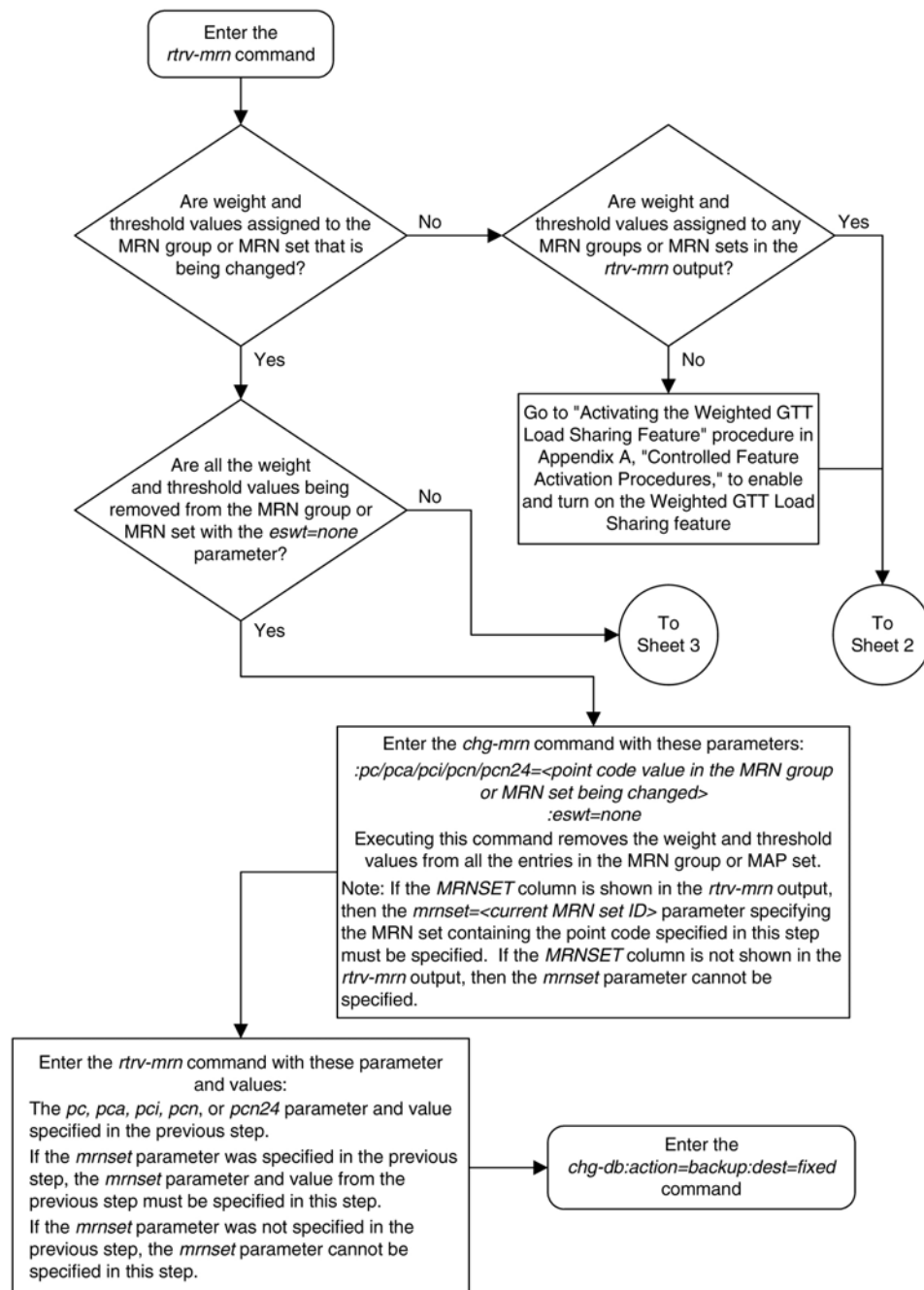
6. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

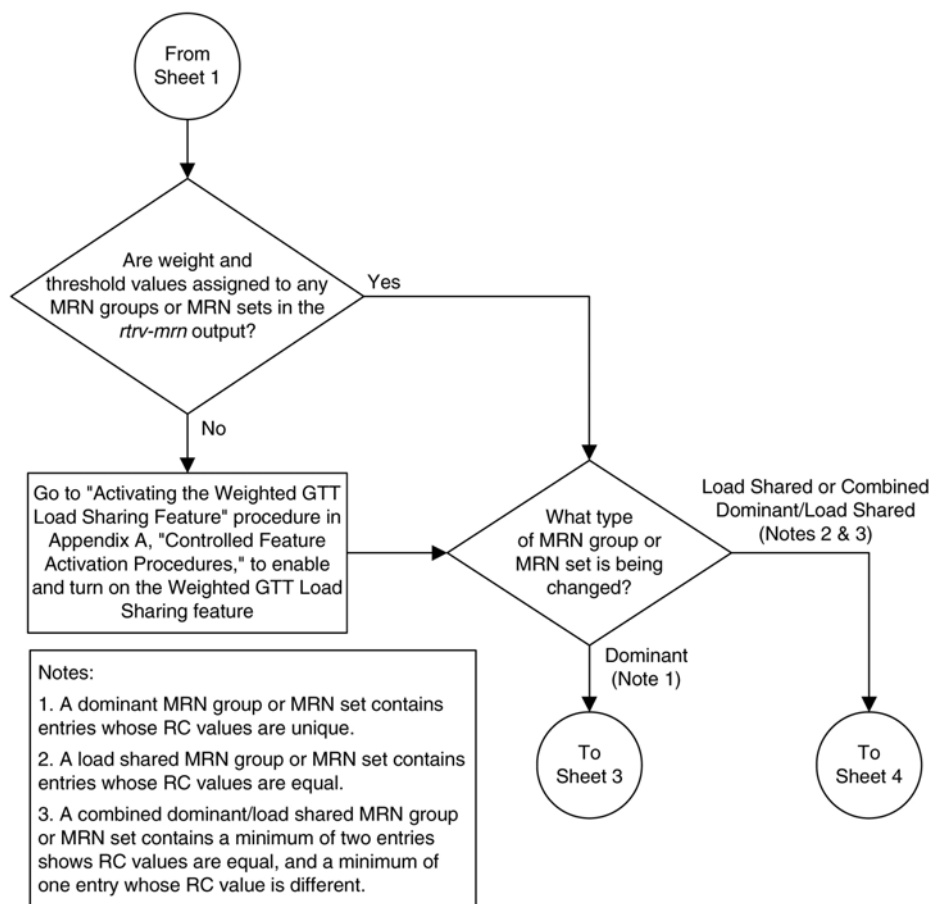
```

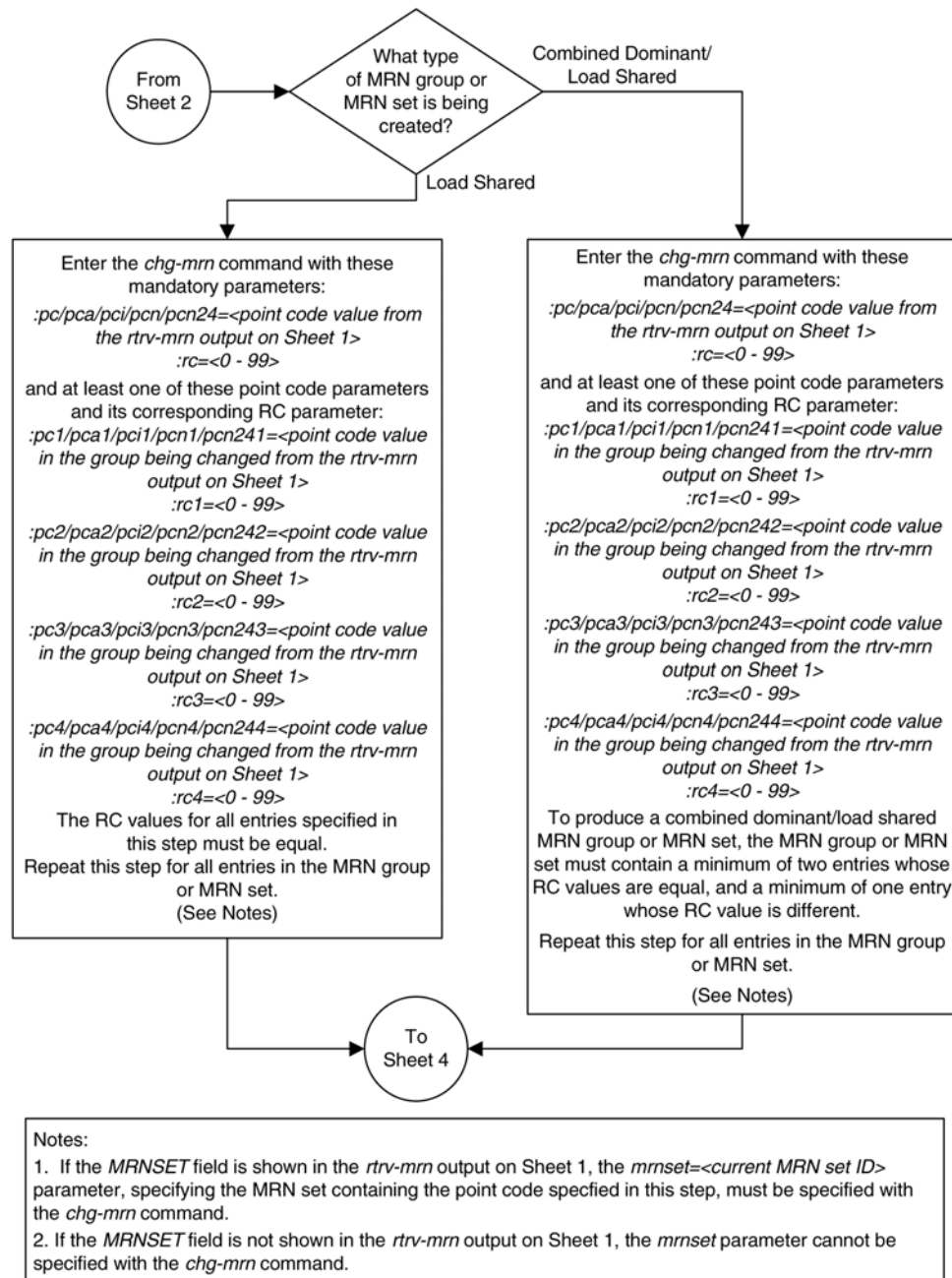
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

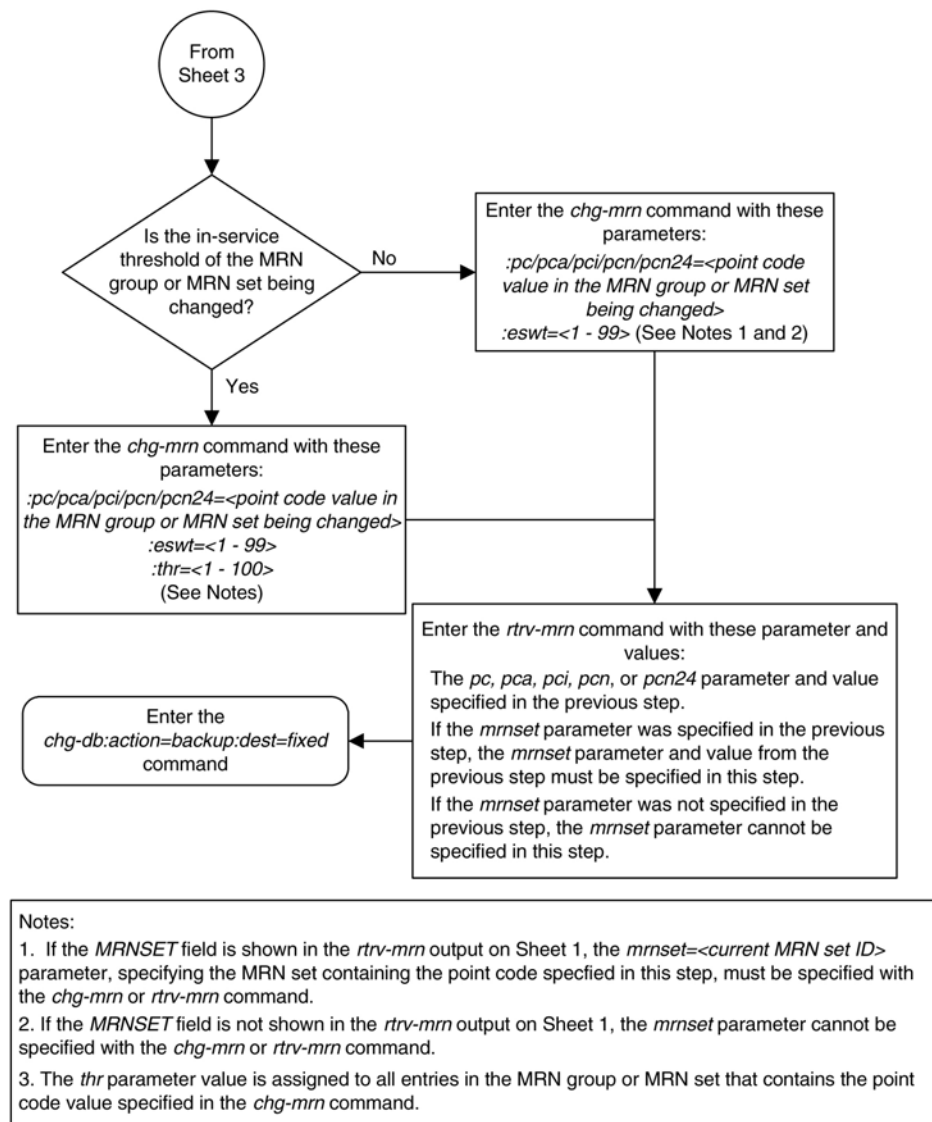
```

Figure 34: Changing MRN Entries with the ESWT Parameter









Changing the Weight and Threshold Values of MRN Entries

This procedure is used to change the weight and threshold values of entries in an existing Mated Relay Node (MRN) group or MRN set to new weight and threshold values. The weight and threshold values are changed using the *chg-mrn* command. This procedure can be performed only on MRN entries that have weight and thresholds assigned.

The following changes can be made in this procedure:

- The individual weight values of the entries in the MRN group or MRN set with the *wt/wt1/wt2/wt3/wt4* parameters.
- The individual weight and relative cost values of the entries in the MRN group or MRN set with the *wt/wt1/wt2/wt3/wt4, rc/rc1/rc2/rc3/rc4, and force=yes* parameters.

- The threshold values of the entities in the MRN group or MRN set that have the same relative cost value with the `thr` parameter. The new threshold value is assigned to the entities in the MRN group or MRN set that have the same relative cost value.
- The weight values of the entities in the MRN group or MRN set that have the same relative cost value with the `grpwt` parameter. The new weight value is assigned to the entities in the MRN group or MRN set that have the same relative cost value.
- The threshold and weight values of the entities in the MRN group or MRN set that have the same relative cost value with the `thr` and `grpwt` parameters. The new threshold and weight value is assigned to the entities in the MRN group or MRN set that have the same relative cost value.

The `chg-mrn` command can also be used to add point code entries to an existing MRN group or MRN set. This action is not covered in this procedure. If you wish to add point code entries to an existing MRN group or MRN set, perform [Provisioning MRN Entries](#) on page 367 .

If the MRN entries being changed do not have weight and threshold values assigned to them, perform [Changing the Relative Cost Values of MRN Entries](#) on page 422.

If you wish to assign the same weight and threshold value to all the MRN entries in the MRN group or MRN set with the `eswt` and `thr` parameters, or to remove the weight and threshold values from all the MRN entries in the MRN group or MRN set with the `eswt=none` parameter, perform [Changing MRN Entries with the ESWT Parameter](#) on page 430. The `eswt` parameter cannot be used in this procedure.

If you wish to change the MAP set, MAP point code, and MAP SSN values assigned to an MRN set, using the `mapset`, `mappc`/`mappca`/`mappci`/`mappcn`/`mappcn24`, and `mapssn` parameters, perform [Changing the MAPSET, MAP Point Code, and MAP SSN Values of MRN Entries](#) on page 460. The `mapset`, `mappc`/`mappca`/`mappci`/`mappcn`/`mappcn24`, and `mapssn` parameters cannot be used in this procedure.

An MRN group or MRN set contains alternate point codes, up to 32, that are used for load sharing between multiple nodes when the EAGLE 5 ISS is performing intermediate global title translation. This load sharing is performed after intermediate global title translation is performed on the message. The point code in the message is changed to the selected point code in the MRN table. If the translated point code is not found in the MRN table, the translated point code in the message is not changed, the message is routed using route for the translated point code.

The `chg-mrn` command uses these parameters.

`:pc/pca/pci/pcn/pcn24` – The point code in the message after intermediate global title translation has been performed.

`:rc` – The relative cost value of point code in the message

`:pc1/pca1/pci1/pcn1/pcn241` – The first alternate point code value

`:rc1` – The relative cost value of the first alternate point code

`:pc2/pca2/pci2/pcn2/pcn242` – The second alternate point code value

`:rc2` – The relative cost value of the second alternate point code

`:pc3/pca3/pci3/pcn3/pcn243` – The third alternate point code value

`:rc3` – The relative cost value of the third alternate point code

`:pc4/pca4/pci4/pcn4/pcn244` – The fourth alternate point code value

:rc4 – The relative cost value of the fourth alternate point code

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:mrnset – The MRN set ID that the MRN is assigned to, shown in the `rtrv-mrn` output. MRN set IDs are shown only if the Flexible GTT Load Sharing feature is enabled. The `mrnset` parameter value cannot be changed in this procedure. For more information on the Flexible GTT Load Sharing feature, refer to [Flexible GTT Load Sharing](#) on page 32.

:grpwt – The group weight value. When this parameter is specified, the same weight value is assigned to all entries that have the same RC (relative cost) value in the MRN group or MRN set that contain the point code specified in the `chg-mrn` command. The value of this parameter is from 1 - 99.

:wt – The weight value assigned to the `pc/pca/pci/pcn/pcn24` parameter value. The value of this parameter is from 1 - 99.

:wt1 – The weight value assigned to the `pc1/pca1/pci1/pcn1/pcn241` parameter value. The value of this parameter is from 1 - 99.

:wt2 – The weight value assigned to the `pc2/pca2/pci2/pcn2/pcn242` parameter value. The value of this parameter is from 1 - 99.

:wt3 – The weight value assigned to the `pc3/pca3/pci3/pcn3/pcn243` parameter value. The value of this parameter is from 1 - 99.

:wt4 – The weight value assigned to the `pc4/pca4/pci4/pcn4/pcn244` parameter value.

:thr – The in-service threshold assigned to the MRN group or MRN set. The in-service threshold is the minimum percentage (from 1 - 100) of weight that must be available for an RC group (a group of entries in the MRN group or MRN set that have the same RC value assigned) to be considered available to carry traffic. If the percentage of the available weight is less than the in-service threshold, then the entire RC group is considered unavailable for traffic. If the percentage of the available weight is equal to or greater than the in-service threshold, then the RC group is considered available, and traffic can be sent to any available entity in the RC group. The value of the `thr` parameter is assigned to all entries that have the same RC (relative cost) value in the MRN group or MRN set that contain the point code specified in the `chg-mrn` command.

:force=yes – This parameter must be specified if the `rc/rc1/rc2/rc3/rc4` parameter is specified with the `wt/wt1/wt2/wt3/wt4` parameter.

The relative cost parameter values (`rc/rc1/rc2/rc3/rc4`) determine how the global title translation load is to be shared among the alternate point codes. There are three types of load sharing that can be performed: dominant, load shared, or combined dominant/load shared.

All the point codes in a dominant MRN group or MRN set have different relative cost values. The translated point code in the message is the preferred point code that the message is routed on. The relative cost value assigned to the preferred point code does not have to be the lowest value in the MRN group or MRN set. All traffic is routed to the preferred point code, if it is available. If the preferred point code becomes unavailable, the traffic is routed to highest priority alternate point code that is available. When the preferred point code becomes available again, the traffic is then routed back to the preferred point code. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10

006-001-001	20
006-001-002	30
006-001-003	40
006-001-004	50
006-001-005	60
006-001-006	70
006-001-007	80

If the preferred point code is 006-001-001 and it becomes unavailable, the traffic will be routed to point code 006-001-002.

All the point codes in a load shared MRN group have the same relative cost value. Traffic is shared equally between the point codes in this MRN group.

A combined dominant/load shared MRN group or MRN set is a combination of the dominant and load sharing MRN groups or MRN sets. A combined dominant/load shared MRN group or MRN set must contain a minimum of two entries with the same relative cost value and a minimum of one entry with a different relative cost value. Traffic is routed to the point code or point codes with the lowest relative cost value. If more than one point code has the lowest relative cost value, the traffic is shared between these point codes. If the point code or point codes with the lowest relative cost value become unavailable, traffic is routed to the the point code or point codes with the next higher relative cost value. If more than one point code has this relative cost value, the traffic is shared between these point codes. For example, the MRN table contains the following entries.

PC	RC
005-005-005	10
006-001-001	10
006-001-002	10
006-001-003	20
006-001-004	20
006-001-005	20
006-001-006	20
006-001-007	20

If the preferred point code is 006-001-001, the traffic is shared equally between point codes 005-005-005, 006-001-001, and 006-001-002. If point codes 005-005-005, 006-001-001, and 006-001-002 become unavailable, the traffic will be shared equally between point codes, 006-001-003, 006-001-004, 006-001-005, 006-001-006, and 006-001-007.

Specifying the `grpwt` or `thr` parameter with the `chg-mrn` command can be done when specifying only the `pc/pca/pci/pcn/pcn24` parameter and without the alternate point code, relative cost (`rc, rc1, rc2, rc3, rc4`), and individual weight (`wt, wt1, wt2, wt3, wt4`) parameters.

The weight values assigned to the entires in the MRN group or MRN set are shown in the `WT` column in the `rtrv-mrn` output.

The in-service threshold values assigned to the entires in the MRN group or MRN set are shown in the `THR` column in the `rtrv-mrn` output.

The `%WT` column in the `rtrv-mrn` output shows the percentage of the traffic the particular entry in the entity set will handle.

The `WT`, `%WT`, and `THR` columns are shown in the `rtrv-mrn` output only if the Weighted GTT Load Sharing feature is enabled and turned on.

For more information on the Weighted GTT Load Sharing feature, refer to [Weighted GTT Load Sharing](#) on page 45.

Canceling the `RTRV-MRN` Command

Because the `rtrv-mrn` command used in this procedure can output information for a long period of time, the `rtrv-mrn` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-mrn` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-mrn` command was entered, from another terminal other than the terminal where the `rtrv-mrn` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated relay node groups in the database using the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
008-005-005	10	10	50	30
008-001-001	10	10	50	30
008-001-002	30	20	100	30
008-001-003	40	20	100	30
008-001-004	50	20	100	30

PC	RC	WT	%WT	THR
009-005-005	10	10	4	1
009-001-001	10	10	4	1
009-001-002	10	30	12	1
009-001-003	10	40	15	1
009-001-005	10	40	15	1
009-001-006	10	40	15	1
009-001-007	10	40	15	1
009-001-004	10	50	19	1
009-001-008	20	20	25	1
009-001-009	20	30	37	1
009-001-010	20	30	37	1

```
MRN table is (16 of 5990) 1% full
```

If the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
DFLT	005-005-005	10	10	50	30
	006-001-001	10	10	50	30
	006-001-002	30	20	100	30
	006-001-003	40	20	100	30
	006-001-004	50	20	100	30

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	10	4	1
	006-001-001	10	10	4	1
	006-001-002	10	30	12	1

006-001-003	10	40	15	1
006-001-005	10	40	15	1
006-001-006	10	40	15	1
006-001-007	10	40	15	1
006-001-004	10	50	19	1
006-001-008	20	20	25	1
006-001-009	20	30	37	1
006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

2. Change the attributes of the MRN group or MRN set using the `chg-mrn` command in one or more of the following steps.

To change only the in-service threshold value of the entires in the RC group - perform step 3.

To change the weight values of all entries in an RC group or to change the weight and in-service threshold values of the entries in the RC group - perform step 5.

To change the individual weight values of entries in an MRN group or MRN set - perform step 7.

To change the individual weight values and RC values of entries in an MRN group or MRN set - perform step 9.

3. The in-service threshold value is changed by specifying the `thr` parameter. The `thr` parameter can be specified by itself only if the MRN set or MRN group currently has weight values assigned.

The new `thr` value is assigned to all entries in the MRN group or MRN set that have the same RC value as the specified point code.

For this example, enter one of these commands.

To change the in-service threshold value of all entries in the MRN group that have the same RC value as the point code specified in this step without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=008-001-001:thr=50
```

To change the in-service threshold value of all entries in the MRN set that have the same RC value as the point code specified in this step with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=006-001-001:thr=30:mrnset=1
```

When the `chg-mrn` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MRN: MASP A - COMPLTD
```

4. Verify the changes using the `rtrv-mrn` command with the point code (`pca/pci/pcn/pcn24` parameters) specified in step 3. If the `mrnset` parameter was specified in step 3, the `mrnset` parameter and value specified in step 3 must be specified with the `rtrv-mrn` command in this step.

For this example, enter these commands.

```
rtrv-mrn:pca=008-001-001
```

The following example is the configuration of the MRN group before step 3 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
008-005-005	10	10	50	30
008-001-001	10	10	50	30
008-001-002	30	20	100	30
008-001-003	40	20	100	30
008-001-004	50	20	100	30

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 3 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
008-005-005	10	10	50	50
008-001-001	10	10	50	50
008-001-002	30	20	100	30
008-001-003	40	20	100	30
008-001-004	50	20	100	30

MRN table is (16 of 5990) 1% full

If the in-service threshold value was changed in an MRN set in step 3, this is an example of the possible output.

```
rtrv-mrn:pca=006-001-001:mrnset=1
```

The following example is the configuration of the MRN group before step 3 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	10	4	1
	006-001-001	10	10	4	1
	006-001-002	10	30	12	1
	006-001-003	10	40	15	1
	006-001-005	10	40	15	1
	006-001-006	10	40	15	1
	006-001-007	10	40	15	1
	006-001-004	10	50	19	1
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 3 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	10	4	30
	006-001-001	10	10	4	30
	006-001-002	10	30	12	30
	006-001-003	10	40	15	30
	006-001-005	10	40	15	30
	006-001-006	10	40	15	30
	006-001-007	10	40	15	30
	006-001-004	10	50	19	30

006-001-008	20	20	25	1
006-001-009	20	30	37	1
006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

After this step has been performed, go to step 11.

5. An RC group is a group of point code entries that have the same RC value. This step is used to change the weight values of all the point codes in an MRN group or MRN set that have the same RC value to the same weight value using the `chg-mrn` command with the `grpwt` parameter.

A load shared MRN group or MRN set can be considered an RC group as all the entries in the group or set have the same RC value, but changing all the weight values in a load shared group or set to the same weight value can be accomplished by using the `eswt` parameter as described in [Changing MRN Entries with the ESWT Parameter](#) on page 430.

The in-service threshold value of the MRN group or MRN set can be changed by specifying the `thr` parameter with the `chg-mrn` command.

For this example, enter one of these commands.

To change only weight values of all entries in an RC group of the MRN group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=009-005-005:grpwt=30
```

To change the weight and in-service threshold values of all entries in an RC group of the MRN group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=009-005-005:grpwt=20:thr=30
```

To change only weight values of all entries in an RC group of the MRN set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=005-005-005:grpwt=30:mrnset=1
```

To change the weight and in-service threshold values of all entries in an RC group of the MRN set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=005-005-005:grpwt=20:thr=30:mrnset=1
```

If the MRN group or MRN set did not have weight and in-service threshold values assigned before this step was performed, and the `thr` parameter is not specified in this step, the in-service threshold value 1 (1%) is assigned to the entries.

When the `chg-mrn` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MRN: MASP A - COMPLTD
```

6. Verify the changes using the `rtrv-mrn` command with the point code (`pca/pci/pcn/pcn24` parameters) specified in step 5. If the `mrnset` parameter was specified in step 5, the `mrnset` parameter and value specified in step 5 must be specified with the `rtrv-mrn` command in this step.

For this example, enter these commands.

```
rtrv-mrn:pca=009-005-005
```

The following example is the configuration of the MRN group before step 5 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
009-005-005	10	10	4	1
009-001-001	10	10	4	1
009-001-002	10	30	12	1
009-001-003	10	40	15	1
009-001-005	10	40	15	1
009-001-006	10	40	15	1
009-001-007	10	40	15	1
009-001-004	10	50	19	1
009-001-008	20	20	25	1
009-001-009	20	30	37	1
009-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 5 was performed to change only the weight values.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
009-005-005	10	30	13	1
009-001-001	10	30	13	1
009-001-002	10	30	13	1
009-001-003	10	30	13	1
009-001-005	10	30	13	1
009-001-006	10	30	13	1
009-001-007	10	30	13	1
009-001-004	10	30	13	1
009-001-008	20	20	25	1
009-001-009	20	30	37	1
009-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 5 was performed to change the weight and in-service threshold values.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
009-005-005	10	20	13	30
009-001-001	10	20	13	30
009-001-002	10	20	13	30
009-001-003	10	20	13	30
009-001-005	10	20	13	30
009-001-006	10	20	13	30
009-001-007	10	20	13	30
009-001-004	10	20	13	30
009-001-008	20	20	25	1
009-001-009	20	30	37	1
009-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

If the weight values were changed in an MRN set in step 5, this is an example of the possible output.

```
rtrv-mrn:pca=005-005-005:mrnset=1
```

The following example is the configuration of the MRN set before step 5 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	10	4	1
	006-001-001	10	10	4	1
	006-001-002	10	30	12	1
	006-001-003	10	40	15	1
	006-001-005	10	40	15	1
	006-001-006	10	40	15	1
	006-001-007	10	40	15	1
	006-001-004	10	50	19	1
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 5 was performed to change only the weight values.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	30	13	1
	006-001-001	10	30	13	1
	006-001-002	10	30	13	1
	006-001-003	10	30	13	1
	006-001-005	10	30	13	1
	006-001-006	10	30	13	1
	006-001-007	10	30	13	1
	006-001-004	10	30	13	1
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 5 was performed to change the weight and in-service threshold values.

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	20	13	30
	006-001-001	10	20	13	30
	006-001-002	10	20	13	30
	006-001-003	10	20	13	30
	006-001-005	10	20	13	30
	006-001-006	10	20	13	30
	006-001-007	10	20	13	30
	006-001-004	10	20	13	30
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

After this step has been performed, go to step 11.

7. Change the individual weight values of the MRN group or MRN set by entering the `chg-mrn` command with the point code parameters and their corresponding weight parameters `wt`, `wt1`, `wt2`, `wt3`, and `wt4` parameters.

The `thr` parameter cannot be specified with the `wt`, `wt1`, `wt2`, `wt3`, and `wt4` parameters.

For this example, enter one of these commands.

To change the individual weight values of the entries in the MRN group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=008-005-005:wt=30:pca1=008-001-001:wt1=50
```

To change the individual weight values of the entries in the MRN set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=005-005-005:wt=30:pca1=006-001-001:wt1=20:pca2=006-001-002:wt2=50:pca3=006-001-003:wt3=10:pca4=006-001-006:wt4=80:mrnset=1
```

When the `chg-mrn` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0
CHG-MRN: MASP A - COMPLTD
```

8. Verify the changes using the `rtrv-mrn` command with the point code (`pca`/`pci`/`pcn`/`pcn24` parameters) specified in step 13.

If the `mrnset` parameter was specified in step 13, the `mrnset` parameter and value specified in step 13 must be specified with the `rtrv-mrn` command in this step.

For this example, enter these commands.

```
rtrv-mrn:pca=008-005-005
```

The following example is the configuration of the MRN group before step 7 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
008-005-005	10	10	50	30
008-001-001	10	10	50	30
008-001-002	30	20	100	30
008-001-003	40	20	100	30
008-001-004	50	20	100	30

```
MRN table is (16 of 5990) 1% full
```

This is an example of the possible output after step 7 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
008-005-005	10	30	37	30
008-001-001	10	50	62	30
008-001-002	30	20	100	30
008-001-003	40	20	100	30
008-001-004	50	20	100	30

```
MRN table is (16 of 5990) 1% full
```

If individual weight values were changed in an MRN set in step 7, this is an example of the possible output.

```
rtrv-mrn:pca=005-005-005:mrnset=1
```

The following example is the configuration of the MRN set before step 7 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	10	4	1
	006-001-001	10	10	4	1
	006-001-002	10	30	12	1
	006-001-003	10	40	15	1
	006-001-005	10	40	15	1
	006-001-006	10	40	15	1
	006-001-007	10	40	15	1
	006-001-004	10	50	19	1
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

```
MRN table is (16 of 5990) 1% full
```

This is an example of the possible output after step 7 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
1	006-001-003	10	10	3	1
	006-001-001	10	20	6	1
	005-005-005	10	30	9	1
	006-001-005	10	40	13	1
	006-001-007	10	40	13	1
	006-001-002	10	50	15	1
	006-001-004	10	50	15	1
	006-001-006	10	80	25	1
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

```
MRN table is (16 of 5990) 1% full
```

After this step has been performed, go to step 11.

9. Change the individual weight values and RC values of the MRN group or MRN set by entering the `chg-mrn` command with the point code parameters and their corresponding RC parameters (`rc`, `rc1`, `rc2`, `rc3`, and `rc4`) and weight parameters (`wt`, `wt1`, `wt2`, `wt3`, and `wt4`) parameters. The `thr` parameter cannot be specified with the `wt`, `wt1`, `wt2`, `wt3`, and `wt4` parameters.

Note: If the RC values are changed so that the resulting MRN group or MRN set becomes a dominant MRN group or MRN set (the RC values are unique), the weight parameters can be specified with the `chg-mrn` command, but the the WT, %WT, and THR values are removed from the MRN group or MRN set and are not displayed in the `rtrv-mrn` output.

The following types of changes can be performed in this step:

- Weight and RC values for individual entries
- Weight values for some entries and the RC values for other entries
- Combinations of weight and RC values for individual entries and weight values for some entries and RC values for other entries.

The following examples show these types of changes.

The following MRN group is being changed.

PC	RC	WT	%WT	THR
002-002-002	1	5	20	1
002-002-003	1	5	20	1
002-002-004	1	5	20	1
002-002-005	1	5	20	1
002-002-006	1	5	20	1

To change the weight and RC values for individual entries in this example MRN group, enter this command.

```
chg-mrn:pca=002-002-002:rc=10:wt=10:pca1=002-002-003:rc1=20
:wt1=30:pca2=002-002-004:rc2=10:wt2=40:force=yes
```

The following shows the changes that were made in the example command.

PC	RC	WT	%WT	THR
002-002-005	1	5	50	1
002-002-006	1	5	50	1
002-002-004	10	40	80	1
002-002-002	10	10	20	1
002-002-003	20	30	100	1

To change the weight values for some entries and the RC values for other entries in this example MRN group, enter this command.

```
chg-mrn:pca=002-002-002:wt=10:pca1=002-002-003:rc1=20
:pca2=002-002-004:wt2=40:force=yes
```

The following shows the changes that were made in the example command.

PC	RC	WT	%WT	THR
002-002-004	1	40	67	1
002-002-002	1	10	17	1
002-002-005	1	5	8	1
002-002-006	1	5	8	1
002-002-003	10	5	100	1

To make both types of changes in this example MRN group, enter this command.

```
chg-mrn:pca=002-002-002:rc=10:pca1=002-002-003:rc1=20:wt1=30
:pca2=002-002-004:wt2=40:pca3=002-002-005:wt3=40:rc3=20
:pca4=002-002-006 :wt4=60:force=yes
```

The following shows the changes that were made in the example command.

PC	RC	WT	%WT	THR
002-002-004	1	40	40	1
002-002-006	1	60	60	1
002-002-002	10	5	100	1
002-002-005	20	40	57	1
002-002-003	20	30	43	1

The `force=yes` parameter must be specified with the `chg-mrn` command when the following parameter combinations are specified with the `chg-mrn` command:

- If the `rc` parameter and the `wt/wt1/wt2/wt3/wt4` parameters are specified with the `chg-mrn` command.
- If the `wt` parameter and the `rc/rc1/rc2/rc3/rc4` parameters are specified with the `chg-mrn` command.

For this example, enter one of these commands.

To change the individual weight and RC values of the entries in the MRN group without the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=008-005-005:wt=30:rc=20:pca1=008-001-001:wt1=50  
:rc1=40:force=yes
```

To change the individual weight and RC values of the entries in the MRN set with the Flexible GTT Load Sharing feature enabled, enter this command.

```
chg-mrn:pca=005-005-005:rc=30:pca1=006-001-001:wt1=20:pca2=006-001-002  
:wt2=50:rc2=30:pca3=006-001-003:wt3=10:rc3=40:pca4=006-001-006  
:wt4=80:rc4=40:mrnset=1:force=yes
```

When the `chg-mrn` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 11:44:13 GMT EAGLE5 36.0.0  
CHG-MRN: MASP A - COMPLTD
```

10. Verify the changes using the `rtrv-mrn` command with the point code (`pca/pci/pcn/pcn24` parameters) specified in step 9. If the `mrnset` parameter was specified in step 9, the `mrnset` parameter and value specified in step 9 must be specified with the `rtrv-mrn` command in this step.

For this example, enter these commands.

```
rtrv-mrn:pca=008-005-005
```

The following example is the configuration of the MRN group before step 9 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
008-005-005	10	10	50	30
008-001-001	10	10	50	30
008-001-002	30	20	100	30
008-001-003	40	20	100	30
008-001-004	50	20	100	30

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 9 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

PC	RC	WT	%WT	THR
008-005-005	20	30	100	30
008-001-002	30	20	100	30
008-001-001	40	50	71	30
008-001-003	40	20	28	30
008-001-004	50	20	100	30

MRN table is (16 of 5990) 1% full

If individual weight and relative cost values were changed in an MRN set in step 9, this is an example of the possible output.

```
rtrv-mrn:pca=005-005-005:mrnset=1
```

The following example is the configuration of the MRN set before step 9 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

MRNSET	PC	RC	WT	%WT	THR
1	005-005-005	10	10	4	1
	006-001-001	10	10	4	1
	006-001-002	10	30	12	1
	006-001-003	10	40	15	1
	006-001-005	10	40	15	1
	006-001-006	10	40	15	1
	006-001-007	10	40	15	1
	006-001-004	10	50	19	1
	006-001-008	20	20	25	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1

MRN table is (16 of 5990) 1% full

This is an example of the possible output after step 9 was performed.

```
rlghncxa03w 06-10-07 00:34:31 GMT EAGLE5 36.0.0
```

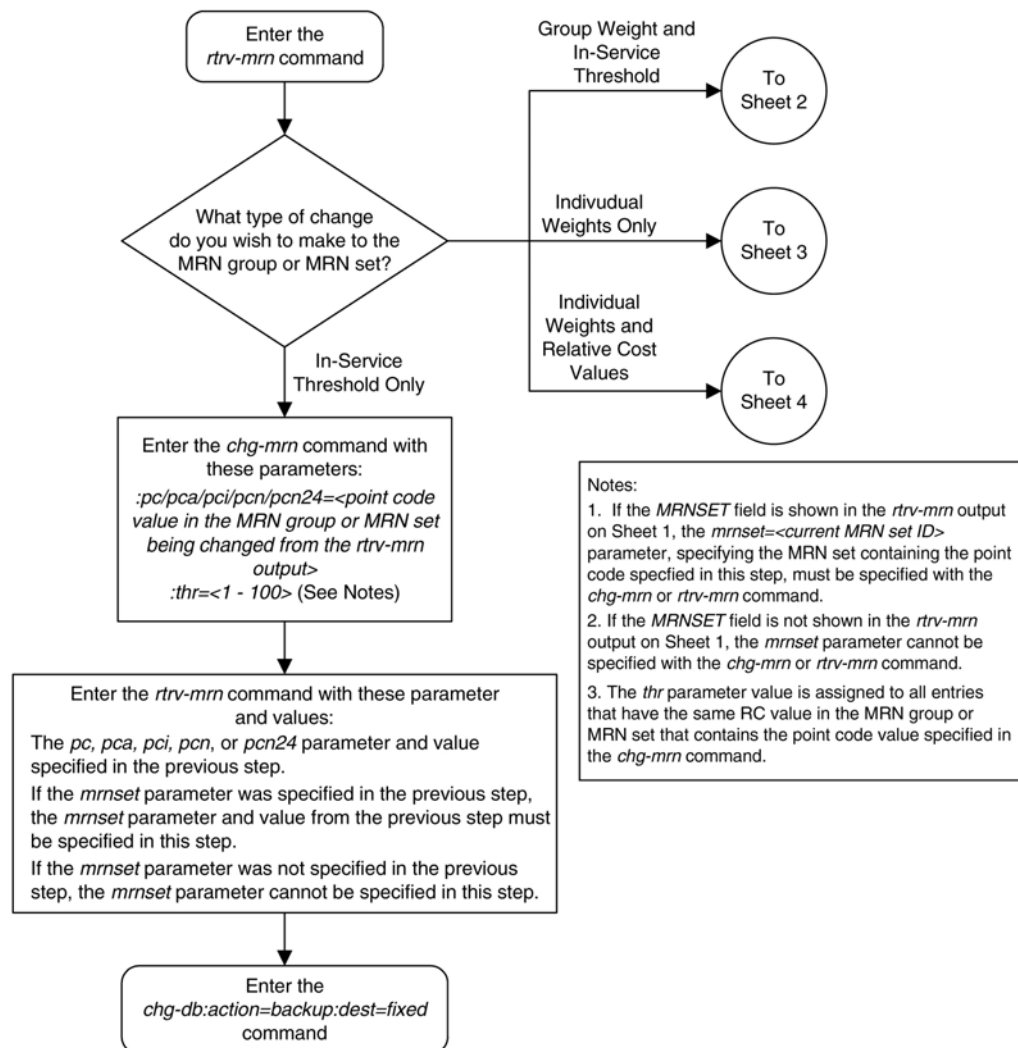
MRNSET	PC	RC	WT	%WT	THR
1	006-001-004	10	50	25	1
	006-001-002	10	50	25	1
	006-001-005	10	40	20	1
	006-001-007	10	40	20	1
	006-001-001	10	20	10	1
	006-001-009	20	30	37	1
	006-001-010	20	30	37	1
	006-001-008	20	20	25	1
	005-005-005	30	10	100	1
	006-001-006	40	80	88	1
	006-001-003	40	10	11	1

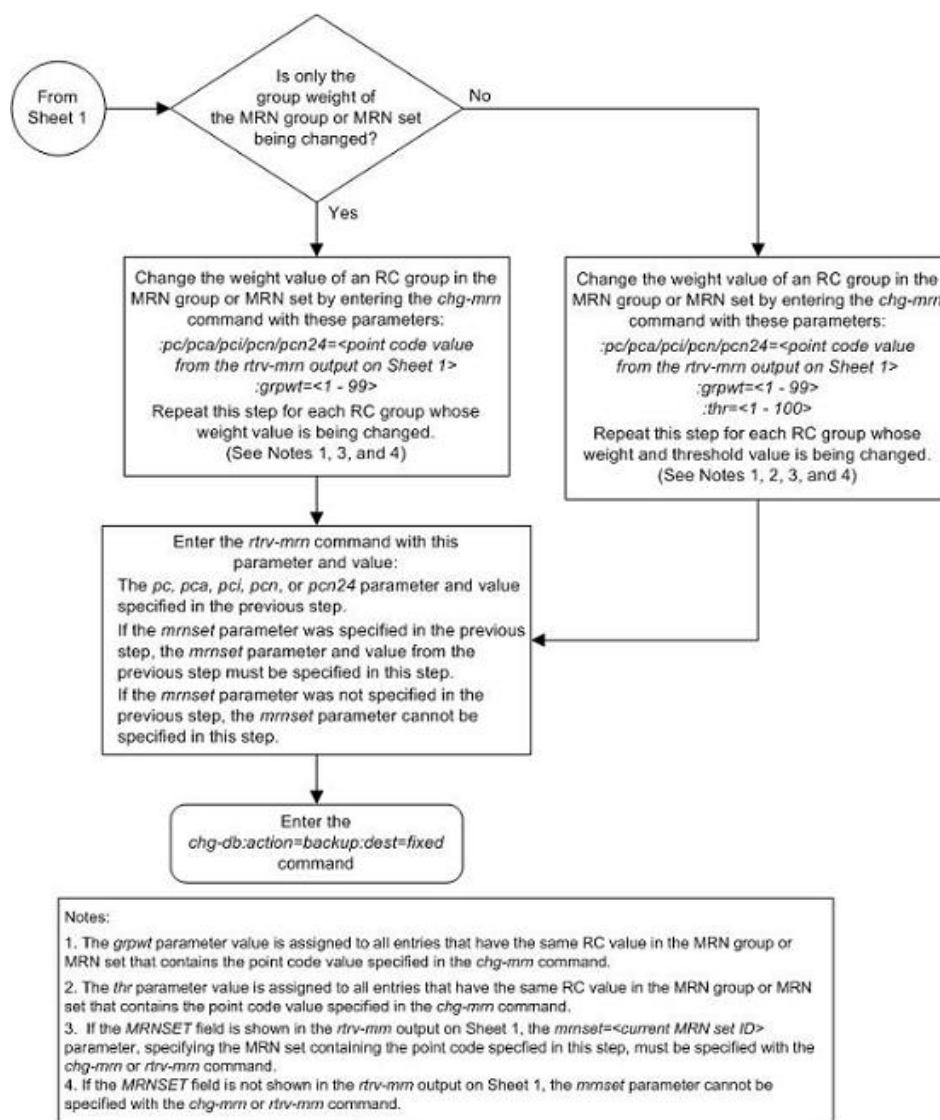
MRN table is (16 of 5990) 1% full

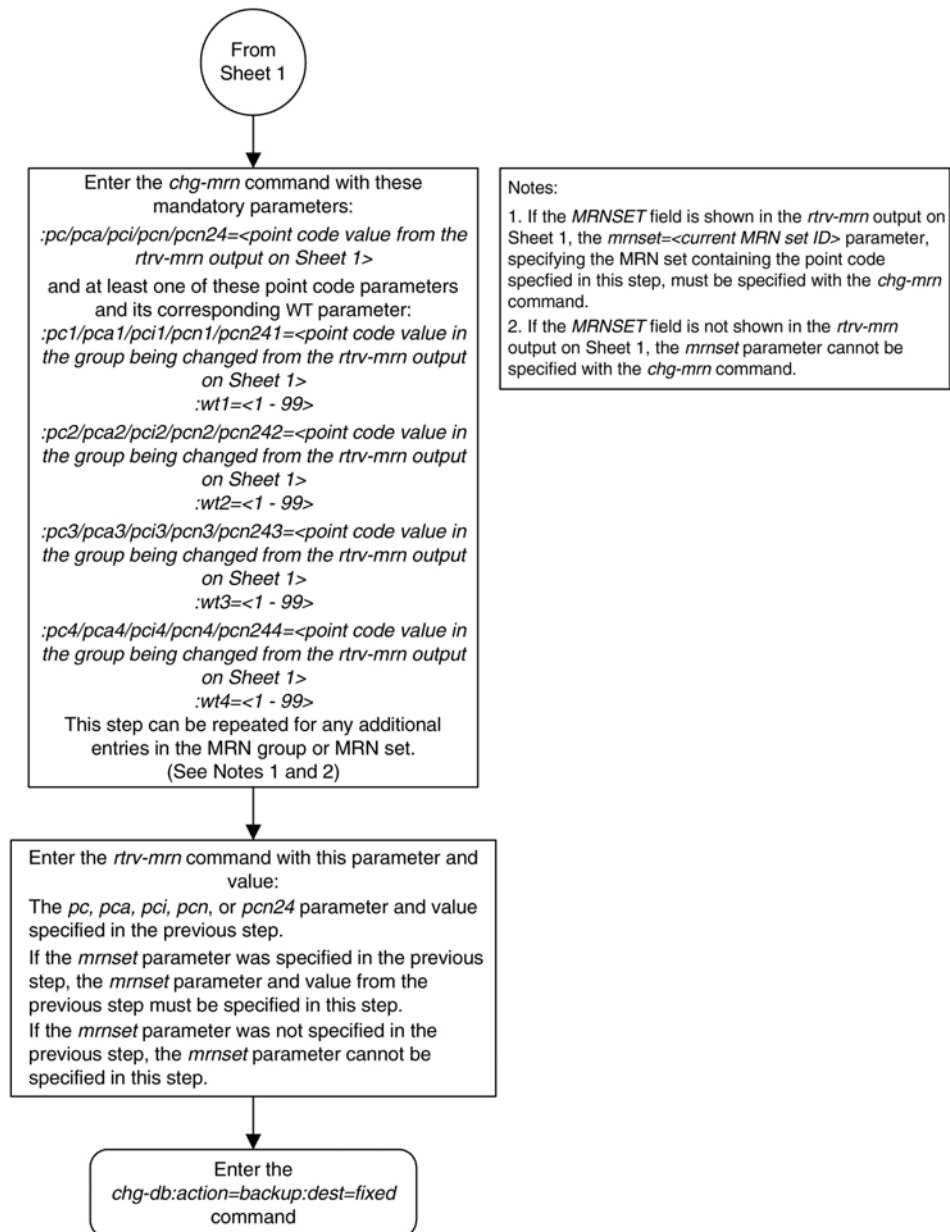
11. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

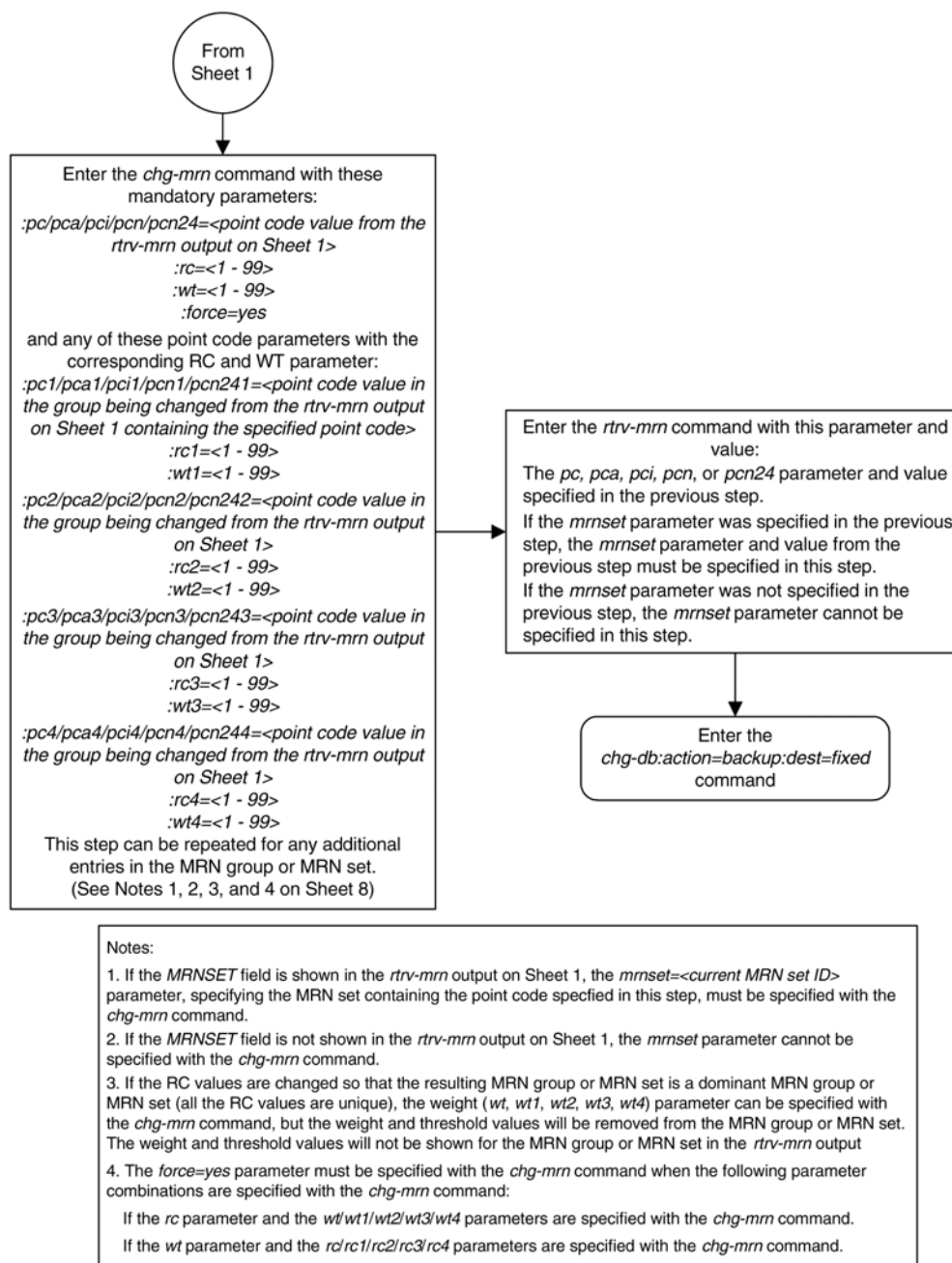
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 35: Changing the Individual Weight Values of MRN Entries









Changing the MAPSET, MAP Point Code, and MAP SSN Values of MRN Entries

This procedure is used to change the MAPSET, MAP point code, and MAP SSN values in an existing Mated Relay Node (MRN) set using the *mapset*, *mappc/mappc/mappca/mappci/mappcn/mappcn24*, and *mapssn* parameters of the *chg-mrn* command.

The `chg-mrn` command can also be used to add point code entries to an existing MRN set. This action is not covered in this procedure. If you wish to add point code entries to an existing MRN set, perform [Provisioning MRN Entries](#) on page 367.

If you wish to assign the same weight and threshold value to all the entries in the MRN set with the `eswt` and `thr` parameters, or to remove the weight and threshold values from all the entries in the MRN set with the `eswt=none` parameter, perform [Changing MRN Entries with the ESWT Parameter](#) on page 430. The `eswt` and `thr` parameters cannot be used in this procedure.

If you wish to change individual weight values for entries with the `wt/wt1/wt2/wt3/wt4` parameters, the weight values for an RC group with the `grpwt` parameter, the threshold values for an MRN set with the `thr` parameter, or the relative cost and weight values for an MRN set with the `force=yes` parameter, perform [Changing the Weight and Threshold Values of MRN Entries](#) on page 442. The `wt/wt1/wt2/wt3/wt4`, `grpwt`, `thr`, and `force=yes` parameters cannot be used in this procedure.

These parameters are used with the `chg-mrn` command in this procedure.

`:pc/pca/pci/pcn/pcn24` – The point code in the message after intermediate global title translation has been performed.

`:mrnset` – The MRN set ID that is being changed.

`:mapset` – The MAP set ID that is being assigned to the MRN. This is the MAP set from which alternate routing indicator searches are performed.

`:mappc/mappca/mappci/mappcn/mappcn24` – The point code assigned to the mapset that is being assigned to the MRN set.

`:mapssn` – The subsystem number assigned to the point code in the MAP set that is being assigned to the MRN.

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

The current values of the `mapset`, `:mappc/mappca/mappci/mappcn/mappcn24`, and `mapssn` parameters are shown in the `rtrv-mrn` output only if the Flexible GTT Load Sharing and the GTT Load Sharing with Alternate Routing Indicator features are enabled.

The new values for the `mapset`, `mappc/mappca/mappci/mappcn/mappcn24`, and `mapssn` parameters must be shown in the `rtrv-map` output.

The network type of the `pc/pca/pci/pcn/pcn24` and `mappc/mappca/mappci/mappcn/mappcn24` parameter values must be compatible, as shown in [Table 37: MRN and MAP Point Code Parameter Combinations](#) on page 461.

Table 37: MRN and MAP Point Code Parameter Combinations

MRN Point Code Parameter	MAP Point Code Parameter
pc/pca	mappc/mappca
pci or pcn (See Notes 1 and 2)	mappci or mappcn (See Notes 1 and 2)
pcn24	mappcn24
Notes:	

MRN Point Code Parameter	MAP Point Code Parameter
1. If the network type of the MRN point code parameter is ITU-I (pci), the network type of the MAP point code parameter can be either ITU-I (mappci) or ITU-N (mappcn).	
2. If the network type of the MRN point code parameter is ITU-N (pcn), the network type of the MAP point code parameter can be either ITU-I (mappci) or ITU-N (mappcn).	

Canceling the RTRV-MRN Command

Because the `rtrv-mrn` command used in this procedure can output information for a long period of time, the `rtrv-mrn` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-mrn` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-mrn` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-mrn` command was entered, from another terminal other than the terminal where the `rtrv-mrn` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the mated relay node sets in the database using the `rtrv-mrn` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	PC	RC
DFLT	005-005-005	10
	006-001-001	20
	006-001-002	30
	006-001-003	40
	006-001-004	50
	006-001-005	60
	006-001-006	70
	006-001-007	80

MRNSET	PC	RC
1	007-007-007	10
	008-001-001	20
	008-001-002	30
	008-001-003	40
	008-001-004	50
	008-001-005	60
	008-001-006	70

```
MRN table is (15 of 5990) 1% full
```

Note: If the Weighted GTT Load Sharing feature is enabled and turned on, the `WT`, `%WT`, and `THR` columns are shown in the `rtrv-mrn` output.

If the MAPSET, MAPPC, and MAPSSN columns are not shown in the `rtrv-mrn` output, the GTT Load Sharing with Alternate Routing Indicator feature is not enabled. Perform [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 to enable the GTT Load Sharing with Alternate Routing Indicator feature. After [Activating the GTT Load Sharing with Alternate Routing Indicator Feature](#) on page 954 has been performed, continue the procedure with [Step 2](#) on page 463.

If the MAPSET, MAPPC, and MAPSSN columns are shown in the `rtrv-mrn` output, the GTT Load Sharing with Alternate Routing Indicator feature is enabled. Continue the procedure with [Step 2](#) on page 463.

- The MAP point code and MAP SSN values must be assigned to a MAP set. The MAP set must be shown in the `rtrv-map` output. Display the MAP sets by entering the `rtrv-map` command. This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=DFLT      MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000        250 10  SOL  ---  --- grp01  ON

MAPSET ID=1         MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000        251 10  SHR  ---  --- grp01  OFF
                   253-001-002  254 10  SHR  ---  --- grp01  OFF

MAPSET ID=2         MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000        252 10  SOL  ---  --- grp01  ON

MAPSET ID=DFLT      MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-000        253 10  SHR  ---  --- grp01  OFF
                   253-001-004  254 10  SHR  ---  --- grp01  OFF

MAPSET ID=3         MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-001        255 10  DOM YES YES grp01  ON
                   253-001-005  254 20  DOM YES YES grp01  ON

MAPSET ID=4         MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-001        250 10  DOM YES YES grp01  OFF
                   253-001-001  254 20  DOM YES YES grp01  OFF

MAPSET ID=DFLT      MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002        251 10  SHR  ---  --- grp01  OFF
                   255-001-002  254 10  SHR  ---  --- grp01  OFF

MAPSET ID=5         MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002        252 10  DOM YES YES grp01  ON
                   255-001-003  254 20  DOM YES YES grp01  ON

MAPSET ID=6         MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
255-001-002        253 10  SHR  ---  --- grp01  ON
                   255-001-004  254 10  SHR  ---  --- grp01  ON

MAPSET ID=7         MRNSET ID=----- MRNPC=-----
PCA                Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
```

```

002-002-007          50 10 COM YES YES grp01 OFF
                   002-002-008 30 10 COM YES YES grp01 OFF
                   002-002-009 30 10 COM YES YES grp01 OFF
                   002-002-010 30 20 COM YES YES grp01 OFF
                   002-002-011 30 20 COM YES YES grp01 OFF

MAPSET ID=8      MRNSET ID=---- MRNPC=-----
PCI             Mate PCI      SSN RC MULT SRM MRC GRP NAME SSO
2-001-2          255 10  DOM NO  YES grp03 OFF
                2-001-1      254 20  DOM NO  YES grp03 OFF

MAPSET ID=9      MRNSET ID=---- MRNPC=-----
PCN             Mate PCN      SSN RC MULT SRM MRC GRP NAME SSO
00347           253 10  SHR --- --- grp05 OFF
                01387       254 10  SHR --- --- grp05 OFF

MAP TABLE IS 1 % FULL (25 of 36000)

```

Note: If the Weighted GTT Load Sharing feature is enabled and turned on, the WT, %WT, and THR columns are shown in the `rtrv-map` output.

If the MAP set that you wish to use, containing the desired point code and subsystem number, is shown in the `rtrv-map` output, continue the procedure with [Step 3](#) on page 464.

Note: The network type of the `pc/pca/pci/pcn/pcn24` and `mappc/mappca/mappci/mappcn/mappcn24` parameter values must be the same, as shown in [Table 37: MRN and MAP Point Code Parameter Combinations](#) on page 461.

If the MAP set that you wish to use is not shown in the `rtrv-map` output, add the required MAP set by performing one of these procedures.

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

After the MAP set has been added, continue the procedure with [Step 3](#) on page 464.

3. Change the MAPSET, MAP point code, and MAP SSN values in the MRN set by entering the `chg-mrn` command with the `mapset`, `mappc/mappca/mappci/mappcn/mappcn24`, and `mapssn` parameters.

For this example, enter this command.

```
chg-mrn:mrnset=1:pca=007-007-007:mapset=7:mappca=002-002-007:mapssn=50
```

When the `chg-mrn` command has successfully completed, this message should appear.

```

rlghncxa03w 09-02-07 11:44:13 GMT EAGLE5 40.1.0
CHG-MRN: MASP A - COMPLTD

```

4. Verify the changes using the `rtrv-mrn` command with the point code (`pca/pci/pcn/pcn24` parameters) and `mrnset` values specified in [Step 3](#) on page 464.

For this example, enter this command.

```
rtrv-mrn:mrnset=1:pca=007-007-007
```

This is an example of the possible output.

```
rlghncxa03w 09-02-07 00:34:31 GMT EAGLE5 40.1.0
```

MRNSET	MAPSET	MAPPK	MAPSSN	PC	RC
1	7	002-002-007	50	007-007-007	10
				008-001-001	20
				008-001-002	30
				008-001-003	40
				008-001-004	50
				008-001-005	60
				008-001-006	70

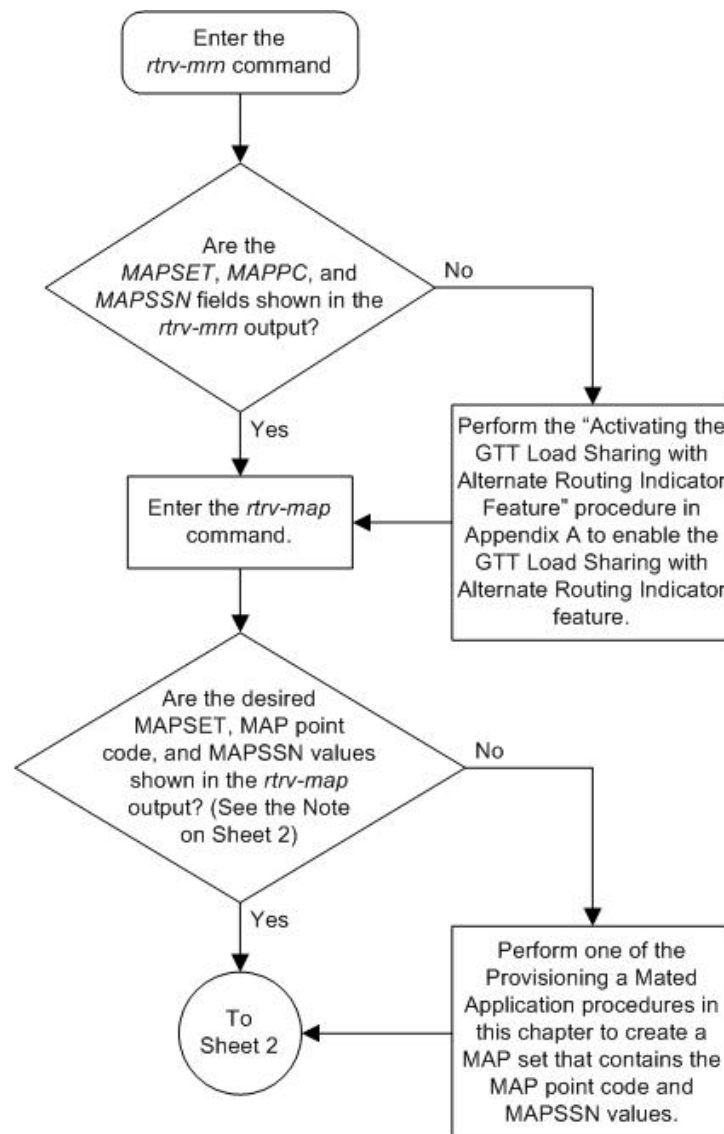
MRN table is (15 of 5990) 1% full

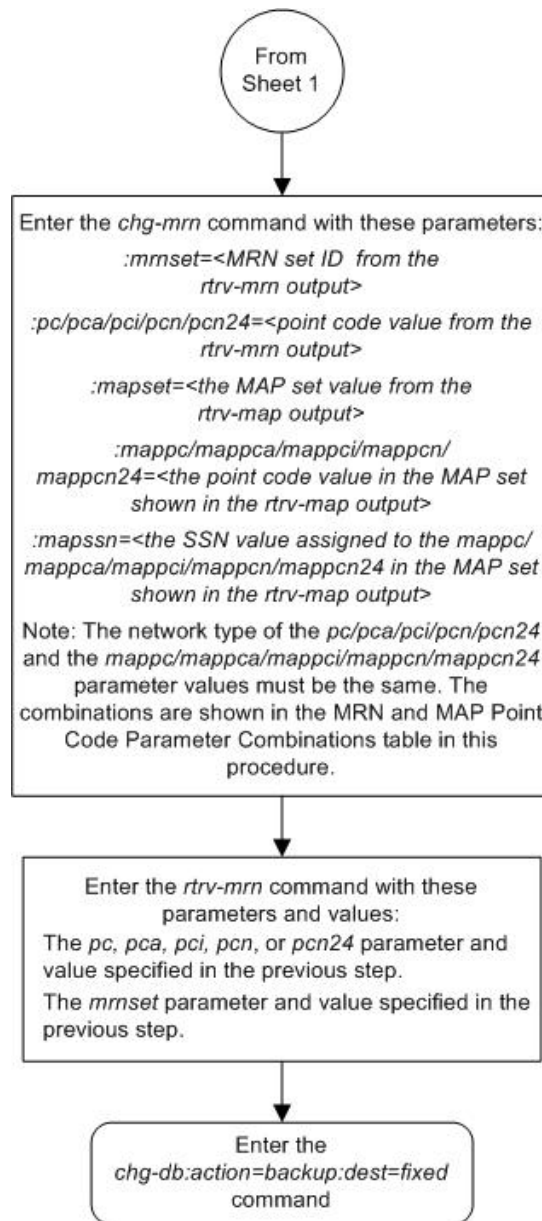
Note: If the Weighted GTT Load Sharing feature is enabled and turned on, the WT, %WT, and THR columns are shown in the `rtrv-mrn` output.

5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 36: Changing the MAPSET, MAP Point Code, and MAP SSN Values of MRN Entries





Adding a GT Conversion Table Entry

This procedure is used to provision an entry in the GT Conversion table for the ANSI-ITU-China SCCP Conversion feature using the *ent-gtcnv* command.

The *ent-gtcnv* command uses these parameters.

:dir – The direction that the conversion takes place

atoa – The conversion takes place in the ANSI to ITU direction

`ittoa` – The conversion takes place in the ITU to ANSI direction

`both` – The conversion takes place in the ANSI to ITU and ITU to ANSI directions

`:gtixlat` – The global title indicator types being converted.

`22` – ANSI GTI type 2 to ITU GTI type 2

`24` – ANSI GTI type 2 to ITU GTI type 4

`:tta` – The ANSI translation type

`:tti` – The ITU translation type

`:np` – The numbering plan

`:nai` – The nature of address indicator

`:npdd` – The number of digits to be deleted or substituted from the beginning of the Global Title Address digits (the prefix digits)

`:npds` – The digits that are being substituted for the prefix digits

`:nsdd` – The number of digits to be deleted or substituted from the end of the Global Title Address digits (the suffix digits)

`:nsds` – The digits that are being substituted for the suffix digits

To perform this procedure, the ANSI-ITU-China SCCP Conversion feature must be enabled. Enter the `rtrv-ctrl-feat` command to verify whether or not the ANSI-ITU-China SCCP Conversion is enabled. If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enable the ANSI-ITU-China SCCP Conversion feature.

Note: The ANSI-ITU-China SCCP Conversion feature can only be permanently enabled.

The `gtixlat` parameter determines how the `tta`, `tti`, `np`, and `nai` parameters are used with the `ent-gtcnv` command.

If the `gtixlat` parameter value is `22`, only the `tta`, `tti`, `npdd`, `npds`, `nsdd`, and `nsds` parameters can be specified. The `tta` and `tti` parameters must be specified along with the `dir` and `gtixlat=22` parameters.

If the `gtixlat` parameter value is `24`, the `tta`, `tti`, `np`, `nai`, `npdd`, `npds`, `nsdd`, and `nsds` parameters can be specified. The `tta`, `tti`, `np`, and `nai` parameters must be specified along with the `dir` and `gtixlat=24` parameters.

Asterisks (*) can be specified for the `tta`, `tti`, `np`, and `nai` parameters indicating all possible values for that parameter. The `dir` and `gtixlat` parameters determine when the asterisk can be used.

If the `dir` parameter is `atoi`, the asterisk can be specified only for the `tta` parameter.

If the `dir` parameter is `ittoa` and the `gtixlat` parameter is `24`, the asterisk can be specified for the `tti`, `np`, and `nai` parameters. If the asterisk is specified for either the `tti`, `np`, or `nai` parameters, the asterisk must be specified for the `tti`, `np`, and `nai` parameters.

The asterisk cannot be specified for any parameter when the `dir` parameter value is `both`.

The optional prefix (`npdd`, `npds`) and suffix parameters (`nsdd`, `nsds`) can be specified, but both sets of parameters, or a mixture of the prefix and suffix parameters cannot be specified. For example, if either the `npdd` or `npds` parameters are specified, the `nsdd` and `nsds` cannot be specified.

If either the `nsdd` or `nsds` parameters are specified, the `npdd` and `npds` parameters cannot be specified.

1. Verify the status of the ANSI-ITU-China SCCP Conversion feature by entering the `rtrv-ctrl-feat` command with the ANSI-ITU-China SCCP Conversion feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
SCCP Conversion       893012010  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the ANSI-ITU-China SCCP Conversion feature has not been enabled, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enable this feature.

2. Display the GT Conversion Table entries by entering the `rtrv-gtcnv` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi  22      24   12   --- ---  ---  ---  ---
itoa   22      2    5   --- ---  ---  ---  ---
itoa   24      3    6    4   8   ---  ---  ---
itoa   24      4    7    4   8    3  sfx  123
atoi   24      5    7    4   8    3  sfx  123
atoi   22      7    8   --- ---  3  sfx  123
both   24      8    9    4   8    4  pfx  4567
both   22      9   11   --- ---  ---  ---  ---

GTCNV table is (8 of 1000) 1% full
```

3. Add the new GT Conversion Table entry by entering the `ent-gtcnv` command with the appropriate parameter combinations shown in [Table 38: GT Conversion Parameter Combinations](#) on page 469.

Table 38: GT Conversion Parameter Combinations

DIR = ATOI		DIR = ITOA		DIR = BOTH	
GTIXLAT = 22	GTIXLAT = 24	GTIXLAT = 22	GTIXLAT = 24	GTIXLAT = 22	GTIXLAT = 24
TTA = 0-255	TTA = 0-255	TTA = 0-255	TTA = 0-255	TTA = 0-255	TTA = 0-255

DIR = ATOI		DIR = ITOA		DIR = BOTH	
or TTA = * TTI = 0-255	or TTA = * TTI = 0-255 NP = 0-15 NAI = 0-63	TTI = 0-255	TTI = 0-255 & NP = 0-15 & NAI = 0-63 or TTI = * & NP = * & NAI = *	TTI = 0-255	TTI = 0-255 NP = 0-15 NAI = 0-63
Optional Parameters					
NPDD = 0-21 & NPDS = 1 - 21 digits or NSDD = 0-21 & NSDS = 1 - 21 digits	NPDD = 0-21 & NPDS = 1 - 21 digits or NSDD = 0-21 & NSDS = 1 - 21 digits	NPDD = 0-21 & NPDS = 1 - 21 digits or NSDD = 0-21 & NSDS = 1 - 21 digits	NPDD = 0-21 & NPDS = 1 - 21 digits or NSDD = 0-21 & NSDS = 1 - 21 digits	NPDD = 0-21 & NPDS = 1 - 21 digits or NSDD = 0-21 & NSDS = 1 - 21 digits	NPDD = 0-21 & NPDS = 1 - 21 digits or NSDD = 0-21 & NSDS = 1 - 21 digits

For this example, enter these commands.

```
ent-gtcnv:dir=atoi:gtixlat=22:tta=10:tti=43:npdd=3:npds=919
```

```
ent-gtcnv:dir=atoi:gtixlat=24:tta=*:tti=29:np=4:nai=87
```

```
ent-gtcnv:dir=ittoi:gtixlat=22:tta=23:tti=57:nsdd=3:nsds=800
```

```
ent-gtcnv:dir=ittoi:gtixlat=24:tta=33:tti=66:np=3:nai=33
```

```
ent-gtcnv:dir=ittoi:gtixlat=24:tta=44:tti=*:np=*:nai=*
```

```
ent-gtcnv:dir=both:gtixlat=22:tta=26:tti=13
```

```
ent-gtcnv:dir=both:gtixlat=24:tta=37:tti=59:np=3:nai=33:npdd=3  
:npds=423
```

When each of these commands have successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-GTCNV: MASP A - COMPLTD
```

4. Verify the changes using the `rtrv-gtcnv` command and specifying the following parameters based on the `gtixlat` parameter values used in step 3.

a) `gtixlat=22`

- `dir` = value specified in step 3
- `tta` = value specified in step 3
- `tti` = value specified in step 3

b) `gtixlat=24`

- `dir` = value specified in step 3

- tta = value specified in step 3
- tti = value specified in step 3
- np = value specified in step 3
- nai = value specified in step 3

For this example, enter these commands.

```
rtrv-gtcnv:dir=atoi:gtixlat=22:tta=10:tti=43
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi    22    10  43  --- ---  3    pfx  919
```

GTCNV table is (15 of 1000) 1% full

```
rtrv-gtcnv:dir=atoi:gtixlat=24:tta=*:tti=29:np=4:nai=87
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi    24    *   29  4   87  --- ---  ---
```

GTCNV table is (15 of 1000) 1% full

```
rtrv-gtcnv:dir=ittoi:gtixlat=22:tta=23:tti=57:nsdd=3:nsds=800
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
ittoi    22    23  57  --- ---  3    sfx  800
```

GTCNV table is (15 of 1000) 1% full

```
rtrv-gtcnv:dir=ittoi:gtixlat=24:tta=33:tti=66:np=3:nai=33
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
ittoi    24    33  66  3   33  --- ---  ---
```

GTCNV table is (15 of 1000) 1% full

```
rtrv-gtcnv:dir=ittoi:gtixlat=24:tta=44:tti=*:np=*:nai=*
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
ittoi    24    44  *   *   *   --- ---  ---
```

GTCNV table is (15 of 1000) 1% full

```
rtrv-gtcnv:dir=both:gtixlat=22:tta=26:tti=13
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
both   22     26   13   --- ---   ---   ---   ---
```

GTCNV table is (15 of 1000) 1% full

```
rtrv-gtcnv:dir=both:gtixlat=24:tta=37:tti=59:np=3:nai=33:npdd=3
:npds=423
```

This is an example of the possible output.

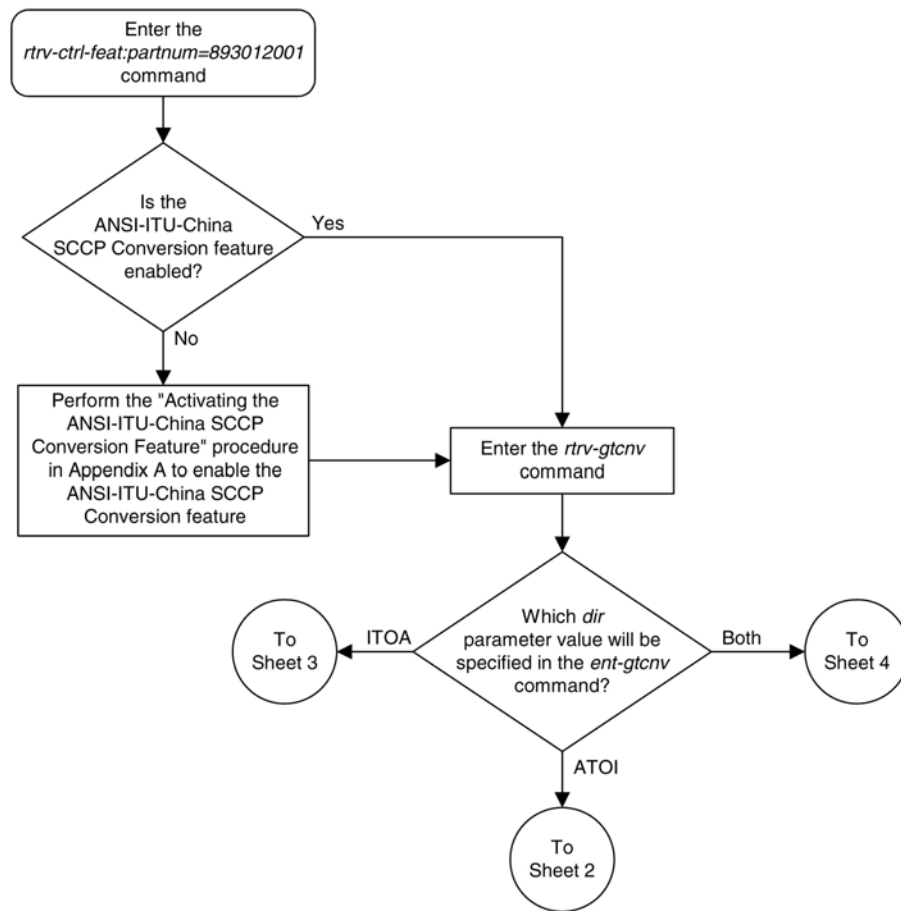
```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
both   24     37   59   3   33   3   pfx  423
```

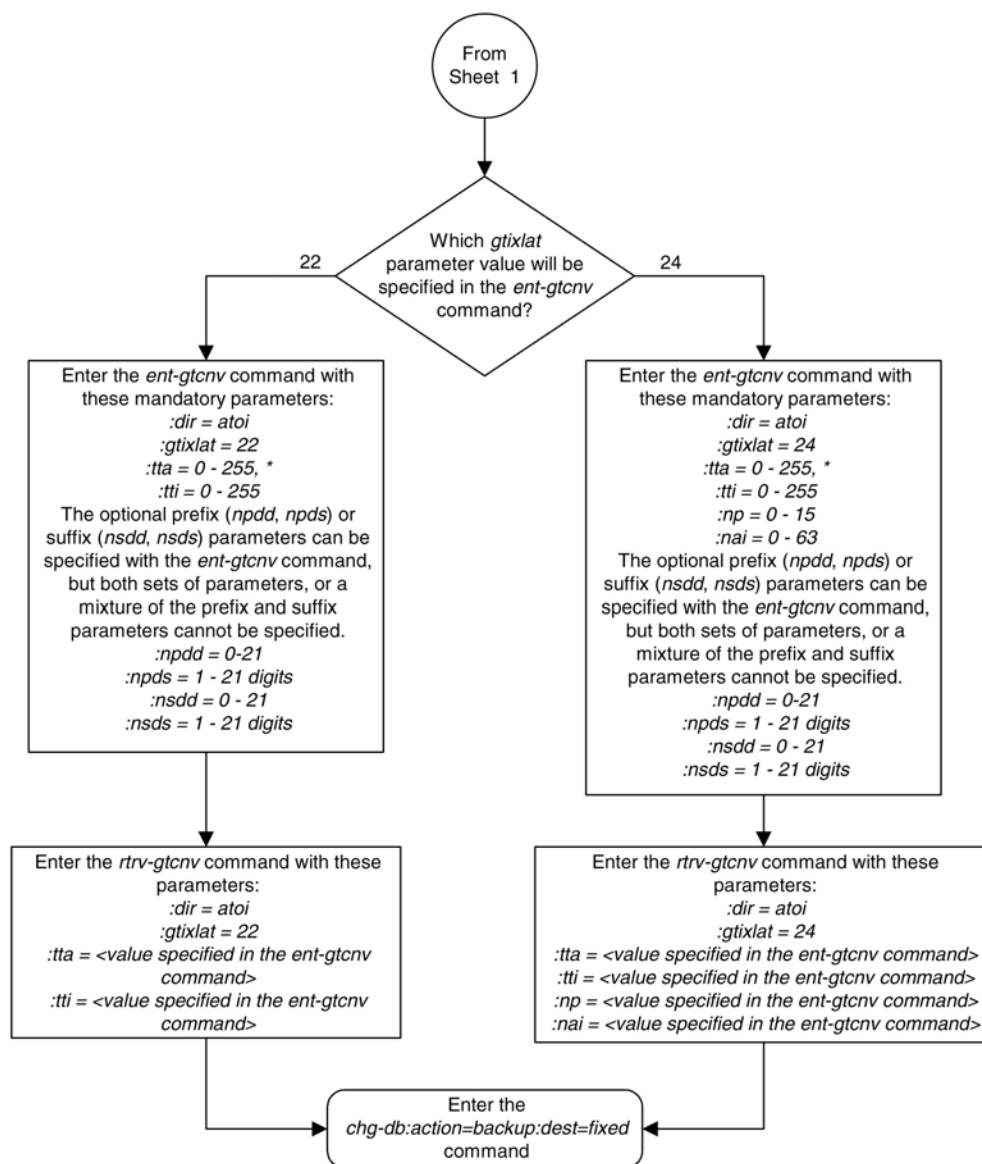
GTCNV table is (15 of 1000) 1% full

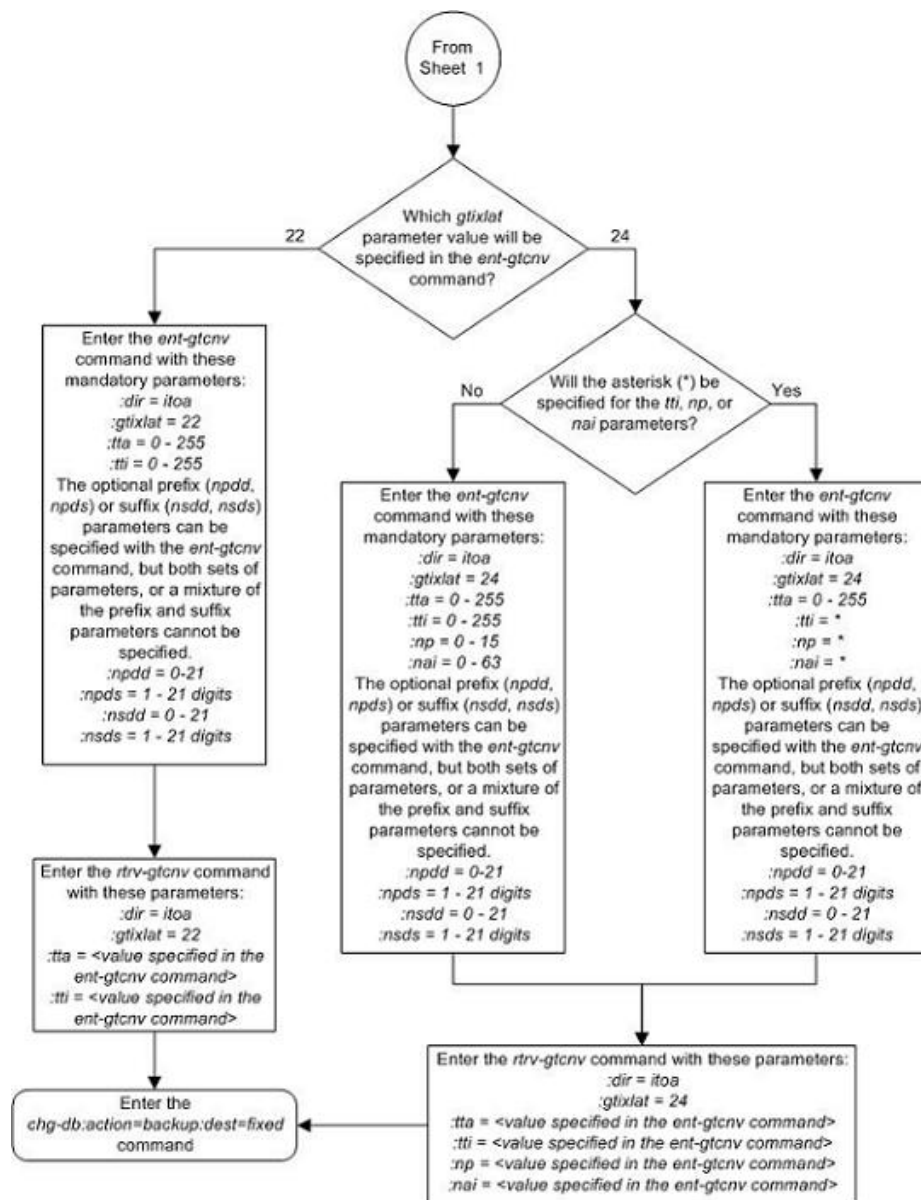
5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

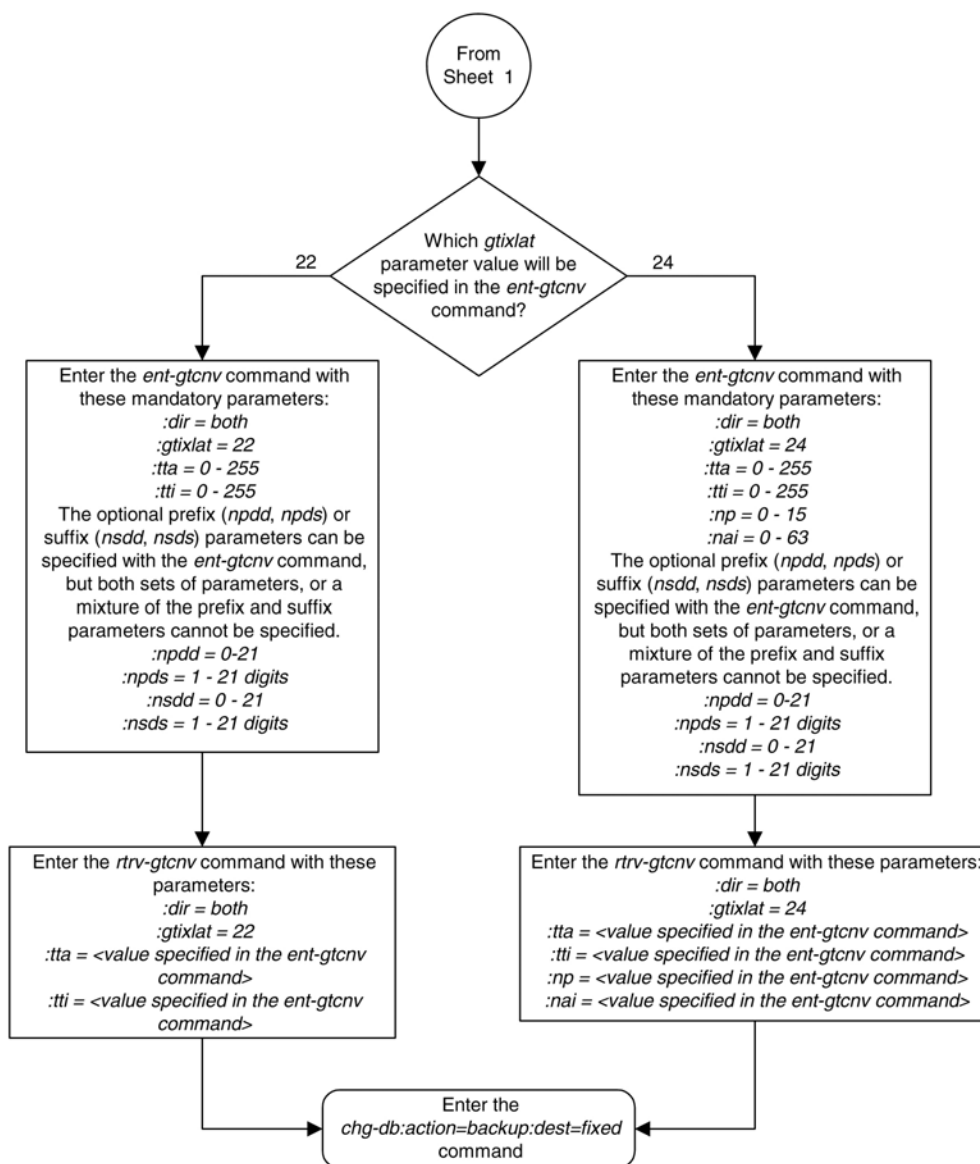
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 37: Adding a GT Conversion Table Entry









Removing a GT Conversion Table Entry

This procedure is used to remove an entry from the GT Conversion table using the `dlt-gtcnv` command.

The `dlt-gtcnv` command uses these parameters.

`:dir` – The direction that the conversion takes place

`atoa` – The conversion takes place in the ANSI to ITU direction

`itoa` – The conversion takes place in the ITU to ANSI direction

both – The conversion takes place in the ANSI to ITU and ITU to ANSI directions

:tta – The ANSI translation type

:tti – The ITU translation type

:np – The numbering plan

:nai – The nature of address indicator

To perform this procedure, the ANSI-ITU-China SCCP Conversion feature must be enabled. Enter the `rtrv-ctrl-feat` command to verify whether or not the ANSI-ITU-China SCCP Conversion is enabled.

Note: The ANSI-ITU-China SCCP Conversion feature can only be permanently enabled.

The `gtixlat` and `dir` parameter values in the GT Conversion Table entry determines how the `tta`, `tti`, `np`, and `nai` parameters are used with the `dlt-gtcnv` command.

- If the `dir` parameter is `atoi`, only the `dir=atoi` and `tta` parameters can be and must be specified with the `dlt-gtcnv` command.
- If the `dir` parameter is `itoe` and the `gtixlat` parameter is 22, only the `dir=itoe` and `tti` parameter can be and must be specified with the `dlt-gtcnv` command.
- If the `dir` parameter is `itoe` and the `gtixlat` parameter is 24, only the `dir=itoe`, `tti`, `np`, and `nai` parameters can be and must be specified for the `dlt-gtcnv` command.
- If the `dir` parameter is `both` and the `gtixlat` parameter is 22, only the `dir=both`, `tta`, and `tti` parameters can be and must be specified with the `dlt-gtcnv` command.
- If the `dir` parameter is `both` and the `gtixlat` parameter is 24, the `dir=both`, `tta`, `tti`, `np`, and `nai` parameters can be and must be specified for the `dlt-gtcnv` command.

The values for the parameters of the GT Conversion Table entry being removed must be entered as shown in the `rtrv-gtcnv` output.

The GT Conversion Table entry specified in the `dlt-gtcnv` command must be shown in the `rtrv-gtcnv` output.

1. Display the GT Conversion Table entries by entering the `rtrv-gtcnv` command.

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi   24    *   29   4   87   ---   ---   ---
atoi   22   10   43   ---   ---   3    pfx  919
itoe   22   23   57   ---   ---   3    sfx  800
atoi   22   24   12   ---   ---   ---   ---   ---
both   22   26   13   ---   ---   ---   ---   ---
itoe   22    2    5   ---   ---   ---   ---   ---
itoe   24   33   66   3   33   ---   ---   ---
both   24   37   59   3   33   3    pfx  423
itoe   24    3    6    4    8   ---   ---   ---
itoe   24   44    *    *    *   ---   ---   ---
itoe   24    4    7    4    8    3    sfx  123
atoi   24    5    7    4    8    3    sfx  123
atoi   22    7    8   ---   ---   3    sfx  123
both   24    8    9    4    8    4    pfx  4567
both   22    9   11   ---   ---   ---   ---   ---
GTCNV table is (8 of 1000) 1% full
```

If no entries are shown in the `rtrv-gtcnv` output, this procedure cannot be performed.

If error message E4171 (E4171 Cmd Rej: SCCP Conversion feature must be enabled) is displayed after the `rtrv-gtcnv` command is entered, the ANSI-ITU-China SCCP Conversion feature is not enabled. If the ANSI-ITU-China SCCP Conversion feature has not been enabled, this procedure cannot be performed. If error message E4171 (E4171 Cmd Rej: SCCP Conversion feature must be enabled) is not displayed after the `rtrv-gtcnv` command is entered and entries are shown in the `rtrv-gtcnv` output, go to step 2.

2. Remove the desired GT Conversion Table entry by entering the `dlt-gtcnv` command with the appropriate parameter combinations shown in the following list and with the values for these parameters shown in the `rtrv-gtcnv` output in step 1.

- a) `dir=atoi, tta`
- b) `dir=ittoa, gtixlat=22, tti`
- c) `dir=ittoa, gtixlat=24, tti, np, nai`
- d) `dir=both, gtixlat=22, tta, tti`
- e) `dir=both, gtixlat=24, tta, tti, np, nai`

Note: The `gtixlat` parameter cannot be specified with the `dlt-gtcnv` command, but is used to determine the parameter combinations that must be specified with the `dlt-gtcnv` command.

For this example, enter these commands.

```
dlt-gtcnv:dir=atoi:tta=10
dlt-gtcnv:dir=ittoi:tta=33:tti=66:np=3:nai=33
dlt-gtcnv:dir=ittoi:tta=44:tti=*:np=*:nai=*
dlt-gtcnv:dir=both:tta=26:tti=13
```

When each of these commands have successfully completed, the following message should appear.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
DLT-GTCNV: MASP A - COMPLTD
```

3. Verify the changes using the `rtrv-gtcnv` command and specifying the parameter values used in step 3, along with the `gtixlat` parameter value shown in the `rtrv-gtcnv` output in step 2 that was assigned to the GT Conversion Table entry removed in step 3.

For this example, enter these commands.

```
rtrv-gtcnv:dir=atoi:gtixlat=22:tta=10:tti=43
```

This is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi   22    10   43   --- ---   3   pfx  919
GTCNV table is (11 of 1000) 1% full
```

```
rtrv-gtcnv:dir=ittoi:gtixlat=24:tta=33:tti=66:np=3:nai=33
```

This is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
```



```

ittoi    24    33    66    3    33    ---    ---    ---
GTCNV table is (11 of 1000) 1% full

```

```
rtrv-gtcnv:dir=ittoi:gtixlat=24:tta=44:tti=*:np=*:nai=*
```

This is an example of the possible output.

```

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
ittoi    24    44    *    *    *    ---    ---    ---
GTCNV table is (11 of 1000) 1% full

```

```
rtrv-gtcnv:dir=both:gtixlat=22:tta=26:tti=13
```

This is an example of the possible output.

```

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
both    22    26    13    ---    ---    ---    ---    ---
GTCNV table is (11 of 1000) 1% full

```

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

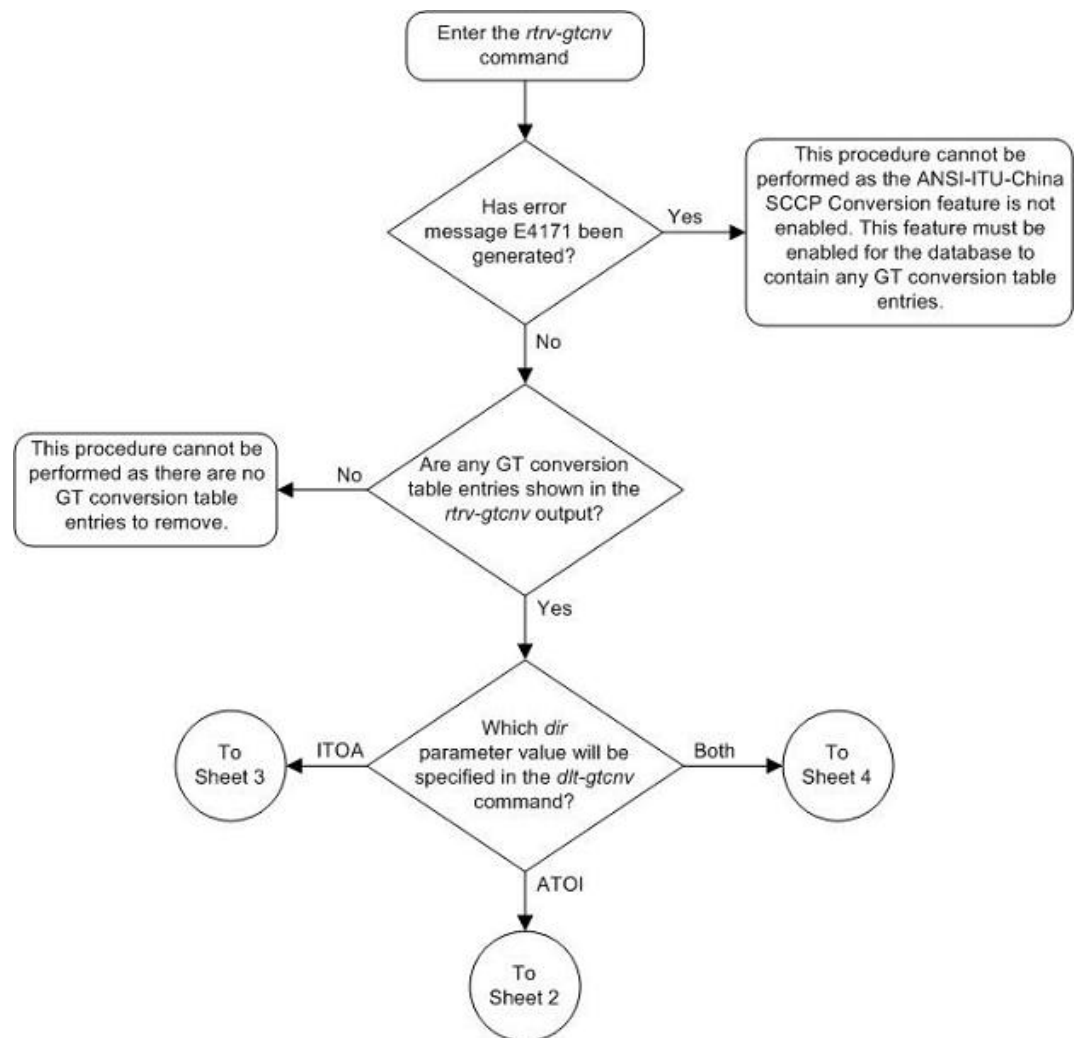
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

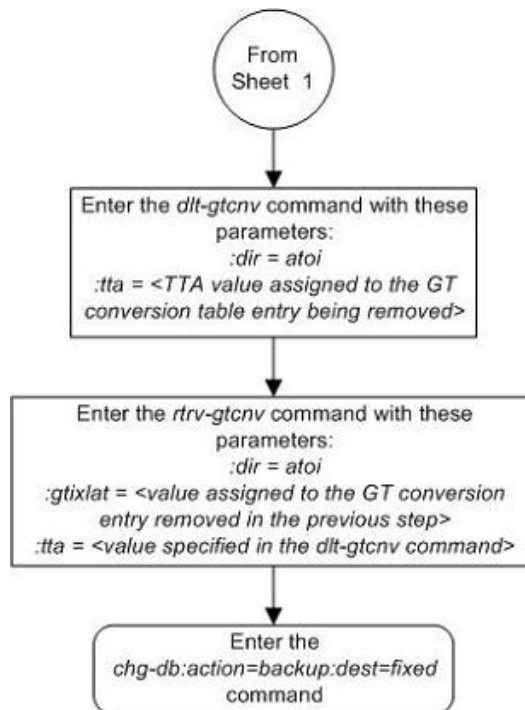
```

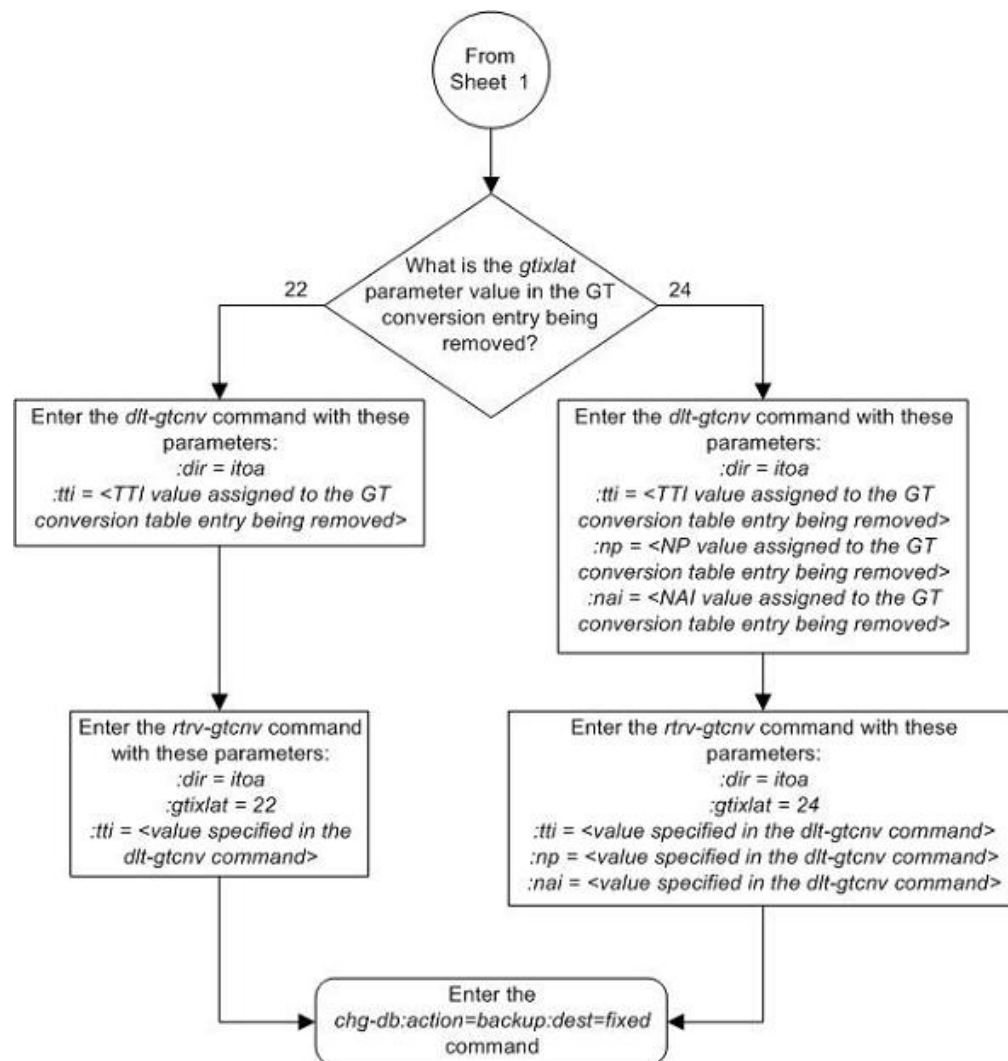
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

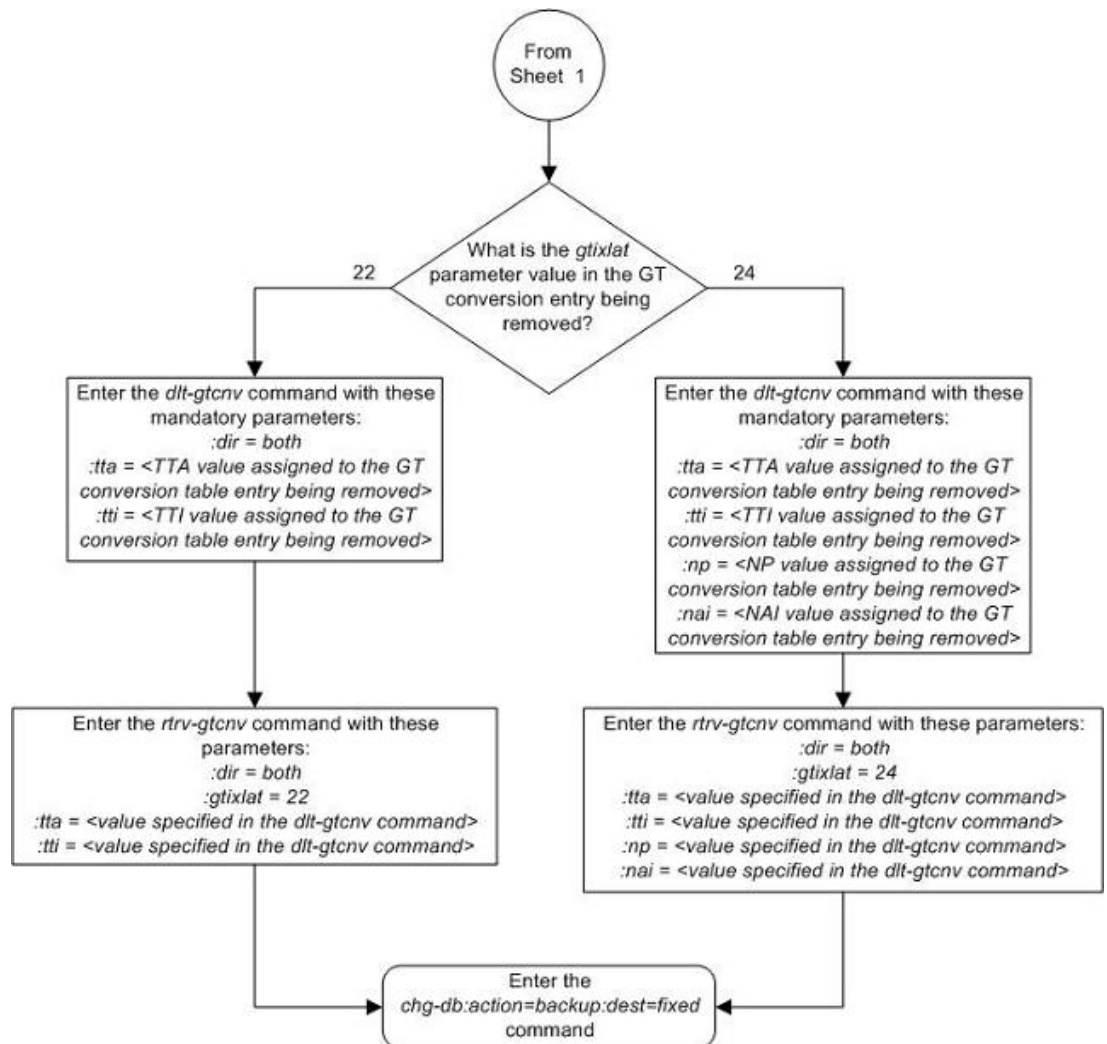
```

Figure 38: Removing a GT Conversion Table Entry









Changing a GT Conversion Table Entry

This procedure is used to provision an entry in the GT Conversion table for the ANSI-ITU-China SCCP Conversion feature using the *chg-gtcnv* command.

The *chg-gtcnv* command uses these parameters.

- :dir – The direction that the conversion takes place
- atoa – The conversion takes place in the ANSI to ITU direction
- itoe – The conversion takes place in the ITU to ANSI direction
- both – The conversion takes place in the ANSI to ITU and ITU to ANSI directions
- :tta – The ANSI translation type
- :tti – The ITU translation type

:np – The numbering plan

:nai – The nature of address indicator

:npdd – The number of digits to be deleted or substituted from the beginning of the Global Title Address digits (the prefix digits)

:npds – The digits that are being substituted for the prefix digits

:nsdd – The number of digits to be deleted or substituted from the end of the Global Title Address digits (the suffix digits)

:nsds – The digits that are being substituted for the suffix digits

:rdmod – This parameter specifies whether or not the existing npdd, npds, nsdd, nsds parameter values are removed from the GT Conversion Table entry. If the value of this parameter is yes, the existing npdd, npds, nsdd, nsds parameter values are removed from the GT Conversion Table entry. If the value of this parameter is no, the default value, the existing npdd, npds, nsdd, nsds parameter values are not removed from the GT Conversion Table entry.

To perform this procedure, the ANSI-ITU-China SCCP Conversion feature must be enabled. Enter the `rtrv-ctrl-feat` command to verify whether or not the ANSI-ITU-China SCCP Conversion is enabled.

Note: The ANSI-ITU-China SCCP Conversion feature can only be permanently enabled.

The `gtixlat` and `dir` parameter values in the GT Conversion Table entry determines how the `tta`, `tai`, `np`, `nai`, `npdd`, `npds`, `nsdd`, `nsds`, and `rdmod` parameters are used with the `chg-gtcnv` command.

- If the `dir` parameter is `atoi`, the `dir=atoi` and `tta` parameters must be specified with the `chg-gtcnv` command. If the `gtixlat` parameter is 22, the optional parameters `tai`, `npdd`, `npds`, `nsdd`, `nsds`, and `rdmod` can be specified with the `chg-gtcnv` command. If the `gtixlat` parameter is 24, the optional parameters `tai`, `np`, `nai`, `npdd`, `npds`, `nsdd`, `nsds`, and `rdmod` can be specified with the `chg-gtcnv` command.
- If the `dir` parameter is `itoa` and the `gtixlat` parameter is 22, the `dir=itoa` and `tai` parameters must be specified with the `chg-gtcnv` command. The optional parameters `tta`, `npdd`, `npds`, `nsdd`, `nsds`, and `rdmod` can be specified with the `chg-gtcnv` command.
- If the `dir` parameter is `itoa` and the `gtixlat` parameter is 24, the `dir=itoa` and `tai`, `np`, and `nai` parameters must be specified with the `chg-gtcnv` command. The optional parameters `tta`, `npdd`, `npds`, `nsdd`, `nsds`, and `rdmod` can be specified with the `chg-gtcnv` command.
- If the `dir` parameter is `both` and the `gtixlat` parameter is 22, the `dir=both`, `tta`, and `tai` parameters must be specified with the `chg-gtcnv` command. The optional parameters `npdd`, `npds`, `nsdd`, `nsds`, and `rdmod` can be specified with the `chg-gtcnv` command.
- If the `dir` parameter is `both` and the `gtixlat` parameter is 24, the `dir=both`, `tta`, `tai`, `np`, and `nai` parameters must be specified with the `chg-gtcnv` command. The optional parameters `npdd`, `npds`, `nsdd`, `nsds`, and `rdmod` can be specified with the `chg-gtcnv` command.

If the `rdmod=yes` parameter is specified with the `chg-gtcnv` command, the `npdd`, `npds`, `nsdd`, and `nsds` parameters cannot be specified.

If the `npdd`, `npds`, `nsdd`, or `nsds` parameters are specified with the `chg-gtcnv` command, the `rdmod=yes` parameter cannot be specified.

The optional prefix (`npdd`, `npds`) and suffix parameters (`nsdd`, `nsds`) can be specified, but both sets of parameters, or a mixture of the prefix and suffix parameters cannot be specified. For example, if the either the `npdd` or `npds` parameters are specified, the `nsdd` and `nsds` cannot be specified.

If either the `nsdd` or `nsds` parameters are specified, the `npdd` and `npds` parameters cannot be specified.

The prefix or suffix parameter values assigned to a GT Conversion Table entry can be changed from one type to another type, (prefix parameter values to suffix parameter values or suffix parameter values to prefix parameter values). To change the prefix values to suffix values or suffix values to prefix values, the existing prefix or suffix values must be removed from the GT Conversion Table entry by specifying the `rdmod=yes` with the `chg-gtcnv` command. After the existing prefix or suffix values have been removed, the new prefix or suffix values can be assigned to the GT Conversion Table entry with the `npdd` and `npds`, or `nsdd` and `nsds` parameters.

The values for the mandatory parameters of the GT Conversion Table entry being changed must be entered as shown in the `rtrv-gtcnv` output.

The GT Conversion Table entry specified in the `chg-gtcnv` command must be shown in the `rtrv-gtcnv` output.

1. Verify the status of the ANSI-ITU-China SCCP Conversion feature by entering the `rtrv-ctrl-feat` command with the ANSI-ITU-China SCCP Conversion feature part number.

Enter this command.

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
SCCP Conversion       893012010  on      ----

The following features have been temporarily enabled:
Feature Name          Partnum    Status  Quantity    Trial Period Left

Zero entries found.
The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the ANSI-ITU-China SCCP Conversion feature has not been enabled or is not on, this procedure cannot be performed.

2. Display the GT Conversion Table entries by entering the `rtrv-gtcnv` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi  24      *   29  4   87  ---  ---  ---
atoi  22      10  43  --- ---  3   pfx  919
ittoi  22      23  57  --- ---  3   sfx  800
atoi  22      24  12  --- ---  ---  ---  ---
both  22      26  13  --- ---  ---  ---  ---
ittoi  22      2   5   --- ---  ---  ---  ---
ittoi  24      33  66  3   33  ---  ---  ---
both  24      37  59  3   33  3   pfx  423
ittoi  24      3   6   4   8   ---  ---  ---
ittoi  24      44  *   *   *   ---  ---  ---
ittoi  24      4   7   4   8   3   sfx  123
atoi  24      5   7   4   8   3   sfx  123
```

```

atoi    22    7    8    --- --- 3    sfx  123
both     24    8    9    4    8    4    pfx  4567
both     22    9    11   --- --- ---    ---

```

GTCNV table is (15 of 1000) 1% full

If no entries are shown in the `rtrv-gtcnv` output, this procedure cannot be performed.

Note: If prefix or suffix digits are not assigned to the GT Conversion Table entry being changed, not being removed, or not being changed from one type to another (prefix digits changed to suffix digits or suffix digits changed to prefix digits), skip steps 3 and 4, and go to step 5.

3. Change the desired GT Conversion Table entry by entering the `chg-gtcnv` command with the `rdmod=yes` parameter, and with appropriate parameter combinations shown in the following list and with the values for these parameters shown in the `rtrv-gtcnv` output in step 2.

- `dir=atoi, tta.`

If the `gtixlat` parameter value is 22, the optional parameter `tti=<0-255>` can be specified with the `chg-gtcnv` command. If the `gtixlat` parameter value is 24, the optional parameters `tti=<0-255>`, `np=<0-15>`, `nai=<0-63>`, can be specified with the `chg-gtcnv` command.

- `dir=itoa, gtixlat=22, tti.`

The optional parameter `tti=<0-255>` can be specified with the `chg-gtcnv` command.

- `dir=itoa, gtixlat=24, tti, np, nai.`

The optional parameter `tti=<0-255>` can be specified with the `chg-gtcnv` command.

- `dir=both, gtixlat=22, tta, tti`
- `dir=both, gtixlat=24, tta, tti, np, nai`

Note: The `gtixlat` parameter cannot be specified with the `chg-gtcnv` command, but is used to determine the parameter combinations that must be specified with the `chg-gtcnv` command.

For this example, enter these commands.

```
chg-gtcnv:dir=atoi:tta=10:rdmod=yes
```

```
chg-gtcnv:dir=itoi:tti=7:np=4:nai=8:rdmod=yes
```

```
chg-gtcnv:dir=both:tta=37:tti=59:np=3:nai=33:rdmod=yes
```

When each of these commands have successfully completed, the following message should appear.

```

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-GTCNV: MASP A - COMPLTD

```

4. Verify the changes using the `rtrv-gtcnv` command and specifying the parameter values used in step 3, along with the `gtixlat` parameter value shown in the `rtrv-gtcnv` output in step 2 that was assigned to the GT Conversion Table entry changed in step 3.

For this example, enter these commands.

```
rtrv-gtcnv:dir=atoi:gtixlat=22:tta=10
```


This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi    22    10  43  --- ---  ---  ---  ---

GTCNV table is (11 of 1000) 1% full
```

```
rtrv-gtcnv:dir=itai:gtixlat=24:tti=7
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itai    24     4   7   4   8   --- ---  ---

GTCNV table is (11 of 1000) 1% full
```

```
rtrv-gtcnv:dir=both:gtixlat=24:tta=37:tti=59
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
both  24     37  59   3  33  --- ---  ---

GTCNV table is (11 of 1000) 1% full
```

- Change the desired GT Conversion Table entry by entering the `chg-gtcnv` command with appropriate parameter combinations shown in [Table 39: GT Conversion Parameter Combinations](#) on page 487 and with the values for these parameters shown in the `rtrv-gtcnv` output in step 2.

Note: If steps 3 and 4 were performed, and no other changes are being made to the GT Conversion entry, skip steps 5 and 6, and go to step 7.

Table 39: GT Conversion Parameter Combinations

GTIXLAT=22 DIR = ATOI	GTIXLAT=22 DIR = ITOA	GTIXLAT=22 DIR = BOTH	GTIXLAT=24 DIR = ATOI	GTIXLAT=24 DIR = ITOA	GTIXLAT=24 DIR = BOTH
TTA = <current TTA value>	TTI = <current TTI value>	TTA = <current TTA value> TTI = <current TTI value>	TTA = <current TTA value>	TTI = <current TTI value> NP = <current NP value> NAI = <current NAI value>	TTA = <current TTA value> TTI = <current TTI value> NP = <current NP value> NAI = <current NAI value>
Optional Parameters					

GTIXLAT=22 DIR = ATOI	GTIXLAT=22 DIR = ITOA	GTIXLAT=22 DIR = BOTH	GTIXLAT=24 DIR = ATOI	GTIXLAT=24 DIR = ITOA	GTIXLAT=24 DIR = BOTH
TTI = 0-255 NPDD = 0-21 NPDS = 1 - 21 digits NSDD = 0-21 NSDS = 1 - 21 digits	TTA = 0-255 NP = 0-15 NAI = 0-63 NPDD = 0-21 NPDS = 1 - 21 digits NSDD = 0-21 NSDS = 1 - 21 digits	NPDD = 0-21 NPDS = 1 - 21 digits NSDD = 0-21 NSDS = 1 - 21 digits	TTI = 0-255 NP = 0-15 NAI = 0-63 NPDD = 0-21 NPDS = 1 - 21 digits NSDD = 0-21 NSDS = 1 - 21 digits	TTA = 0-255 NPDD = 0-21 NPDS = 1 - 21 digits NSDD = 0-21 NSDS = 1 - 21 digits	NPDD = 0-21 NPDS = 1 - 21 digits NSDD = 0-21 NSDS = 1 - 21 digits
<p>Notes:</p> <ol style="list-style-type: none"> 1. The <code>gtixlat</code> parameter cannot be specified with the <code>chg-gtcnv</code> command, but is used to determine the parameter combinations that can be specified with the <code>chg-gtcnv</code> command. 2. If the GT Conversion Table entry contains no prefix (<code>npdd</code>, <code>npds</code>) or suffix (<code>nsdd</code>, <code>nsds</code>) parameter values, the prefix or suffix parameters can be specified with the <code>chg-gtcnv</code> command, but both sets of parameters, or a mixture of the prefix or suffix parameters cannot be specified. 3. If the GT Conversion Table entry contains prefix parameter values, the suffix parameters cannot be specified with the <code>chg-gtcnv</code> command. 4. If the GT Conversion Table entry contains suffix parameter values, the prefix parameters cannot be specified with the <code>chg-gtcnv</code> command. 					

For this example, enter these commands.

```
chg-gtcnv:dir=atoi:tta=10:tti=35:nsdd=3:nsds=818
```

```
chg-gtcnv:dir=ittoi:tti=7:np=4:nai=8:tta=40:npdd=3:npds=202
```

```
chg-gtcnv:dir=both:tta=8:tti=9:np=4:nai=8:npds=6151
```

When each of these commands have successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-GTCNV: MASP A - COMPLTD
```

6. Verify the changes using the `rtrv-gtcnv` command and specifying the parameter values used in step 5, along with the `gtixlat` parameter value shown in the `rtrv-gtcnv` output in step 2 that was assigned to the GT Conversion Table entry changed in step 5.

For this example, enter these commands.

```
rtrv-gtcnv:dir=atoi:gtixlat=22:tta=10
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi    22    10   25   --- ---   3    sfx  818

GTCNV table is (11 of 1000) 1% full
```

```
rtrv-gtcnv:dir=itai:gtixlat=24:tai=7
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itai   24    40   7   4   8   3    pfx  202

GTCNV table is (11 of 1000) 1% full
```

```
rtrv-gtcnv:dir=both:gtixlat=24:tai=8:tai=9
```

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
DIR  GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
both   24     8   9   4   8   4    pfx  6151

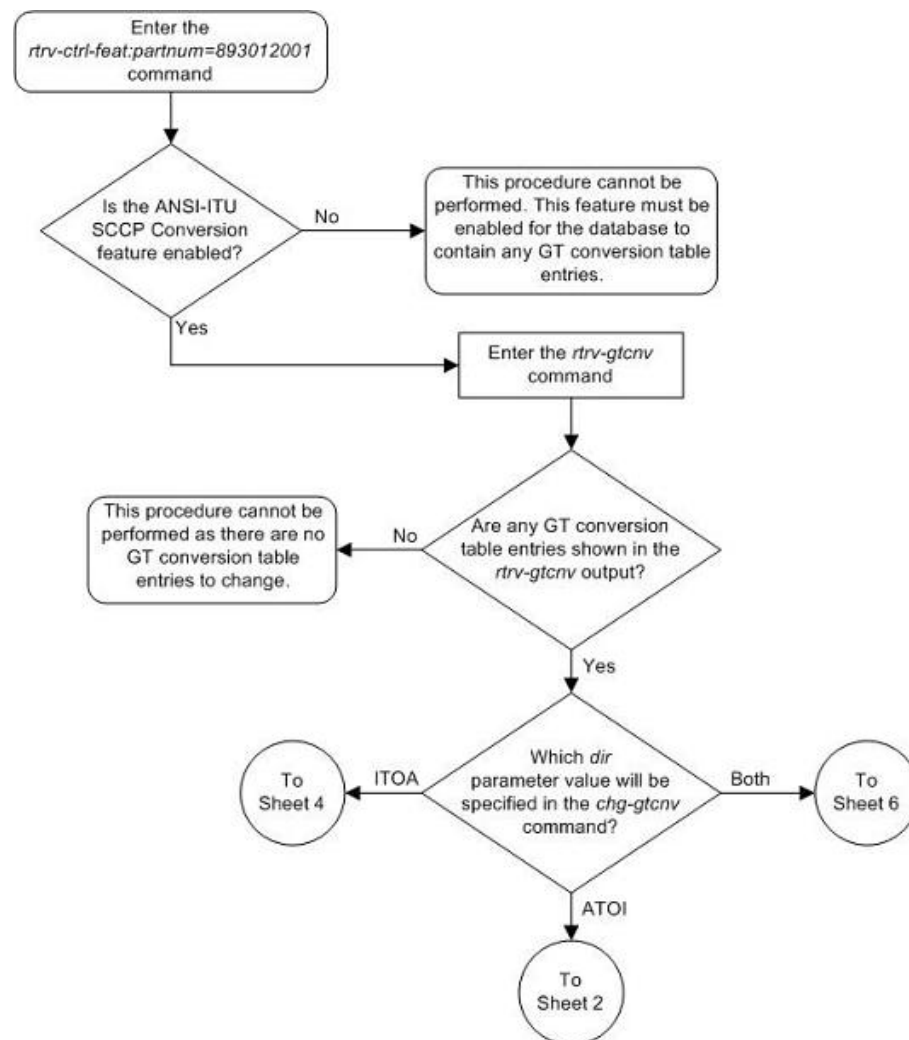
GTCNV table is (11 of 1000) 1% full
```

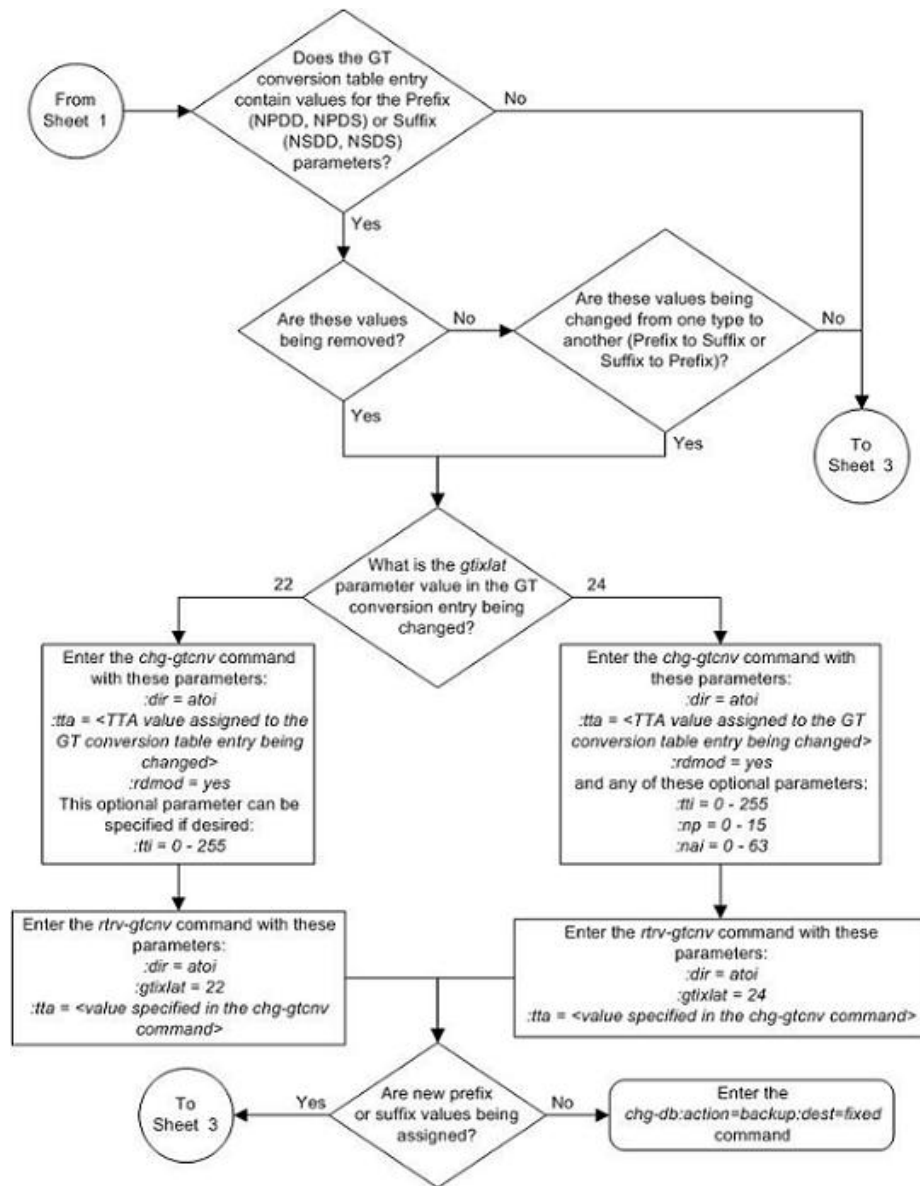
7. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

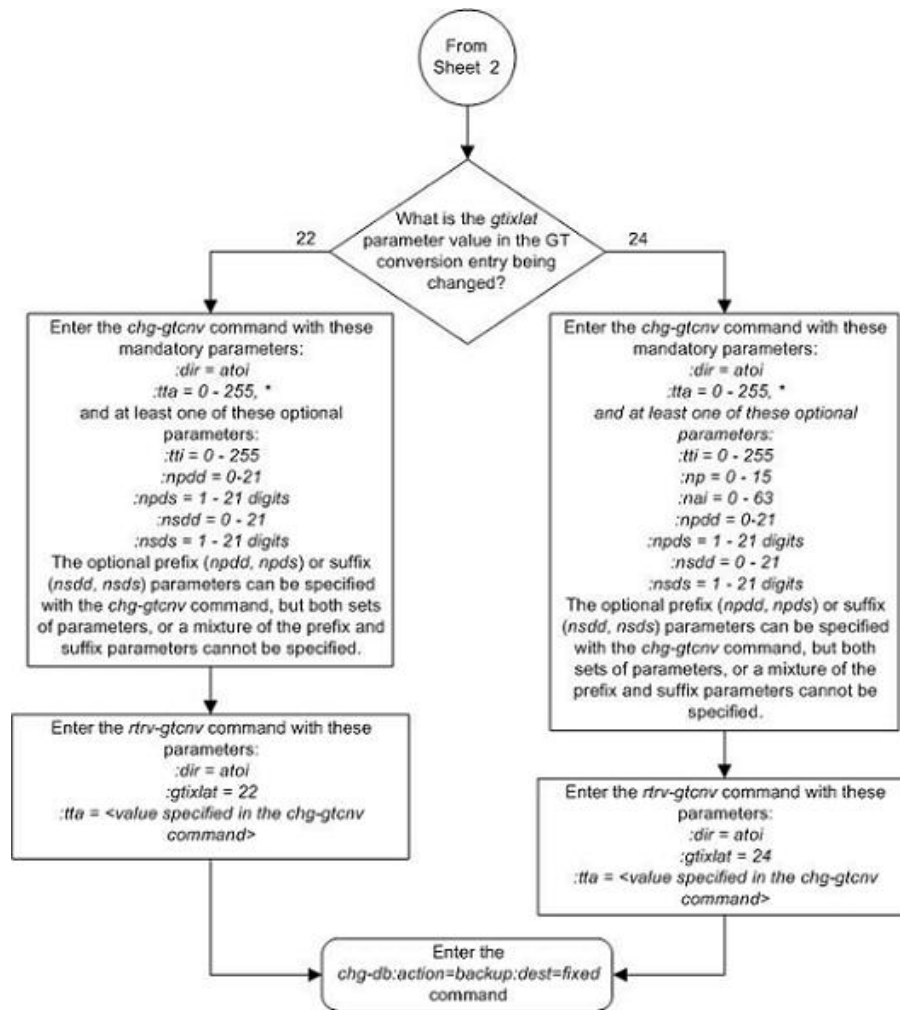
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

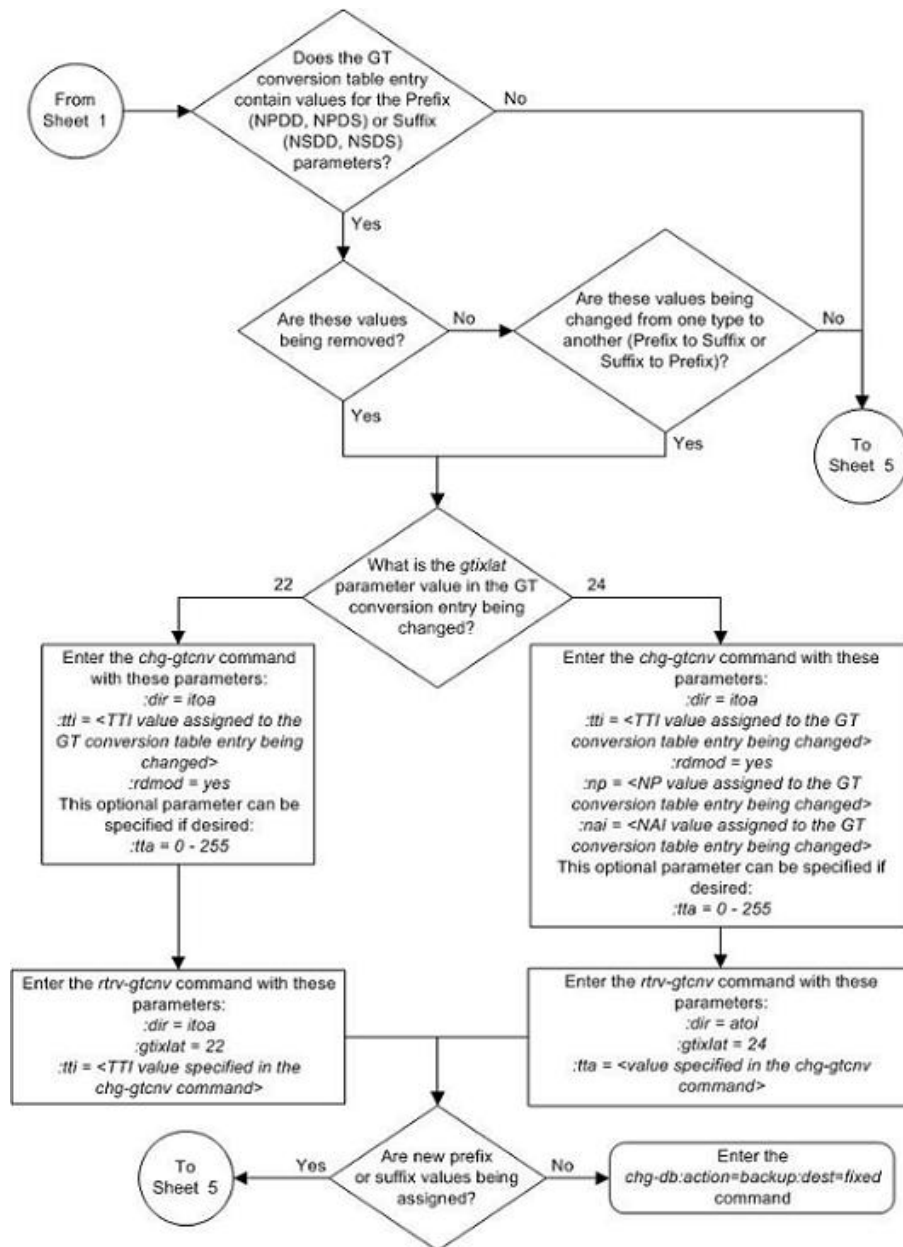
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

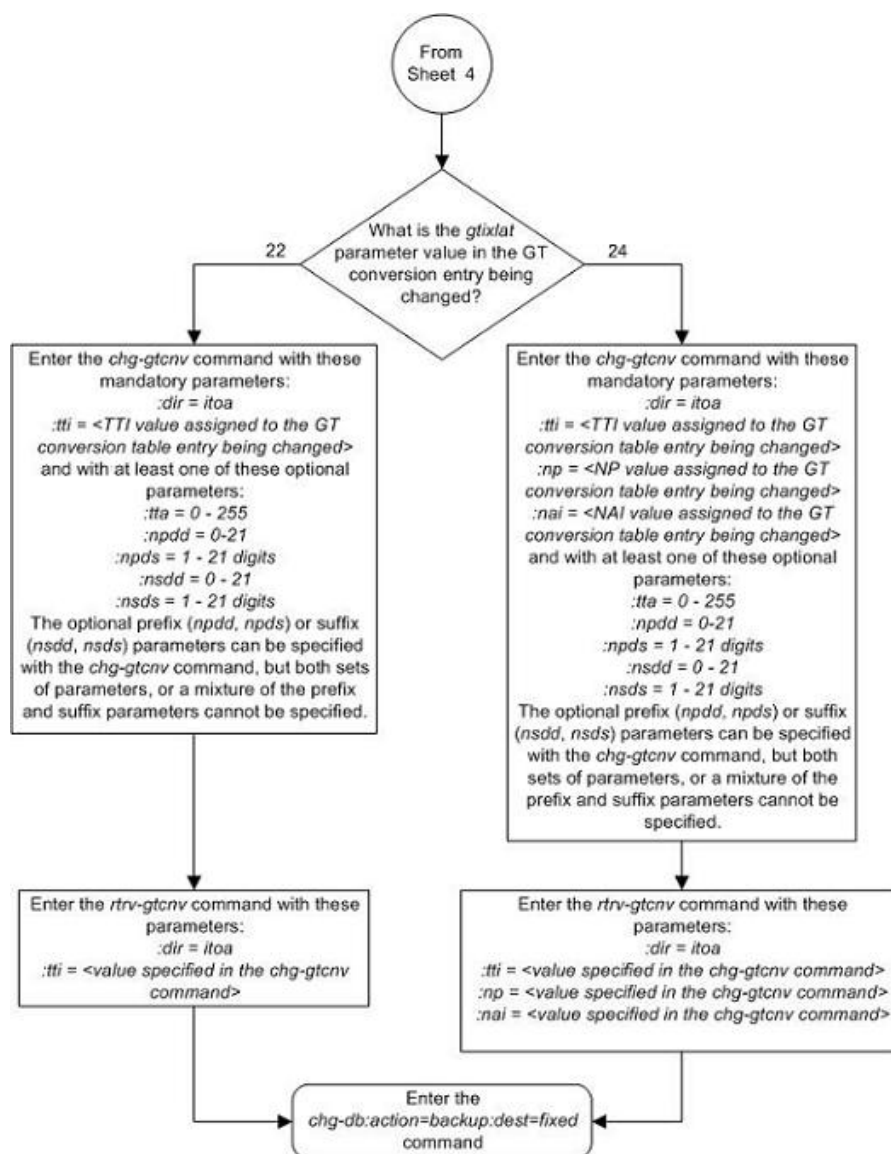
Figure 39: Changing a GT Conversion Table Entry

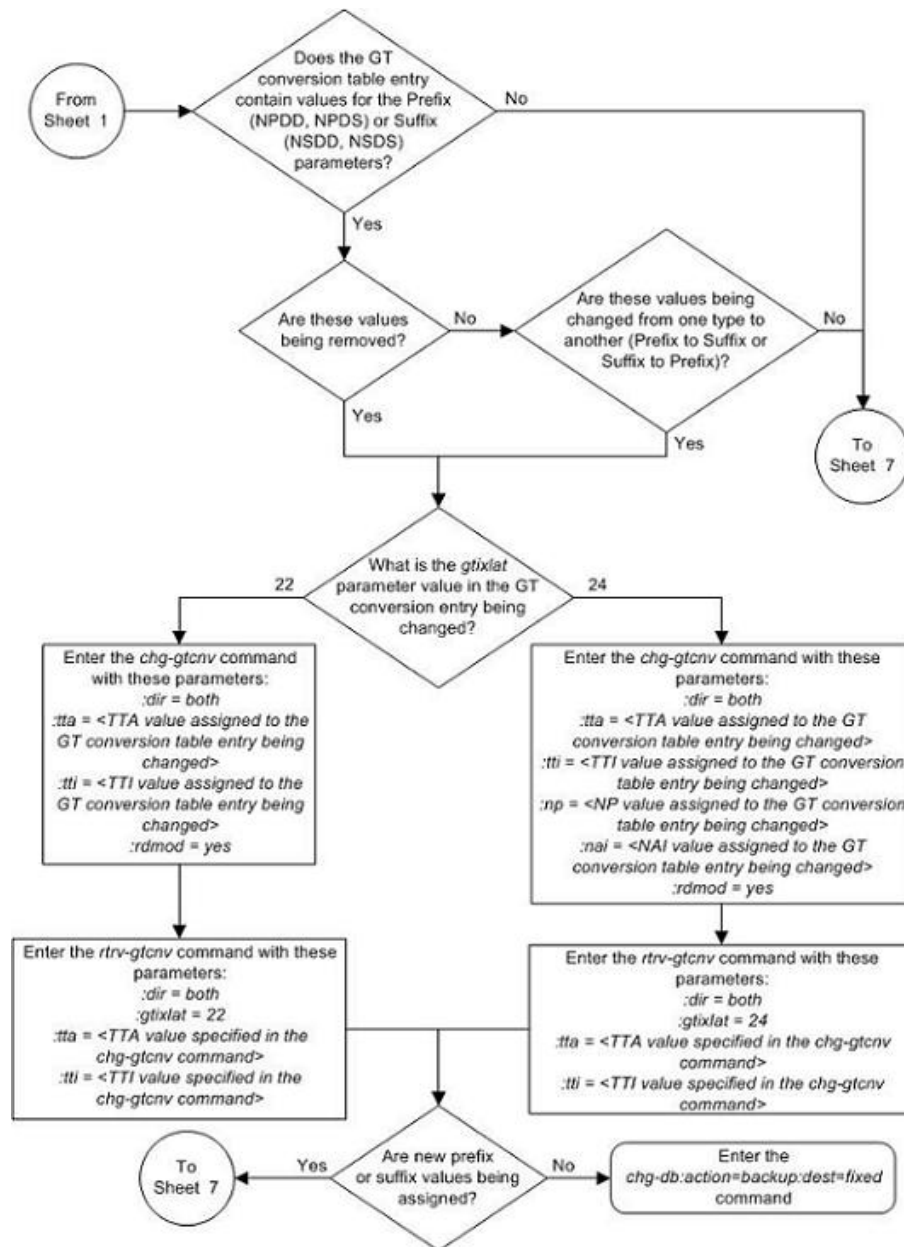


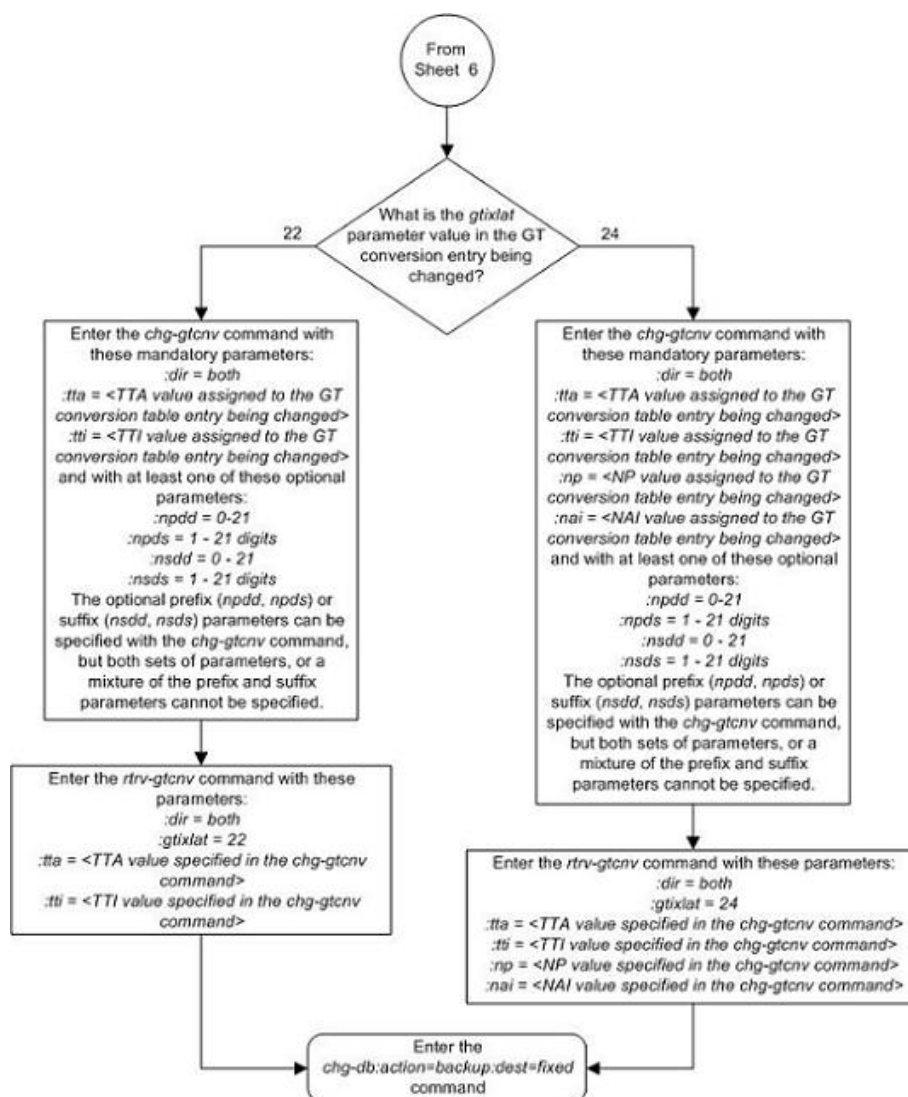












Changing the ANSI-ITU-China SCCP Conversion Options

This procedure is used to change the options used for the ANSI-ITU-China SCCP Conversion feature using the `chg-stpopts` command. The options are:

- :cnvcgda – The CGPA point code in ANSI SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.
- :cnvcgdi – The CGPA point code in ITU-I SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.
- :cnvcgdn – The CGPA point code in ITU-N SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.

:cnvcgdn24 – The CGPA point code in ITU-N24 SCCP messages are discarded if the point code or alias point code of the destination network type is not defined.

:gtcnvdf1t – SCCP messages are routed using system defaults when an appropriate entry is not found in the Default GT Conversion Table.

The values for each of these parameters is either yes or no. The system default values for these parameters is no.

These parameters of the `chg-stpopts` command are optional. For any parameters not specified with the `chg-stpopts` command, the values for these parameters are not changed.

The current values for these parameters are shown in the `CNVCGDA`, `CNVCGDI`, `CNVCGDN`, `CNVCGDN24`, and `GTCNVDFLT` fields in the output of the `rtrv-stpopts` command.

The ANSI-ITU-China SCCP Conversion Feature must be enabled to change these parameter values with the `chg-stpopts` command. The `CNVCGDA`, `CNVCGDI`, `CNVCGDN`, `CNVCGDN24`, and `GTCNVDFLT` fields in the output of the `rtrv-stpopts` command are shown when the ANSI-ITU-China SCCP Conversion feature is enabled. If the `CNVCGDA`, `CNVCGDI`, `CNVCGDN`, `CNVCGDN24`, and `GTCNVDFLT` fields are not shown in the output of the `rtrv-stpopts` command, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enabled the ANSI-ITU-China SCCP Conversion feature.

Note: The ANSI-ITU-China SCCP Conversion feature can only be permanently enabled.

1. Display the existing values for the ANSI-ITU-China SCCP Conversion feature options by entering the `rtrv-stpopts` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-17 16:02:05 GMT EAGLE5 37.0.0
STP OPTIONS
-----
CNVCGDA          no
CNVCGDI          no
CNVCGDN          no
CNVCGDN24        no
GTCNVDFLT        no
```

Note: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, refer to the `rtrv-stpopts` command description in the *Commands Manual*.

If the `CNVCGDA`, `CNVCGDI`, `CNVCGDN`, `CNVCGDN24`, and `GTCNVDFLT` fields are not shown in the output of the `rtrv-stpopts` command, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enabled the ANSI-ITU-China SCCP Conversion feature.

Note: The ANSI-ITU-China SCCP Conversion feature can only be permanently enabled.

2. Change the ANSI-ITU-China SCCP Conversion feature options.

For this example, enter this command.

```
chg-stpopts:cnvcgdi=yes:gtcnvdf1t=yes
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 00:22:57 GMT EAGLE5 37.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

3. Verify the changes using the `rtrv-stpopts` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-17 16:02:05 GMT EAGLE5 37.0.0
STP OPTIONS
-----
CNVCGDA          no
CNVCGDI          yes
CNVCGDN          no
CNVCGDN24        no
GTCNVDFLT        yes
```

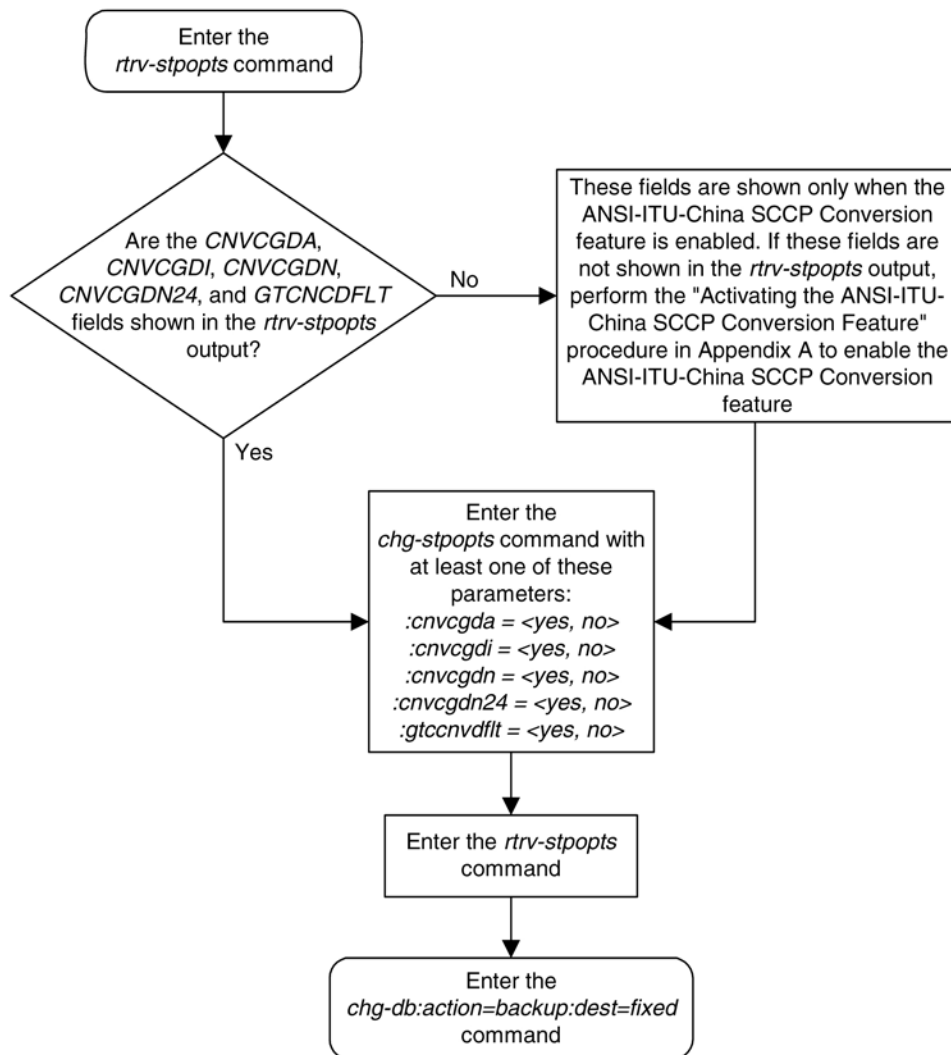
Note: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, refer to the `rtrv-stpopts` command description in the *Commands Manual*.

4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 40: Changing the ANSI-ITU-China SCCP Conversion Options



Changing SCCP Class 1 Sequencing Option

This procedure is used to change the option for sequencing UDT/XUDT Class 1 messages using the `chg-sccpopts` command and the `class1seq` parameter. The `class1seq` parameter has two values `on` and `off`.

When the `class1seq` parameter value is `on`, UDT/XUDT Class 1 messages are delivered to the remote node in the order in which they were received (in sequence). Load sharing of these messages is performed in the dominant mode, overriding the load sharing configuration in the MAP and MRN tables.

Delivering the UDT/XUDT Class 1 ITU messages in sequence is guaranteed only if the `randsls` parameter value of the `chg-stpopts` command is either `off` or `class0`. If you wish to guarantee delivering these messages in sequence, the `class1seq=on` and the `randsls=all` parameters

should not be used together in the EAGLE 5 ISS. The value of the `randsls` parameter is shown in the `rtrv-stpopts` command.

When the `class1seq` parameter value is `off`, load sharing of the UDT/XUDT Class 1 messages is performed using the load sharing configuration in the MAP and MRN tables. The delivery of the UDT/XUDT Class 1 messages in sequence is not guaranteed.

1. Display the existing value for the `class1seq` parameter by entering the `rtrv-sccpopts` command. This is an example of the possible output.

```
rlghncxa03w 07-05-17 16:02:05 GMT EAGLE5 37.0.0
SCCP OPTIONS
-----
CLASS1SEQ                off
DFLTGTMODE               CdPA
```

2. Verify the value of the `randsls` parameter of the `chg-stpopts` command by entering the `rtrv-stpopts` command.

Note: If the `class1seq` parameter value in step 1 is on, skip step 2 and 3, and go to step 4.

This is an example of the possible output.

```
rlghncxa03w 07-05-17 16:02:05 GMT EAGLE5 37.0.0
STP OPTIONS
-----
RANDSLS                  class0
```

Note: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, refer to the `rtrv-stpopts` command description in the *Commands Manual*.

Delivering the UDT/XUDT Class 1 ITU messages in sequence is guaranteed only if the `randsls` parameter value of the `chg-stpopts` command is either `off` or `class0` and if the `class1seq` parameter value is on. If you wish to guarantee delivering these messages in sequence, the `class1seq=on` and the `randsls=all` parameters should not be used together in the EAGLE 5 ISS.

3. Change the `randsls` parameter value to either `off` or `class0`. Refer to the “Configuring the EAGLE 5 ISS for Random SLS Generation” procedure in the *Database Administration Manual - SS7* for more information on using the `off` and `class0` options. For this example, enter this command.

Note:

If the `randsls` parameter value shown in step 2 is either `off` or `class0`, or if you wish to use the `randsls=all` parameter and the `class1seq=on` parameters, skip step 3 and go to step 4.

```
chg-stpopts:randsls=class0
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 00:22:57 GMT EAGLE5 37.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

4. Change the `class1seq` parameter value.

If you wish to enable the sequencing of UDT/XUDT Class 1 messages, enter this command.

```
chg-sccpopts:class1seq=on
```

If you wish to disable the sequencing of UDT/XUDT Class 1 messages, enter this command.

```
chg-sccpopts:class1seq=off
```

When the `chg-sccpopts` command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 00:22:57 GMT  EAGLE5 37.0.0
CHG-SCCPOPTS: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-sccpopts` command. This is an example of the possible output.

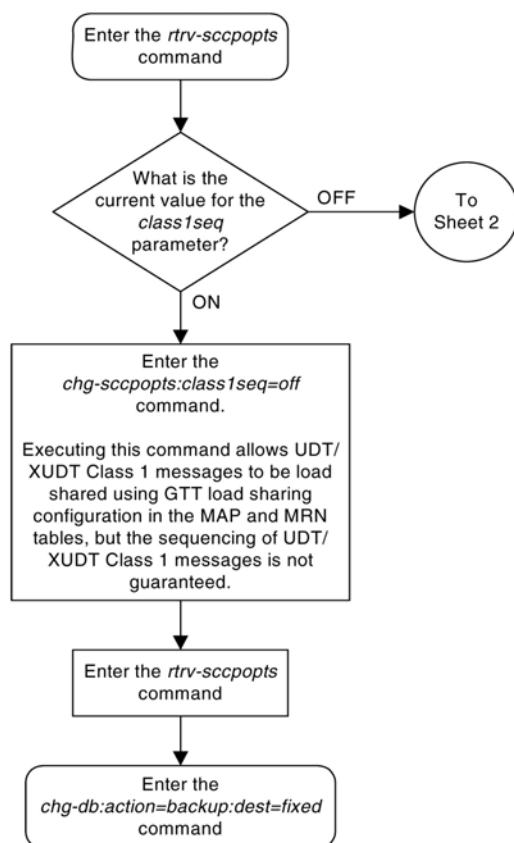
```
rlghncxa03w 07-05-17 16:02:05 GMT  EAGLE5 37.0.0

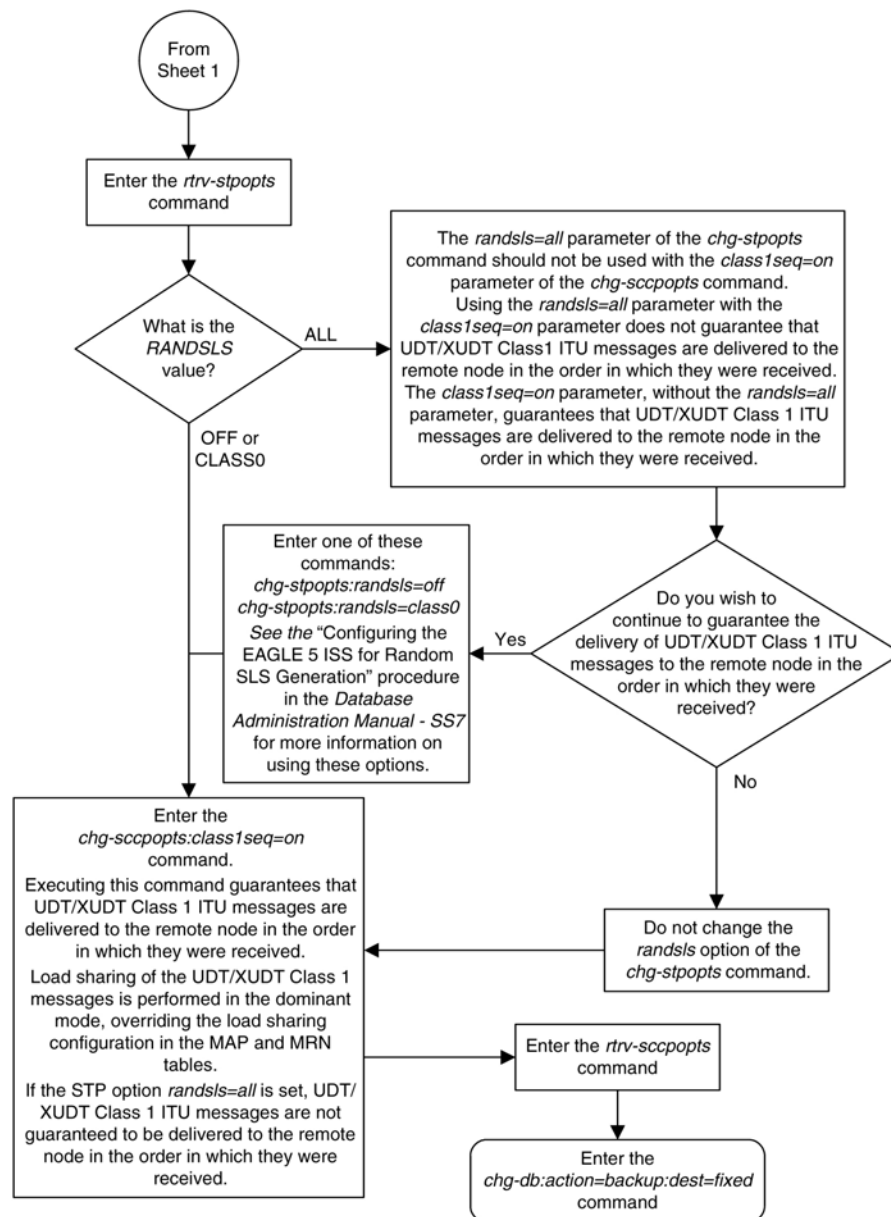
SCCP OPTIONS
-----
CLASS1SEQ                on
DFLTGTTMODE              CdPA
```

6. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 41: Changing the SCCP Class 1 Sequencing Options





Changing the SCCP Alarm Thresholds

This procedure is used to change the SCCP alarm thresholds using the *chg-th-alm* command and these parameters.

:sccptpscap – The percentage for the SCCP load capacity (TPS) threshold alarm, from 0 to 100 and is shown in the SCCP TPS Threshold field of the *rtrv-th-alm* output and in the System TPS Alarm Threshold field in the *rept-stat-sccp* output. The system default value is 80. When this threshold is exceeded, UAM 330 is generated.

:sccpcalcmethod – The calculation method used for determining if the SCCP load capacity (TPS) threshold alarm level has been exceeded. This parameter contains these values:

- N – All in-service normal cards are used in the SCCP load capacity (TPS) threshold alarm level calculation.
- NPLUS1 – All in-service normal cards minus one of the in-service normal card with the highest TPS capacity are used in the SCCP load capacity (TPS) threshold alarm level calculation.

The system default value is N.

The value of this parameter is shown in the SCCP Calculation Method field of the rtrv-th-alm output and in the System SCCP Capacity Calc. Method field in the rept-stat-sccp output.

The service modules that can be used are DSMs and E5-SM4Gs. Each type of service module supports a certain number of transactions per second (TPS), DSMs - 1700, and E5-SM4G - 1700 or 5000 if the E5-SM4G Throughput Capacity feature is enabled. If the sccpcalcmethod=n parameter is specified, the value in the System SCCP Capacity Calc. Method field in the rept-stat-sccp output is the sum of the TPS ratings of all the in-service normal service modules, shown with the entry IS-NR in the PST column in the rept-stat-sccp output.

If the sccpcalcmethod=nplus1 parameter is specified, the value in the System SCCP Capacity Calc. Method field in the rept-stat-sccp output is the sum of the TPS ratings of all the in-service normal service modules, shown with the entry IS-NR in the PST column in the rept-stat-sccp output, minus the TPS rating of the highest rated in-service normal card. If the EAGLE 5 ISS contains only DSMs, or only E5-SM4Gs as service modules, then the TPS rating of one of the DSM, or E5-SM4G, as applicable, is subtracted from the sum of the TPS ratings of all the in-service normal service modules. If the EAGLE 5 ISS contains DSMs, and E5-SM4Gs then the TPS rating of one of the E5-SM4Gs is subtracted from the sum of the TPS ratings of all the in-service normal service modules.

:gttserv11 – The percentage of the SCCP GTT service errors, shown in the FAIL RATIO column for the GTT row of the TOTAL SERVICE STATISTICS: section of the rept-stat-sccp output, from 1 to 100, that when exceeded, generates major alarm UAM 0452. The system default value is 10.

:gttserv12 – The percentage of the SCCP GTT service errors, shown in the FAIL RATIO column for the GTT row of the TOTAL SERVICE STATISTICS: section of the rept-stat-sccp output, from 1 to 100, that when exceeded, generates critical alarm UAM 0453. The system default value is 20.

Note: After the chg-th-alm command is performed, the gttserv12 parameter value must be greater than the gttserv11 parameter value.

:nongttserv11 – The percentage of the SCCP non-GTT service errors (for example, GPORT, GFLEX, EIR, etc.), shown in the FAIL RATIO column for the rows other than GTT in the TOTAL SERVICE STATISTICS: section of the rept-stat-sccp output, from 1 to 100, that when exceeded, generates major alarm UAM 0452. The system default value is 10.

:nongttserv12 – The percentage of the SCCP non-GTT service errors (for example, GPORT, GFLEX, EIR, etc.), shown in the FAIL RATIO column for the rows other than GTT in the TOTAL SERVICE STATISTICS: section of the rept-stat-sccp output, from 1 to 100, that when exceeded, generates critical alarm UAM 0453. The system default value is 20.

Note: After the chg-th-alm command is performed, the nongttserv12 parameter value must be greater than the nongttserv11 parameter value.

:sccpthlv1intvl - The number of minutes, from 0 to 1440, during which the SCCP threshold level 1 alarm (UAM 0452) cannot be raised more than once. The system default value is 0.

:sccpthlv2intvl - The number of minutes, from 0 to 1440, during which the SCCP threshold level 2 alarm (UAM 0453) cannot be raised more than once. The system default value is 0.

Note: After the `chg-th-alm` command is performed, the `sccpthlv2intvl` parameter value must be greater than the `sccpthlv1intvl` parameter value.

For more information on these alarms, refer to the *Unsolicited Alarm and Information Messages Manual*.

The `chg-th-alm` command contains other optional parameters. These parameters are not shown here because they are not necessary to provision the SCCP alarm thresholds. These parameters are explained in more detail in the *Commands Manual*.

1. Display the current SCCP alarm thresholds in the database by entering the `rtrv-th-alm` command. This is an example of the possible output.

```
rlghncxa03w 08-03-28 09:12:36 GMT EAGLE5 38.0.0
SCCP TPS Threshold:                80%
SCCP Calculation Method:           N
GTT SCCP Service Alarm Level 1:    10%
GTT SCCP Service Alarm Level 2:    20%
Non-GTT SCCP Service Alarm Level 1: 10%
Non-GTT SCCP Service Alarm Level 2: 20%
SCCP Service Alarm Level 1 Interval: 0
SCCP Service Alarm Level 2 Interval: 0
Command Executed
```

Note: The `rtrv-th-alm` command output contains other fields that are not used in this procedure. If you wish to see all the fields displayed by the `rtrv-th-alm` command, refer to the `rtrv-th-alm` command description in the *Commands Manual*.

2. Change the SCCP alarm thresholds by entering the `chg-th-alm` command with at least one of the SCCP alarm threshold parameters.

If a SCCP alarm threshold parameter is not specified with the `chg-th-alm` command, that parameter value will not be changed. The system default values for the SCCP alarm threshold parameters are:

- `sccptpscap - 80`
- `sccpcalcmtld - n`
- `gttservl1 - 10`
- `gttservl2 - 20`
- `nongttservl1 - 10`
- `nongttservl2 - 20`
- `sccpthlv1intvl - 10`
- `sccpthlv2intvl - 20`.

Note: After the `chg-th-alm` command is performed, the `gttservl2` parameter value must be greater than the `gttservl1` parameter value, the `nongttservl2` parameter value must be greater than the `nongttservl1` parameter value, and the `sccpthlv2intvl` parameter value must be greater than the `sccpthlv1intvl` parameter value.

For this example, enter this command.

```
chg-th-alm:sccptpscap=70:gttservl1=70:gttservl2=80:nongttservl1=30:nongttservl2=40  
:sccpthlv1intvl=120:sccpthlv2intvl=240
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-28 09:12:36 GMT EAGLE5 37.0.0  
CHG-TH-ALM: MASP A - COMPLTD
```

3. Verify the changes using the `rtrv-th-alm` command. This is an example of the possible output.

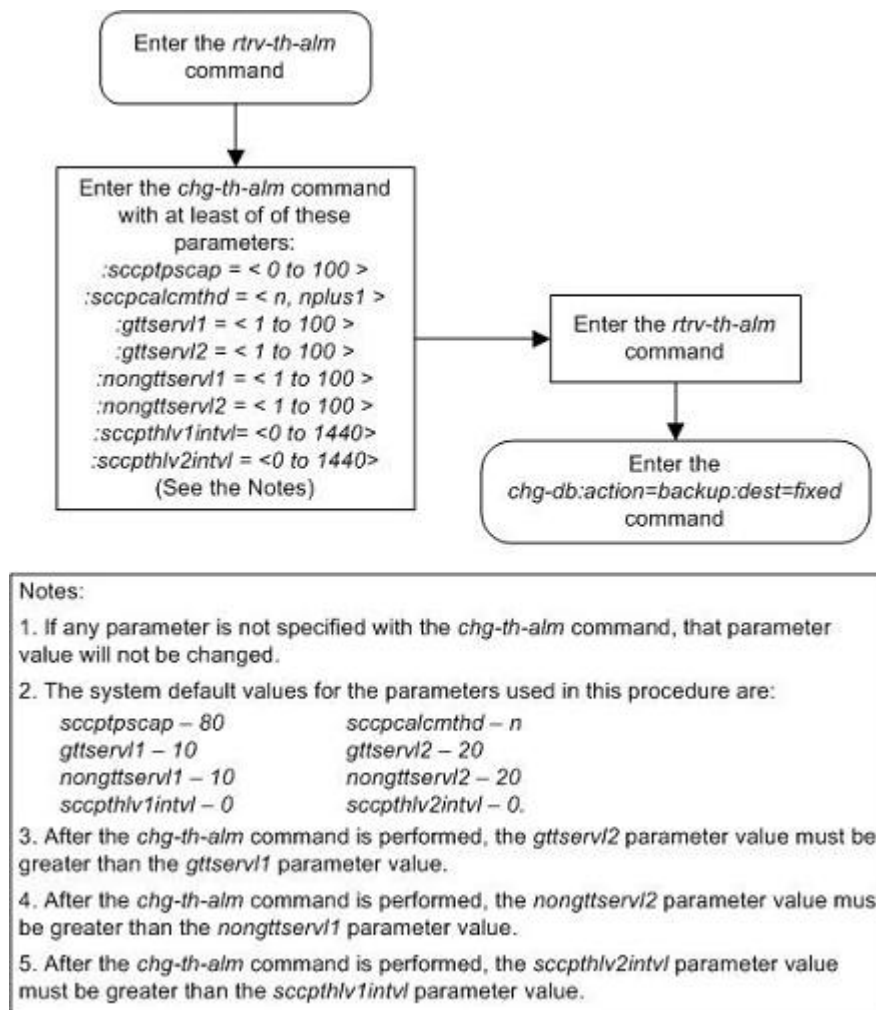
```
rlghncxa03w 08-3-28 09:12:36 GMT EAGLE5 38.0.0  
SCCP TPS Threshold: 70%  
SCCP Calculation Method: N  
GTT SCCP Service Alarm Level 1: 70%  
GTT SCCP Service Alarm Level 2: 80%  
Non-GTT SCCP Service Alarm Level 1: 30%  
Non-GTT SCCP Service Alarm Level 2: 40%  
SCCP Service Alarm Level 1 Interval: 120  
SCCP Service Alarm Level 2 Interval: 240  
Command Executed
```

Note: The `rtrv-th-alm` command output contains other fields that are not used in this procedure. If you wish to see all the fields displayed by the `rtrv-th-alm` command, refer to the `rtrv-th-alm` command description in the *Commands Manual*.

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 42: Changing the SCCP Alarm Thresholds



Changing the Transaction-Based GTT Load Sharing Options

This procedure is used to change the options for performing Transaction-Based GTT Load Sharing using the *chg-sccopts* command and with these parameters:

:tgtt0 – enable or disable Transaction-Based GTT Load Sharing for SCCP Class 0 UDT, UDTS, XUDT, or XUDTS messages. The values for this parameter are:

- *udt* – Transaction-Based GTT Load Sharing is performed for Class 0 UDT or UDTS messages.
- *xudt* – Transaction-Based GTT Load Sharing is performed for Class 0 XUDT or XUDTS messages.
- *both* – Transaction-Based GTT Load Sharing is performed for Class 0 UDT, UDTS, XUDT and XUDTS messages.
- *none* – Transaction-Based GTT Load Sharing is not performed for SCCP Class 0 messages.

:tgtt1 – enable or disable Transaction-Based GTT Load Sharing for SCCP Class 1 UDT, UDTS, XUDT, or XUDTS messages. The values for this parameter are:

- `udt` – Transaction-Based GTT Load Sharing is performed for Class 1 UDT or UDTs messages.
- `xudt` – Transaction-Based GTT Load Sharing is performed for Class 1 XUDT or XUDTs messages.
- `both` – Transaction-Based GTT Load Sharing is performed for Class 1 UDT, UDTs, XUDT and XUDTs messages.
- `none` – Transaction-Based GTT Load Sharing is not performed for SCCP Class 1 messages.

`:tgttudtkey` – the Transaction Parameter for the incoming UDT or UDTs messages. The values for this parameter are:

- `mtp` – Transaction-Based GTT Load Sharing is performed on the MTP parameter for UDT and UDTs messages.
- `sccp` – Transaction-Based GTT Load Sharing is performed on the SCCP parameter for UDT and UDTs messages.
- `tcap` – Transaction-Based GTT Load Sharing is performed on the TCAP parameter for UDT and UDTs messages.
- `enhmtp` – Transaction-Based GTT Load Sharing is performed using the enhanced MTP algorithm for UDT and UDTs messages.

`:tgtxudtkey` – the Transaction Parameter for the incoming XUDT or XUDTs messages. The values for this parameter are:

- `mtp` – Transaction-Based GTT Load Sharing is performed on the MTP parameter for XUDT and XUDTs messages.
- `sccp` – Transaction-Based GTT Load Sharing is performed on the SCCP parameter for XUDT and XUDTs messages.
- `enhmtp` – Transaction-Based GTT Load Sharing is performed using the enhanced MTP algorithm for XUDT and XUDTs messages.

The Transaction-Based GTT Load Sharing feature must be enabled to change these parameter values with the `chg-sccpopts` command. The `tggt0`, `tggt1`, `tggtudtkey`, and `tgtxudtkey` fields in the output of the `rtrv-sccpopts` command are shown when the Transaction-Based GTT Load Sharing feature is enabled. If the `tggt0`, `tggt1`, `tggtudtkey`, and `tgtxudtkey` fields are not shown in the output of the `rtrv-sccpopts` command, perform the [Activating the Transaction-Based GTT Load Sharing Feature](#) on page 919 procedure to enable the Transaction-Based GTT Load Sharing feature.

When the Transaction-Based GTT Load Sharing feature is enabled, these values for the `tggt0`, `tggt1`, `tggtudtkey`, and `tgtxudtkey` fields are shown in the `rtrv-sccpopts` output:

- `tggt0` – `none`
- `tggt1` – `none`
- `tggtudtkey` – `mtp`
- `tgtxudtkey` – `mtp`.

If any parameter is not specified with the `chg-sccpopts` command, that parameter value will not be changed.

If the value `both` is specified for the `tggt0` or `tggt1` parameters, the entry `UDT, XUDT` is shown in the `tggt0` or `tggt1` fields of the `rtrv-sccpopts` output.

For more information on the Transaction-Based GTT Load Sharing feature, refer to the [Transaction-Based GTT Load Sharing](#) on page 52 section.

1. Display the existing values for the Transaction-Based GTT Load Sharing feature options by entering the `rtrv-sccpopts` command. This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT EAGLE5 39.2.0
SCCP OPTIONS
-----
tggt0                NONE
tggt1                NONE
tggtudtkey           MTP
tggtxudtkey          MTP
```

Note: The `rtrv-sccpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-sccpopts` command, refer to the `rtrv-sccpopts` command description in the *Commands Manual*.

If the `tggt0`, `tggt1`, `tggtudtkey` and `tggtxudtkey` fields are not shown in the output of the `rtrv-sccpopts` command, the Transaction-Based GTT Load Sharing feature is not enabled. For these fields to be shown in the `rtrv-sccpopts` output, and to change these values, the Transaction-Based GTT Load Sharing feature must be enabled. Perform the [Activating the Transaction-Based GTT Load Sharing Feature](#) on page 919 procedure to enable the Transaction-Based GTT Load Sharing feature.

2. Change the Transaction-Based GTT Load Sharing feature options by entering the `chg-sccpopts` command with at least one of the Transaction-Based GTT Load Sharing parameters. For this example, enter this command.

```
chg-sccpopts:tggt0=udt:tggt1=both:tggtudtkey=tcap:tggtxudtkey=enhmtp
```

If any parameter is not specified with the `chg-sccpopts` command, that parameter value will not be changed.

When the `chg-sccpopts` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-07 00:22:57 GMT EAGLE5 39.2.0
CHG-SCCPOPTS: MASP A - COMPLTD
```

3. Verify the changes using the `rtrv-sccpopts` command. This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT EAGLE5 39.2.0
SCCP OPTIONS
-----
tggt0                UDT
tggt1                UDT,XUDT
tggtudtkey           TCAP
tggtxudtkey          ENHMTP
```

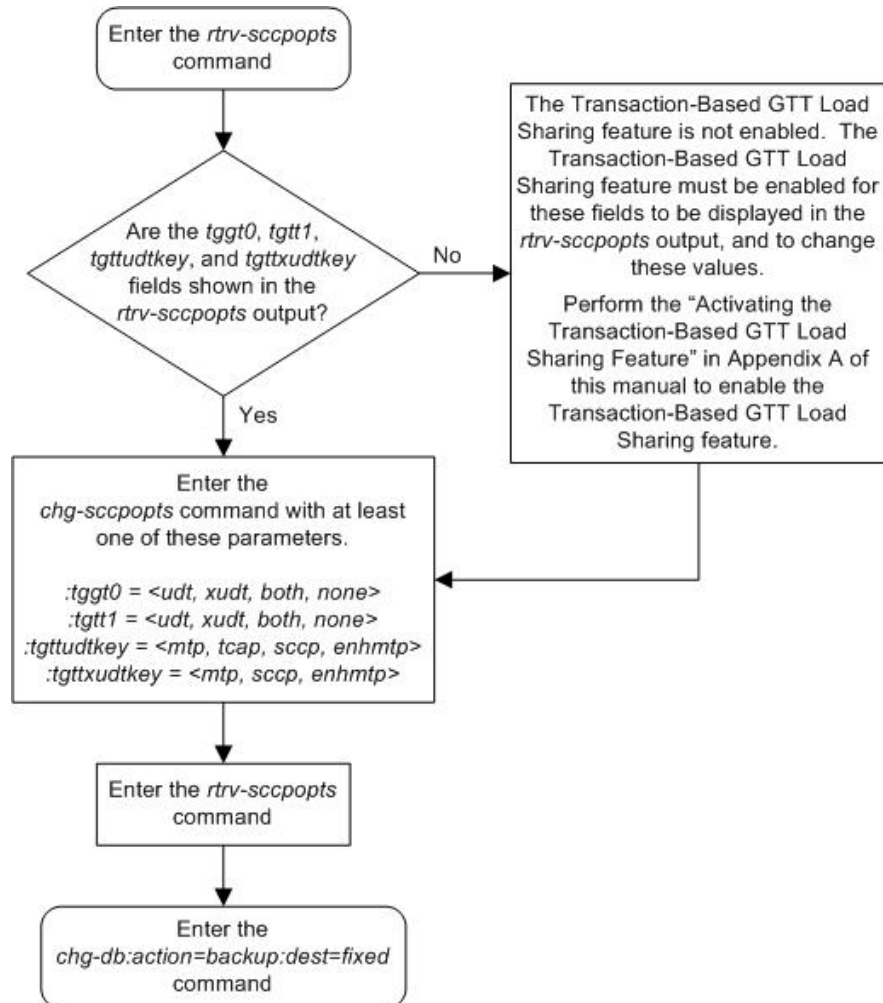
Note: The `rtrv-sccpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-sccpopts` command, refer to the `rtrv-sccpopts` command description in the *Commands Manual*.

4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
```

BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
 BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

Figure 43: Changing the Transaction-Based GTT Load Sharing Options



Adding a Loopset

This procedure is used to add a loopset to the database using the *ent-loopset* command.

The *ent-loopset* command uses these parameters.

:name - The name of the loopset. The loopset name can contain up to 8 characters, with the first character being a letter.

:pc1/pc1a/pc1i/pc1n/pc1n24 - The point codes assigned to the specified loopset, either an ANSI point (*pc1/pc1a*), ITU-1 or ITU-1 spare point (*pc1i*), a 14-bit ITU-N or 14-bit ITU-N spare point code (*pc1n*), or a 24-bit ITU-N (*pc1n24*) point code.

Note: See Chapter 2, *Configuring Destination Tables* in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for the definition of the different formats that can be used for ITU national point codes.

:mode - Mode of operation. Can be notify or discard. This is an optional parameter that specifies whether the message is discarded when an SCCP loop is detected. The "Notify only" mode of operation generates UIMs but not actually discard the message, which allows a user to capture and verify messages. However, the "Discard" mode of operation generates the UIMs and also discard the MSUs.

To add a loopset to the database, the SCCP Loop Detection feature must be enabled. The `rtrv-ctrl-feat` command output shows whether or not the SCCP Loop Detection feature is enabled. If the SCCP Loop Detection feature is not enabled, perform the [Activating the SCCP Loop Detection Feature](#) on page 929 procedure to enable this feature.

All the point codes specified with the `pc1/pc1a/pc1i/pc1n/pc1n24` parameter must be the same type of point code. The point code values are separated by commas with no spaces between the commas and the point code values as shown in the example

`pc1=002-002-002,003-003-003,004-004-004`. This example specified three ANSI point codes for the loopset.

A maximum of twelve point codes can be assigned to a single loopset. However, this procedure can be used to assign a maximum of six point codes to a single loopset. If you wish to add more point codes to the loopset entries, perform the [Changing the Attributes of a Loopset](#) on page 521 procedure.

A maximum of 1000 loopsets can be assigned to a loopset database. If adding the new loopset entries exceed the maximum capacity of the loopset table displayed in the `rtrv-loopset` command output, entries in the loopset table must be removed to ensure that the new loopset entries can be added. Perform the [Removing a Loopset](#) on page 514 procedure to remove the required number of loopset entries

1. Display the loopsets in the database by entering this command.

```
rtrv-loopset:num=1000:force=yes
```

This is an example of the possible output.

```
rlghncxa03w 06-10-18 08:52:38 GMT EAGLE Rel 35.6.0
```

LoopSet	Mode	Point Codes
=====		
rtp1	notify	005-005-005 007-007-007 (ANSI)
		003-004-003 003-007-003
		005-007-005 007-004-007
		003-003-009

```
LOOPSET table is (1 of 1000) 1% full
```

Note: If the `rtrv-loopset` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-loopset` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 1000 loopsets in the database, to display all the loopsets in the database, the `force=yes` and `num=1000` parameters must be specified with the `rtrv-loopset` command.

2. If error message E4565 is displayed after the `rtrv-loopset` command is executed, the SCCP Loop Detection feature is not enabled.

If the SCCP Loop Detection feature is not enabled, perform the [Activating the SCCP Loop Detection Feature](#) on page 929 procedure to enable the SCCP Loop Detection feature. If error message E2584 is displayed after the `rtrv-loopset` command is executed, the GTT feature is not on. Perform the [Activating the SCCP Loop Detection Feature](#) on page 929 procedure to turn the GTT feature on and enable the SCCP Loop Detection feature.

3. The EAGLE 5 ISS can contain a maximum of 1000 loopset. If the `rtrv-loopset` output in step 1 show 1000 loopsets, enough loopsets must be removed from the database to allow the new loopsets to be added.

Perform the [Removing a Loopset](#) on page 514 procedure and remove the required number of loopsets to allow the addition of the new loopsets. If no loopsets are removed, the new loopsets cannot be added and this procedure cannot be performed.

4. Add the loopset to the database using the `ent-loopset` command.

For this example, enter this command

```
ent-loopset:name=rtp2:pc1=2-2-2,3-3-3,4-4-4,5-5-5
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-18 08:31:28 GMT EAGLE Rel 35.6.0
LOOPSET table is (12 of 1000) 1% full
ENT-LOOPSET: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-loopset` command with the loopset name specified in step 4.

For this example, enter this command.

```
rtrv-loopset:name=rtp2
```

This is an example of the possible output.

```
rlghncxa03w 06-10-18 08:31:28 GMT EAGLE Rel 35.6.0

LoopSet      Mode      Point Codes
=====
rtp2          notify    002-002-002      003-003-003      (ANSI)
              004-004-004      005-005-005
LOOPSET table is (2 of 1000) 1% full
```

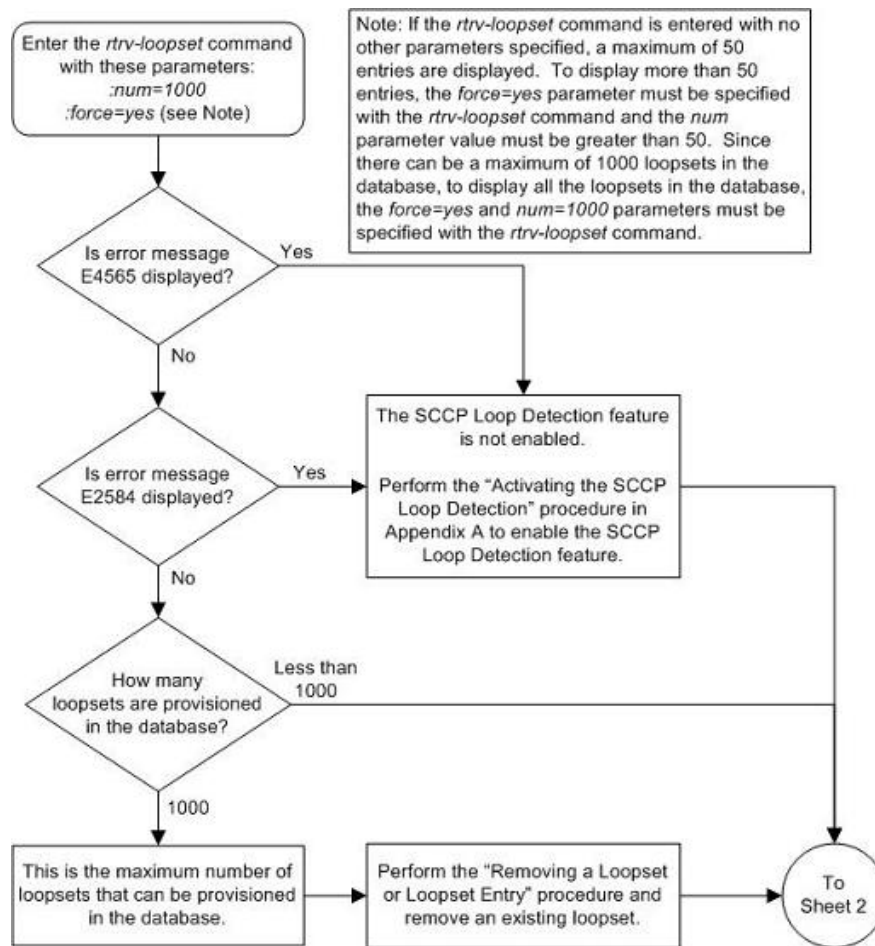
6. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

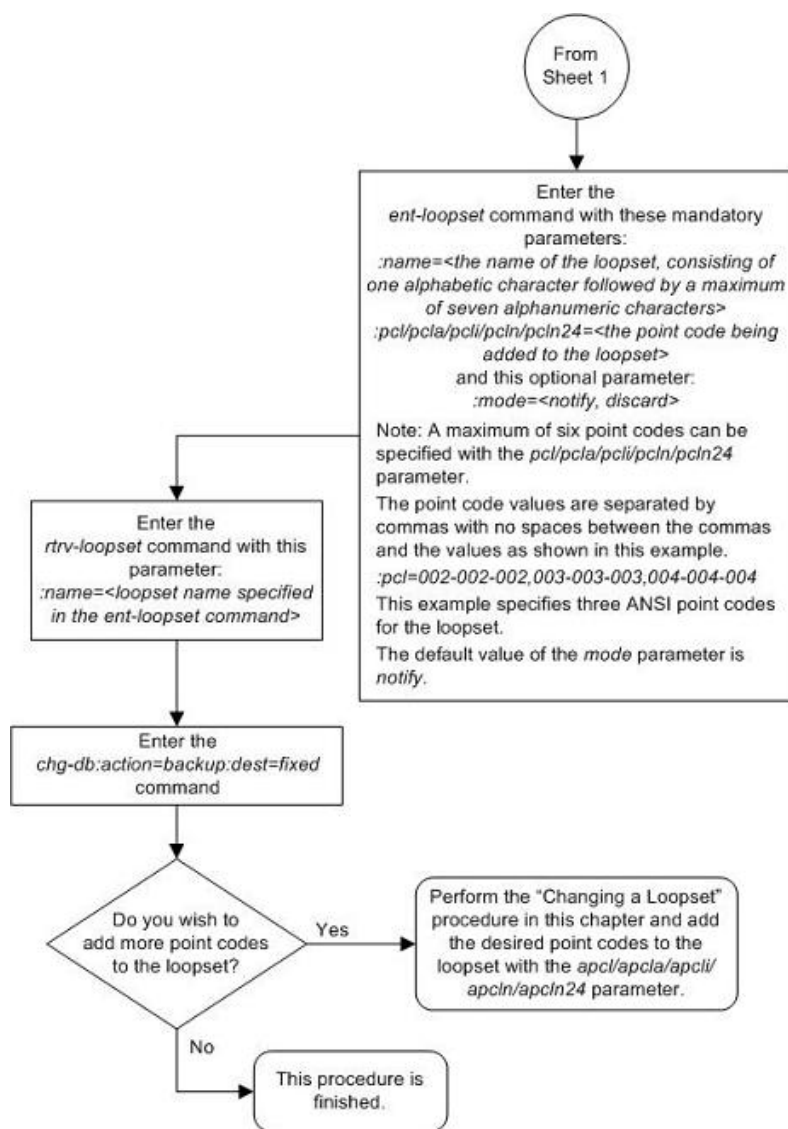
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A-Backup starts on active MASP.
BACKUP (FIXED) : MASP A-Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A-Backup starts on standby MASP.
BACKUP (FIXED) : MASP A-Backup on standby MASP to fixed disk complete.
```

7. A loopset can contain a maximum of 12 point codes. If you wish to add more point codes to this loopset, perform the [Changing the Attributes of a Loopset](#) on page 521 procedure and add the additional point codes with the `apcl/apcla/apcli/apcln/apcln24` parameter. If you do not wish to add more point codes to the loopset, this procedure is finished.

Figure 44: Adding a Loopset to the Database





Removing a Loopset

This procedure is used to remove an entire loopset from the database or a specific point code in a loopset using the `dlt-loopset` command.

The `dlt-loopset` command uses these parameter.

`:name` - The name of the loopset being removed, shown in the `rtv-loopset` output.

`:force` - This parameter has two values, yes or no. The value yes allows the point code in the loopset to be removed if the loopset is assigned to entries in either the `rtv-gtt` or `rtv-gta` outputs. The value no requires that any references to the loopset must be removed from the GTT or GTA entries before the loopset or the point code in the loopset can be removed. Perform one

of these procedures to remove the reference to the loopset, depending on whether or not the EGTT feature is on. The status of the EGTT feature is shown in the `rtrv-feat` command output.

- If the EGTT feature is not on – Enter the `rtrv-gtt` command to verify the loopset references. Perform the [Changing a Global Title Translation](#) on page 614 procedure and change the loopset reference to NONE or to another loopset name, or remove the global title translation by performing the [Removing a Global Title Translation](#) on page 607 procedure.
- If the EGTT feature is on – Enter the `rtrv-gta` command to verify the loopset references. Perform [Changing Global Title Address Information](#) on page 787 and change the loopset reference to NONE or to another loopset name, or remove the entry by performing the [Removing Global Title Address Information](#) on page 777 procedure.

:pcl/pcla/pcli/pcln/pcln24 – The point code, either an ANSI point code (pcl/pcla), ITU-I or ITU-I spare point code (pcli), a 14-bit ITU-N or 14-bit ITU-N spare point code (pcln), or a 24-bit ITU-N (pcln24) point code, that is assigned to the loopset and shown in the `rtrv-loopset` output.

If the `dlt-loopset` command is specified with the name and `pcl/pcla/pcli/ pcln/pcln24` parameter, the specified point code is removed from the loopset.

If the `dlt-loopset` command is specified with the name parameter and without the `pcl/pcla/pcli/pcln/pcln24` parameter, the entire loopset is removed from the database.

1. Display the loopsets in the database by entering this command. This is an example of the possible output

```
rtrv-loopset:num=1000:force=yes
```

Note: If the `rtrv-loopset` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-loopset` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 1000 loopsets in the database, to display all the loopsets in the database, the `force=yes` and `num=1000` parameters must be specified with the `rtrv-loopset` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-18 08:52:38 GMT EAGLE Rel 35.6.0
LoopSet    Mode    Point Codes
```

```
=====
rtp1       notify   005-005-005      007-007-007      (ANSI)
                003-004-003      003-007-003
                005-007-005      007-004-007
                005-004-005
```

```
rtp2       notify   002-002-002      003-003-003      (ANSI)
                004-004-004      005-005-005
```

```
LOOPSET table is (2 of 1000) 1% full
```

If error message E4565 is displayed or if no loopsets are displayed, this procedure cannot be performed.

Note: If the `force=yes` parameter will be specified with the `dlt-loopset` command, only a specific point code can be removed from the loopset. Skip steps 2 through 6 and go to step 7.

2. Verify whether or not the EGTT feature is turned on by entering the `rtrv-feat` command. If the EGTT featured is turned on, the EGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to know about all the fields displayed by the `rtrv-feat` command, refer to the `rtrv-feat` command description in the *Commands Manual*.

Note: If the EGTT feature is not turned on, skip steps 3 and step 4, and go to step 5.

3. Display the GTT sets in the database using the `rtrv-gttset` command. This is an example of the possible output.

```
rlghncxa03w 07-03-07 00:27:31 GMT EAGLE5 35.6.0
GTTSN      NETDOM  SETTYPE  NDGT
setans015  ansi      CDGTA    6
set1       ansi      CDGTA    6
```

4. Display the global title address (GTA) information for a GTT set from step 3. Execute the `rtrv-gta` command with the `gttsn` parameter value shown in the output of step 3 and with the name of the loopset being removed, specified with the `loopset` parameter. For this example, enter this command.

```
rtrv-gta:gttsn=set1:loopset=rtp1
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
set1       ansi      CDGTA    6

GTT TABLE IS 1 % FULL (2 of 269999)

START GTA  END GTA  XLAT  RI    PCA
919460     919460   DISC
919461     919461   DPC   SSN    002-002-002
      SSN=--- CCGT=no NTT=---
      LOOPSET = rtp1 FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCS=-----

Command Retrieved 2 Entries
```

If any of the displayed entries reference the loopset being removed, for those entries, perform [Changing Global Title Address Information](#) on page 787 and change the loopset reference to NONE or to another loopset name, or remove the entry by performing the [Removing Global Title Address Information](#) on page 777 procedure.

If the displayed entries do not reference the loopset being removed, repeat this step with the other GTT set names displayed in step 3.

When all the GTT set names have been displayed and all applicable global title translation entries have been changed or removed in this step, go to step 7.

5. Display the translation types in the database using the `rtrv-tt` command. This is an example of the possible output.

```
rlghncxa03w 07-03-25 09:42:31 GMT EAGLE5 35.6.0
TYPEA      TTN      NDGT
1          lidb      5
2          c800      10
3          d700      6
5          scp1      6
10         scp2      6
15         scp3      3
```

ALIAS	TYPEA	
30	5	
40	10	
50	3	
65	3	
TYPEI	TTN	NDGT
105	itudb	8
ALIAS	TYPEI	
7	105	
TYPEN	TTN	NDGT
120	dbitu	7
ALIAS	TYPEN	
8	120	

6. Display the global title translations in the database using the `rtrv-gtt` command specifying a translation type from the `rtrv-tt` command output shown in step 5 and with the name of the loopset being removed, specified with the `loopset` parameter. For this example, enter this command.

```
rtrv-gtt:typea=10:loopset=rtpl
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
10      scp2      6

GTT TABLE IS 10 % FULL (27000 of 269999)

START GTA          END GTA          XLAT  RI      PC
615370             615380             DPCSSN SSN    003-003-003
      MAPSET=6      SSN=254 NGT=---
      LOOPSET = rtpl

Command Retrieved 1 Entries
```

If any of the displayed entries reference the loopset being removed, for those entries, perform the [Changing a Global Title Translation](#) on page 614 procedure and change the loopset reference to NONE or to another loopset name, or remove the global title translation by performing the [Removing a Global Title Translation](#) on page 607 procedure.

If the displayed entries do not reference the loopset being removed, repeat this step with the other translation types displayed in step 5.

When all the translation types have been displayed and all applicable global title translation entries have been changed or removed in this step, go to step 7.

7. If an entire loopset is being removed from the database, specify the `dlt-loopset` command with the name of the loopset you wish to remove.

If a point code value is being removed from the loopset, specify the `dlt-loopset` command with the name of the loopset and the point code value you wish to remove.

For this example, enter this command to remove the entire loopset.

```
dlt-loopset:name=rtpl
```

This message should appear.

```
rlghncxa03w 06-10-18 08:48:25 GMT EAGLE Rel 35.6.0
LOOPSET table is (11 of 1000) 1% full
DLT-LOOPSET: MASP A - COMPLTD
```

Note: If the loopset containing the point code being removed in this step is referenced by an entry shown in either the `rtrv-gtt` or `rtrv-gta` outputs, and those entries have not been removed or the loopset assignment for these entries has not been changed, the `force=yes` parameter must be specified with the `dlc-loopset` command.

If you wish to remove other point codes from the loopset, repeat this step. When you have finished removing the point codes from the loopset, go to step 8.

8. Verify the changes using the `rtrv-loopset` command with the name of the loopset specified in step 7. For this example, enter this command.

```
rtrv-loopset:name=rtp1
```

The following message should appear if you have deleted specific point codes in the loopset.

```
rlghncxa03w 06-10-18 08:52:38 GMT EAGLE Rel 35.6.0
LoopSet      Mode      Point Codes
=====
rtp1          notify    005-005-005          003-004-003          (ANSI)
                  003-007-003          005-007-005
                  007-004-007
```

The following message should appear if you have deleted an entire loopset.

```
E4568 : Loopset Entry does not exist
```

9. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

If a point code value was removed from a loopset in step 7 and the `force=yes` was not used in step 7, and you wish to assign this loopset to the GTT or GTA entries that were removed or changed in steps 4 or 6, go to step 10.

If any of the following actions were performed in step 7, this procedure is finished. Do not perform step 10.

- An entire loopset was removed in step 7.
- A point code value was removed from a loopset with the `force=yes` parameter in step 7.
- A point code value was removed from a loopset in step 7, the `force=yes` was not used in step 7, and you do not wish to assign this loopset to the GTT or GTA entries that were removed or changed in steps 4 or 6.

10. Assign the loopset specified in step 7 to the GTT or GTA entries that were removed or changed in steps 4 or 6.

If the EGTT feature is not on, perform one of these procedures:

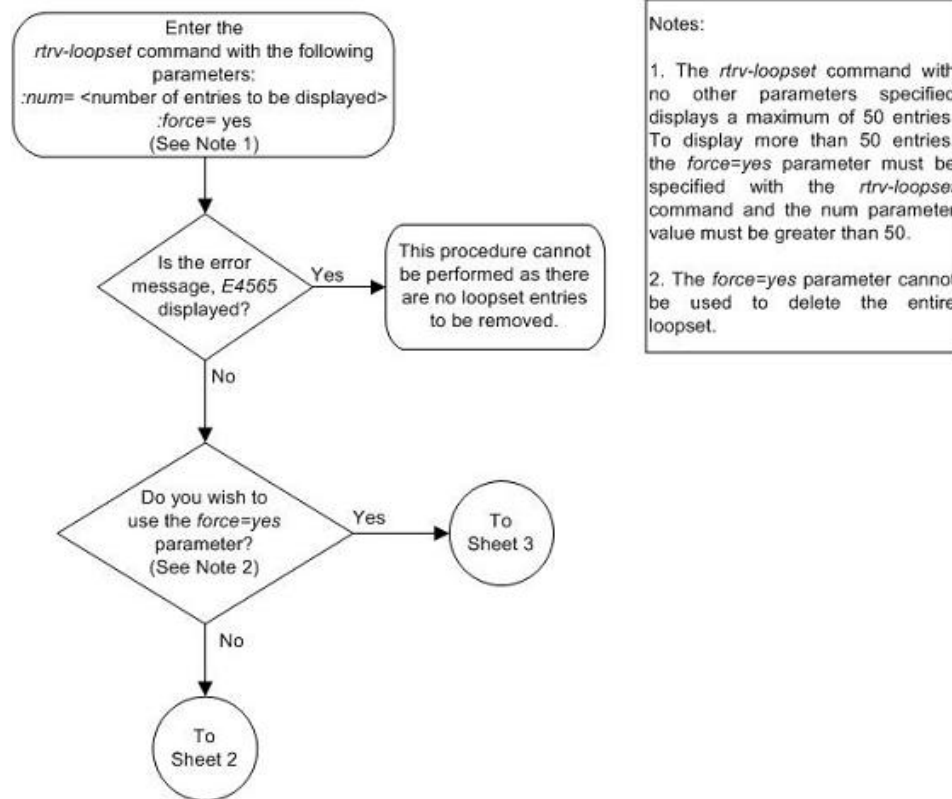
- [Adding a Global Title Translation](#) on page 561 procedure if the GTT entry was removed from the database in step 6.

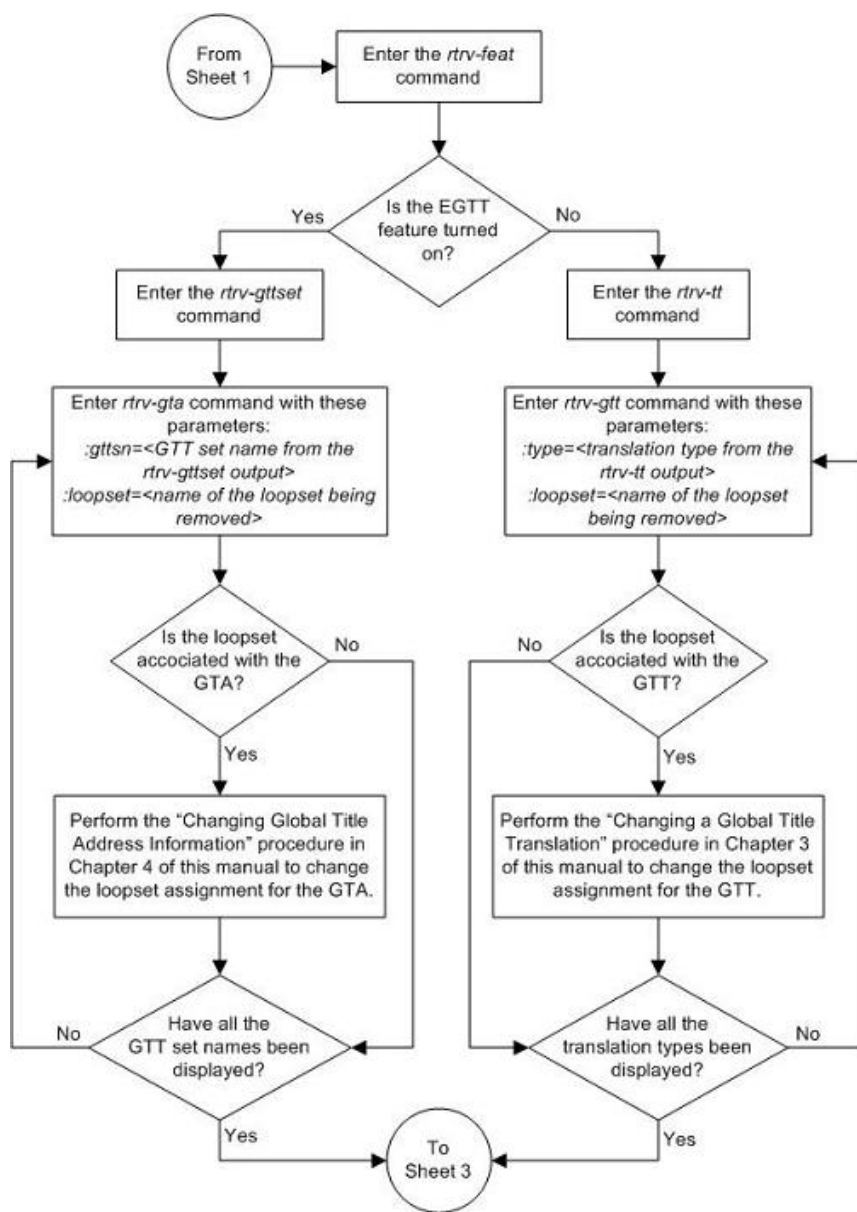
- [Changing a Global Title Translation](#) on page 614 procedure if the GTT entry was changed in step 6.

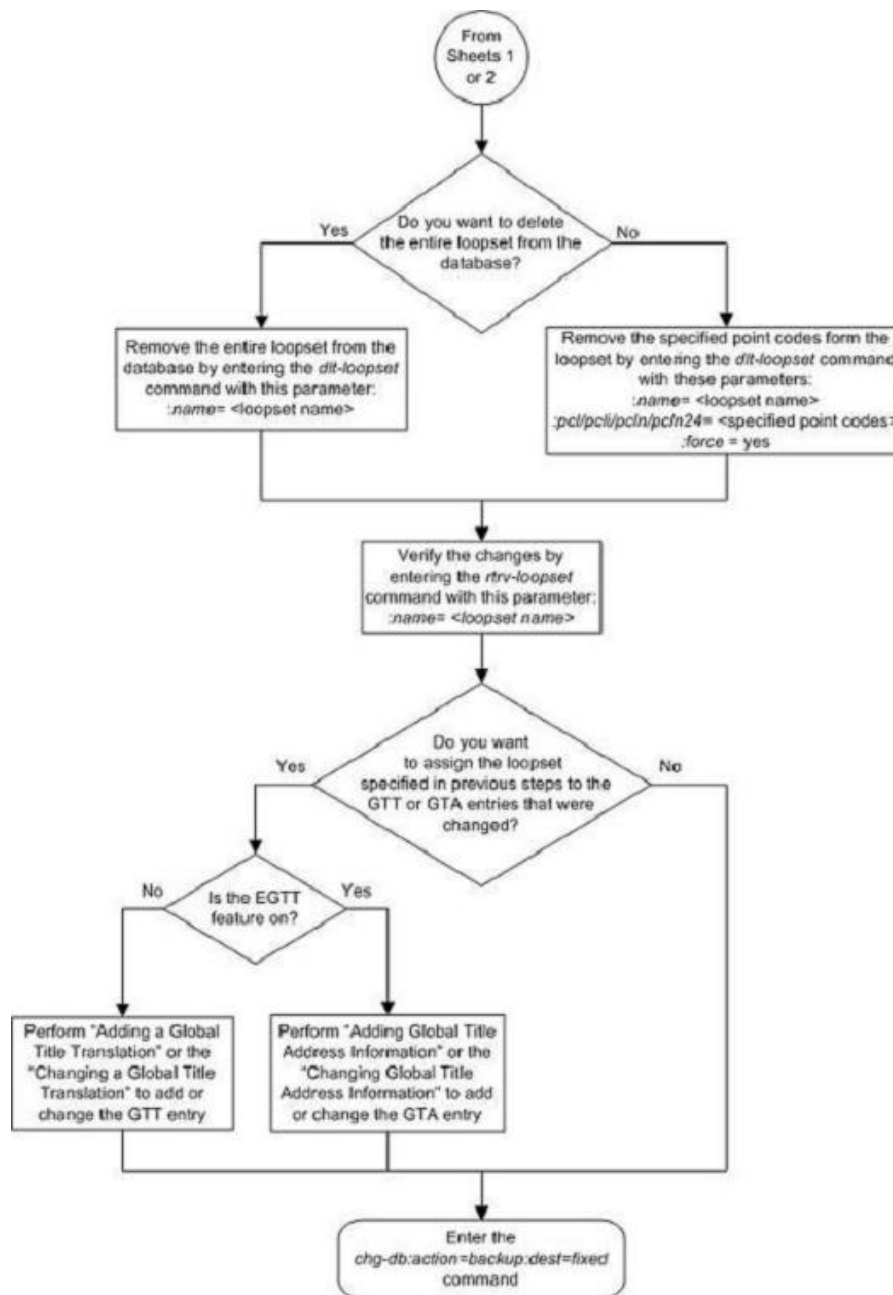
If the EGTT is on, perform one of these procedures:

- [Adding Global Title Address Information](#) on page 727 procedure if the GTA entry was removed from the database in step 4.
- [Changing a GTT Selector](#) on page 716 procedure if the GTA entry was changed in step 4.

Figure 45: Removing a Loopset







Changing the Attributes of a Loopset

This procedure is used to modify a loopset in the following ways using the *chg-loopset* command.

- Change the mode of operation
- Replace all the point codes

- Replace a specific point code
- Replace two specific point codes
- Append additional point codes

The `chg-loopset` command uses these parameters.

`:name` – The name of the loopset to be modified, shown in the `rtrv-loopset` output.

`:force` – This parameter has two values, yes or no. The value yes allows the attributes of a loopset to be changed if the loopset is assigned to entries in either the `rtrv-gtt` or `rtrv-gta` outputs. The value no requires that references to the loopset must be removed from the GTT or GTA entries before the attributes of the loopset are changed. Perform one of these procedures to remove a reference to the loopset, depending on whether or not the EGTT feature is on. The status of the EGTT feature is shown in the `rtrv-feat` command output.

- If the EGTT feature is not on – Enter the `rtrv-gtt` command to verify the loopset references. Perform the [Changing a Global Title Translation](#) on page 614 procedure and change the loopset reference to NONE or to another loopset name, or remove the global title translation by performing the [Removing a Global Title Translation](#) on page 607 procedure.
- If the EGTT feature is on – Enter the `rtrv-gta` command to verify the loopset references. Perform [Changing Global Title Address Information](#) on page 787 and change the loopset reference to NONE or to another loopset name, or remove the entry by performing the [Removing Global Title Address Information](#) on page 777 procedure.

`:pcl/pcla/pcli/pcln/pcln24` – The point code, either an ANSI point code (`pcl/pcla`), ITU-I or ITU-I spare point code (`pcli`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`pcln`), or a 24-bit ITU-N (`pcln24`) point code, assigned to the loopset shown in the `rtrv-loopset` output that is to be replaced by a new point code. This point code is the first or the only point code that can be replaced when the `chg-loopset` command is used to replace two specific point codes or a single point code.

`:pc2/pc2a/pc2i/pc2n/pc2n24` – The point code, either an ANSI point code (`pc2/pc2a`), ITU-I or ITU-I spare point code (`pc2i`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`pc2n`), or a 24-bit ITU-N (`pc2n24`) point code, assigned to the loopset shown in the `rtrv-loopset` output that is to be replaced by a new point code. This point code is the second point code that can be replaced when the `chg-loopset` command is used to replace two specific point codes.

`:rpcl/rpcla/rpcli/rpcln/rpcln24` – The point code, either an ANSI point code (`rpcl/rpcla`), ITU-I or ITU-I spare point code (`rpcli`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`rpcln`), or a 24-bit ITU-N (`rpcln24`) point code, that is used to simultaneously replace all the point code(s) assigned to the loopset shown in the `rtrv-loopset` output.

`:npcl/npcla/npcli/npcln/npcln24` – The point code, either an ANSI point code (`npcl/npcla`), ITU-I or ITU-I spare point code (`npcli`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`npcln`), or a 24-bit ITU-N (`npcln24`) point code that replaces the first or the only specified point code when the `chg-loopset` command is used to replace two specific point codes or a single point code.

`:npc2/npc2a/npc2i/npc2n/npc2n24` – The point code, either an ANSI point code (`npc2/npc2a`), ITU-I or ITU-I spare point code (`npc2i`), a 14-bit ITU-N or 14-bit ITU-N spare point code (`npc2n`), or a 24-bit ITU-N (`npc2n24`) point code that replaces the second specified point code when the `chg-loopset` command is used to replace two specific point codes.

`:apcl/apcla/apcli/apcln/apcln24` – The point code, either an ANSI point code (`apcl/apcla`), ITU-I or ITU-I spare point code (`apcli`), a 14-bit ITU-N or 14-bit ITU-N spare

point code (npcln), or a 24-bit ITU-N (npcln24) point code that can be appended to the set of point codes assigned to the loopset shown in the `rtrv-loopset` output.

`:mode` – The mode of operation of the SCCP Loop Detection feature. This parameter can have either of the two values Notify and Discard.

1. Display the loopsets in the database by entering this command. This is an example of the possible output

```
rtrv-loopset:num=1000:force=yes
```

Note: If the `rtrv-loopset` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-loopset` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 1000 loopsets in the database, to display all the loopsets in the database, the `force=yes` and `num=1000` parameters must be specified with the `rtrv-loopset` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-18 08:52:38 GMT EAGLE Rel 35.6.0
LoopSet      Mode      Point Codes
=====
rtp1         notify    005-005-005      007-007-007      (ANSI)
              003-004-003      003-007-003
              005-007-005      007-004-007
              005-004-005

rtp2         notify    002-002-002      003-003-003      (ANSI)
              004-004-004      005-005-005

LOOPSET table is (2 of 1000) 1% full
```

If error message E4565 is displayed or if no loopsets are displayed, this procedure cannot be performed.

Note: If the `force=yes` parameter will be specified with the `chg-loopset` command, a loopset can be changed without changing or deleting the association, if any, of the loopset with a GTT or a GTA. Skip steps 2 through 6 and go to step 7.

2. Verify whether or not the EGTT feature is turned on by entering the `rtrv-feat` command. If the EGTT featured is turned on, the EGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to know about all the fields displayed by the `rtrv-feat` command, refer to the `rtrv-feat` command description in the *Commands Manual*.

Note: If the EGTT feature is not turned on, skip step 3 and step 4 and go to step 5.

3. Display the GTT sets in the database using the `rtrv-gttset` command. This is an example of the possible output.

```
rlghncxa03w 07-03-07 00:27:31 GMT EAGLE5 35.6.0
GTTSN      NETDOM  SETTYPE  NDGT
setans015  ansi    CDGTA    6
set1       ansi    CDGTA    6
```

4. Display the global title address (GTA) information for a GTT set from step 3. Execute the `rtrv-gta` command with the `gttsn` parameter value shown in the output of step 3 and with the name of the loopset being changed, specified with the `loopset` parameter. For this example, enter this command.

```
rtrv-gta:gttsn=set1:loopset=rtp1
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
set1       ansi    CDGTA    6

GTT TABLE IS 1 % FULL (2 of 269999)

START GTA  END GTA  XLAT  RI    PCA
919460     919460  DISC
919461     919461  DPC   SSN    002-002-002
          SSN=--- CCGT=no NTT=---
          LOOPSET = rtp1 FALLBACK=sysdflt TESTMODE=off
          OPTSN=----- CGSELID=---- CDSELID=----- OPCS=-----

Command Retrieved 2 Entries
```

If any of the displayed entries reference the loopset being modified, for those entries, perform [Changing Global Title Address Information](#) on page 787 and change the loopset reference to NONE or to another loopset name, or remove the entry by performing the [Removing Global Title Address Information](#) on page 777 procedure.

If the displayed entries do not reference the loopset being removed, repeat this step with the other GTT set names displayed in step 3.

When all the GTT set names have been displayed and all applicable global title translation entries have been changed or removed in this step, go to step 7.

5. Display the translation types in the database using the `rtrv-tt` command.

This is an example of the possible output.

```
rlghncxa03w 07-03-25 09:42:31 GMT EAGLE5 35.6.0

TYPEA      TTN      NDGT
1          lidb      5
2          c800      10
3          d700      6
5          scp1      6
10         scp2      6
15         scp3      3

ALIAS      TYPEA
30         5
40         10
50         3
65         3

TYPEI      TTN      NDGT
105        itudb     8

ALIAS      TYPEI
7          105

TYPEN      TTN      NDGT
120        dbitu     7

ALIAS      TYPEN
8          120
```

- Display the global title translations in the database using the `rtrv-gtt` command specifying a translation type from the `rtrv-tt` command output shown in step 5 and with the name of the loopset being removed, specified with the `loopset` parameter. For this example, enter this command.

```
rtrv-gtt:typea=10:loopset=rtpl
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
10      scp2      6

GTT TABLE IS 10 % FULL (27000 of 269999)

START GTA      END GTA      XLAT  RI      PC
615370          615380      DPCSSN SSN    003-003-003
      MAPSET=6      SSN=254 NGT=---
      LOOPSET = rtpl

Command Retrieved 1 Entries
```

If any of the displayed entries reference the loopset being modified, for those entries, perform the [Changing a Global Title Translation](#) on page 614 procedure and change the loopset reference to NONE or to another loopset name, or remove the global title translation by performing the [Removing a Global Title Translation](#) on page 607 procedure.

If the displayed entries do not reference the loopset being removed, repeat this step with the other translation types displayed in step 5.

When all the translation types have been displayed and all applicable global title translation entries have been changed or removed in this step, go to step 7.

- If all the point codes of the loopset are being replaced simultaneously, specify the `chg-loopset` command with the name of the loopset with the `rpcl` parameter.

For this example, enter this command to replace all the point codes of the loopset simultaneously.

```
chg-loopset:name=rtpl:rpcla=003-003-003,001-001-001,002-002-002
```

This message should appear.

```
rlghncxa03w 07-02-19 10:37:19 GMT 35.6.0
LOOPSET table is (1 of 1000) 1% full
CHG-LOOPSET: MASP A - COMPLTD
```

If a single specified point code value is to be modified in the loopset, specify the `chg-loopset` command with the name of the loopset, the point code you wish to change and the new point code.

For this example, enter this command to modify a single point code in the loopset.

```
chg-loopset:name=rtpl:pcl=003-003-003:npcl=003-004-005
```

This message should appear.

```
rlghncxa03w 07-02-19 10:50:36 GMT 35.6.0
LOOPSET table is (1 of 1000) 1% full
CHG-LOOPSET: MASP A - COMPLTD
```

If two specified point code values are to be modified in the loopset, specify the `chg-loopset` command with the name of the loopset, the two point codes you wish to change and the new point codes.

For this example, enter this command to modify two specific point codes in the loopset.

```
chg-loopset:name=rtpl:pc1=003-004-005:npc1=003-004-007:pc2=001-001-001:npc2=001-003-004
```

This message should appear.

```
rlghncxa03w 07-02-19 10:59:08 GMT 35.6.0
LOOPSET table is (1 of 1000) 1% full
CHG-LOOPSET: MASP A - COMPLTD
```

If only the mode parameter is to be modified in the loopset, specify the chg-loopset command with the name of the loopset, the new value of the mode parameter.

For this example, enter this command to modify two specific point codes in the loopset.

```
chg-loopset:name=rtpl:mode=discard
```

This message should appear.

```
rlghncxa03w 07-02-19 11:04:52 GMT 35.6.0
LOOPSET table is (1 of 1000) 1% full
CHG-LOOPSET: MASP A - COMPLTD
```

If point codes are to be appended in the loopset, specify the chg-loopset command with the name of the loopset, the point codes to be appended.

For this example, enter this command to append the point codes to the loopset.

```
chg-loopset:name=rtpl:apcla=7-7-7,3-3-3,5-5-5
```

```
rlghncxa03w 07-02-19 11:19:26 GMT 35.6.0
LOOPSET table is (1 of 1000) 1% full
CHG-LOOPSET: MASP A - COMPLTD
```

Refer to the following table for the chg-loopset parameter combinations.

Table 40: Changing a Loopset Parameter Combinations

Changing Mode only	Replacing All Point Codes	Replacing One Specific Point Code	Replacing two Specific Point Codes	Appending Point Codes
Mandatory Parameters				
Name (See Note 1)	Name (See Note 1)	Name (See Note 1)	Name (See Note 1)	Name (See Note 1)
Mode	RPCL/RPCLA/ RPCLI/RPCLN/ RPCLN24	PC1/PC1A/ PC1I/PC1N/ PC1N24	PC1/PC1A/ PC1I/PC1N/ PC1N24	APCL/APCLA/ APCLI/APCLN/ APCLN24
		NPC1/NPC1A/ NPC1I/NPC1N/ NPC1N24	NPC1/NPC1A/ NPC1I/NPC1N/ NPC1N24	
			PC1/PC1A/ PC1I/PC1N/	

Changing Mode only	Replacing All Point Codes	Replacing One Specific Point Code	Replacing two Specific Point Codes	Appending Point Codes
			PC1N24	
			NPC2/NPC2A/ NPC2I/NPC2N/ NPC2N24	
Optional Parameters				
Force=yes	Mode	Mode	Mode	Mode
	Force=yes	Force=yes	Force=yes	Force=yes
Parameter Values: Name – Loopset name Mode – Mode of operation APCL/APCLA/APCLI/APCLN/APCLN24 – Appending point code list RPCL/RPCLA/RPCLI/RPCLN/RPCLN24 – Replacing point code List PC1/PC1A/PC1I/PC1N/PC1N24 – Point code to be replaced first PC2/PC2A/PC2I/PC2N/PC2N24 – Point code to be replaced after the replacement of the first point code when two specific point codes are replaced NPC1/NPC1A/NPC1I/NPC1N/NPC1N24 – Point code that replaces the first specified point code or the only point code when two specific point codes or a single specified point code is replaced NPC2/NPC2a/NPC2I/NPC2N/NPC2N24 – Point code that replaces the second specified point code when two specific point codes are replaced FORCE – yes, no. Default = no				
Notes: 1. The name parameter can take up to 8 alphanumeric characters. The first character must be an alphabetic character. 2. The rpcl parameter allows the replacement of a maximum of six point code in a loopset. 3. The apcl parameter allows a maximum of six point codes to be appended to a loopset per execution of the chg-loopset command. A maximum of 12 point codes can be appended to any loopset using the apcl parameter.				

Note: If the loopset being modified in this step is referenced by an entry shown in either the rtrv-gtt or rtrv-gta outputs, and those entries have not been removed or the loopset assignment for these entries has not been changed, the force=yes parameter must be specified with the chg-loopset command.

- Verify the changes using the rtrv-loopset command with the name of the loopset specified in step 7.

In this example enter this command.

```
rtrv-loopset:name=rtp1
```

The following message should appear if you have replaced all the point codes in step 7.

```
rlghncxa03w 07-02-19 19:42:34 GMT 35.6.0
LoopSet      Mode      Point Codes
=====
rtp1         discard    003-003-003      002-002-002      (ANSI)
                  001-001-001
```

The following message should appear if you have modified a single specific point code in step 7.

```
rlghncxa03w 07-02-19 19:49:47 GMT 35.6.0
LoopSet      Mode      Point Codes
=====
rtp1         discard    003-004-005      002-002-002      (ANSI)
                  001-001-001
```

The following message should appear if you have modified two specific point codes in step 7.

```
rlghncxa03w 07-02-19 19:56:57 GMT 35.6.0
LoopSet      Mode      Point Codes
=====
rtp1         discard    003-004-007      002-002-002      (ANSI)
                  001-003-004
```

The following message should appear if you have appended point codes in step 7.

```
rlghncxa03w 07-02-19 20:03:21 GMT 35.6.0
LoopSet      Mode      Point Codes
=====
rtp1         discard    003-004-007      002-002-002      (ANSI)
                  001-003-004      007-007-007
                  003-003-003      005-005-005
```

The following message should appear if you have only changed the mode in step 7.

```
rlghncxa03w 07-02-19 20:09:00 GMT 35.6.0
LoopSet      Mode      Point Codes
=====
rtp1         notify     003-003-003      002-002-002      (ANSI)
                  001-001-001
```

9. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

If a loopset was changed in step 7 and the `force=yes` was not used in step 7, and you wish to assign this loopset to the GTT or GTA entries that were removed or changed in steps 4 or 6, go to step 10.

If any of the following actions were performed in step 7, this procedure is finished. Do not perform step 10.

- A loopset was modified with the `force=yes` parameter in step 7.
- A loopset was modified in step 7, the `force=yes` was not used in step 7, and you do not wish to assign this loopset to the GTT or GTA entries that were removed or changed in steps 4 or 6.

10. Assign the loopset specified in step 7 to the GTT or GTA entries that were removed or changed in steps 4 or 6.

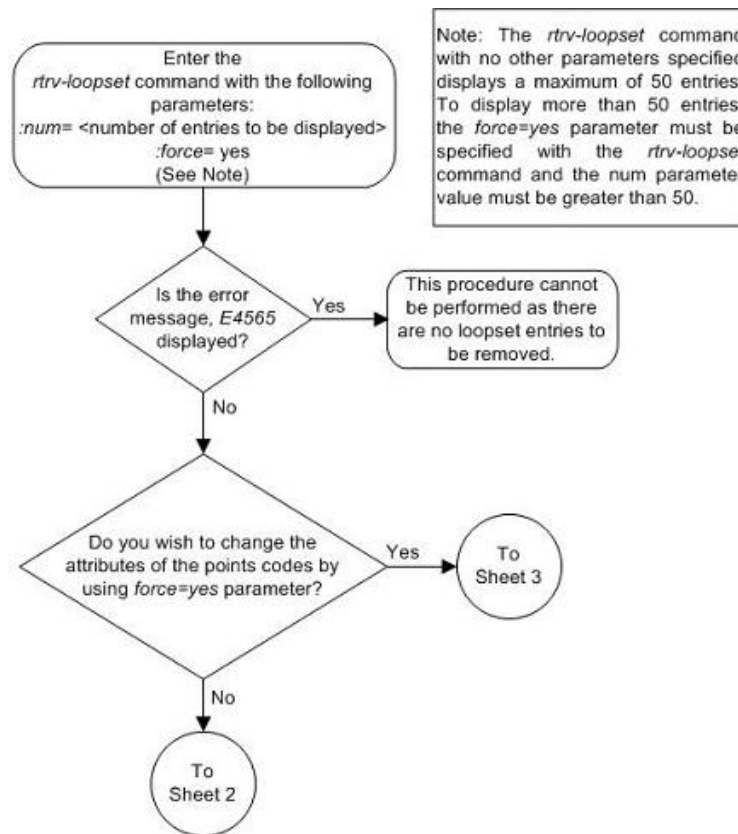
If the EGTT feature is not on, perform one of these procedures:

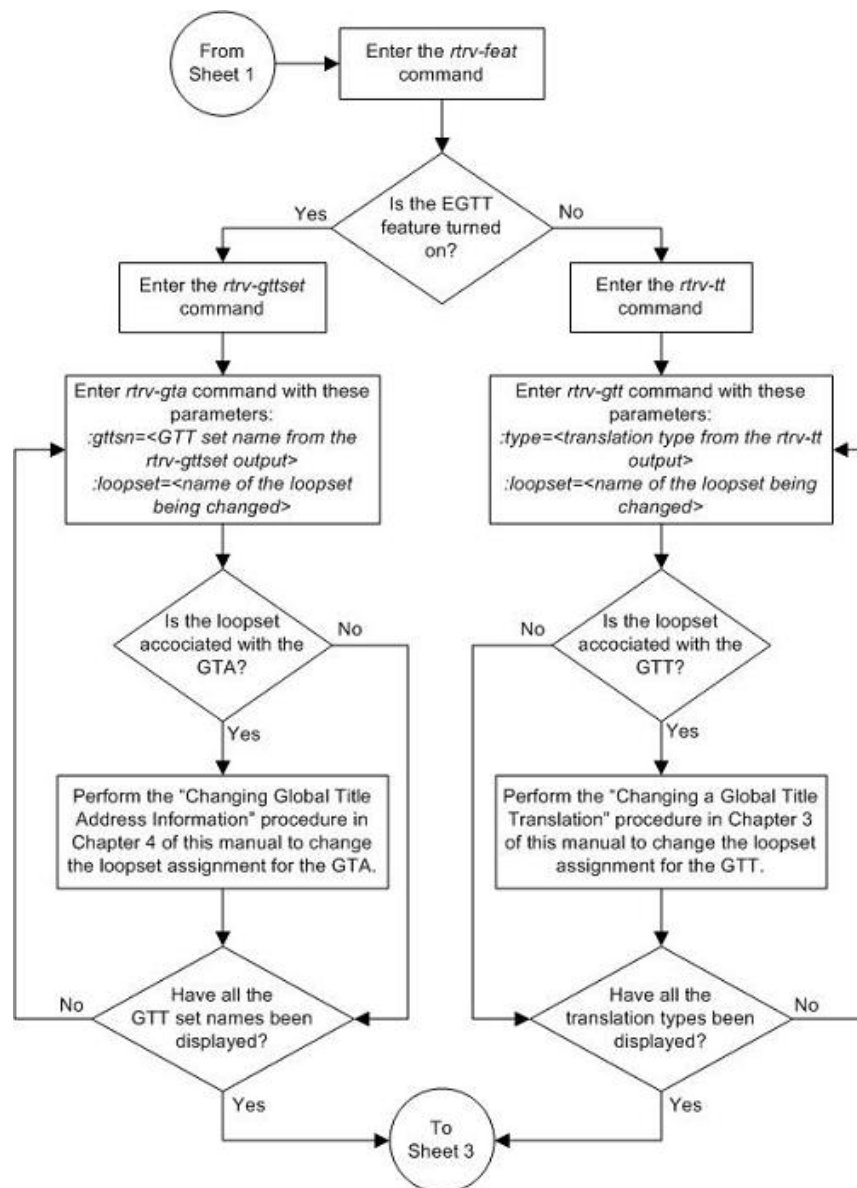
- [Adding a Global Title Translation](#) on page 561 procedure if the GTT entry was removed from the database in step 6.
- [Changing a Global Title Translation](#) on page 614 procedure if the GTT entry was changed in step 6.

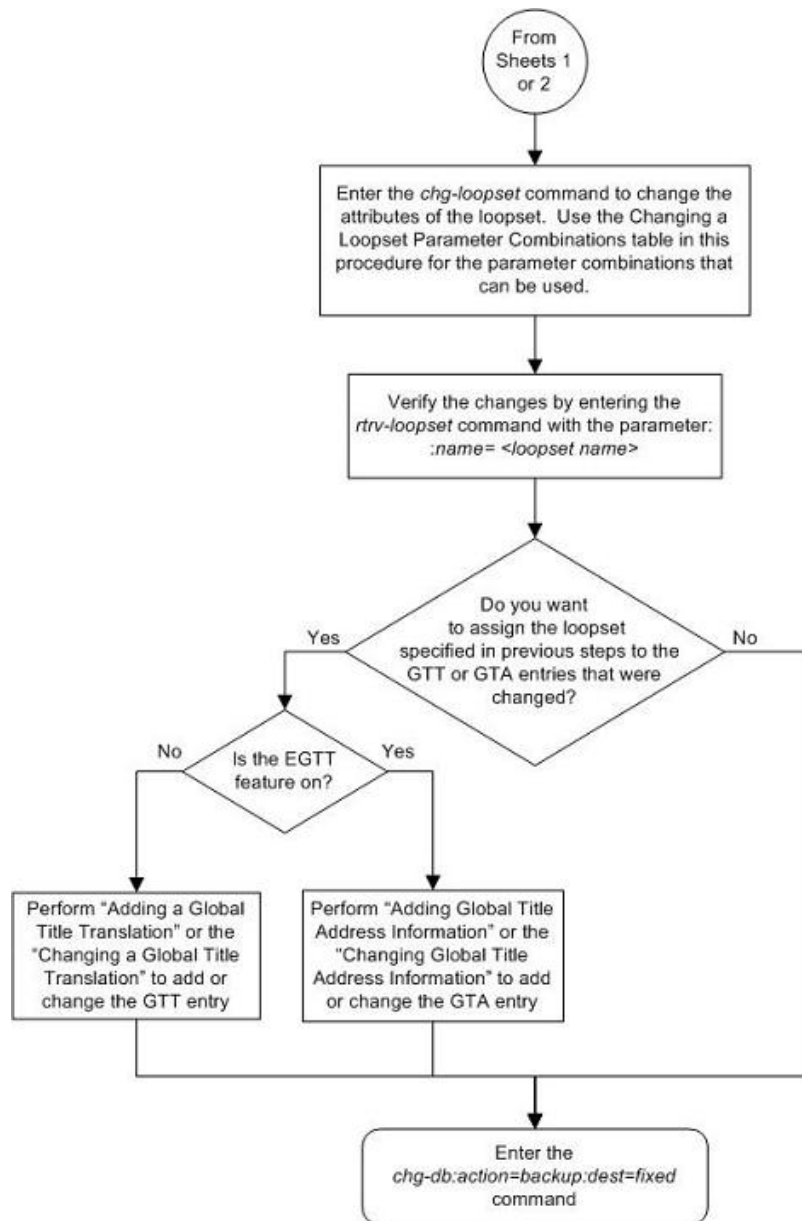
If the EGTT is on, perform one of these procedures:

- [Adding Global Title Address Information](#) on page 727 procedure if the GTA entry was removed from the database in step 4.
- [Changing Global Title Address Information](#) on page 787 procedure if the GTA entry was changed in step 4.

Figure 46: Changing the Attributes of a Loopset







Configuring the ANSI to ITU-N SCCP Conversion Option

This procedure is used to set the value of the called party/calling party address Reserved for National Use bit that is used during SCCP conversion when global title translation routes the message to the ITU national network. The called/calling party address Reserved for National Use bit is set using the *chg-sccpopts* command and with this parameter:

:cnvainat – the value of the called party/calling party address Reserved for National Use bit used during SCCP conversion when the MSU is routed to the ITU national network. The values for this parameter are:

- 0 – the Reserved for National Use bit is not reserved for national use.
- 1 – the Reserved for National Use bit is reserved for national use.

The system default value for this parameter is 1.

The ANSI-ITU-China SCCP Conversion feature must be enabled and turned on to change this parameter value with the `chg-sccpopts` command. The `CNVAINAT` field in the output of the `rtrv-sccpopts` command output is shown when the ANSI-ITU-China SCCP Conversion feature is enabled and turned on. If the `CNVAINAT` field is not shown in the output of the `rtrv-sccpopts` command output, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enable the ANSI-ITU-China SCCP Conversion feature.

If any parameter is not specified with the `chg-sccpopts` command, that parameter value will not be changed.

For more information on the ANSI-ITU-China SCCP Conversion feature, refer to the [ANSI-ITU-China SCCP Conversion Feature](#) on page 27 section.

1. Display the existing value for the `cnvainat` parameter value by entering `rtrv-sccpopts` command. This is an example of the possible output.

```
rlghncxa03w 08-05-17 16:02:05 GMT EAGLE5 38.0.0
SCCP OPTIONS
-----
CNVAINAT                                1
```

Note: The `rtrv-sccpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-sccpopts` command, refer to the `rtrv-sccpopts` command description in the *Commands Manual*.

If the `CNVAINAT` field is not shown in the output of the `rtrv-sccpopts` command, the ANSI-ITU-China SCCP Conversion feature is not enabled and turned on. For this field to be shown in the `rtrv-sccpopts` output, and to change these values, the ANSI-ITU-China SCCP Conversion feature must be enabled and turned on. Perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enable and turn on the ANSI-ITU-China SCCP Conversion feature. After the ANSI-ITU-China SCCP Conversion has been enabled and turned on, continue the procedure with [Step 2](#) on page 532.

If the `CNVAINAT` field is shown in the `rtrv-sccpopts` output, continue the procedure with [Step 2](#) on page 532.

2. Change the `cnvainat` parameter value by entering the `chg-sccpopts` command with the `cnvainat` parameters. For this example, enter this command.

```
chg-sccpopts:cnvainat=0
```

If any parameter is not specified with the `chg-sccpopts` command, that parameter value will not be changed.

When the `chg-sccpopts` command has successfully completed, this message should appear.

```
rlghncxa03w 08-05-07 00:22:57 GMT EAGLE5 38.0.0
CHG-SCCPOPTS: MASP A - COMPLTD
```

3. Verify the changes using the `rtrv-sccpopts` command. This is an example of the possible output.

```
rlghncxa03w 08-05-17 16:02:05 GMT  EAGLE5 38.0.0

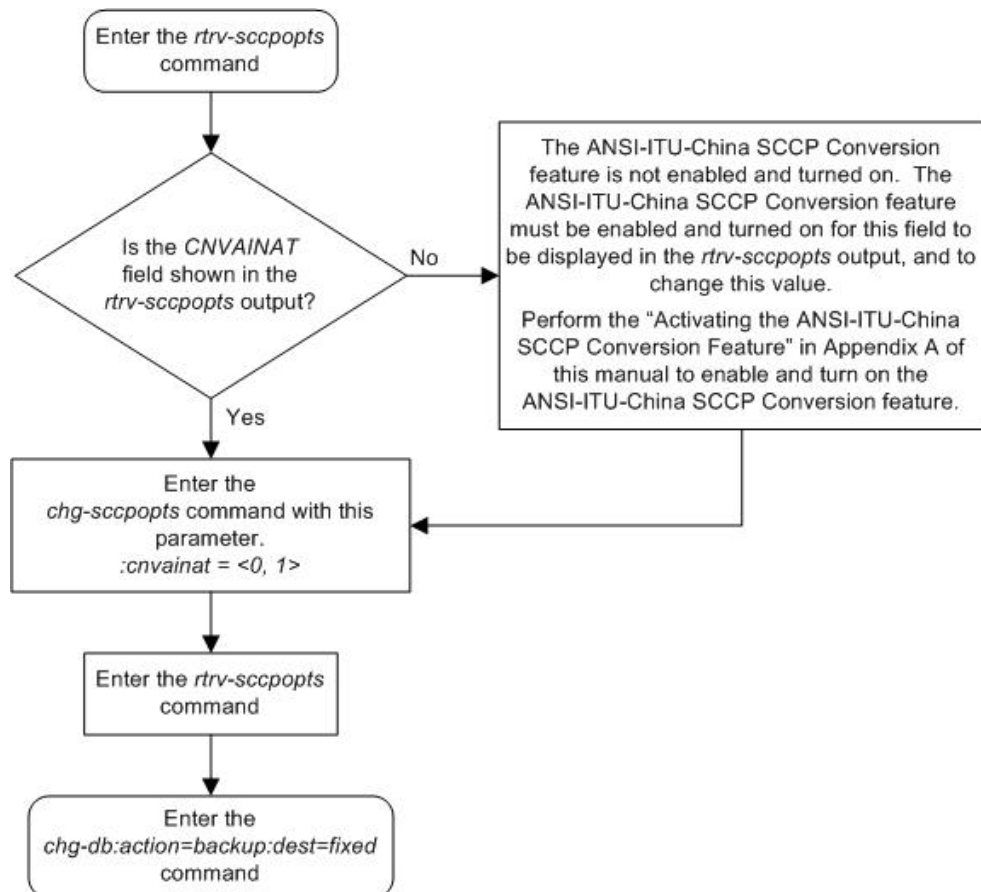
SCCP OPTIONS
-----
CNVAINAT                                0
```

Note: The `rtrv-sccpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-sccpopts` command, refer to the `rtrv-sccpopts` command description in the *Commands Manual*.

4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 47: Configuring the ANSI to ITU-N SCCP Conversion Option



Configuring an SCCP Test Message

An SCCP test message is used to supply the data needed by the `tst-msg` command to debug the global title translation rules for these features.

- Origin-Based SCCP Routing
- Flexible Linkset Optional Based Routing
- TCAP Opcode Based Routing

The data for an SCCP test message is configured using the `chg-sccp-msg` command. [Table 41: SCCP Test Message Parameter Combinations](#) on page 534 shows the parameters and their combinations that are used with the `chg-sccp-msg` command.

To perform this procedure, these features must be enabled, and turned on if necessary.

- Flexible Linkset Optional Based Routing - perform [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976 to enable and turn on the Flexible Linkset Optional Based Routing feature.
- To specify the `tcapfamily`, `tcapopcode`, `tcapacn`, `tcappkg`, or `tcappkgv` parameters, the TCAP Opcode Based Routing feature must be enabled and turned on. Perform [Activating the TCAP Opcode Based Routing Feature](#) on page 985 to enable and turn on the TCAP Opcode Based Routing feature.

If any parameter is not specified with the `chg-sccp-msg` command, that parameter value will not be changed.

Table 41: SCCP Test Message Parameter Combinations

Flexible Linkset Optional Based Routing Enable and Turned On Only	Flexible Linkset Optional Based Routing Enable and Turned On and TCAP Opcode Based Routing feature Enable and Turned On
Mandatory Parameter	
:msgn - 1 to 10	:msgn - 1 to 10
Optional Parameters (See Note 1)	
:active - specifies whether the SCCP message should be sent to the network card for processing - yes, no. Default value - no	:active - specifies whether the SCCP message should be sent to the network card for processing - yes, no. Default value - no
:cdgta - the called party address for the SCCP message - 1 - 21 digits or 1 - 21 hexadecimal digits. Default value - 1234567890	:cdgta - the called party address for the SCCP message - 1 - 21 digits or 1 - 21 hexadecimal digits. Default value - 1234567890
:cdgti - the called party global title indicator for the SCCP message - 2 or 4. Default value - 2 (See Note 2)	:cdgti - the called party global title indicator for the SCCP message - 2 or 4. Default value - 2 (See Note 2)
:cdnai - the called party nature of address indicator for the SCCP message - See Note 3. Default value - sub	:cdnai - the called party nature of address indicator for the SCCP message - See Note 3. Default value - sub

Flexible Linkset Optional Based Routing Enable and Turned On Only	Flexible Linkset Optional Based Routing Enable and Turned On and TCAP Opcode Based Routing feature Enable and Turned On
:cdnaiv - the called party nature of address indicator value for the SCCP message - See Note 3. Default value - 1	:cdnaiv - the called party nature of address indicator value for the SCCP message - See Note 3. Default value - 1
:cdnp - the called party numbering plan for the SCCP message - See Note 4. Default value - e164	:cdnp - the called party numbering plan for the SCCP message - See Note 4. Default value - e164
:cdnpv - the called party numbering plan value for the SCCP message - See Note 4. Default value - 1	:cdnpv - the called party numbering plan value for the SCCP message - See Note 4. Default value - 1
:cdpc/cdpci/cdpcn/cdpcn24 - the called party address point code. Default value - ANSI point code 010-010-010 (See Note 5)	:cdpc/cdpci/cdpcn/cdpcn24 - the called party address point code. Default value - ANSI point code 010-010-010 (See Note 5)
:cdssn - the called party subsystem number for the SCCP message - 0 - 255, none. Default value - 6	:cdssn - the called party subsystem number for the SCCP message - 0 - 255, none. Default value - 6
:cdtt - the called party translation type for the SCCP message - 0 - 255. Default value - 0	:cdtt - the called party translation type for the SCCP message - 0 - 255. Default value - 0
:cggta - the calling party address for the SCCP message - 1 - 21 digits or 1 - 21 hexadecimal digits. Default value - 1234567890	:cggta - the calling party address for the SCCP message - 1 - 21 digits or 1 - 21 hexadecimal digits. Default value - 1234567890
:cggti - the calling party global title indicator for the SCCP message - 2 or 4. Default value - 2 (See Note 2)	:cggti - the calling party global title indicator for the SCCP message - 2 or 4. Default value - 2 (See Note 2)
:cgnai - the calling party nature of address indicator for the SCCP message - See Note 6. Default value - sub	:cgnai - the calling party nature of address indicator for the SCCP message - See Note 6. Default value - sub
:cgnaiv - the calling party nature of address indicator value for the SCCP message - See Note 6. Default value - 1	:cgnaiv - the calling party nature of address indicator value for the SCCP message - See Note 6. Default value - 1
:cgnp - the calling party numbering plan for the SCCP message - See Note 7. Default value - e164	:cgnp - the calling party numbering plan for the SCCP message - See Note 7. Default value - e164
:cgnpv - the calling party numbering plan value for the SCCP message - See Note 7. Default value - 1	:cgnpv - the calling party numbering plan value for the SCCP message - See Note 7. Default value - 1
:cgpc/cgpci/cgpcn/cgpcn24 - the calling party address point code. Default value - ANSI point code 020-020-020 (See Note 5)	:cgpc/cgpci/cgpcn/cgpcn24 - the calling party address point code. Default value - ANSI point code 020-020-020 (See Note 5)
:cgssn - the calling party subsystem number for the SCCP message - 0 - 255, none. Default value - 8	:cgssn - the calling party subsystem number for the SCCP message - 0 - 255, none. Default value - 8

Flexible Linkset Optional Based Routing Enable and Turned On Only	Flexible Linkset Optional Based Routing Enable and Turned On and TCAP Opcode Based Routing feature Enable and Turned On
:cggtt - the calling party translation type for the SCCP message - 0 - 255. Default value - 0	:cggtt - the calling party translation type for the SCCP message - 0 - 255. Default value - 0
:eaglegen - specifies whether the message is an EAGLE 5 ISS generated message - no, yes. Default value - no	:eaglegen - specifies whether the message is an EAGLE 5 ISS generated message - no, yes. Default value - no
:lsn - the name of the incoming linkset for the SCCP message. The linkset must be shown in the <code>rtrv-ls</code> output. Default value - No lsn value specified	:lsn - the name of the incoming linkset for the SCCP message. The linkset must be shown in the <code>rtrv-ls</code> output. Default value - No lsn value specified
:opc/opci/opcn/opcn24 - the originating point code. Default value - ANSI point code 010-010-010 (See Note 5)	:opc/opci/opcn/opcn24 - the originating point code. Default value - ANSI point code 010-010-010 (See Note 5)
	:tcapacn - a maximum of 7 subfields containing the numbers 0 to 255 separated by dash (for example, 1-202-33-104-54-26-007), none. The value none means there is no ITU TCAP ACN field in the incoming message. Default value - none
	:tcapfamily - 0 - 255, none. The value none means there is no ANSI TCAP FAMILY field in the incoming message. Default value - none
	:tcapopcode - 0 - 255, none. The value none means there is no TCAP OPCODE field in the incoming message. Default value - none
	:tcappkg - See Notes 8 and 9. Default value - invalid
	:tcappkgv - 0 - 255. Default value - 0 (See Note 8)
Notes: <ol style="list-style-type: none"> At least one optional parameter must be specified. The <code>cdgti</code> and <code>cggti</code> parameter value must be 2 for an ANSI SCCP test message. The values for the <code>cdnai</code> and <code>cdnaiv</code> parameters and the mapping between these parameters are shown in the Table 42: NAIV/NAI Mapping on page 537. Either the <code>cdnai</code> and <code>cdnaiv</code> parameters can be specified, but both parameters cannot be specified at the same time. The values for the <code>cdnp</code> and <code>cdnpv</code> parameters and the mapping between these parameters are shown in the Table 43: NPV/NP Mapping on page 538. Either the <code>cdnp</code> and <code>cdnpv</code> parameters can be specified, but both parameters cannot be specified at the same time. The point code values for the <code>cdpc/cdpci/cdpcn/cdpcn24</code>, <code>cgpc/cgpci/cgpcn/cgpcn24</code>, and <code>opc/opci/opcn/opcn24</code> parameters are: <ul style="list-style-type: none"> <code>cdpc</code>, <code>cgpc</code>, <code>opc</code> = ANSI point code 	

Flexible Linkset Optional Based Routing Enable and Turned On Only	Flexible Linkset Optional Based Routing Enable and Turned On and TCAP Opcode Based Routing feature Enable and Turned On
<ul style="list-style-type: none"> • <code>cdpci</code>, <code>cgpci</code>, <code>opci</code> = ITU-I or ITU-I spare point code • <code>cdpcn</code>, <code>cgpcn</code>, <code>opcn</code> = 14-bit ITU-N or 14-bit ITU-N spare point code • <code>cdpcn24</code>, <code>cgpcn24</code>, <code>opcn24</code> = 24-bit ITU-N point code. <p>6. The values for the <code>cgnaiv</code> and <code>cgnaiv</code> parameters and the mapping between these parameters are shown in the Table 42: NAIV/NAI Mapping on page 537. Either the <code>cgnaiv</code> and <code>cgnaiv</code> parameters can be specified, but both parameters cannot be specified at the same time.</p> <p>7. The values for the <code>cgnpv</code> and <code>cgnpv</code> parameters and the mapping between these parameters are shown in the Table 43: NPV/NP Mapping on page 538. Either the <code>cgnpv</code> and <code>cgnpv</code> parameters can be specified, but both parameters cannot be specified at the same time.</p> <p>8. Either the <code>tcappkg</code> and <code>tcappkgv</code> parameters can be specified, but both parameters cannot be specified at the same time.</p> <p>9. The <code>tcappkg</code> values are:</p> <ul style="list-style-type: none"> • The values for an ANSI TCAP Package type are: <ul style="list-style-type: none"> • <code>ansiabort</code> - ANSI abort • <code>ansiuni</code> - ANSI unidirectional • <code>any</code> - any ANSI TCAP package type • <code>cwp</code> - conversation with permission • <code>cwop</code> - conversation without permission • <code>qwp</code> - query with permission • <code>qwop</code> - query without permission • <code>resp</code> - response • The values for an ITU TCAP Package type are: <ul style="list-style-type: none"> • <code>any</code> - any ITU TCAP package type • <code>bgn</code> - begin • <code>cnt</code> - continue • <code>end</code> - end • <code>ituabort</code> - ITU abort • <code>ituuni</code> - ITU unidirectional 	

Table 42: NAIV/NAI Mapping

NAIV	NAI	Description
0	--	Unknown
1	Sub	Subscriber Number
2	Rsvd	Reserved for national use

NAIV	NAI	Description
3	Natl	National significant number
4	Intl	International number
5-127	---	Spare

Table 43: NPV/NP Mapping

NPV	NP	Description
0	--	Unknown
1	E164	ISDN/telephony numbering plan
2	Generic	Generic numbering plan
3	X121	Data numbering plan
4	F69	Telex numbering plan
5	E210	Maritime mobile numbering plan
6	E212	Land mobile numbering plan
7	E214	ISDN/mobile numbering plan
8	Private	Private network or network-specific numbering plan
9-15	---	Spare

1. Display the features that are enabled, and turned on if necessary by entering the `rtrv-ctrl-feat` command. This is an example of the possible output.

```
rlghncxa03w 09-05-11 12:30:39 GMT  EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum  Status  Quantity
SCCP Loop Detection   893016501 on      ----
SCCP Conversion       893012001 off     ----
HC-MIM SLK Capacity   893012707 on      64
```

```

Origin Based SCCP Routing 893014301 on ----
TCAP Opcode Based Routing 893027801 on ----
Flex Lset Optnl Based Rtg 893027701 on ----
VGTT with 16 GTT lengths 893024801 on ----
TOBR Opcode Quantity      893027907 on 1000000

```

The following features have been temporarily enabled:

```

Feature Name          Partnum    Status Quantity    Trial Period Left
Zero entries found.

```

The following features have expired temporary keys:

```

Feature Name          Partnum
Zero entries found.

```

To perform this procedure, the features shown in this list must be enabled, and turned on if necessary.

- Flexible Linkset Optional Based Routing. If this feature is not enabled, perform [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976 to enable and turn on the Flexible Linkset Optional Based Routing feature. If this feature is enabled and turned on, [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976 does not have to be performed.
- To specify the `tcapfamily`, `tcapopcode`, `tcapacn`, `tcappkg`, or `tcappkgv` parameters, the TCAP Opcode Based Routing feature must be enabled and turned on. If the TCAP Opcode Based Routing feature must be enabled and turned on, perform [Activating the TCAP Opcode Based Routing Feature](#) on page 985 to enable and turn on the TCAP Opcode Based Routing feature. If this feature is enabled and turned on, or the `tcapfamily`, `tcapopcode`, `tcapacn`, `tcappkg`, or `tcappkgv` parameters will not be specified in this procedure, [Activating the TCAP Opcode Based Routing Feature](#) on page 985 does not have to be performed.

Continue the procedure by performing one of these steps.

- If the `lsn` parameter will not be specified with the `chg-sccp-msg` command, continue the procedure with [Step 3](#) on page 540.
- If the `lsn` parameter will be specified with the `chg-sccp-msg` command, continue the procedure with [Step 2](#) on page 539.

Note: It is recommended that the `lsn` parameter is specified with the `chg-sccp-msg` command. When the `tst-msg` command is performed, the linkset name is used to determine the GTT mode hierarchy.

2. Display the linksets in the database by entering the `rtrv-ls` command. This is an example of the possible output.

```

rlghncxa03w 09-05-11 13:24:48 GMT  EAGLE5 41.0.0

LSN          APCA    (SS7)  L3T SLT  GWS GWS GWS
lsn1         001-001-002  none 1   1   no  A   3   ACT MES DIS SLSCI NIS
              off off off no  off

LSN          APCI    (SS7)  L3T SLT  GWS GWS GWS
lsn1         2-002-2   none 1   2   no  A   2   ACT MES DIS SLSCI NIS
lsn2         2-002-3   none 1   2   no  A   2   ACT MES DIS SLSCI NIS
              off off off no  off

```

LSN	APCN	(SS7)	SCRN	SET	SET	BEI	LST	LNKS	ACT	MES	DIS	SLSCI	NIS
lsnn1	00002		none	1	2	no	A	4	off	off	off	no	off
lsnn2	00003		none	1	2	no	A	3	off	off	off	no	off

Link set table is (5 of 1024) 1% full.

3. Display the SCCP test message that will be changed by entering the `rtrv-sccp-msg` command with the number of the SCCP test message that will be changed.

For this example, enter this command.

```
rtrv-sccp-msg:msgn=3
```

This is an example of the possible output.

```
rlghncxa03w 09-05-11 12:49:38 GMT EAGLE5 41.0.0
MSG = 3
ACTIVE = YES
OPC = 010-010-010

CDPA_GTI = 2
CDPA_TT = 0
CDPA_SSN = 6
CDPC = 010-010-010
CDPA_NP = 1 ( e164 )
CDPN_NAI = 1 ( sub )
CDPA_GTA = 1234567890

CGPA_GTI = 2
CGPA_TT = 0
CGPA_SSN = 8
CGPC = 020-020-020
CGPA_NP = 1 ( e164 )
CGPN_NAI = 1 ( sub )
CGPA_GTA = 1234567890

LSN = LINK_SET_NOT_FOUND
EAGLEGEN = NO

TCAP_FAMILY = none
TCAP_OPCODE = none
TCAP_PACKAGE = 0 (invalid)
TCAP_ACN = none
```

4. Configure the SCCP test message by entering the `chg-sccp-msg` command. [Table 41: SCCP Test Message Parameter Combinations](#) on page 534 shows the parameter combinations and values that can be used with the `chg-sccp-msg` command. For this example, configure the SCCP test message 3 with these values.

- :opc=003-003-003
- :cdpc=004-004-004
- :cgpc=005-005-005
- :cdtt=5
- :lsn=lsn1
- :tcapopcode=50

- :tcapfamily=60
- :tcappkg=cwp
- :cdgta=919460
- :cggta=919461

The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `chg-sccp-msg` command are too long to fit on the `chg-sccp-msg` command line, perform the `chg-sccp-msg` command as many times as necessary to complete adding the SCCP test message.

For this example, enter these commands.

```
chg-sccp-msg:msgn=3:opc=003-003-003:cdpc=004-004-004:cggpc=005-005-005  
:cdtt=5:lsn=lsn1
```

```
chg-sccp-msg:msgn=3:tcapopcode=50:tcapfamily=60:tcappkg=cwp  
:cdgta=919460:cggta=919461
```

If any parameter is not specified with the `chg-sccp-msgs` command, that parameter value will not be changed.

When the `chg-sccp-msg` command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-11 13:12:07 GMT  EAGLE5 41.0.0  
CHG-SCCP-MSG: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-sccp-msg` command with the message number specified with the `chg-sccp-msg` command.

For this example, enter this command.

```
rtrv-sccp-msg:msgn=3
```

This is an example of the possible output.

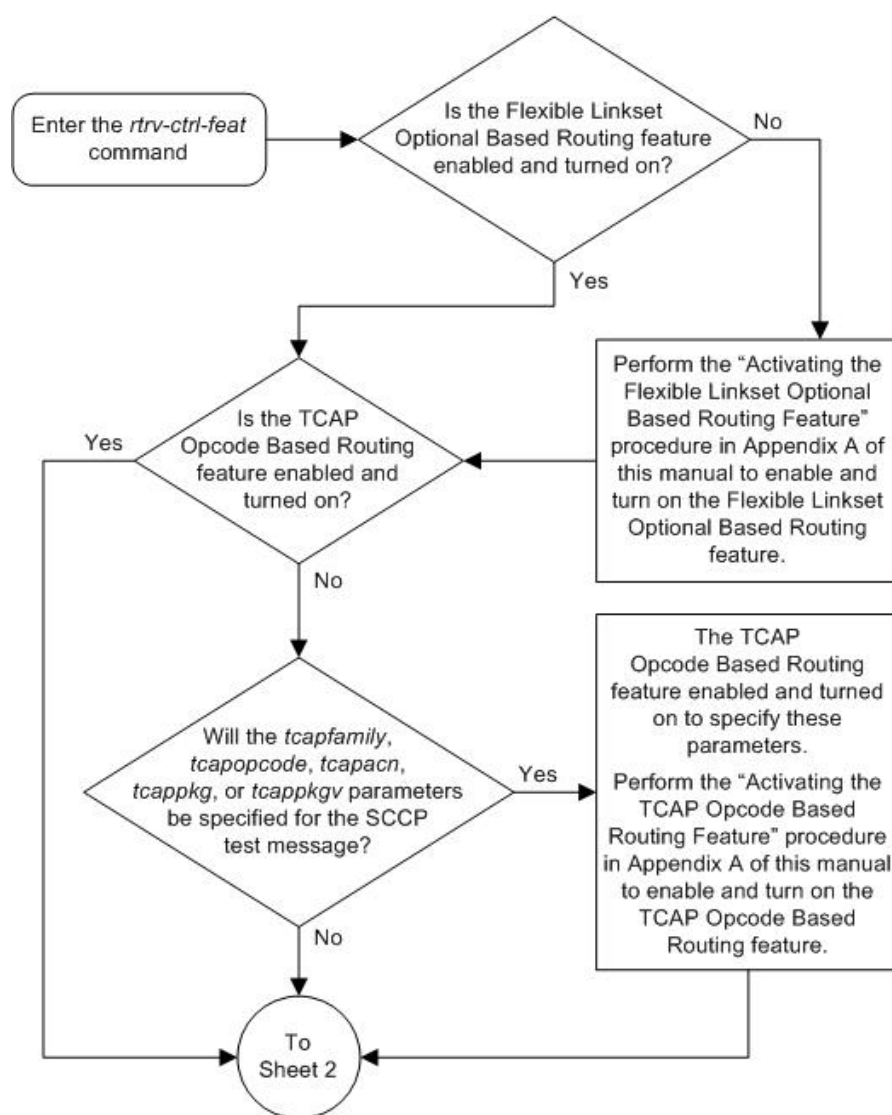
```
rlghncxa03w 09-05-11 13:16:10 GMT  EAGLE5 41.0.0  
MSG = 3  
ACTIVE = YES  
OPC = 003-003-003  
  
CDPA_GTI = 2  
CDPA_TT = 5  
CDPA_SSN = 6  
CDPC = 004-004-004  
CDPA_NP = 1 ( e164 )  
CDPN_NAI = 1 ( sub )  
CDPA_GTA = 919460  
  
CGPA_GTI = 2  
CGPA_TT = 0  
CGPA_SSN = 8  
CGPC = 005-005-005  
CGPA_NP = 1 ( e164 )  
CGPN_NAI = 1 ( sub )  
CGPA_GTA = 919461  
  
LSN = lsn1  
EAGLEGEN = NO  
  
TCAP_FAMILY = 60
```

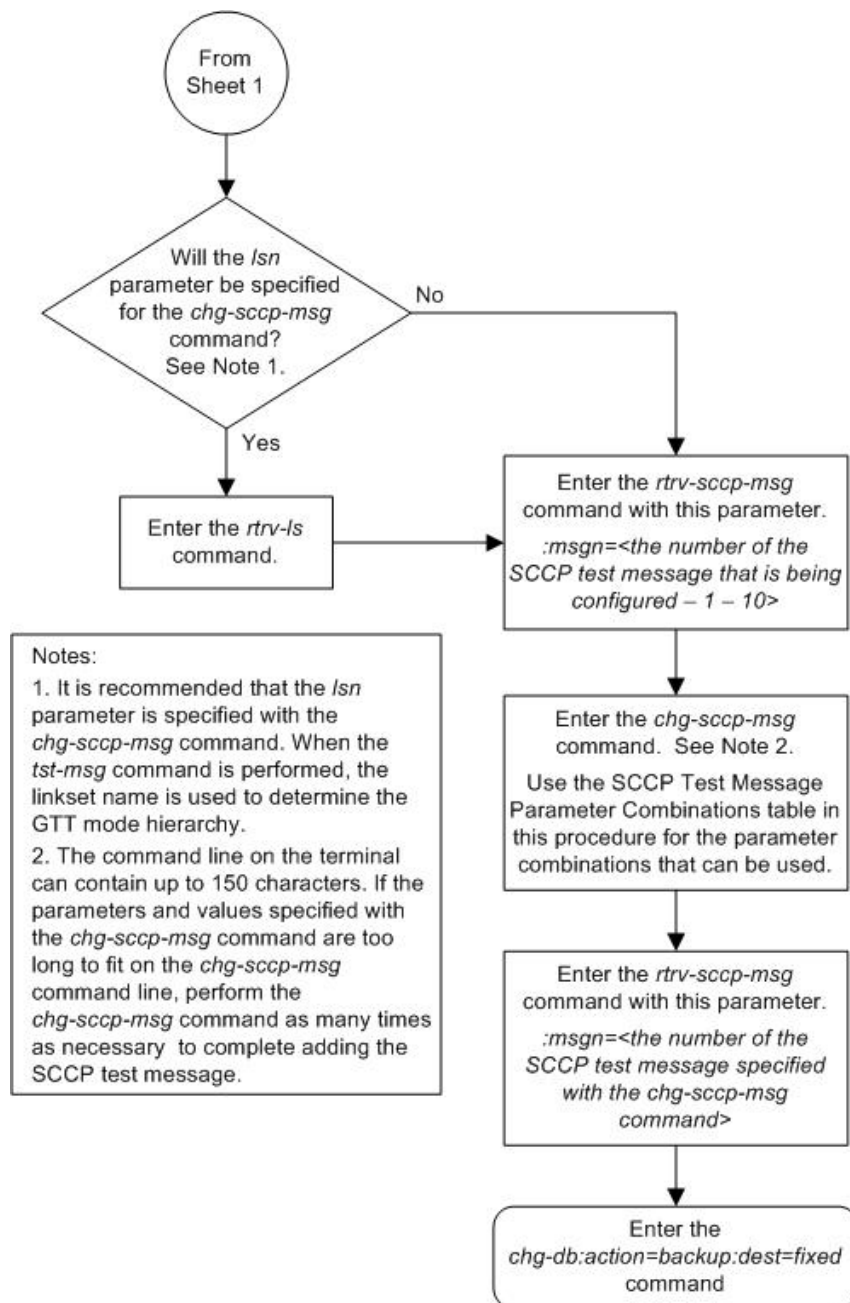
```
TCAP_OPCODE = 50
TCAP_PACKAGE = cwp (0xE5)
TCAP_ACN = none
```

6. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 48: Configuring an SCCP Test Message





Chapter 3

Global Title Translation (GTT) Configuration

Topics:

- [Introduction.....546](#)
- [Adding a Translation Type.....546](#)
- [Removing a Translation Type.....557](#)
- [Adding a Global Title Translation.....561](#)
- [Removing a Global Title Translation.....607](#)
- [Changing a Global Title Translation.....614](#)

Chapter 3, Global Title Translation (GTT) Configuration, contains the procedures specific to configure the global title translation feature.

Introduction

This chapter describes the procedures needed to add, remove, or change global title translation (GTT) data in the database

The items configured in this section are:

- Translation types
- Global title translations.

The following items must also be configured for the Global Title Translation feature. The procedures to configure these items are located in [Global Title Translation \(GTT\) Configuration](#) on page 545.

- Service modules
- Translation type mapping
- Concerned signaling point codes
- Mate applications
- Mated relay node groups
- GT Conversion Table Entries for the ANSI-ITU-China SCCP Conversion feature.

The procedures shown in this chapter use a variety of commands. For more information on these commands, refer to the *Commands Manual*.



CAUTION: The Enhanced Global Title Translation (EGTT) feature overrides the Global Title Translation (GTT) feature when the EGTT feature is turned on with the `chg-feat:egtt=on` command. The override causes an automatic update of the database and the rejection of GTT feature commands when entered. Be careful not to turn the EGTT feature on accidentally when turning the GTT feature on. Once a feature is turned on with the `chg-feat` command, it cannot be turned off.

Notes:

1. Before turning the Global Title Translation (GTT) feature on with the `chg-feat:gtt=on` command, make sure you have purchased this feature. If you are not sure whether you have purchased the GTT feature, contact your Tekelec Sales Representative or Account Representative.
2. To perform the procedures in this chapter, the GTT feature must be on, and the Enhanced Global Title Translation (EGTT) feature must be off. For more details on configuring the EGTT feature, refer to [Enhanced Global Title Translation \(EGTT\) Configuration](#) on page 659.
3. To find out about the differences between the Global Title Translation (GTT) feature and the Enhanced Global Title Translation (EGTT) feature, refer to the [Upgrading from Global Title Translation \(GTT\) to Enhanced Global Title Translation \(EGTT\)](#) on page 73 section.

Adding a Translation Type

This procedure is used to add a translation type to the database using the `ent-tt` command.

The `ent-tt` command uses these parameters.

:type/typea/typei/typen/typen24 – The translation type and network type of that translation type. The translation type indicates which global title translation table is to be used to determine the routing to a particular service database.

:type or :typea – an ANSI network

:typei – an ITU international network

:typen or :typen24 – an ITU national network.

:ttn – The name of the global title translation type

:ndgt – The number of digits contained in the global title translation.

:alias – The alias of the global title translation type

The translation type value specified by the type or typea parameters cannot be defined in the database as an ANSI translation type. The translation type value specified by typei, typen, or typen24 parameters cannot be defined in the database as an ITU translation type by either typei, typen, or typen24 parameters.

When adding an alias translation type, the translation type must be specified with the ent-tt command. The translation type must be shown in the rtrv-tt output.

Either the ndgt parameter or the alias parameter can be specified with the ent-tt command, but not both at the same time.

The translation type name value specified with the ent-tt command cannot be shown in the rtrv-tt output.

If an alias translation type is being assigned to an ANSI translation type, the alias translation type value cannot be shown in the rtrv-tt output as an ANSI translation type, or assigned to any ANSI translation types in the rtrv-tt output as an alias translation type.

If an alias translation type is being assigned to an ITU translation type, the alias translation type value cannot be shown in the rtrv-tt output as an ITU translation type, or assigned to any ITU translation types in the rtrv-tt output as an alias translation type.

The global title translation feature must be enabled. Verify this by entering the rtrv-feat command. If the global title translation feature is off, it can be enabled by entering the chg-feat:gtt=on command.

Note: Once the Global Title Translation (GTT) feature is enabled with the chg-feat command, it cannot be turned off.

The GTT feature must be purchased before turning it on. If you are not sure whether you have purchased the GTT feature, contact your Tekelec Sales Representative or Account Representative.

If the Variable-length Global Title Translation Feature (VGTT) is on, shown by the entry VGTT = on in the rtrv-feat command output, or the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, shown by the entry VGTT with 16 Lengths in the rtrv-ctrl-feat output, the ndgt parameter cannot be specified with the ent-tt command. The length of the global title address is determined when the global title address is entered with the ent-gtt command. If only the VGTT feature is on, the translation type can contain two to ten different lengths of global title addresses. If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, the translation type can contain 11 to 16 different lengths of global title addresses. For more information on the VGTT feature, the Support for 16 GTT Lengths in VGTT feature, and the length of global title addresses, refer to [Variable-length Global Title Translation Feature](#) on page 24 and [Adding a Global Title Translation](#) on page 561.

If the Variable-length Global Title Translation Feature (VGTT) is on, the NDGT field of the `rtrv-tt` command shows the different lengths of global title addresses assigned to a translation type, as shown in the following example.

```
rlghncxa03w 09-05-25 09:57:31 GMT EAGLE5 41.0.0
TYPEA
TTN
NDGT
1          lidb          6, 12, 15
2          c800          10
3          d700          6

ALIAS      TYPEA
50         3
65         3

TYPEI      TTN          NDGT
105        itudb        8

ALIAS      TYPEI
7          105

TYPEN      TTN          NDGT
120        dbitu        7

ALIAS      TYPEN
8          120
```

In this example of the `rtrv-tt` command output, the ANSI translation type 1 contains three different length global title addresses; global title addresses containing six digits, 12 digits, and 15 digits.

If the Variable-length Global Title Translation Feature (VGTT) feature is off and you wish to turn it on, enter the `chg-feat:vgtt=on` command. The GTT feature must be on before the `vgtt=on` parameter can be specified with the `chg-feat` command.

Note: Once the Variable-length Global Title Translation (VGTT) feature is turned on with the `chg-feat` command, it cannot be disabled.

The VGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

1. Display the translation types in the database using the `rtrv-tt` command. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:57:31 GMT EAGLE5 41.0.0

TYPEA      TTN          NDGT
1          lidb          5
2          c800          10
3          d700          6

ALIAS      TYPEA
50         3
65         3

TYPEI      TTN          NDGT
105        itudb        8

ALIAS      TYPEI
7          105
```

TYPEN	TTN	NDGT
120	dbitu	7
ALIAS	TYPEN	
8	120	

Continue the procedure by performing one of these steps.

- If multiple values are shown in the NDGT column for any translation type entry, the Variable-Length Global Title Translation feature is turned on. If a translation type entry contains 11 - 16 values in the NDGT column, the Support for 16 GTT Lengths in VGTT feature is enabled and turned on.
 - If no more than 10 values are shown in the NDGT column for any translation type, continue the procedure by performing one of these steps.
 - If the new translation type that is being added will contain no more than 10 different length global title addresses, continue the procedure with [Step 6](#) on page 551.
 - If the new translation type that is being added will contain more than 10 different length global title addresses, continue the procedure with [Step 5](#) on page 550.
 - If more than 10 values are shown in the NDGT column for any translation type, continue the procedure with [Step 6](#) on page 551.
 - If only single values are shown in the NDGT column for all the translation type entries, continue the procedure by performing one of these steps.
 - If the new translation type that is being added will contain global title addresses of only one length, continue the procedure with [Step 6](#) on page 551.
 - If the new translation type that is being added will contain multiple lengths of global title addresses, continue the procedure with [Step 2](#) on page 549.
2. Verify that the VGTT feature is on, by entering the `rtrv-feat` command. If the VGTT feature is on, the VGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

Continue the procedure by performing one of these steps.

- If the VGTT feature is on, continue the procedure by performing one of these steps.
 - If the new translation type that is being added will contain no more than 10 different length global title addresses, continue the procedure with [Step 6](#) on page 551.
 - If the new translation type that is being added will contain more than 10 different length global title addresses, continue the procedure with [Step 5](#) on page 550.
 - If the VGTT feature is off, continue the procedure with [Step 3](#) on page 549.
3. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD   TYPE   APPL      LSET NAME      LINK SLC LSET NAME      LINK SLC
1102   TSM      GLS
1113   GPMS      EOAM
1114   TDM-A
```

1115	GPSP	EOAM						
1116	TDM-B							
1117	MDAL							
1118	RESERVED							
1201	LIMDS0	SS7ANSI	sp2	A	0	sp1	B	0
1203	LIMDS0	SS7ANSI	sp3	A	0			
1204	LIMDS0	SS7ANSI	sp3	A	1			
1206	LIMDS0	SS7ANSI	nsp3	A	1	nsp4	B	1
1216	DCM	STPLAN						
1308	LIMDS0	SS7ANSI	sp6	A	1	sp7	B	0
1314	LIMDS0	SS7ANSI	sp7	A	1	sp5	B	1
1317	DCM	STPLAN						

The correct service modules must be in the EAGLE 5 ISS before the VGTT feature can be turned on, or the Support for 16 GTT Lengths in VGTT feature can be enabled and turned on. See [Table 20: Service Module and Feature Combinations](#) on page 94 to determine the service modules that are required. If any service modules must be replaced, contact the Customer Care Center before replacing any service modules. Refer to [Customer Care Center](#) on page 4 for the contact information.

4. Turn the Variable-length Global Title Translation (VGTT) feature on by entering this command.

```
chg-feat:vgtt=on
```

Note: Once the Variable-length Global Title Translation (VGTT) feature is enabled with the chg-feat command, it cannot be disabled.

The VGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the chg-feat has successfully completed, this message should appear.

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0
CHG-FEAT: MASP A - COMPLTD
```

Continue the procedure by performing one of these steps.

- If the new translation type that is being added will contain no more than 10 different length global title addresses, continue the procedure with [Step 6](#) on page 551.
- If the new translation type that is being added will contain more than 10 different length global title addresses, perform [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 to enable and turn on the Support for 16 GTT Lengths in VGTT feature. After the Support for 16 GTT Lengths in VGTT feature has been enabled and turned on, continue the procedure with [Step 6](#) on page 551.

5. Display the status of the Support for 16 GTT Lengths in VGTT feature by entering this command.

```
rtrv-ctrl-feat:partnum=893024801
```

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
VGTT with 16 GTT lengths	893024801	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, continue the procedure with [Step 6](#) on page 551.

If the Support for 16 GTT Lengths in VGTT feature is not enabled or turned on, perform [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 to enable and turn on the Support for 16 GTT Lengths in VGTT feature. After the Support for 16 GTT Lengths in VGTT feature has been enabled and turned on, continue the procedure with [Step 6](#) on page 551.

6. Add the translation type to the database using the `ent-tt` command. For this example, enter these commands.

Note: If the VGTT feature is on, or the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, the `ndgt` parameter cannot be specified with the `ent-tt` command.

```
ent-tt:typea=5:ttn=scp1:alias=30
```

```
ent-tt:typea=10:ttn=scp2:alias=40
```

```
ent-tt:typea=15:ttn=scp3
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0
ENT-TT: MASP A - COMPLTD
```

7. Verify the changes using the `rtrv-tt` command. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:57:51 GMT EAGLE5 41.0.0
TYPEA      TTN      NDGT
1          lldb      5
2          c800     10
3          d700     6
5          scp1      6
10         scp2      6
15         scp3      3

ALIAS      TYPEA
30         5
40         10
50         3
65         3

TYPEI      TTN      NDGT
105        itudb     8

ALIAS      TYPEI
7          105

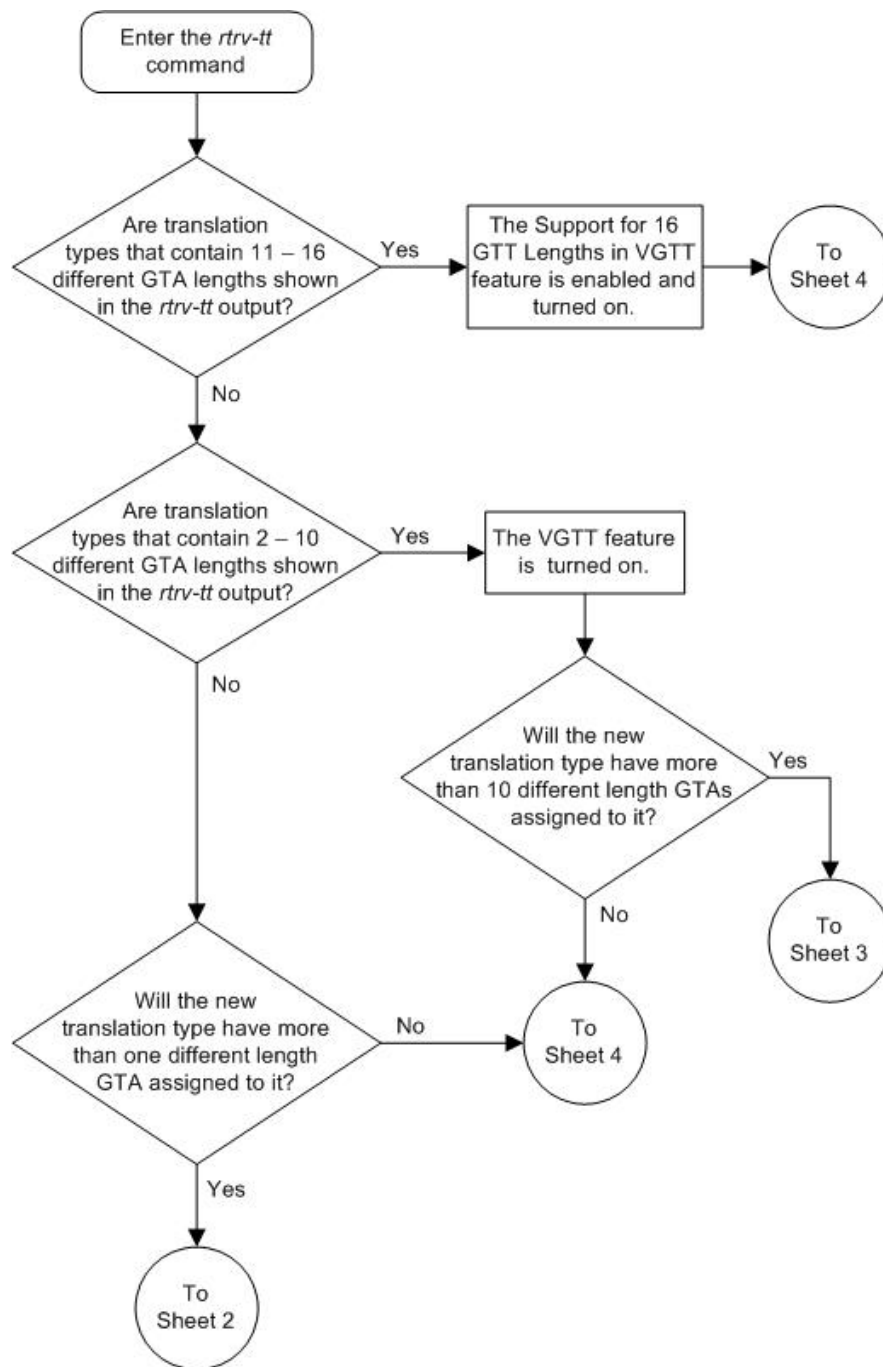
TYPEN      TTN      NDGT
120        dbitu     7

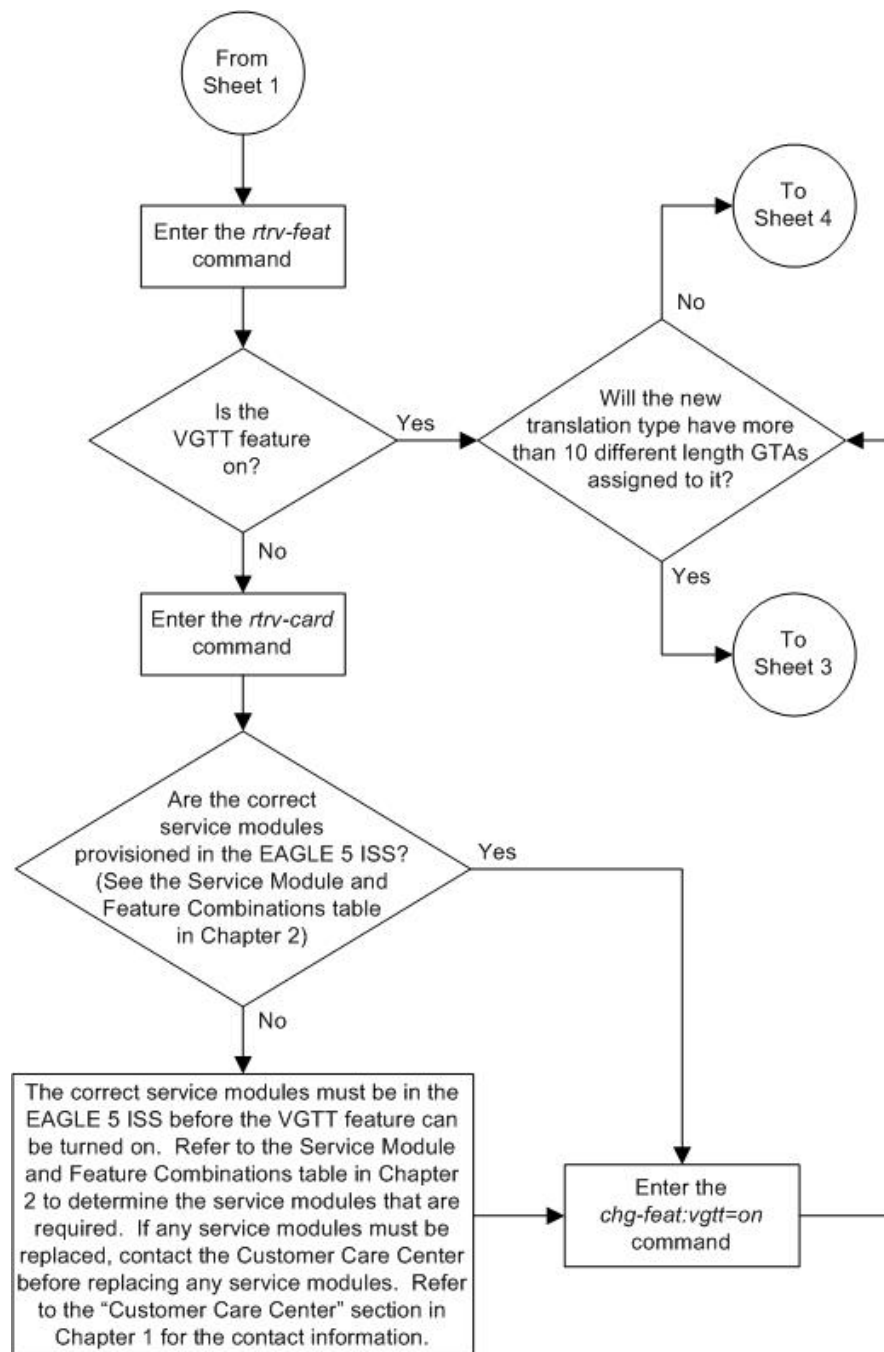
ALIAS      TYPEN
8          120
```

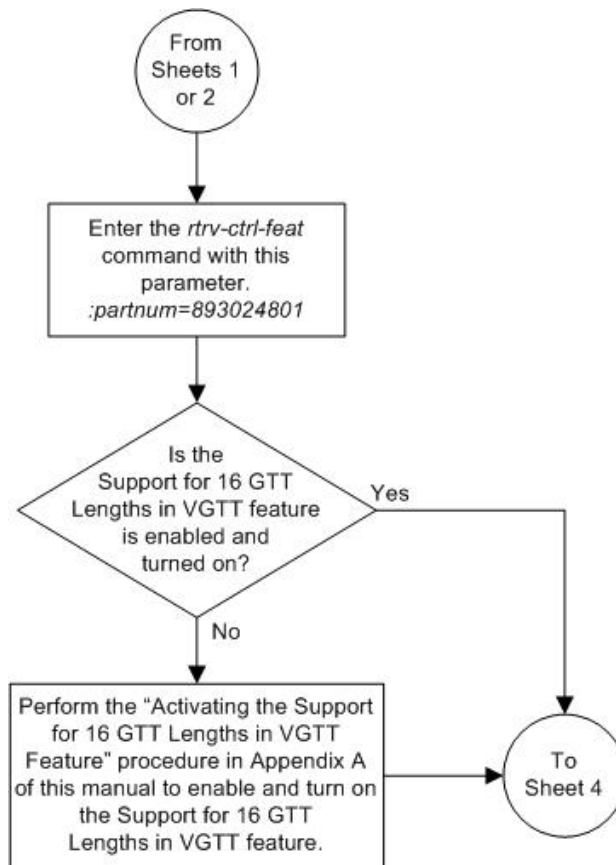
8. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

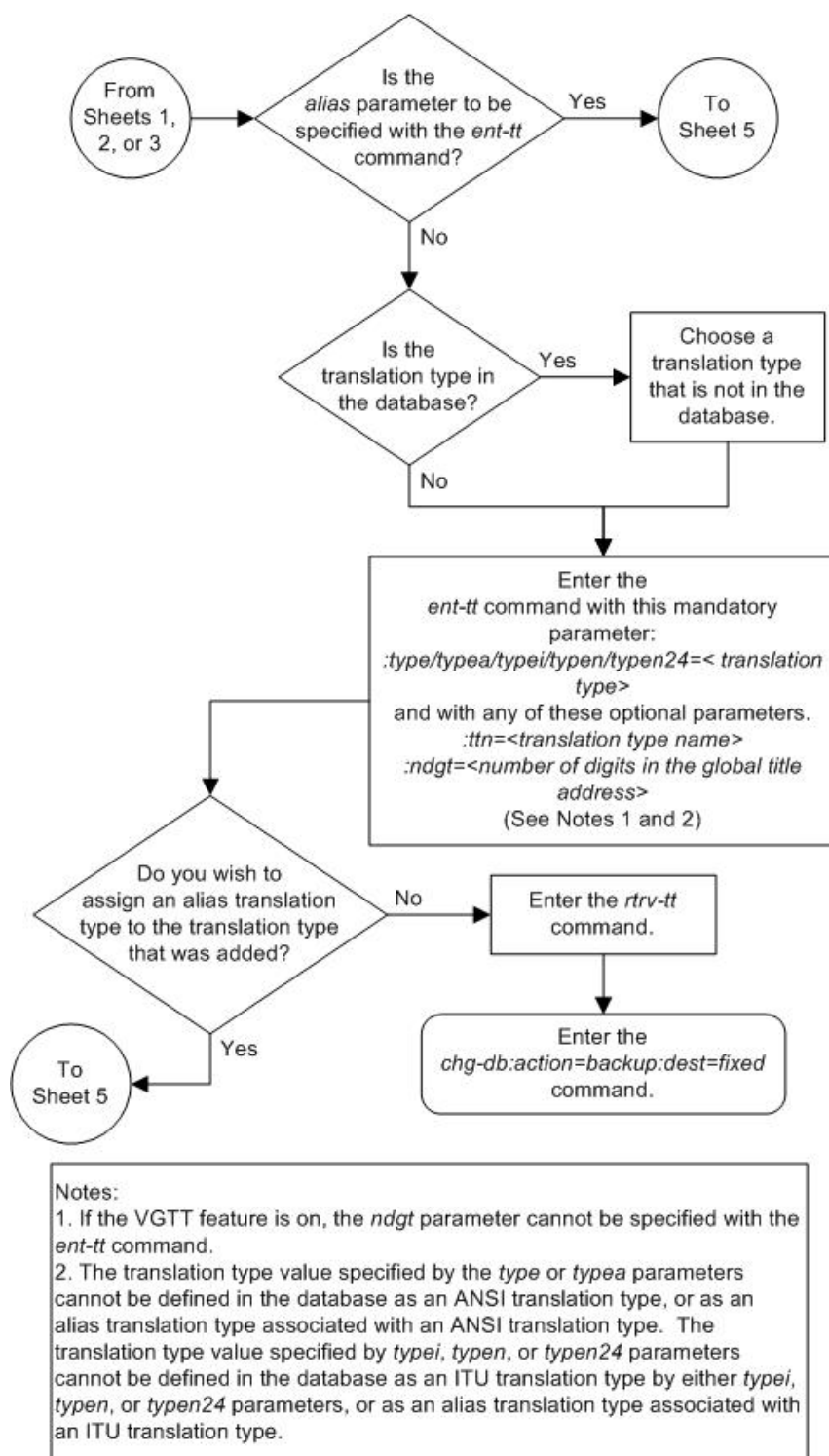
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

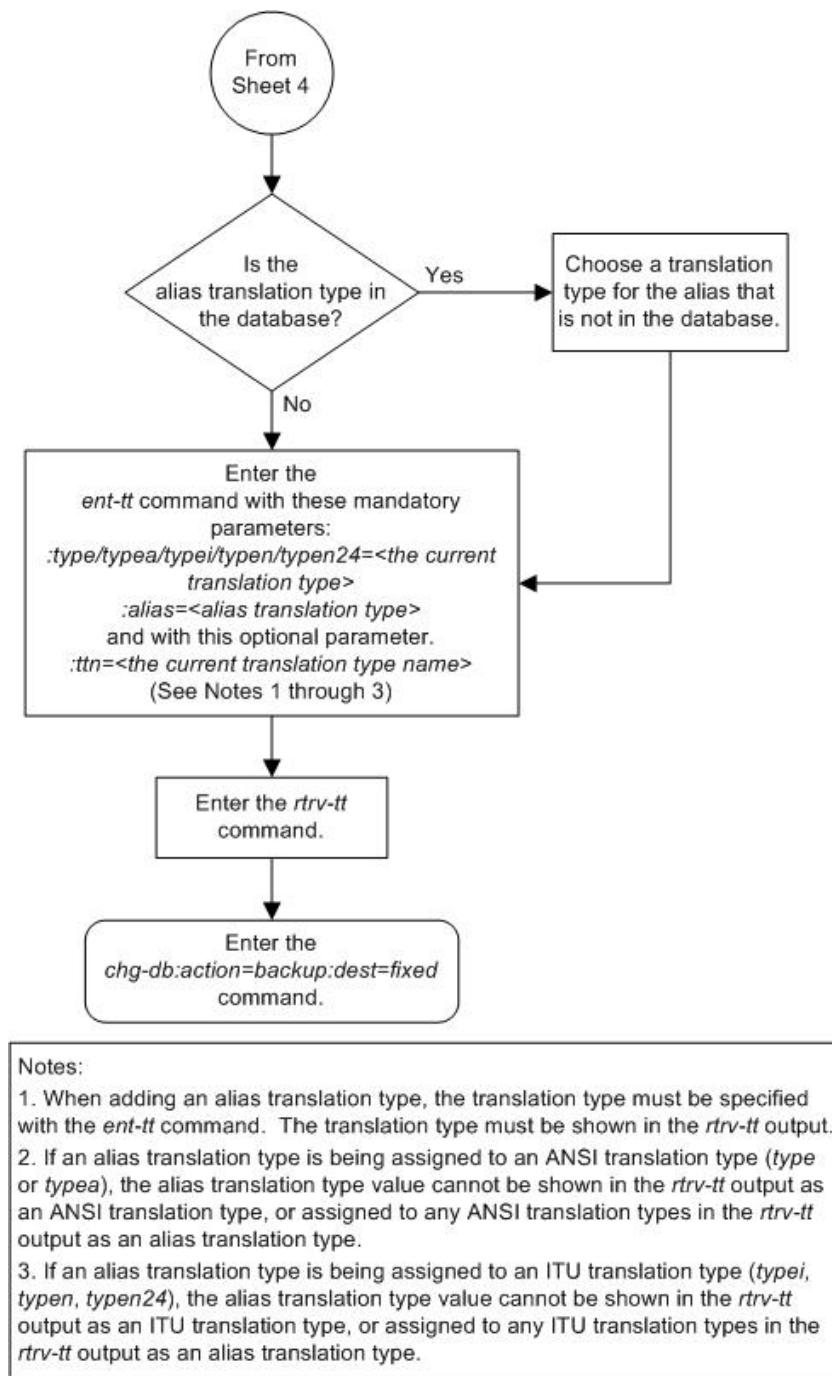
Figure 49: Adding a Translation Type











Removing a Translation Type

This procedure is used to remove a translation type from the database using the *dlt-tt* command.

The *dlt-tt* command uses these parameters.

:type/typea/typei/typen/typen24 – The translation type and network type of that translation type. The translation type indicates which global title translation table is to be used to determine the routing to a particular service database.:type or :typea – an ANSI network :typei – an ITU international network :typen/typen24 – an ITU national network.

:tttn – The name of the global title translation type

:alias – The alias of the global title translation type

The examples in this procedure are used to remove the translation type 3 from the database.

The translation type, translation type name, or alias specified with the `dlt-tt` command must be shown in the `rtrv-tt` output, and must be assigned to the specified translation type

The translation type cannot be removed if the global title translation tables reference the translation type. Verify that the global title translation tables do not reference the translation type using the `rtrv-gtt` command.

If the `rtrv-gtt` command shows references to the translation type to be removed, go to the [Removing a Global Title Translation](#) on page 607 procedure and remove the global title translation data associated with the translation type.

If the translation type is referenced by an alias, all aliases to the translation type must be removed first. To remove the alias, the alias and translation type must be specified in the `dlt-tt` command.

Canceling the RTRV-GTT Command

Because the `rtrv-gtt` command used in this procedure can output information for a long period of time, the `rtrv-gtt` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-gtt` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-gtt` command was entered, from another terminal other than the terminal where the `rtrv-gtt` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the translation types in the database using the `rtrv-tt` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:57:31 GMT EAGLE5 37.0.0
TYPEA      TTN      NDGT
1          lidb      5
2          c800      10
3          d700      6
5          scp1      6
10         scp2      6
15         scp3      3
ALIAS      TYPEA
```



```

30      5
40      10
50      3
65      3

TYPEI      TTN      NDGT
105        itudb    8

ALIAS      TYPEI
7          105

TYPEN      TTN      NDGT
120        dbitu    7

ALIAS      TYPEN
8          120

```

2. Display the global title translations assigned to the translation type being removed from the database using the `rtrv-gtt` command specifying the translation type being removed from the `rtrv-tt` command output shown in step 1. For this example, enter this command.

```
rtrv-gtt:typea=3
```

This is an example of the possible output.

```

rlghncxa03w 08-10-25 09:46:31 GMT  EAGLE5 39.2.0
TYPEA  TTN      NDGT
3      d700      6
GTT TABLE IS 10 % FULL (27000 of 269999)
START GTA      END GTA      XLAT  RI      PC
910460          919460      NGT   GT      007-007-007
      SSN=--- NGT= 6
      NNP=3 NNAI=100 NPDD=3 NPDS=345
      NGTI=

```

Command Retrieved 1 Entries

If global title translations are shown in the output of the `rtrv-gtt` command output, go to the [Removing a Global Title Translation](#) on page 607 procedure and remove these global title translations.

3. Remove the translation type from the database using the `dlt-tt` command.
For this example, enter these commands.

```
dlt-tt:typea=3:alias=50
```

```
dlt-tt:typea=3:alias=65
```

```
dlt-tt:typea=3
```

When each of these commands have successfully completed, this message should appear.

```

rlghncxa03w 07-05-25 09:57:41 GMT  EAGLE5 37.0.0
DLT-TT: MASP A - COMPLTD

```

4. Verify the changes using the `rtrv-tt` command and specify the translation type used in step 3.

For this example, enter the `rtrv-tt:typea=3` command.

This message should appear.

```
E2466 Cmd Rej: Translation TYPE specified does not exist
```

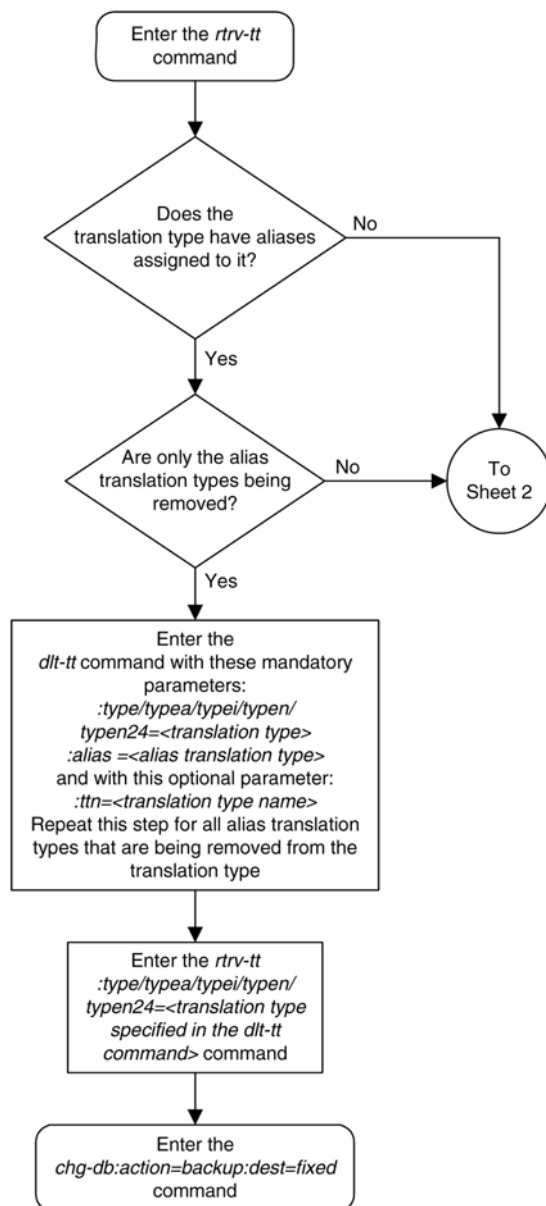
- Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

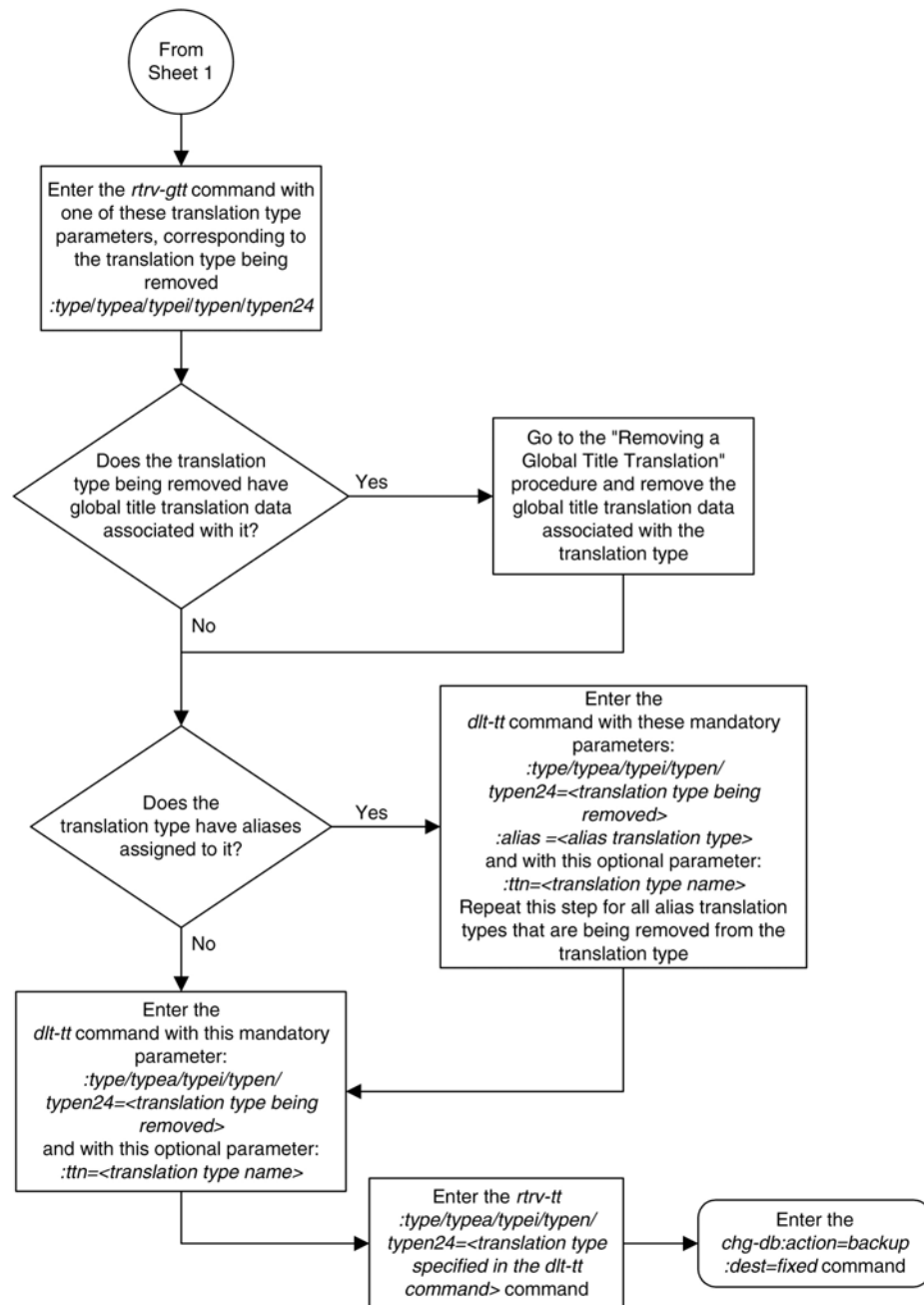
```

BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

```

Figure 50: Removing a Translation Type





Adding a Global Title Translation

This procedure is used to add a global title translation to the database using the *ent-gtt* command.

The *ent-gtt* command uses these parameters.

:gta – Global title start address – along with the egta parameter, identifies all valid global titles for the given translation type to translate to the given pc, ssn, or ngi parameters. These are the non-SS7 addresses transmitted to the STP for translation.

:type/typea/typei/typen/typen24 – The translation type and network type of that translation type.

:egta – Global title end address – along with the gta parameter, identifies all valid global titles for the given translation type to translate to the given pc, ssn, or ngi parameters. These are the non-SS7 addresses transmitted to the STP for translation.

:ngi – New global title – identifies the type of global title translation to replace the received global title.

:force – the mated application override. Is the global title translation to be entered without a mated application in the database?

:xlat – Translate indicator – defines the type of global title translation that is to be performed.

:ri – Route indicator – indicates whether a subsequent global title translation is required.

:pc/pca/pci/pcn/pcn24 – The point code of the signaling point that is to receive the message.

Note: See Chapter 2, "Configuring Destination Tables," in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:ssn – Subsystem number – identifies the subsystem address that is to receive the message.

:nnp – The new numbering plan

:nnai – The new nature of address indicator

:npdd – The number of digits to be deleted or substituted from the beginning of the Global Title Address digits (the prefix digits)

:npds – The digits that are being substituted for the prefix digits

:nsdd – The number of digits to be deleted or substituted from the end of the Global Title Address digits (the suffix digits)

:nsds – The digits that are being substituted for the suffix digits

:ngti – The new GT indicator value

:mrnset – The MRN set ID, shown in the rtrv-mrn command. This parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled and if the ri=ngi parameter is specified for the global title translation. If the Flexible GTT Load Sharing feature is enabled, the point code specified for the global title translation must be assigned to the MRN set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the rtrv-ctrl-feat output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

:mapset – The MAP set ID, shown in the rtrv-map command. This parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled and if the ri=ssn parameter is specified for the global title translation. If the Flexible GTT Load Sharing feature is enabled, the point code and SSN specified for the global title translation must be assigned to the MAP set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the rtrv-ctrl-feat output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

:loopset - The value of this parameter is the name of the loopset that is assigned to the GTT. This parameter can be specified only if the SCCP Loop Detection feature is enabled. Enter the `rtrv-loopset` command to verify that the SCCP Loop Detection feature is enabled. Perform [Activating the SCCP Loop Detection Feature](#) on page 929, if necessary. By default, the value of the loopset parameter is “none” because no loopset is assigned to the GTT.

:cggtmod - The calling party GT modification indicator. This parameter specifies whether or not calling party global title modification is required. The values for this parameter are `yes` (calling party global title modification is required) or `no` (calling party global title modification is not required). This parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled. Enter the `rtrv-ctrl-feat` command to verify that either the AMGTT or AMGTT CgPA Upgrade feature is enabled. If the AMGTT or AMGTT CgPA Upgrade feature is not enabled, perform [Activating the Advanced GT Modification Feature](#) on page 946 to enable the required feature.

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `ent-gtt` command are too long to fit on the `ent-gtt` command line, perform [Changing a Global Title Translation](#) on page 614 to complete adding the GTT entry.

The XLAT parameter does not have a SEAS equivalent. When global title translations are configured at the SEAS interface, the values for the SEAS parameters RI, DPC, and SSN, all mandatory parameters for the SEAS ADD-GTT and CHG-GTT commands, are converted to the EAGLE 5 ISS parameters and values shown in [Table 44: SEAS and Global Title Translation Parameter Conversion](#) on page 563.

Table 44: SEAS and Global Title Translation Parameter Conversion

SEAS GTT Parameters			GTT Parameters			
RI	DPC	SSN	XLAT	RI	PC/PCA	SSN
G	xxx-xxx-xxx	000	DPC	GT	xxx-xxx-xxx	Not Specified
D	xxx-xxx-xxx	002-255	DPCSSN	SSN	xxx-xxx-xxx	002-255
G	xxx-xxx-xxx	002-255	DPCSSN	GT	xxx-xxx-xxx	002-255
D	xxx-xxx-xxx	000	DPC	SSN	xxx-xxx-xxx	Not Specified
Notes: <ul style="list-style-type: none"> • The SEAS RI=G parameter denotes global title routing, further global title translation is required. • The SEAS RI=D parameter denotes DPC routing, no further global title translation is required. • The RI=GT parameter denotes further global title translation is required and uses MTP routing. • The RI=SSN parameter denotes final global title translation and uses MAP routing. • The XLAT=DPC parameter indicates that the DPC & RI values in the MSU are to be replaced. • The XLAT=DPCSSN parameter indicates that the DPC, RI, & SSN values in the MSU are to be replaced. 						

SEAS GTT Parameters	GTT Parameters
<ul style="list-style-type: none"> The XLAT=DPCNGT parameter indicates that the DPC, RI, & TT values in the MSU are to be replaced. 	

The examples in this procedure are used to add the global title translation data shown in the [Table 45: Example Global Title Translation Configuration Table](#) on page 564.

Table 45: Example Global Title Translation Configuration Table

TYPE	GTA	EGTA	XLAT	RI	PC	NGT	SSN
5	910460	---	dpcngt	gt	007-007-007	6	---
10	615370	615380	dpcssn	ssn	003-003-003	---	254
15	800	900	dpc	ssn	005-005-005	---	---
TYPE	GTA	EGTA	TTN	NNP	NNAI	NPDD	NPDS
5	910460	---	scp1	3	120	2	N/A
10	615370	615380	scp2	N/A	N/A	N/A	N/A
15	800	900	scp3	N/A	N/A	N/A	N/A

The global title translation data cannot be added to the database if the translation type is defined as an alias and if the global title translation data is already assigned to that translation type.

If the translate indicator is equal to dpc (xl_{at}=dpc) and the routing indicator is equal to ssn (ri=ssn), and the force=yes parameter is not specified, the point code specified in the ent-gtt command must be defined in the database as a mated application. Verify this by entering the rtrv-map command. If this point code is not defined as a mated application, perform one of these procedures to add the point code and subsystem number to the database as a mated application:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

The point code and subsystem number do not have to be in the mated application table when the ent-gtt command is executed if these parameters are specified with the ent-gtt command.

- ri=gt
- xl_{at}=dpcssn and ri=ssn

If the point code and subsystem, if applicable, are not in the mated application table when either of these parameters are specified with the ent-gtt command, the EAGLE 5 ISS creates a solitary

mated application in the mated application table using the point code and subsystem values specified in the `ent-gtt` command.

If the `xlat=dpcssn` parameter is specified, the `ssn` parameter must be specified. Otherwise, the `ssn` parameter cannot be specified.

If a point code is the STP's True PC, then the value of the `XLAT` parameter must be set to `DPCSSN` and the value of the `RI` parameter must be set to `SSN`. If the `SSN` parameter is specified and a point code is the STP's True PC, then the subsystem number specified must exist in the `SS-APPL` table. This can be verified with the `rtrv-ss-appl` command. To execute the `rtrv-ss-appl` command, either the `LNP` or `ATINP` features must be enabled, or the `EIR`, `INP`, `V-Flex`, or `ANSI-41 INP Query` features must be enabled and turned on. If the `LNP` feature is enabled, the entry `LNP TNS` with a quantity greater than zero is shown in the `rtrv-ctrl-feat` command output. If the `EIR` feature is enabled and turned on, the entry `EIR` is shown in the `rtrv-ctrl-feat` command output as being permanently or temporarily enabled and with the status set to on. If the `INP` feature is enabled and turned on, the entry `INP` is shown in the `rtrv-ctrl-feat` command output with the status set to on. If the `ANSI-41 INP Query` feature is enabled and turned on, the entry `ANSI-41 INP Query` is shown in the `rtrv-ctrl-feat` command output with the status set to on. If the `V-Flex` feature is enabled and turned on, the entry `VFLEX` is shown in the `rtrv-ctrl-feat` command output with the status set to on. If the `ATINP` feature is enabled and turned on, the entry `ATINP` is shown in the `rtrv-ctrl-feat` command output with the status set to on.

Note: The Local Number Portability (`LNP`), Equipment Identity Register (`EIR`), INAP Number Portability (`INP`), `V-Flex`, `ATINP`, or `ANSI-41 INP Query` features must be purchased before you can enable the `LNP` or `ATINP` features, or enable and turn on the `EIR`, `INP`, `V-Flex`, or `ANSI-41 INP Query` features. If you are not sure whether you have purchased the `LNP`, `EIR`, or `INP`, `V-Flex`, `ATINP`, or `ANSI-41 INP Query` feature, contact your Tekelec Sales Representative or Account Representative.

Once the `LNP` or `ATINP` feature is enabled with the `enable-ctrl-feat` command, or the `EIR`, `INP`, `V-Flex`, and `ANSI-41 INP Query` features are turned on with the `chg-ctrl-feat` command, they cannot be turned off or disabled.

The point code specified in the `ent-gtt` command must be defined in the routing table or be the EAGLE 5 ISS's point code. For `ANSI` point codes (`pc/pca`), the point code specified in the `ent-gtt` command, must be a full point code. That point code can be defined as a full point code in the destination point code table, or can be a member of a cluster point code defined in the destination point code table. Cluster point codes or a network routing point codes cannot be specified with this command. Enter the `rtrv-rte` command to verify that the point code is in the routing table. If the point code is not defined as a route, perform one of the Adding a Route procedures in the *Database Administration Manual – SS7* to define the point code as a route.

If the EAGLE 5 ISS's point code is specified with the `ent-gtt` command, then the `xlat=dpcssn` and `ri=ssn` parameters must be specified. The EAGLE 5 ISS's point code is shown in the `PCA`, `PCI`, `PCN`, or `PCN24` fields of the `rtrv-sid` command output.

If the `xlat=dpcngt` parameter is specified, the `ngt` parameter and the `ri=gt` parameters must be specified. Otherwise, the `ngt` parameter cannot be specified.

An `ANSI` point code or ITU international point code containing all zeros is not a valid point code and cannot be entered into the database. An ITU national point code containing all zeros is a valid point code and can be entered into the database.

Either the `type` parameter or the `ttn` parameter must be specified.

If the `type` parameter is specified, the translation type must be in the database. This can be verified with the `rtrv-tt` command.

If the `type` parameter is not specified, the translation type name must be assigned to a translation type in the database. This can be verified with the `rtrv-tt` command.

If the `type` and `ttn` parameters are specified, the specified translation type must be in the database and the specified translation type name must be assigned to the translation type.

If the translation type is ANSI (`type` or `typea`), the `pc` type must be ANSI (`pc` or `pca`). If the translation type is one of the ITU types (`typei`, `typen`, or `typen24`) the `pc` type may be either of the ITU types (`pci`, `pcn`, or `pcn24`). If the ANSI-ITU-China SCCP Conversion feature is enabled, the domain (ANSI or ITU) of the translation type and point code do not have to be the same.

The end global title address (`egta`) must be greater than or equal to the start global title address (`gta`) and its length must be equal to the start global title address.

If the Variable-Length Global Title Translation (VGTT) feature is off, shown the entry `VGTT = off`, the global title address length must be equal to the number of digits specified by the given translation type. The length of the global title address can be verified with the `rtrv-tt` command.

If the Variable-Length Global Title Translation (VGTT) feature is on, shown the entry `VGTT = on`, up to 10 different length global title addresses can be assigned to a translation type. If the Activating the Support for 16 GTT Lengths in VGTT feature is enabled and on, shown the entry `VGTT` with 16 GTT lengths in the `rtrv-ctrl-feat` output, up to 16 different length global title addresses can be assigned to a translation type. The length of the global title address is only limited by the range of values for the `gta` and `egta` parameters, one to 21 digits, and by the global title addresses already assigned to the translation type. The `ndgt` parameter of the `ent-tt` command has no effect on the length of the global title address. As global title addresses of different lengths are assigned to a specific translation type, these lengths are displayed in the `NDGT` field of the `rtrv-tt` command output.

If the translation type has maximum number of different length global title addresses assigned to it, and another global title address is specified for the translation type, the length of the global title address being added to the translation type must be the same as one of the lengths already assigned to the translation type. If the length of the global title address does not match one of the lengths already assigned to the translation type, the `ent-gtt` command is rejected with this message.

E4007 Cmd Rej: Exceeding max GTA Lengths supported per TT

If the translation type has less than the maximum number of different length global title addresses assigned to it, and another global title address is specified for the translation type, the length of the global title address can be from one to 21 digits and does not have to match the length of the other global title addresses assigned to the translation type.

Refer to [Variable-length Global Title Translation Feature](#) on page 24 for more information about this feature.

The range, as specified by the start and end global title addresses, cannot already exist in the global title translation data for the specified translation type. If the ranges overlap, the range of global title addresses cannot be split and the `ent-gtt` command is rejected with this message.

E2401 Cmd Rej:GTA range overlaps a current range. GTA range overlaps a current range

Along with error message 2401, a list of the overlapped global title addresses is displayed as shown in the following example.

```
rlghncxa03w 07-02-24 08:29:15 GMT EAGLE5 35.6.0
The following GTA ranges overlap the input GTA range

START GTA          END GTA
8005550000         8005551999
8005552000         8005553999
8005554000         8005555999

ENT-GTT: MASP A - Command Aborted
```

The `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, and `nsds` parameters are used by the Advanced GT Modification feature to modify the numbering plan, nature of address indicator, and the prefix or suffix digits in the called party address and calling party address portion of outbound MSUs in addition to the translation type when the MSU requires further global title translation and the translation type is to be replaced.

Being able to change the numbering plan, nature of address indicator, and either the prefix or suffix digits in the called party address portion of outbound MSUs makes the MSU more compatible with the network that the MSU is being sent to and to ensure that the MSU is routed correctly. These changes are made after the global title translation process, but before the MSU is routed to its destination.

The `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, and `nsds` parameters can be specified only when the Advanced GT Modification feature is enabled. This can be verified by entering the `rtrv-ctrl-feat` command. For more information on the Advanced GT Modification feature, refer to [Advanced GT Modification Feature](#) on page 26.

The `ngti=2` parameter can be specified with an ANSI point code or an ITU point code and not with the `nnp` and `nnai` parameters.

The `ngti=4` parameter can be specified only with an ITU point code. The `nnp` and `nnai` parameters must be specified with the `ngti=4` parameter.

The `ngti` parameter can be specified only if the domain (ANSI or ITU) of the translation type and point code of the global title translation are not the same (the translation type is ANSI and the point code is ITU or the translation type is ITU and the point code is ANSI), or if the domain of the translation type and point code is ITU. The Advanced GT Modification feature must be enabled and the ANSI-ITU-China SCCP Conversion feature must be enabled before the `ngti` parameter can be specified with the global title translation.

The prefix parameters (`npdd` and `npds`) and the suffix parameters (`nsdd` and `nsds`) cannot be specified with the `ent-gtt` command at the same time. If you wish to specify these parameters, you must specify either the `npdd` and `npds` or the `nsdd` and `nsds` parameters.

[Table 46: Valid Parameter Combinations for the ent-gtt Routing Parameters](#) on page 568 shows the valid combinations for the `xlat`, `ri`, `ssn`, and `ngt` parameters. All other combinations are rejected.

Table 46: Valid Parameter Combinations for the `ent-gtt` Routing Parameters

XLAT Value	RI Value	Routing Action	SSN Value	NGT Value
DPC	GT	Translate DPC only and route on GT	Cannot specify	Can be specified (See note)
DPC	SSN	Translate DPC only and route on SSN	Cannot specify	Cannot specify
DPCSSN	GT	Translate DPC and SSN and route on GT	Must specify	Cannot specify
DPCSSN	SSN	Translate DPC and SSN and route on SSN	Must specify	Cannot specify
DPCNGT	GT	Translate New GT and route on GT	Cannot specify	Must specify
Note: The <code>ngt</code> parameter can be specified with the <code>xlat=dpc</code> and <code>ri=gt</code> parameters only if the ANSI-ITU-China SCCP Conversion feature is enabled. Otherwise, the <code>ngt</code> parameter cannot be specified with the <code>xlat=dpc</code> and <code>ri=gt</code> parameters.				

The EAGLE 5 ISS can contain 269,999, 400,000, or 1,000,000 global title translations. The system default is 269,999 global title translations. This quantity can be increased to 400,000 by enabling the feature access key for part number 893-0061-01, or to 1,000,000 by enabling the feature access key for part number 893-0061-10. For more information on enabling these feature access keys, perform [Enabling the XGTT Table Expansion Feature](#) on page 859.

Canceling the `RTRV-GTT` Command

Because the `rtrv-gtt` command used in this procedure can output information for a long period of time, the `rtrv-gtt` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-gtt` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-gtt` command was entered, from another terminal other than the terminal where the `rtrv-gtt` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm`

command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the translation types in the database using the `rtrv-tt` command. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:42:31 GMT EAGLE5 41.0.0
TYPEA      TTN      NDGT
1          lidb      5
2          c800     10
3          d700     6
5          scp1     6
10         scp2     6
15         scp3     3

ALIAS      TYPEA
30         5
40         10
50         3
65         3

TYPEI      TTN      NDGT
105       itudb     8

ALIAS      TYPEI
7         105

TYPEN      TTN      NDGT
120       dbitu     7

ALIAS      TYPEN
8         120
```

If the required translation type is shown in the `rtrv-tt` output, continue the procedure by performing one of these steps.

- If multiple values are shown in the NDGT column for any translation type entry, the Variable-Length Global Title Translation feature is turned on. If a translation type entry contains 11 - 16 values in the NDGT column, the Support for 16 GTT Lengths in VGTT feature is enabled and turned on.
- If no more than 10 values are shown in the NDGT column for any translation type, continue the procedure by performing one of these steps.
 - If the translation type will contain no more than 10 different length global title addresses, continue the procedure with [Step 6](#) on page 571.
 - If the translation type will contain more than 10 different length global title addresses, continue the procedure with [Step 5](#) on page 571.
- If more than 10 values are shown in the NDGT column for any translation type, continue the procedure with [Step 6](#) on page 571 .
- If only single values are shown in the NDGT column for all the translation type entries, continue the procedure by performing one of these steps.
 - If the translation type will contain global title addresses of only one length, continue the procedure with [Step 6](#) on page 571.

- If the translation type will contain multiple lengths of global title addresses, continue the procedure with [Step 2](#) on page 570.

If the required translation type is not shown in the `rtrv-tt` output, perform [Adding a Translation Type](#) on page 546 to add the translation type to the database. After the translation type has been added, continue the procedure with [Step 6](#) on page 571.

2. Verify that the VGTT feature is on, by entering the `rtrv-feat` command. If the VGTT feature is on, the VGTT field should be set to on. For this example, the VGTT feature is off.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

Continue the procedure by performing one of these steps.

- If the VGTT feature is on, continue the procedure by performing one of these steps.
 - If the translation type will contain no more than 10 different length global title addresses, continue the procedure with [Step 6](#) on page 571.
 - If the translation type will contain more than 10 different length global title addresses, continue the procedure with [Step 5](#) on page 571.
 - If the VGTT feature is off, continue the procedure with [Step 3](#) on page 570.
3. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME      LINK SLC LSET NAME      LINK SLC
1102   TSM        GLS
1113   GPSM        EOAM
1114   TDM-A
1115   GPSM        EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
1201   LIMDS0     SS7ANSI    sp2            A      0      sp1            B      0
1203   LIMDS0     SS7ANSI    sp3            A      0
1204   LIMDS0     SS7ANSI    sp3            A      1
1206   LIMDS0     SS7ANSI    nsp3           A      1      nsp4           B      1
1216   DCM         STPLAN
1308   LIMDS0     SS7ANSI    sp6            A      1      sp7            B      0
1314   LIMDS0     SS7ANSI    sp7            A      1      sp5            B      1
1317   DCM         STPLAN
```

The correct service modules must be in the EAGLE 5 ISS before the VGTT feature can be turned on, or the Support for 16 GTT Lengths in VGTT feature can be enabled and turned on. See [Table 20: Service Module and Feature Combinations](#) on page 94 to determine the service modules that are required. If any service modules must be replaced, contact the Customer Care Center before replacing any service modules. Refer to [Customer Care Center](#) on page 4 for the contact information.

4. Turn the Variable-length Global Title Translation (VGTT) feature on by entering this command.

```
chg-feat:vgtt=on
```

Note: Once the Variable-length Global Title Translation (VGTT) feature is enabled with the `chg-feat` command, it cannot be disabled.

The VGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` has successfully completed, this message should appear.

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0
CHG-FEAT: MASP A - COMPLTD
```

Continue the procedure by performing one of these steps.

- If the translation type will contain no more than 10 different length global title addresses, continue the procedure with [Step 6](#) on page 571.
 - If the translation type will contain more than 10 different length global title addresses, perform [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 to enable and turn on the Support for 16 GTT Lengths in VGTT feature. After the Support for 16 GTT Lengths in VGTT feature has been enabled and turned on, continue the procedure with [Step 6](#) on page 571.
5. Display the status of the Support for 16 GTT Lengths in VGTT feature by entering this command.

```
rtrv-ctrl-feat:partnum=893024801
```

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
VGTT with 16 GTT lengths	893024801	on	----

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, continue the procedure with [Step 6](#) on page 571.

If the Support for 16 GTT Lengths in VGTT feature is not enabled or turned on, perform [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 to enable and turn on the Support for 16 GTT Lengths in VGTT feature. After the Support for 16 GTT Lengths in VGTT feature has been enabled and turned on, continue the procedure with [Step 6](#) on page 571.

6. Display the global title translations in the database using the `rtrv-gtt` command specifying a translation type (`type`), translation type name (`tt`), or both from the `rtrv-tt` command output shown in [Step 1](#) on page 569 along with the desired global title address (`gta`). If a range of global title addresses will be specified for the global title translation, the `egta` parameter can be specified with the `rtrv-gtt` command. For this example, enter these commands.

```
rtrv-gtt:typea=5:gta=910460
```

```
rtrv-gtt:typea=10:gta=615370:egta=615380
```

```
rtrv-gtt:typea=15:gta=800:egta=900
```

To add a global title translation, the desired global title addresses cannot be in the database. If the global title addresses are not in the database, the `rtrv-gtt` command is rejected with the following message.

```
E2405 Cmd Rej: GTA does not exist in any range
```

7. The global title translation cannot be added to the database if the database contains the maximum number of global title translations the EAGLE 5 ISS is allowed to have. The maximum number of global title translations is shown in the `rtrv-gtt` output in [Step 6](#) on page 571 or the `rtrv-ctrl-feat` output.

If error message E2405 was displayed in the output in [Step 6](#) on page 571, enter the `rtrv-ctrl-feat` command to verify the maximum number of global title translations that are allowed in the database.

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status   Quantity
Command Class Management 893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
HC-MIM SLK Capacity      893012707  on      64

The following features have been temporarily enabled:

Feature Name          Partnum    Status   Quantity   Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

Note: If the entry `XGTT Table Expansion` is not shown in the `rtrv-ctrl-feat` output, the maximum number of global title addresses that the database can contain is 269,999.

If the maximum number of global title translations is 1,000,000, continue the procedure with [Step 8](#) on page 572.

If the maximum number of global title translations is 400,000, and the global title translation being added increases the number beyond 400,000, perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable XGTT Table Expansion feature for 1,000,000 global title translations. After the maximum number of global title translations has been increased, continue the procedure with [Step 8](#) on page 572.

If the maximum number of global title translations is either 269,999 or 400,000, and the global title translation being added will not increase the number beyond the maximum number of global title translations, continue the procedure with [Step 8](#) on page 572.

Note: If the `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, `nsds`, or `cggtmod` parameters will not be specified in this procedure, continue the procedure with [Step 9](#) on page 573.

8. To specify the `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, `nsds`, or `cggtmod` parameters in this procedure, the Advanced GT Modification feature must be enabled.

If the Advanced GT Modification feature is enabled, one of these entries is shown in the `rtrv-ctrl-feat` output.

- AMGTT
- AMGTT CdPA Only
- AMGTT CgPA Upgrade

Note: If the entry `AMGTT CdPA Only` is shown in the `rtrv-ctrl-feat` output, the `cggtmode` parameter cannot be specified in this procedure. To specify the `cggtmode` parameter, either the `AMGTT` or `AMGTT CgPA Upgrade` entry must be shown in the `rtrv-ctrl-feat` output.

If the `rtrv-ctrl-feat` command was performed in [Step 7](#) on page 572, and the appropriate `AMGTT` entry is shown in the `rtrv-ctrl-feat` output, continue the procedure with [Step 9](#) on page 573.

If the `rtrv-ctrl-feat` command was not performed in [Step 7](#) on page 572, enter the `rtrv-ctrl-feat` command to verify the status of the Advanced GT Modification feature.

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum      Status  Quantity
IPGWx Signaling TPS   893012814   on      20000
ISUP Normalization    893000201   on      ----
Command Class Management 893005801   on      ----
LNP Short Message Service 893006601   on      ----
Intermed GTT Load Sharing 893006901   on      ----
HC-MIM SLK Capacity    893012707   on      64

The following features have been temporarily enabled:

Feature Name          Partnum      Status  Quantity  Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the appropriate Advanced GT Modification feature is not shown in the `rtrv-ctrl-feat` output in this step or in [Step 7](#) on page 572, perform [Activating the Advanced GT Modification Feature](#) on page 946 to enable the appropriate Advanced GT Modification feature. After the Advanced GT Modification feature has been enabled, continue the procedure with [Step 9](#) on page 573.

9. A loopset can be assigned to the global title translation to determine if SCCP messages are being looped. The `loopset` parameter is used to assign a loopset to a global title translation. To assign a loopset to the global title translation, the SCCP Loop Detection feature must be enabled.

Note: If you do not wish to specify the `loopset` parameter with the `ent-gtt` command, continue the procedure with [Step 11](#) on page 575.

If the SCCP Loop Detection feature is enabled, the `LOOPSET` field is shown in the `rtrv-gtt` output, and the entry `SCCP Loop Detection` is shown in the `rtrv-ctrl-feat` output.

If the `LOOPSET` field is shown in the `rtrv-gtt` output in [Step 6](#) on page 571, continue the procedure with [Step 10](#) on page 574.

If error message E2405 is displayed in the `rtrv-gttoutput` in [Step 6](#) on page 571, enter the `rtrv-ctrl-feat` command with the SCCP Loop Detection feature part number to verify the status of the SCCP Loop Detection feature. Enter this command.

```
rtrv-ctrl-feat:partnum=893016501
```

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum      Status   Quantity
SCCP Loop Detection   8930165101   on       ----

The following features have been temporarily enabled:

Feature Name          Partnum      Status   Quantity   Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the SCCP Loop Detection feature is enabled, continue the procedure with [Step 10](#) on page 574.

If the LOOPSET field does not appear in the `rtrv-gttoutput` in [Step 6](#) on page 571, or the `rtrv-ctrl-feat` output shows that the SCCP Loop Detection feature is not enabled, perform [Activating the SCCP Loop Detection Feature](#) on page 929 to enable the SCCP Loop Detection feature. After the SCCP Loop Detection feature has been enabled, perform [Adding a Loopset](#) on page 510 to add the required loopset. After the loopset has been added, continue the procedure with [Step 11](#) on page 575.

10. Display all the loopsets in the database by entering this command

```
rtrv-loopset:num=1000:force=yes
```

This is an example of the possible output.

LoopSet	Mode	Point Codes
cary2	notify	005-015-005 007-007-007 (ANSI) 033-004-003 033-007-003 005-027-005 007-004-007
cary4	notify	005-012-005 007-026-007 (ANSI) 003-049-003 033-002-003 005-008-055 007-014-007
apex3	discard	005-017-008 007-017-009 (ANSI) 033-005-043 005-014-005 005-017-005 007-014-007 033-002-043 005-038-005 007-009-027 033-003-043 005-012-005 007-002-027
apex4	discard	005-007-008 027-007-009 (ANSI) 033-005-003 005-004-055 027-001-007 033-008-003 033-007-003 005-003-055 027-008-007
ral5	notify	005-005-005 007-007-007 (ANSI) 003-004-003 003-001-003 005-007-005 007-004-007 003-002-003 005-008-005

ral6	notify	007-009-007	003-003-003
		005-002-005	007-002-007
		005-007-008	007-007-009 (ANSI)
		003-005-003	003-007-003
dunn1	discard	005-007-005	
		005-002-055	007-051-007 (ANSI)
rtp9	discard	003-008-033	
		005-002-005	007-001-007 (ANSI)
rtp5	discard	003-008-003	003-007-003
		005-003-005	007-008-007
		005-004-005	
		005-007-008	007-007-009 (ANSI)
rtp1	discard	003-005-003	
		005-005-005	007-007-007 (ANSI)
rtp2	notify	003-004-003	003-007-003
		005-007-005	007-004-007
		005-004-005	
		005-007-008	007-007-009 (ANSI)
		003-005-003	

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
LOOPSET table is (11 of 1000) 1% full
RTRV-LOOPSET: MASP A - COMPLTD
```

Note: If the `rtrv-loopset` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-loopset` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 1000 loopsets in the database, to display all the loopsets in the database, the `force=yes` and `num = 1000` parameters must be specified with the `rtrv-loopset` command.

If the required loopset is shown in the `rtrv-loopset` output, continue the procedure with [Step 11](#) on page 575.

If the required loopset is not shown in the `rtrv-loopset` output, perform [Adding a Loopset](#) on page 510 to add the required loopset. After the loopset has been added, continue the procedure with [Step 11](#) on page 575.

- Hexadecimal digits (0-9, a-f, A-F) can be specified as values for the `gta`, `egta`, `npds`, or `nsds` parameters only if the Hex Digit Support for GTT feature is enabled. Verify the status of the Hex Digit Support for GTT feature by entering the `rtrv-ctrl-feat` command with the Hex Digit Support for GTT feature part number.

Note: If hexadecimal digits are shown in the `rtrv-gtt` output in [Step 6](#) on page 571, or if hexadecimal digits will not be specified for the `gta`, `egta`, `npds`, or `nsds` parameters in this procedure, continue the procedure with [Step 12](#) on page 576.

Enter this command.

```
rtrv-ctrl-feat:partnum=893018501
```

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
```

The following features have been permanently enabled:

Feature Name	Partnum	Status	Quantity
Hex Digit Support for GTT	893018501	on	----

The following features have been temporarily enabled:

```
Feature Name      Partnum      Status      Quantity      Trial Period Left
Zero entries found.
```

The following features have expired temporary keys:

```
Feature Name      Partnum
Zero entries found.
```

If the Hex Digit Support for GTT feature has not been enabled, perform [Activating the Hex Digit Support for GTT Feature](#) on page 902 to enable this feature. After the Hex Digit Support for GTT feature is enabled, continue the procedure with [Step 12](#) on page 576.

12. Verify that the ANSI-ITU-China SCCP Conversion feature is enabled by entering the `rtrv-ctrl-feat:partnum=893012001` command. The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
Feature Name      Partnum      Status      Quantity
SCCP Conversion   893012001      on          ----

The following features have been temporarily enabled:

Feature Name      Partnum      Status      Quantity      Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name      Partnum
Zero entries found.
```

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 and the ANSI-ITU-China SCCP Conversion feature.

Note: If the domain (ANSI or ITU) of the point code and the translation type assigned to the global title translation will be different, and the `ngt.i` parameter will be specified with the global title translation, the ANSI-ITU-China SCCP Conversion feature (SCCP Conversion) must be enabled. If the ANSI-ITU-China SCCP Conversion feature is not being used, or if the `rtrv-ctrl-feat` output in this step shows that the ANSI-ITU-China SCCP Conversion feature is enabled, continue the procedure with [Step 13](#) on page 576.

Note: If the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are being specified with the `ent-gtt` command, continue the procedure with [Step 16](#) on page 578.

13. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

DPCA      CLLI      BEI  ELEI      ALIASI      ALIASN/N24      DMN
001-207-000  ----- no  --- -----
001-001-001  ----- no  --- -----
001-001-002  ----- no  --- -----
001-005-000  ----- no  --- -----
001-007-000  ----- no  --- -----
008-012-003  ----- no  --- -----
003-002-004  ----- no  --- -----
SS7
```

```

009-002-003 ----- no --- ----- SS7
010-020-005 ----- no --- ----- SS7

DPCI      CLLI      BEI  ELEI      ALIASA      ALIASN/N24  DMN
1-207-0    ----- no --- ----- SS7
0-015-0    ----- no --- ----- SS7
0-017-0    ----- no --- ----- SS7
1-011-1    ----- no --- ----- SS7
1-011-2    ----- no --- ----- SS7

```

```

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 16](#) on page 578.

14. Display the point code that will be assigned to the global title translation by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

DPCA      CLLI      BEI  ELEI      ALIASI      ALIASN/N24  DMN
010-020-005 ----- no --- ----- SS7

PPCA      NCAI PRX      RCAUSE      NPRST      SPLITIAM
009-002-003 ---- no          50          on          20

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

If the point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in [Step 13](#) on page 576 and repeat this step.

If the point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* and add the point code to the destination point code table.

15. The point code specified with the `ent-gtt` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `ent-gtt` command to verify whether or not the point code is the DPC of a route.

For this example, enter these commands.

```
rtrv-rte:dpc=007-007-007
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
  DPCA      ALIASI      ALIASN/N24    LSN      RC      APCA
007-007-007 -----
                                ls03      10      007-007-007
                                ls02      30      150-150-150
                                lsa2      50      200-200-200
                                RTX:No    CLLI=ls03clli
```

```
rtrv-rte:dpc=003-003-003
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
  DPCA      ALIASI      ALIASN/N24    LSN      RC      APCA
003-003-003 -----
                                ls02      10      002-002-002
                                ls08      30      025-025-150
                                lsa5      50      066-030-100
                                RTX:No    CLLI=ls07clli
```

```
rtrv-rte:dpc=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
  DPCA      ALIASI      ALIASN/N24    LSN      RC      APCA
005-005-005 -----
                                ls05      10      005-005-005
                                ls15      30      089-047-123
                                lsa8      50      077-056-000
                                RTX:No    CLLI=ls05clli
```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

16. To use either the `mrnset` parameter (if the routing indicator value for the global title translation is GT) or `mapset` parameter (if the routing indicator value for the global title translation is SSN), the Flexible GTT Load Sharing feature must be enabled.

If the Flexible GTT Load Sharing feature is enabled, either the `mrnset` or `mapset` parameters, depending on the routing indicator value for the global title translation being added in this procedure, must be specified with the `ent-gtt` command.

Verify that the Flexible GTT Load Sharing feature is enabled by entering this command.

```
rtrv-ctrl-feat:partnum=893015401
```

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
Feature Name      Partnum      Status      Quantity
```

```
Zero entries found.
```

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the Flexible GTT Load Sharing feature is enabled, the following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
```

```
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Flexible GTT Load Sharing	893015401	on	----

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the routing indicator for the global title translation being added is GT, there are three actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the `mrnset` parameter for the global title translation, continue the procedure with [Step 24](#) on page 585.
- If the Flexible GTT Load Sharing feature is not enabled, and you do wish to specify the `mrnset` parameter for the global title translation, perform the [Activating the Flexible GTT Load Sharing Feature](#) on page 881 procedure to enable the Flexible GTT Load Sharing feature. After enabling the Flexible GTT Load Sharing feature, continue the procedure with [Step 17](#) on page 580.
- If the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 17](#) on page 580.

If the routing indicator for the global title translation being added is SSN, there are three actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the `mapset` parameter for the global title translation, continue the procedure with one of these steps.
 - If the point code value is the EAGLE 5 ISS's point code, continue the procedure with [Step 21](#) on page 583.
 - If the point code value is a value other than the EAGLE 5 ISS's point code, the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpc`, continue the procedure with [Step 23](#) on page 584.

- If the point code value is a value other than the EAGLE 5 ISS's point code, the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpcssn` when this procedure is completed, continue the procedure with [Step 18](#) on page 581.
 - If the Flexible GTT Load Sharing feature is not enabled, and you do wish to specify the `mapset` parameter for the global title translation, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature. After enabling the Flexible GTT Load Sharing feature, continue the procedure with one of these steps:
 - If the point code value is the EAGLE 5 ISS's point code, continue the procedure with [Step 21](#) on page 583.
 - If the point code value is a value other than the EAGLE 5 ISS's point code, or the `xlat` parameter value will be `dpc`, continue the procedure with [Step 23](#) on page 584.
 - If the Flexible GTT Load Sharing feature is enabled, perform one of these steps.
 - If the point code value is the EAGLE 5 ISS's point code continue the procedure with [Step 21](#) on page 583.
 - If the point code value is a value other than the EAGLE 5 ISS's point code, or the `xlat` parameter value will be `dpc`, continue the procedure with [Step 23](#) on page 584.
17. The point code and MRN set ID specified for the global title translation must be shown in the `rtrv-mrn` command output. The point code must be assigned to the MRN set that will be assigned to the global title translation.

Enter the `rtrv-mrn` command to verify that the required MRN set is configured in the database, and that the required point code is assigned to the MRN set. The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
```

MRNSET	PC	RC
DFLT	001-001-001	10
	001-001-002	20
	001-001-003	30

MRNSET	PC	RC
110	001-001-001	10
	001-001-005	20
	001-001-006	30
	001-001-003	40
	001-001-008	50

MRNSET	PC	RC
111	001-001-001	30
	001-001-005	30
	001-001-006	30
	001-001-003	30
	001-001-008	30

MRNSET	PC	RC
112	001-003-001	10
	001-003-002	10
	001-003-003	30
	001-003-004	30
	001-003-006	60
	001-003-007	60
	001-003-008	80
	001-003-009	80

MRNSET	PCN	RC
113	s-1-1-1-0123-aa	1
	s-1-1-1-0235-aa	2
	s-1-1-1-0235-aa	3

Note: If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-mrn` output

If the required MRN set is not shown in the `rtrv-mrn` output, or if the required point code is not assigned to the required MRN set, provision the required MRN set by performing [Provisioning MRN Entries](#) on page 367. After provisioning the required MRN set, continue the procedure with [Step 24](#) on page 585.

If the required MRN set is shown in the `rtrv-mrn` output, or if the required point code is assigned to the required MRN set, continue the procedure with [Step 24](#) on page 585.

Note: If the EAGLE 5 ISS's point code is not going to be used for the `pc` parameter of the `ent-gtt` command, continue the procedure with [Step 23](#) on page 584.

18. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

DPCA          CLLI          BEI  ELEI  ALIASI          ALIASN          DMN
001-207-000   ----- no   ---  -----  -----  SS7
001-001-001   ----- no   ---  -----  -----  SS7
001-001-002   ----- no   ---  -----  -----  SS7
001-005-000   ----- no   ---  -----  -----  SS7
001-007-000   ----- no   ---  -----  -----  SS7
008-012-003   ----- no   ---  -----  -----  SS7
003-002-004   ----- no   ---  -----  -----  SS7
009-002-003   ----- no   ---  -----  -----  SS7
010-020-005   ----- no   ---  -----  -----  SS7

DPCI          CLLI          BEI  ELEI  ALIASI          ALIASN          DMN
1-207-0       ----- no   ---  -----  -----  SS7
0-015-0       ----- no   ---  -----  -----  SS7
0-017-0       ----- no   ---  -----  -----  SS7
1-011-1       ----- no   ---  -----  -----  SS7
1-011-2       ----- no   ---  -----  -----  SS7

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 23](#) on page 584.

19. Display the point code that will be assigned to the global title translation by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.
`rtrv-dstn:dpca=010-020-005`

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN	DMN
010-020-005	-----	no	---	-----	-----	SS7
PPC	NCAI	PRX				
009-002-003	----	no				

Destination table is (14 of 2000) 1% full

Alias table is (0 of 12000) 0% full

PPC table is (1 of 20) 5% full

If the point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full

Alias table is (0 of 12000) 0% full

PPC table is (1 of 20) 5% full

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in [Step 18](#) on page 581 and repeat this step.

If the point code is not shown in the `rtrv-dstn` output, perform the “Adding a Destination Point Code” procedure in the *Database Administration Manual - SS7* and add the point code to the destination point code table.

- The point code specified with the `ent-gtt` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `ent-gtt` command to verify whether or not the point code is the DPC of a route.

For this example, enter these commands.

```
rtrv-rte:dpc=007-007-007
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	ALIASI	ALIASN/N24	LSN	RC	APCA
007-007-007	-----	-----	ls03	10	007-007-007
			ls02	30	150-150-150
			lsa2	50	200-200-200
			RTX:No	CLLI=ls03clli	

```
rtrv-rte:dpc=003-003-003
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	ALIASI	ALIASN/N24	LSN	RC	APCA
003-003-003	-----	-----	ls02	10	002-002-002
			ls08	30	025-025-150


```
lsa5          50      066-030-100
              RTX:No  CLLI=ls07clli
```

```
rtrv-rte:dPCA=005-005-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
      DPCA      ALIASI      ALIASN/N24      LSN      RC      APCA
005-005-005      -----      -----      ls05      10      005-005-005
                                ls15      30      089-047-123
                                lsa8      50      077-056-000
                                RTX:No  CLLI=ls05clli
```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

21. If the `ri=ssn` and `xlat=dpcssn` parameters are specified with the `ent-gtt` command, and you wish to use the EAGLE 5 ISS's point code for the value of the `pc` parameter of the `ent-gtt` command, the point code value must be in the EAGLE 5 ISS's self ID table. Display the EAGLE 5 ISS self-identification, using the `rtrv-sid` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

PCA          PCI          PCN          CLLI          PCTYPE
010-020-030      1-023-1      12-0-14-1      rlghncxa03w      OTHER
                s-1-023-1      s-12-0-14-1

CPCA
002-002-002      002-002-003      002-002-004      002-002-005
002-002-006      002-002-007      002-002-008      002-002-009
004-002-001      004-003-003      050-060-070

CPCI
1-001-1          1-001-2          1-001-3          1-001-4
1-002-1          1-002-2          1-002-3          1-002-4
2-001-1          7-222-7

CPCN
2-0-10-3          2-0-11-0          2-0-11-2          2-0-12-1
2-2-3-3          2-2-4-0          10-14-10-1
```

22. Enter the `rtrv-ss-appl` command to verify that either the LNP, EIR, V-Flex, ATINPQ, or INP subsystem number (depending on which feature is on) is in the subsystem application table.

This is an example of the possible output.

```
rlghncxa03w 09-05-28 14:42:38 GMT EAGLE5 41.0.0
APPL      SSN      STAT
LNP      254      ONLINE

SS-APPL table is 20% FULL (1 of 5)
```

If the subsystem number is shown in the `rtrv-ss-appl` output, go to [Step 23](#) on page 584. If no subsystem number is shown in the `rtrv-ss-appl` output, or if the `rtrv-ss-appl` command is rejected, go to one of these manuals, depending on the type of subsystem you

wish to use, to enable and turn on the feature as necessary, and add the subsystem to the subsystem application table.

- EIR subsystem – go to the *Feature Manual - EIR*.
- INP subsystem – go to the *Feature Manual - INP/AINPQ*.
- LNP subsystem – go to the *LNP Feature Activation Guide*.
- V-Flex subsystem – go to the *Feature Manual - V-Flex*.
- ATINPQ subsystem – go to the *Feature Manual - ATINP*.

Note: If the Flexible GTT Load Sharing feature is enabled, shown in [Step 16](#) on page 578, a MAP set ID must be specified for the final global title translation. The point code and SSN specified for the final global title translation being added in this procedure must be assigned to the MAP set ID that will be assigned to the final global title translation. Perform [Step 23](#) on page 584 to verify that the required MAP set is configured in the database.

Note: If the Flexible GTT Load Sharing feature is not enabled, and the `ri=ssn` and `xlat=dpc` parameters are not being specified with the `ent-gtt` command, or if the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are not being specified with the `ent-gtt` command, continue the procedure with [Step 24](#) on page 585.

23. Enter the `rtrv-map` command with the `pc` parameter specifying the required point code to verify that the required data is in the mated application table.

For this example enter this command.

```
rtrv-map:pca=005-005-005
```

If the Flexible GTT Load Sharing feature is not enabled, this is an example of the possible output.

```
rlghncxa03w 09-05-25 09:42:31 GMT EAGLE5 41.0.0

PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
005-005-005          250 10 SOL --- --- GRP01      ON
```

MAP table is (37 of 1024) 4% full.

If the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

```
rlghncxa03w 09-05-25 09:42:31 GMT EAGLE5 41.0.0

tekelecstp 09-04-28 12:26:01 EST 41.0.0-62.18.0
rtrv-map
Command entered at terminal #4.

MAPSET ID=DFLT
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
005-005-005          55  5  DOM YES YES ----- OFF
                   15 15  DOM YES YES ----- ON
                   25 20  DOM YES YES ----- ON
                   40 35  DOM YES YES ----- OFF

MAPSET ID=1
PCA          Mate PCA          SSN RC MULT SRM MRC GRP NAME SSO
005-005-005          50  5  DOM YES YES ----- OFF
                   10 15  DOM YES YES ----- ON
                   20 20  DOM YES YES ----- ON
```

```

001-001-002    40 35  DOM YES YES ----- OFF
MAPSET ID=      2
005-005-005          5 10  SOL --- --- ----- OFF
MAP table is (12 of 36000) 1% full.

```

If the `ri=ssn` and `xlat=dpc` parameters are being specified with the `ent-gtt` command, the point code must be in the mated application table. If the point code is not in the mated application table when the `ent-gtt` command is executed, the `force=yes` parameter must be specified with the `ent-gtt` command.

If the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters are being specified with the `ent-gtt` command, the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number must be in the mated application table.

If the required point code, subsystem number, or MAP set ID is not shown in the `rtrv-map` output, perform one of these procedures to add the required information to the mated application table.

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

24. Add the global title translation to the database using the `ent-gtt` command using the parameter combinations shown in [Table 47: Add GTT Parameter Combinations](#) on page 586.

For this example, enter these commands.

```

ent-gtt:typea=5:gta=910460:egta=919460:xlat=dpcngt:ri=gt
:pca=007-007-007:ttn=scp1:ngt=6:npdd=2:nnp=3:nnai=120:npds=34
:mrnset=114:cgtmod=yes

ent-gtt:typea=10:gta=615370:egta=615380:xlat=dpcssn:ri=ssn
:pca=003-003-003:ssn=254:ttn=scp2:mapset=3

ent-gtt:typea=15:gta=800:egta=900:xlat=dpc:ri=ssn:pca=005-005-005
:ttn=scp3:mapset=1:loopset=rtp:cgtmod=yes

```

When each of these commands have successfully completed, this message should appear.

```

rlghncxa03w 09-05-07 11:44:13 GMT  EAGLE5 41.0.0
ENT-GTT:  MASP A - COMPLTD

```

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `ent-gtt` command are too long to fit on the `ent-gtt` command line, perform [Changing a Global Title Translation](#) on page 614 to complete adding the GTT entry.

Table 47: Add GTT Parameter Combinations

RI = GT XLAT= DPCNGT	RI = GT XLAT= DPCSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
Mandatory Parameters				
TYPE/TYPEA/ TYPEI/TYPEN/ TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN/ TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN/ TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN/ TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN/ TYPEN24 (See Notes 2 and 3)
PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 12)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 12)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 12)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 12)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 12)
GTA (See Notes 4, 5, 6, 17, 19, and 21)	GTA (See Notes 4, 5, 6, 17, 19, and 21)	GTA (See Notes 4, 5, 6, 17, 19, and 21)	GTA (See Notes 4, 5, 6, 17, 19, and 21)	GTA (See Notes 4, 5, 6, 17, 19, and 21)
NGT	SSN		SSN	
Optional Parameters				
TTN (See Notes 19, 20, and 21)	TTN (See Notes 19, 20, and 21)	TTN (See Notes 19, 20, and 21)	TTN (See Notes 19, 20, and 21)	TTN (See Notes 19, 20, and 21)
EGTA (See Note 22)	EGTA (See Note 22)	EGTA (See Note 22)	EGTA (See Note 22)	EGTA (See Note 22)
NNP (See Notes 7, 9, and 10)	NNP (See Notes 7, 9, and 10)	NNP (See Notes 7, 9, and 10)	NNP (See Notes 7, 9, and 10)	NNP (See Notes 7, 9, and 10)
NNAI (See Notes 7, 9, and 10)	NNAI (See Notes 7, 9, and 10)	NNAI (See Notes 7, 9, and 10)	NNAI (See Notes 7, 9, and 10)	NNAI (See Notes 7, 9, and 10)
NPDD (See Notes 7 and 11)	NPDD (See Notes 7 and 11)	NPDD (See Notes 7 and 11)	NPDD (See Notes 7 and 11)	NPDD (See Notes 7 and 11)
NPDS (See Notes 7, 11, and 17)	NPDS (See Notes 7, 11, and 17)	NPDS (See Notes 7, 11, and 17)	NPDS (See Notes 7, 11, and 17)	NPDS (See Notes 7, 11, and 17)
NSDD (See Notes 7 and 11)	NSDD (See Notes 7 and 11)	NSDD (See Notes 7 and 11)	NSDD (See Notes 7 and 11)	NSDD (See Notes 7 and 11)
NSDS (See Notes 7, 11, and 17)	NSDS (See Notes 7, 11, and 17)	NSDS (See Notes 7, 11, and 17)	NSDS (See Notes 7, 11, and 17)	NSDS (See Notes 7, 11, and 17)
NGTI (See Notes 7, 9, and 10)	NGTI (See Notes 7, 9, and 10)	NGTI (See Notes 7, 9, and 10)	NGTI (See Notes 7, 9, and 10)	NGTI (See Notes 7, 9, and 10)

RI = GT XLAT=DPCNGT	RI = GT XLAT=DPCSSN	RI = GT XLAT= DPC	RI = SSN XLAT=DCPSSN	RI = SSN XLAT= DPC
MRNSET (See Note 14)	MRNSET (See Note 14)	MRNSET (See Note 14)	MAPSET (See Note 16)	FORCE (See Note 15)
LOOPSET (See Note 18)	LOOPSET (See Note 18)	LOOPSET (See Note 18)	LOOPSET (See Note 18)	MAPSET (See Note 16)
CGGTMOD (See Note 8)	CGGTMOD (See Note 8)	NGT (See Note 13)	CGGTMOD (See Note 8)	LOOPSET (See Note 18)
		CGGTMOD (See Note 8)		CGGTMOD (See Note 8)
Parameter Values:				
TYPE / TYPEA / TYPEI / TYPEN / TYPEN24 – The translation type from the TYPE/TYPEA/TYPEI/TYPEN/TYPEN24 column of the rtrv-tt output. See Note 2. TTN – The translation type name from the TTN column of the rtrv-tt output. GTA – 1 - 21 digits or 1 - 21 hexadecimal digits PC / PCA / PCI / PCN / PCN24 – See Note 1 SSN – 0 - 255 NGT – 0 - 255 EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = same as the GTA value FORCE – yes, no. Default = no LOOPSET – Loopset name from the rtrv-loopset output			NNP – 0 - 15. Default = 0xFFFF NNAI – 0 - 127. Default = 0xFFFF NPDD – 0 - 21. Default = 0 NPDS – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = no digits NSDD – 0 - 21. Default = 0 NSDS – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = no digits NGTI – 2, 4. Default = not applicable MRNSET – MRN set ID from the rtrv-mrn output MAPSET – MAP set ID from the rtrv-map output CGGTMOD – yes, no. Default = no	
Notes:				
1. The pc/pca/pci/pcn/pcn24 parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes to the global title translation (GTT). <ul style="list-style-type: none">pc/pca = ANSI point codepci = ITU-I or ITU-I spare point codepcn = 14-bit ITU-N or 14-bit ITU-N spare point codepcn24 = 24-bit ITU-N point code.				

RI = GT XLAT= DPCNGT	RI = GT XLAT=DPCSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
<p>2. The <code>type/typea/typei/typen/typen24</code> parameters specify the translation type and the network type of the translation type.</p> <ul style="list-style-type: none"> • <code>type/typea</code> = ANSI translation type • <code>typei</code> = ITU-I translation type • <code>typen/typen24</code> = ITU-N translation type <p>3. The domain (ANSI or ITU) of the point code and translation type must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTT may contain an ANSI point code and an ITU translation type, or an ITU point code and an ANSI translation type. Whether the ANSI-ITU-China SCCP Conversion feature is enabled or not, the translation type parameters <code>typei</code>, <code>typen</code>, or <code>typen24</code> can be specified with either the <code>pci</code>, <code>pcn</code>, or <code>pcn24</code> parameters.</p> <p>4. If the VGTT feature is on, shown by the <code>VGTT = on</code> entry in the <code>rtrv-feat</code> output, the translation type can contain a maximum of 10 different length GTAs. If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, shown by the <code>VGTT with 16 GTT lengths</code> entry in the <code>rtrv-ctrl-feat</code> output, the translation type can contain maximum of 16 different length GTAs. If the maximum number of different GTA lengths is shown in the <code>NDGT</code> column of the <code>rtrv-tt</code> output, the length of the GTA must match any existing GTA assigned to the translation type.</p> <p>5. If the translation type contains less than the maximum number of different length GTAs, the length of the GTA can be from 1 to 21 digits.</p> <p>6. If the VGTT feature is off, the length of the GTA must contain the number of digits defined by the <code>NDGT</code> field of the <code>rtrv-tt</code> output.</p> <p>7. The <code>nnp</code>, <code>nnai</code>, <code>npdd</code>, <code>npds</code>, <code>nsdd</code>, and <code>nsds</code> parameters can be specified only if the Advanced GT Modification feature is enabled. The <code>ngti</code> parameter can be specified only if the Advanced GT Modification feature is enabled and if the ANSI-ITU-China SCCP Conversion feature is enabled.</p> <p>8. The <code>cggmod</code> parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled.</p> <p>9. The <code>ngti=2</code> parameter can be specified with an ANSI point code or an ITU point code, and not with the <code>nnp</code> and <code>nnai</code> parameters.</p> <p>10. The <code>ngti=4</code> parameter can be specified only with an ITU point code, and the <code>nnp</code> and <code>nnai</code> parameters must also be specified for the GTA.</p> <p>11. The prefix parameters (<code>npdd</code> and <code>npds</code>) and the suffix parameters (<code>nsdd</code> and <code>nsds</code>) cannot be specified in the <code>ent-gtt</code> command at the same time. If you wish to specify these parameters, you must specify either the <code>npdd</code> and <code>npds</code> or the <code>nsdd</code> and <code>nsds</code> parameters.</p> <p>12. If the point code is the EAGLE 5 ISS's point code, then the <code>xlai</code> parameter value must be <code>dpcssn</code> and the <code>ri</code> parameter value must be <code>ssn</code>.</p> <p>13. The <code>ngt</code> parameter can be specified only if the ANSI-ITU-China SCCP Conversion feature is enabled.</p> <p>14. The <code>mrnset</code> parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled.</p>				

RI = GT XLAT= DPCNGT	RI = GT XLAT=DPCSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
<p>15. If the <code>pc/pca/pci/pcn/pcn24</code> parameter value is not shown in the <code>rtrv-map</code> output, the <code>force=yes</code> parameter must be specified with the <code>ent-gtt</code> command.</p> <p>16. The <code>mapset</code> parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled.</p> <p>17. Hexadecimal digits (0-9, a-f, A-F) can be specified for the <code>gta</code>, <code>egta</code>, <code>npds</code>, or <code>nsds</code> parameters only if the Hex Digit support for GTT feature is enabled.</p> <p>18. The <code>loopset</code> parameter can be specified only if the SCCP Loop Detection feature is enabled.</p> <p>19. Either the <code>type</code> parameter or the <code>ttn</code> parameter must be specified.</p> <p>20. If the <code>type</code> parameter is not specified, the translation type name must be assigned to a translation type in the database. This can be verified with the <code>rtrv-tt</code> command.</p> <p>21. If the <code>type</code> and <code>ttn</code> parameters are specified, the specified translation type must be in the database and the specified translation type name must be assigned to the translation type.</p> <p>22. The end global title address (<code>egta</code>) must be greater than or equal to the start global title address (<code>gta</code>) and its length must be equal to the start global title address.</p>				

25. Verify the changes using the `rtrv-gtt` command with the translation type parameter and value, and the `gta` parameter value specified in [Step 24](#) on page 585. If the `num` parameter is specified with the `rtrv-gtt` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gtt` command.

For this command, enter these commands.

```
rtrv-gtt:typea=5:gta=910460
```

This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:46:31 GMT EAGLE5 41.0.0
TYPEA  TTN      NDGT
5      scp1      6
GTT TABLE IS (27000 of 269999) 10 % FULL

START GTA          END GTA          XLAT  RI      PC
910460             919460             DPCNGT GT      007-007-007
MRNSET=114  SSN=--- NGT= 6 CGGTMOD = YES
NNP=3  NNAI=120 NPDD=3 NPDS=34
NGTI=
```

Command Retrieved 1 Entries

```
rtrv-gtt:typea=10:gta=615370
```

This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:46:31 GMT EAGLE5 41.0.0
TYPEA  TTN      NDGT
10     scp2      6
GTT TABLE IS (27000 of 269999) 10 % FULL
```

```

START GTA          END GTA          XLAT  RI      PC
615370             615380             DPCSSN SSN    003-003-003
      MAPSET=3      SSN=254 NGT=--- CGGTMOD = NO

```

Command Retrieved 1 Entries

rtrv-gtt:typea=15:gta=800

This is an example of the possible output.

```

rlghncxa03w 09-05-25 09:48:31 GMT  EAGLE5 41.0.0
TYPEA  TTN      NDGT
15      scp3      3
GTT TABLE IS (27000 of 269999)  10 % FULL

```

```

START GTA          END GTA          XLAT  RI      PC
800               900               DPC    SSN    005-005-005
      MAPSET=1      SSN=--- NGT=--- CGGTMOD = YES
      LOOPSET = rtpl

```

Command Retrieved 1 Entries

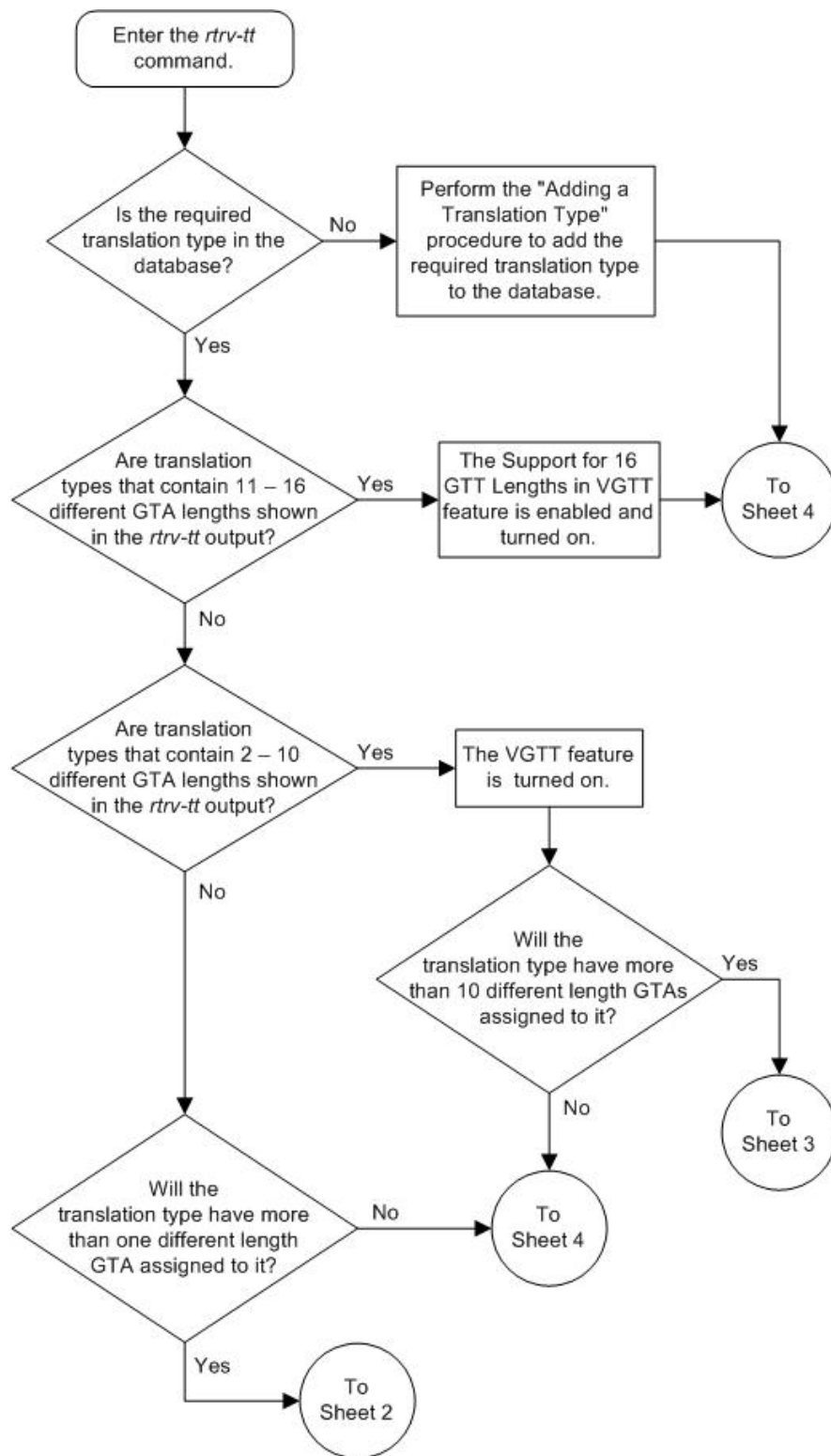
26. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

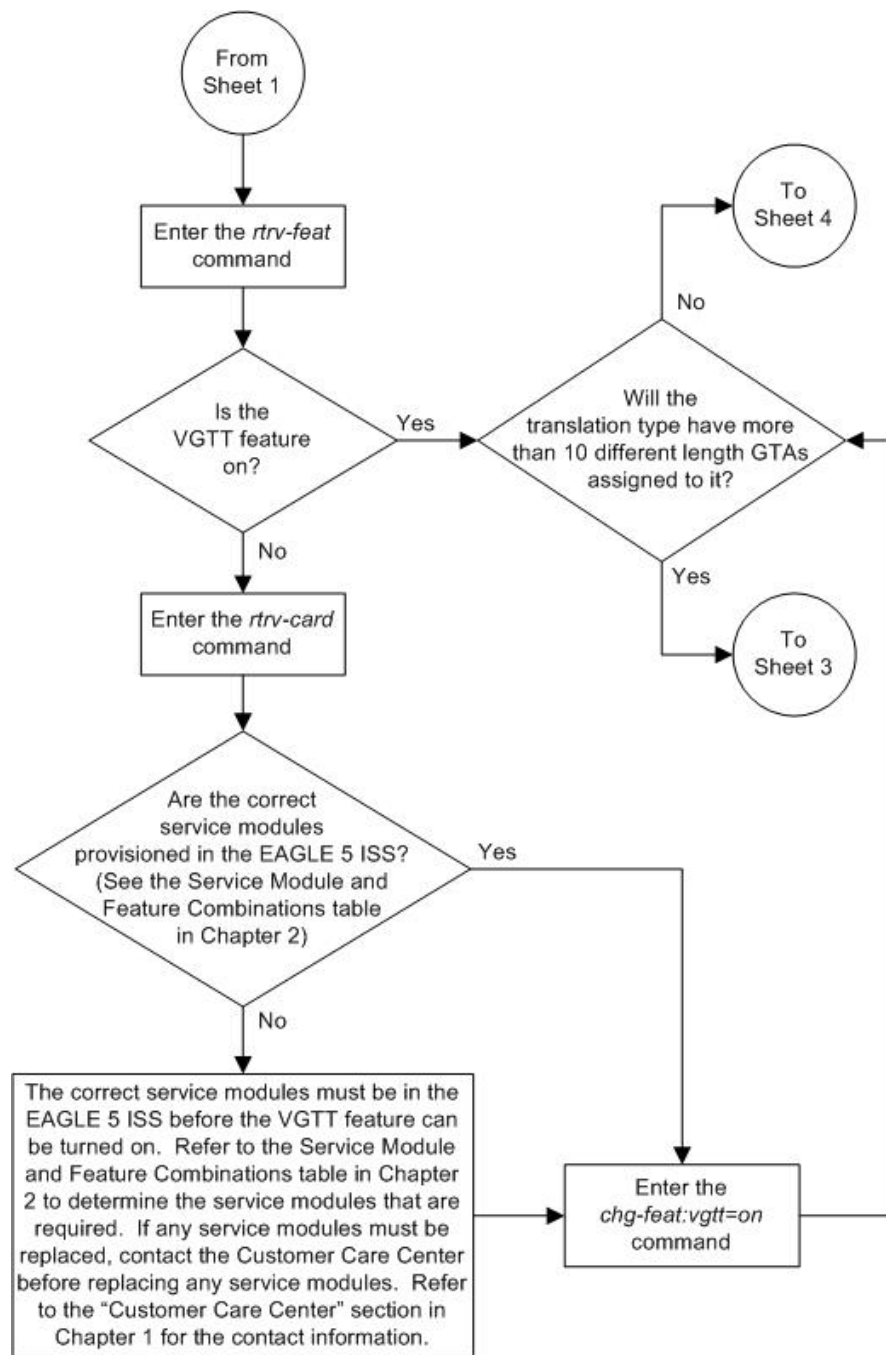
```

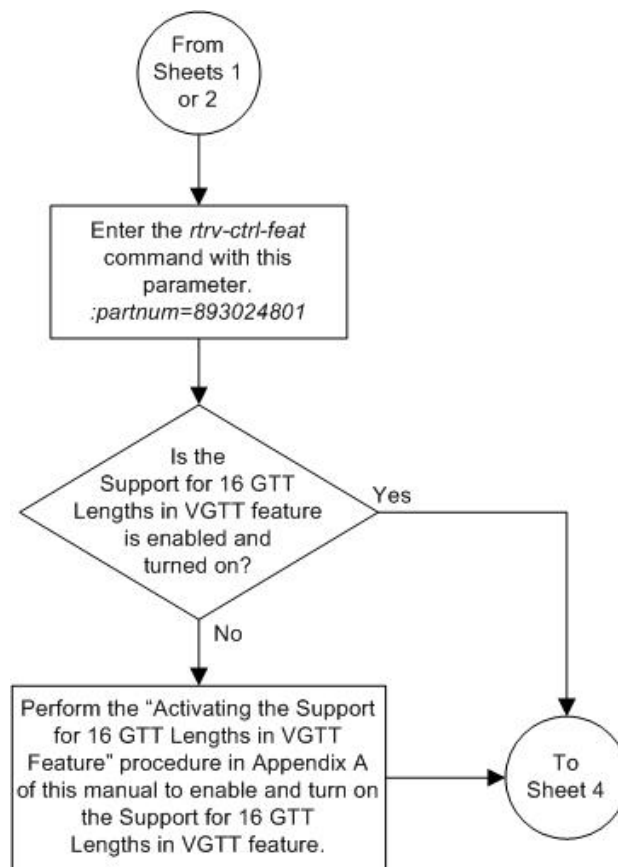
BACKUP (FIXED) : MASP A-Backup starts on active MASP.
BACKUP (FIXED) : MASP A-Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A-Backup starts on standby MASP.
BACKUP (FIXED) : MASP A-Backup on standby MASP to fixed disk complete.

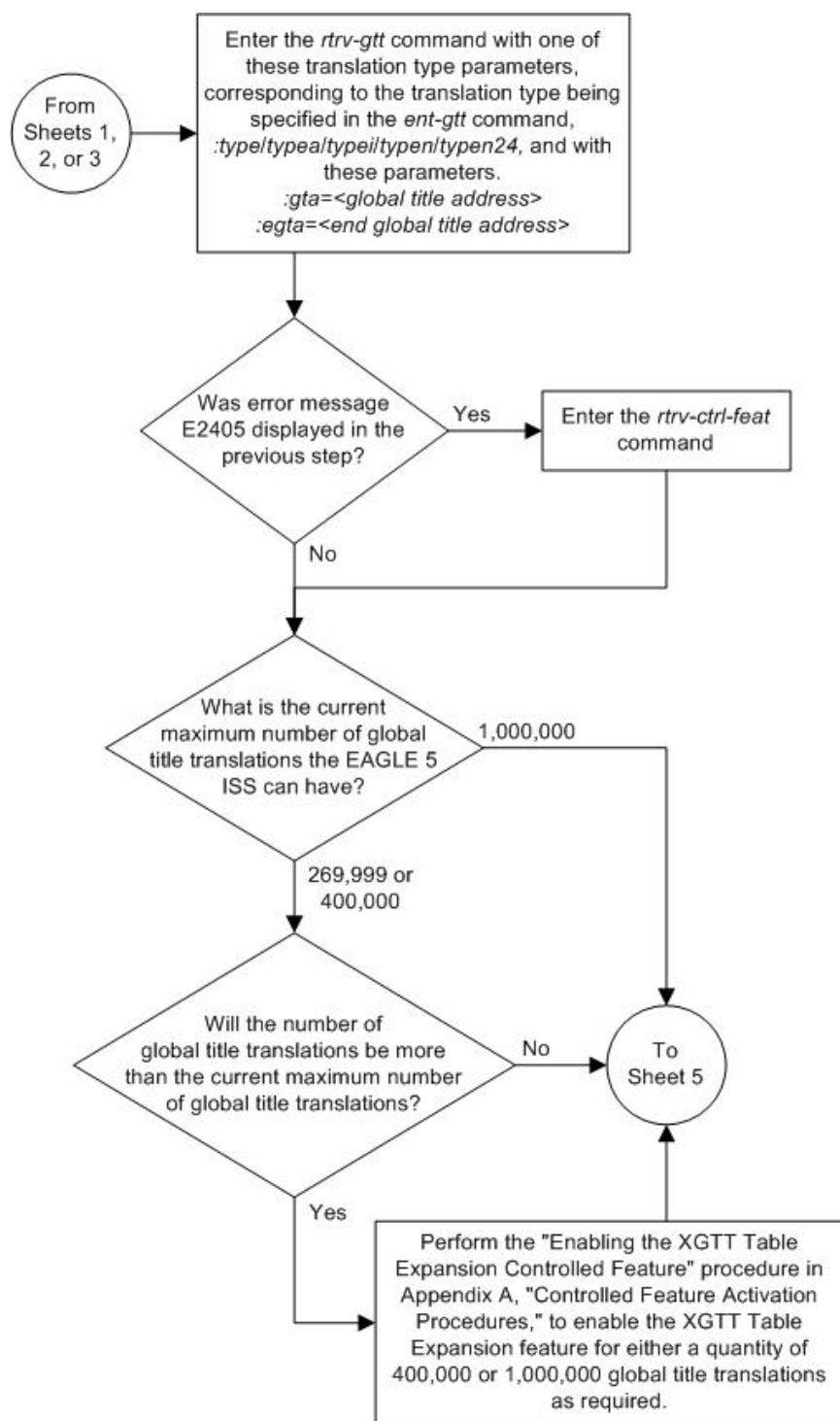
```

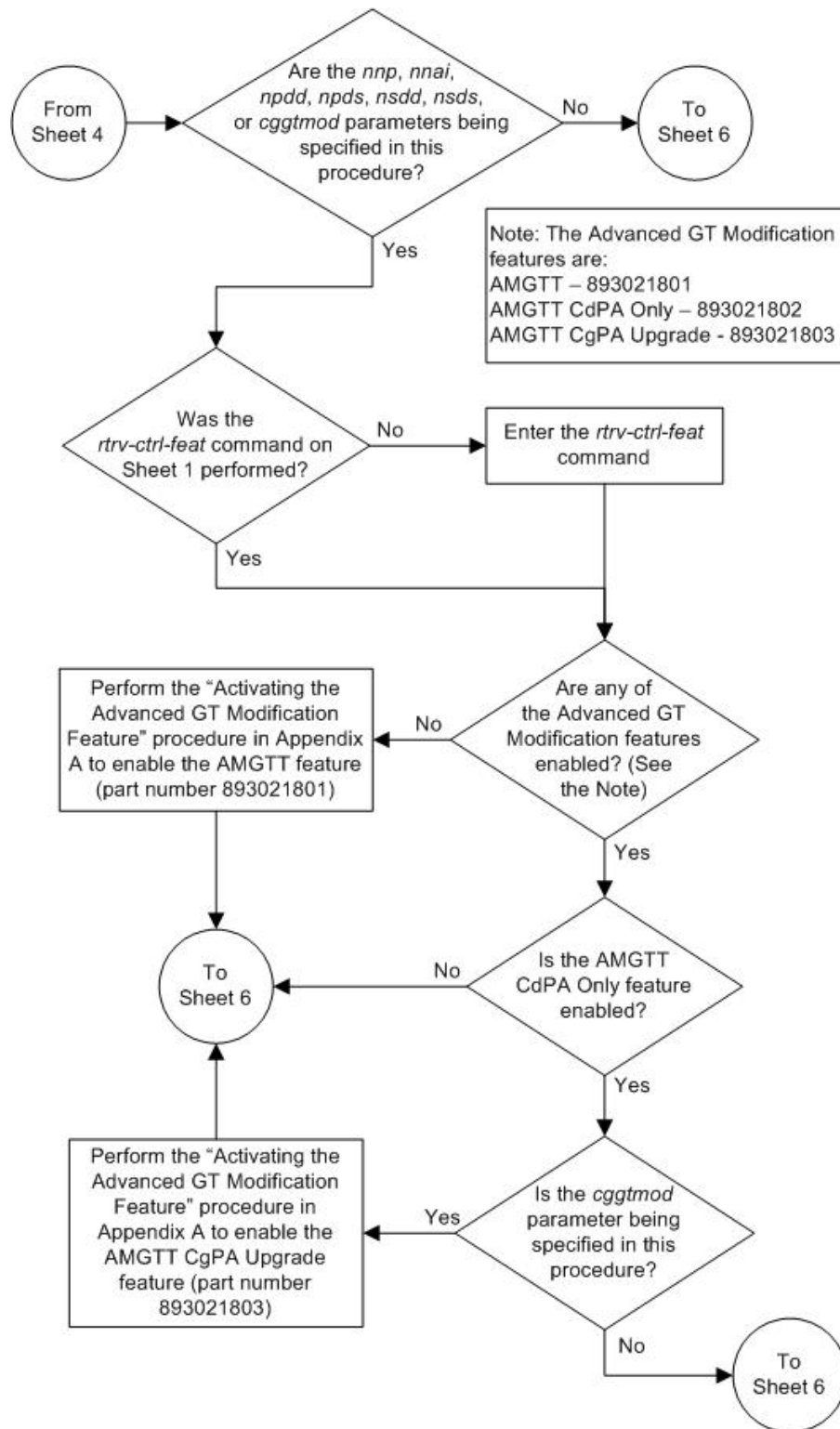
Figure 51: Adding a Global Title Translation

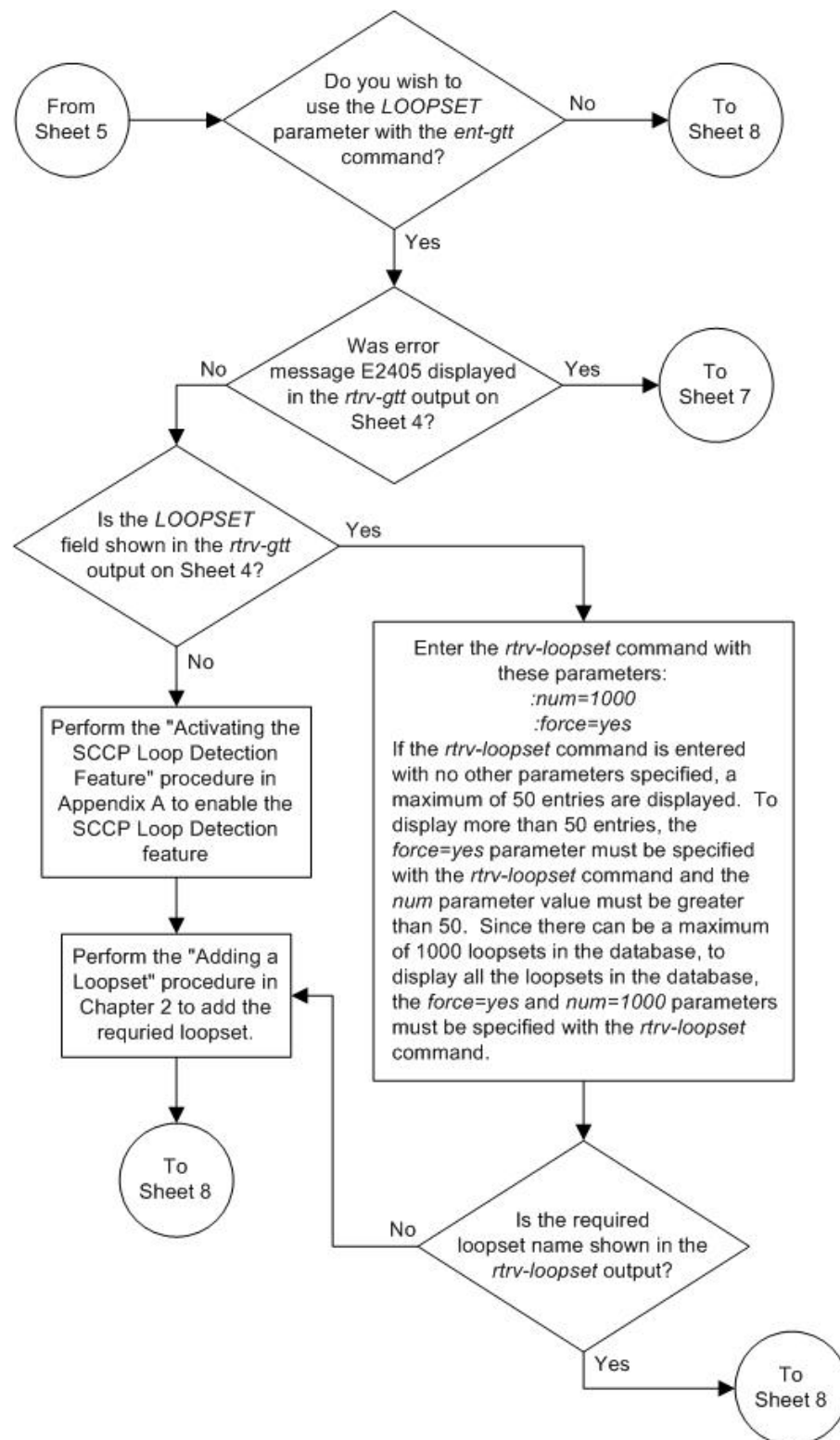


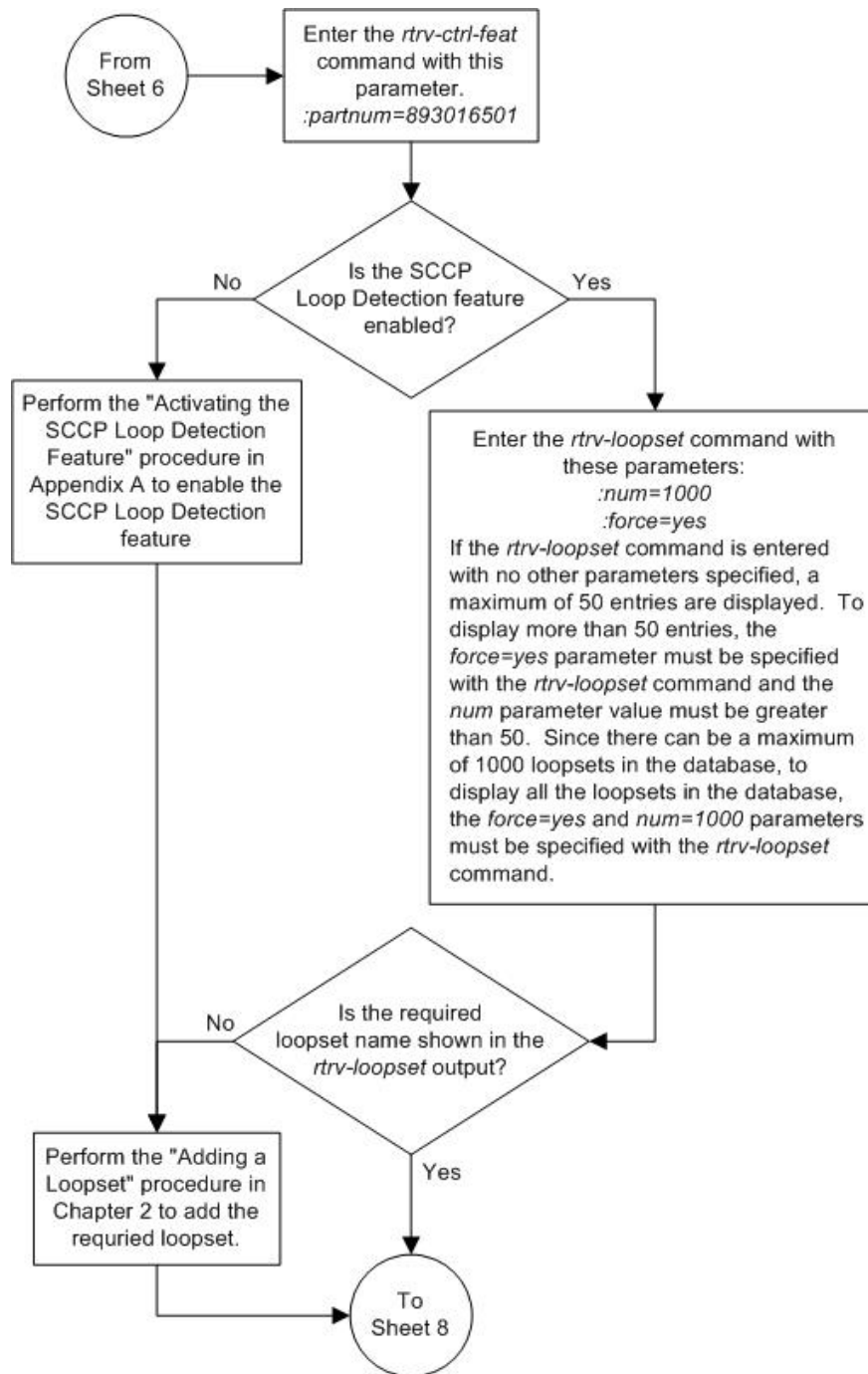


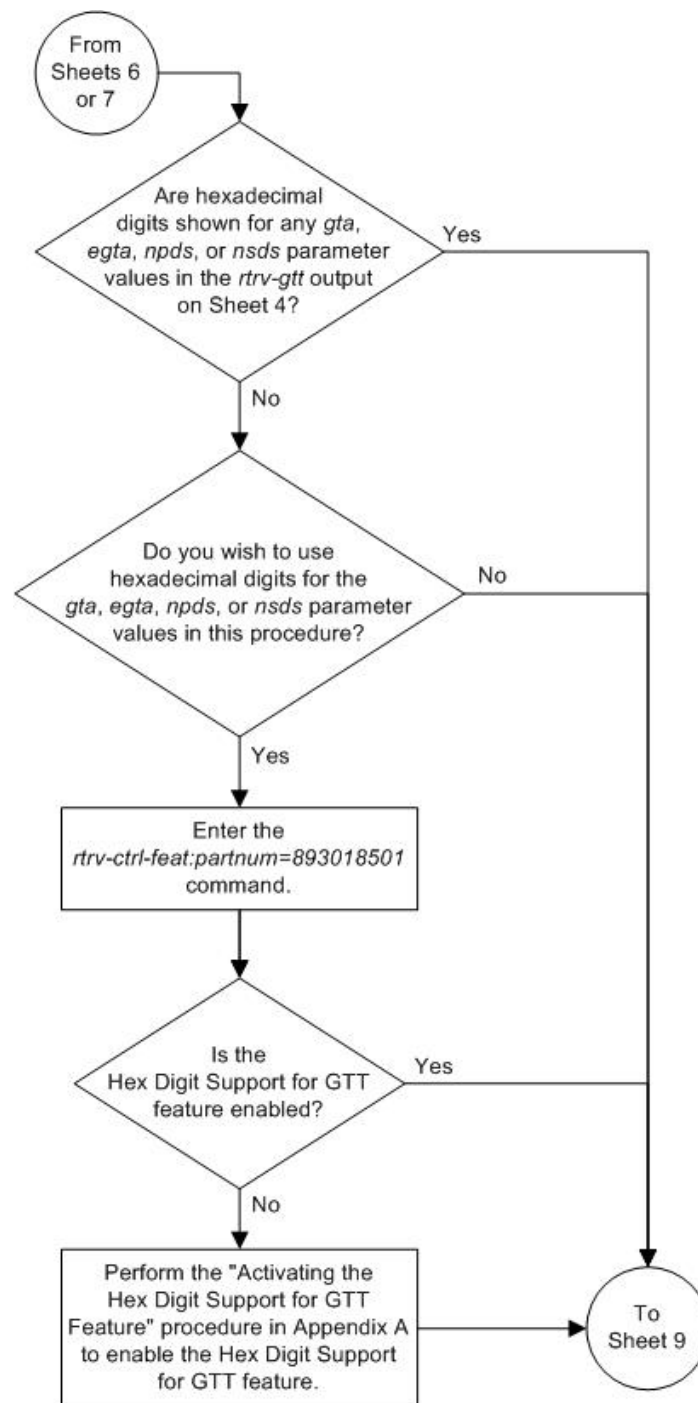


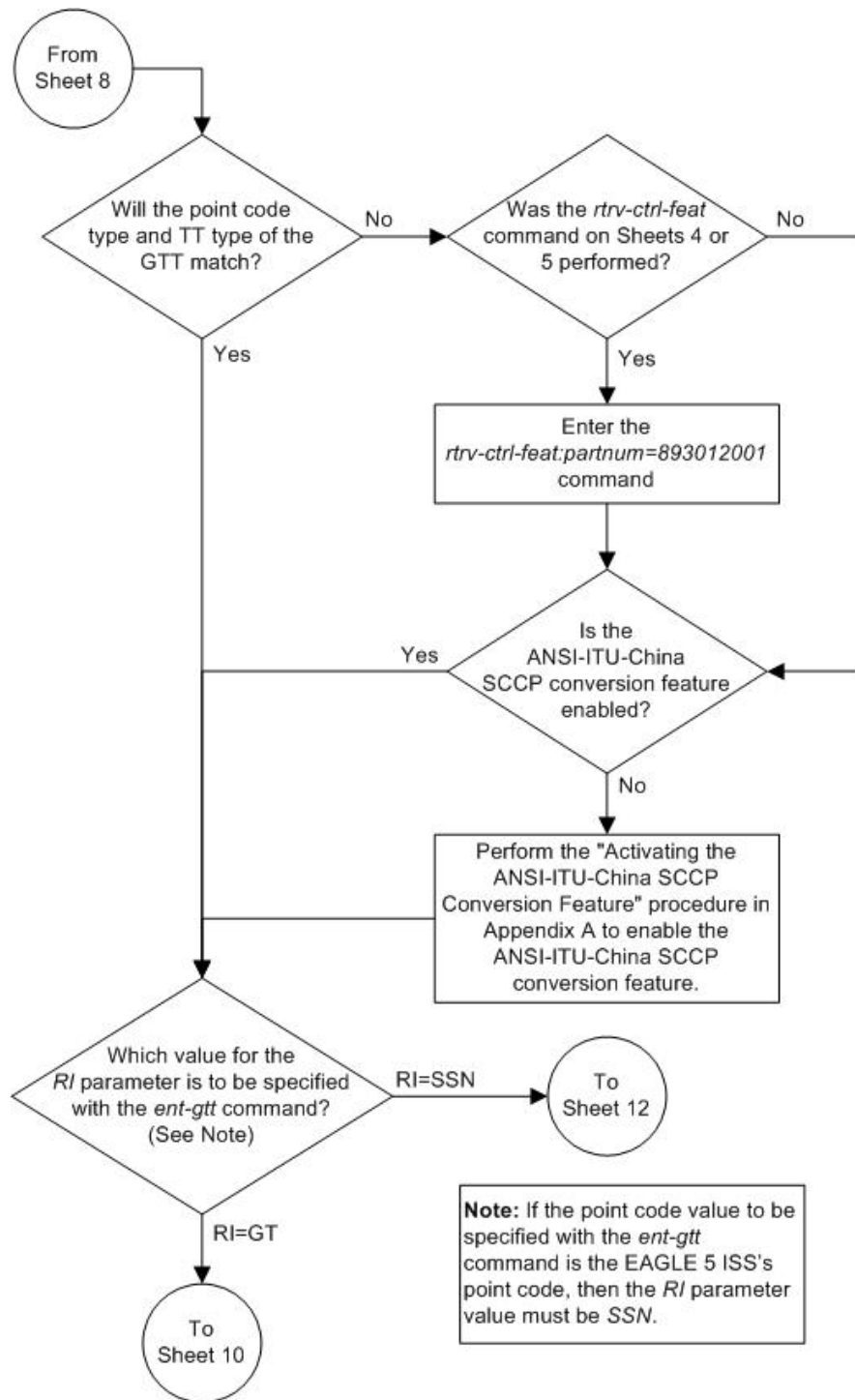


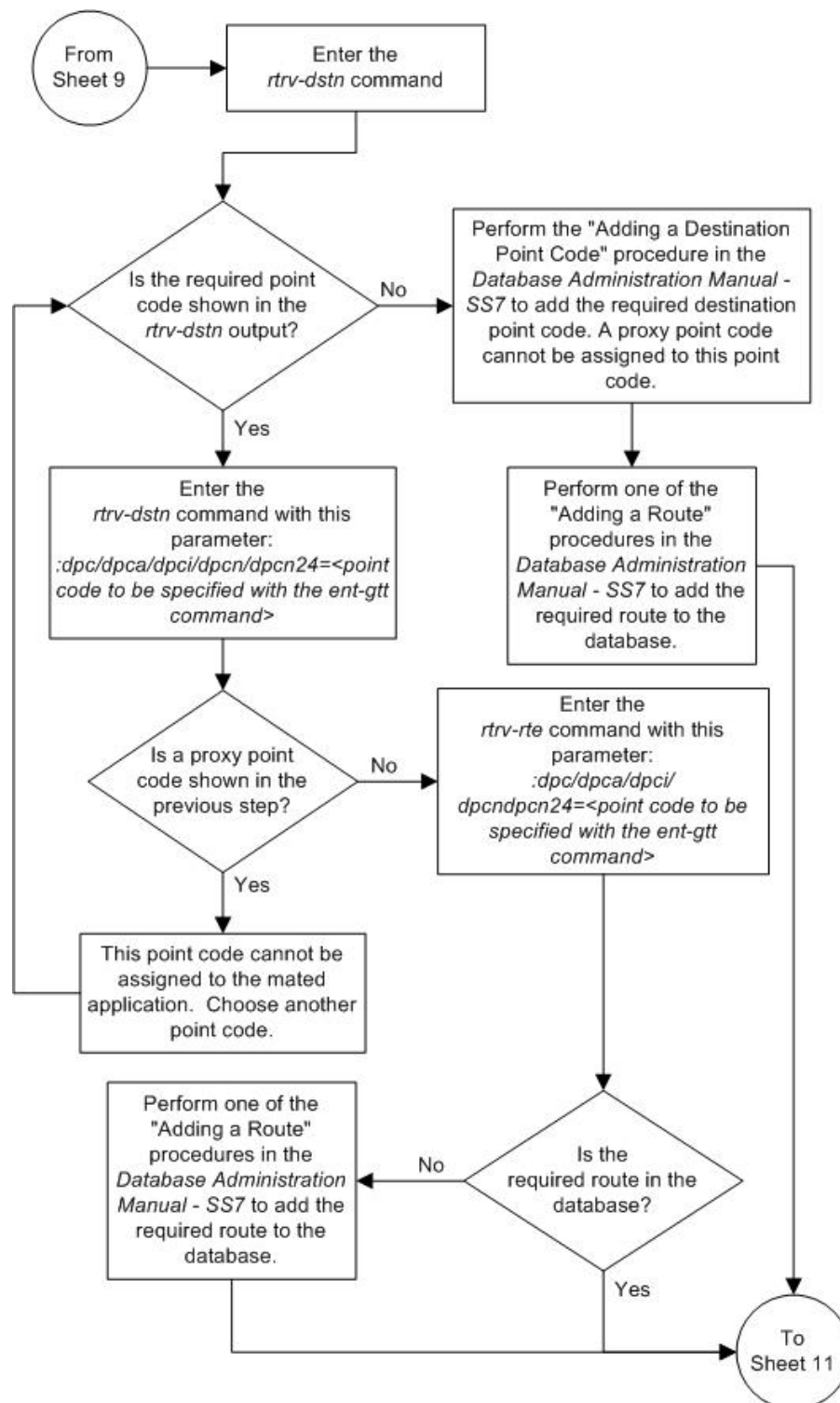


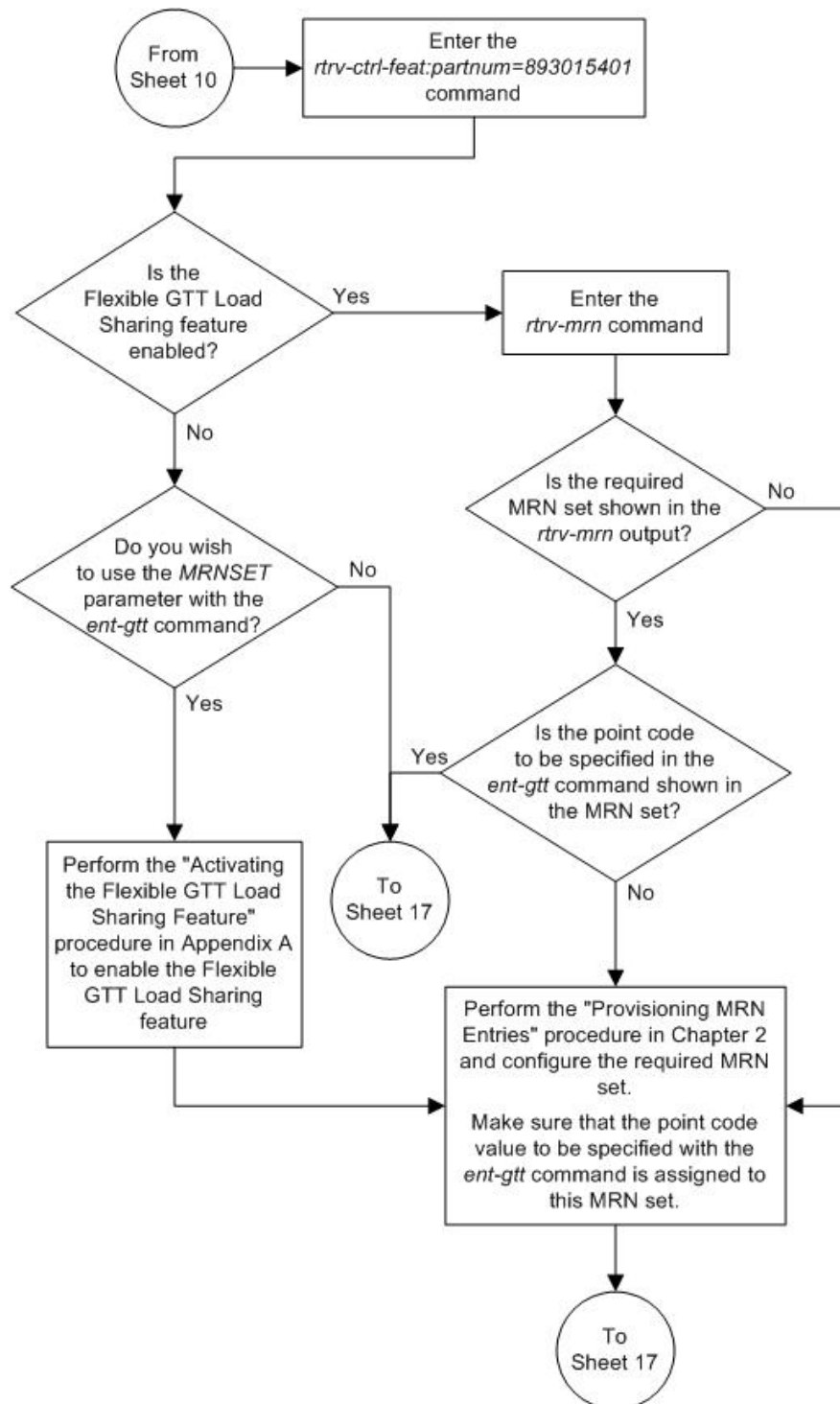


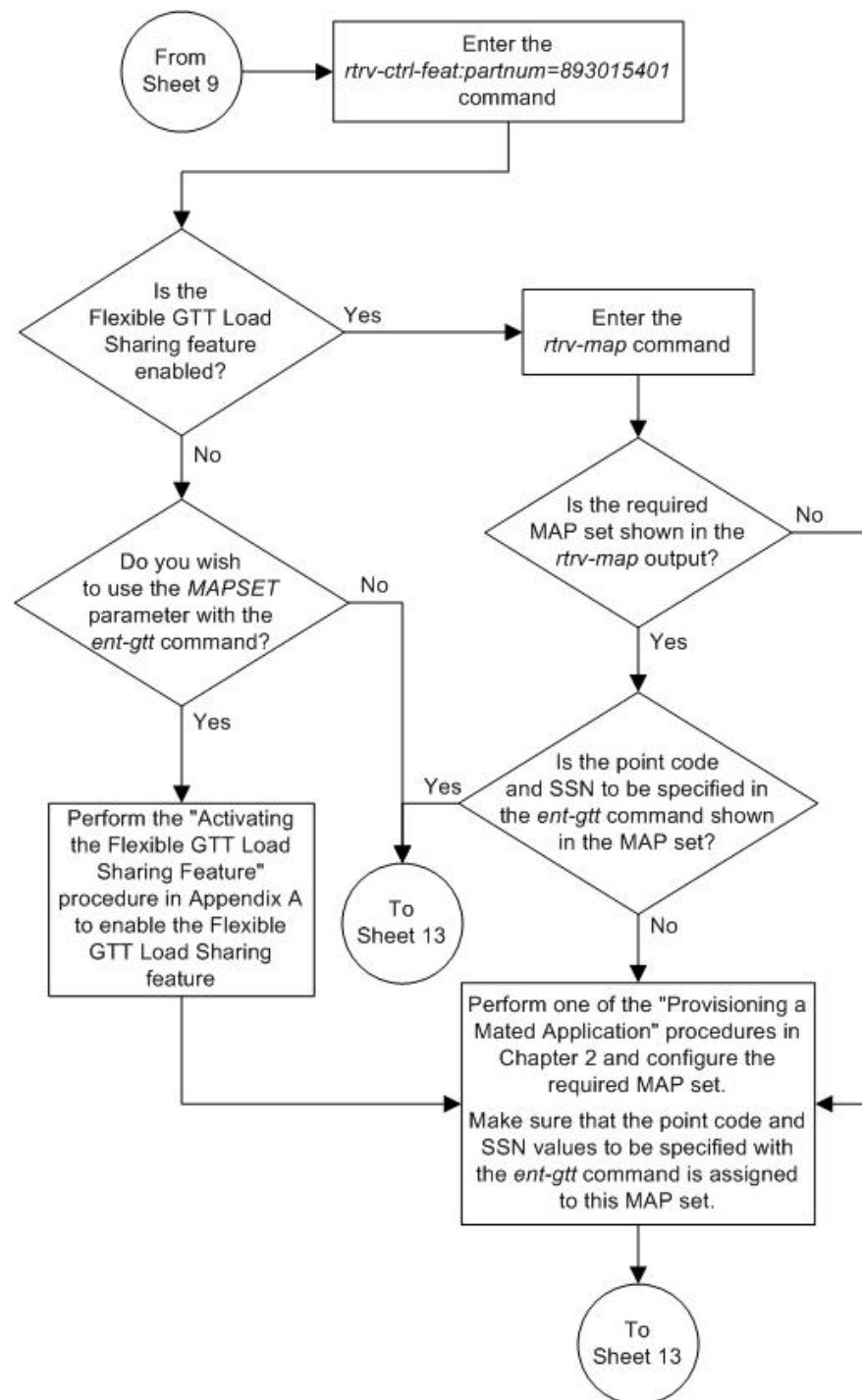


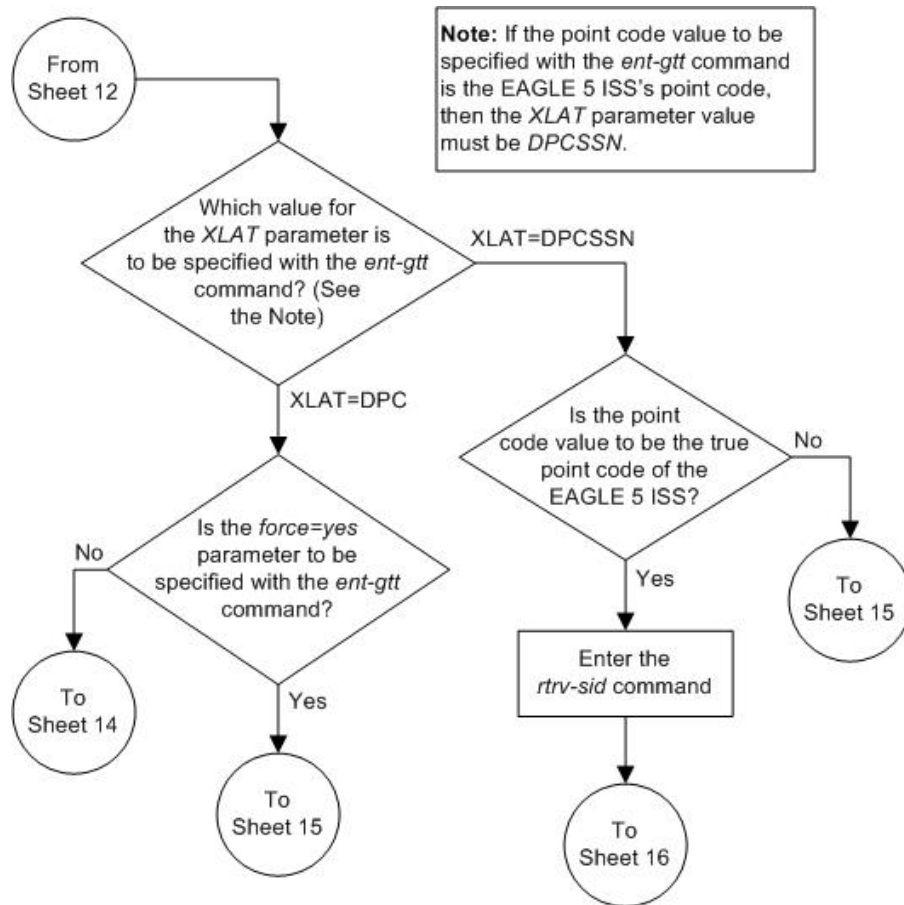


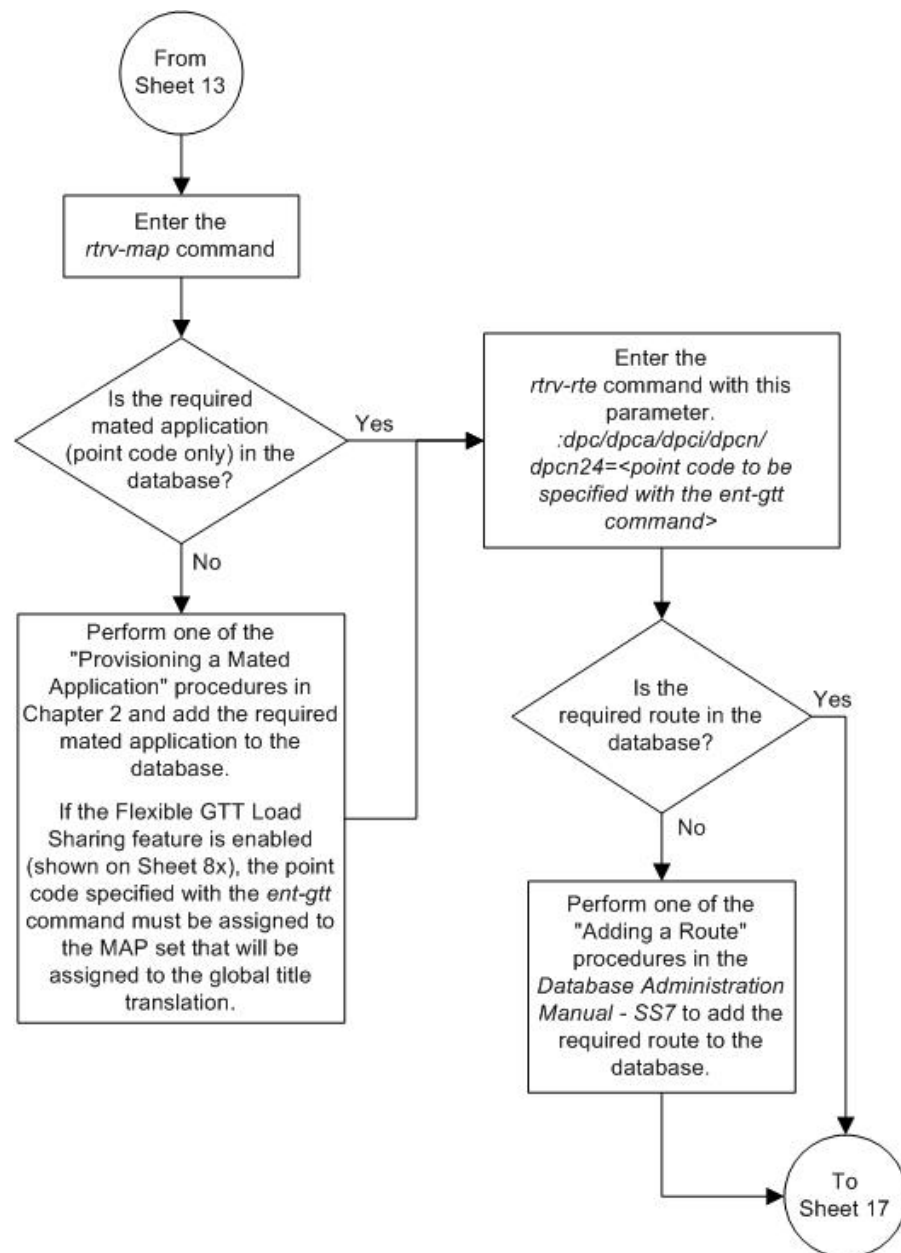


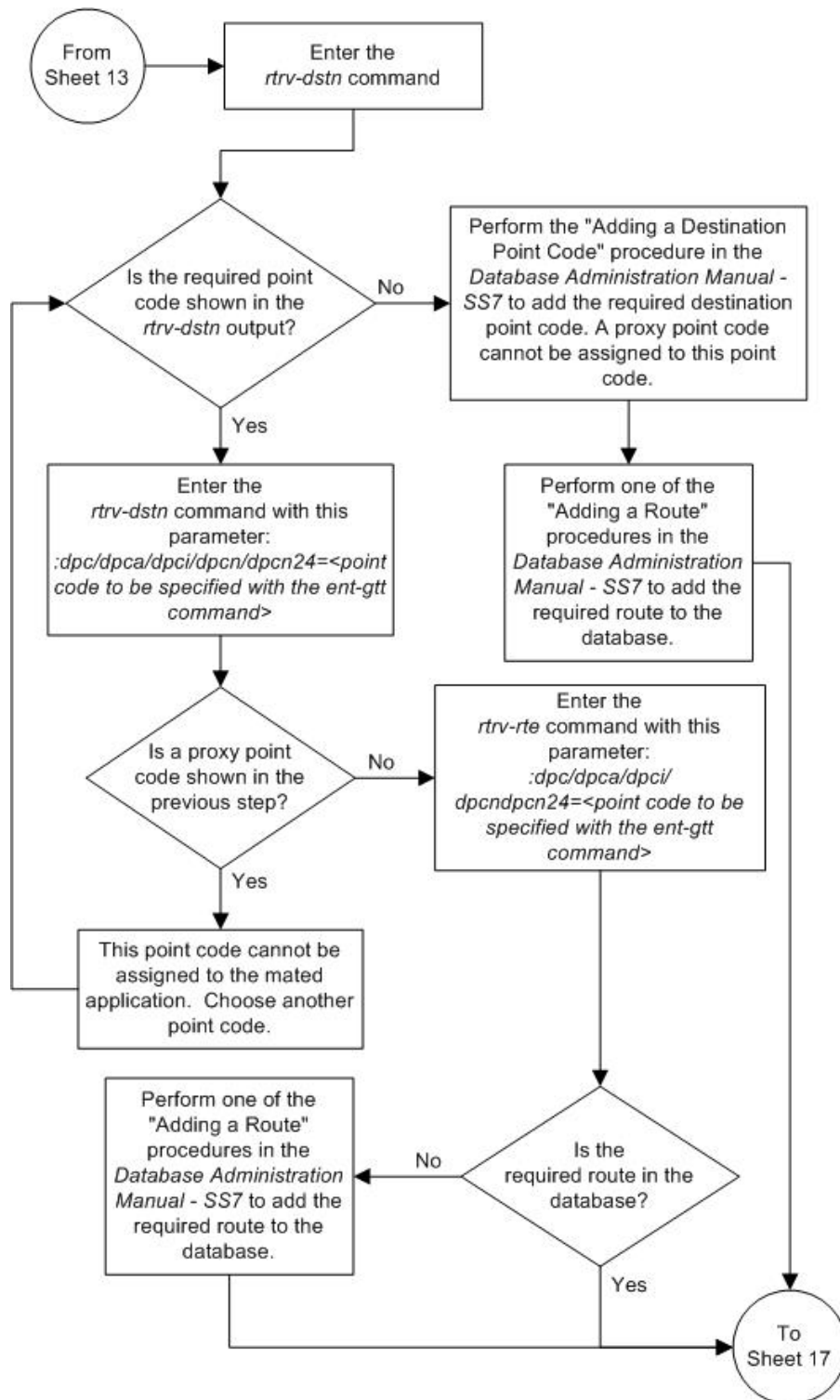


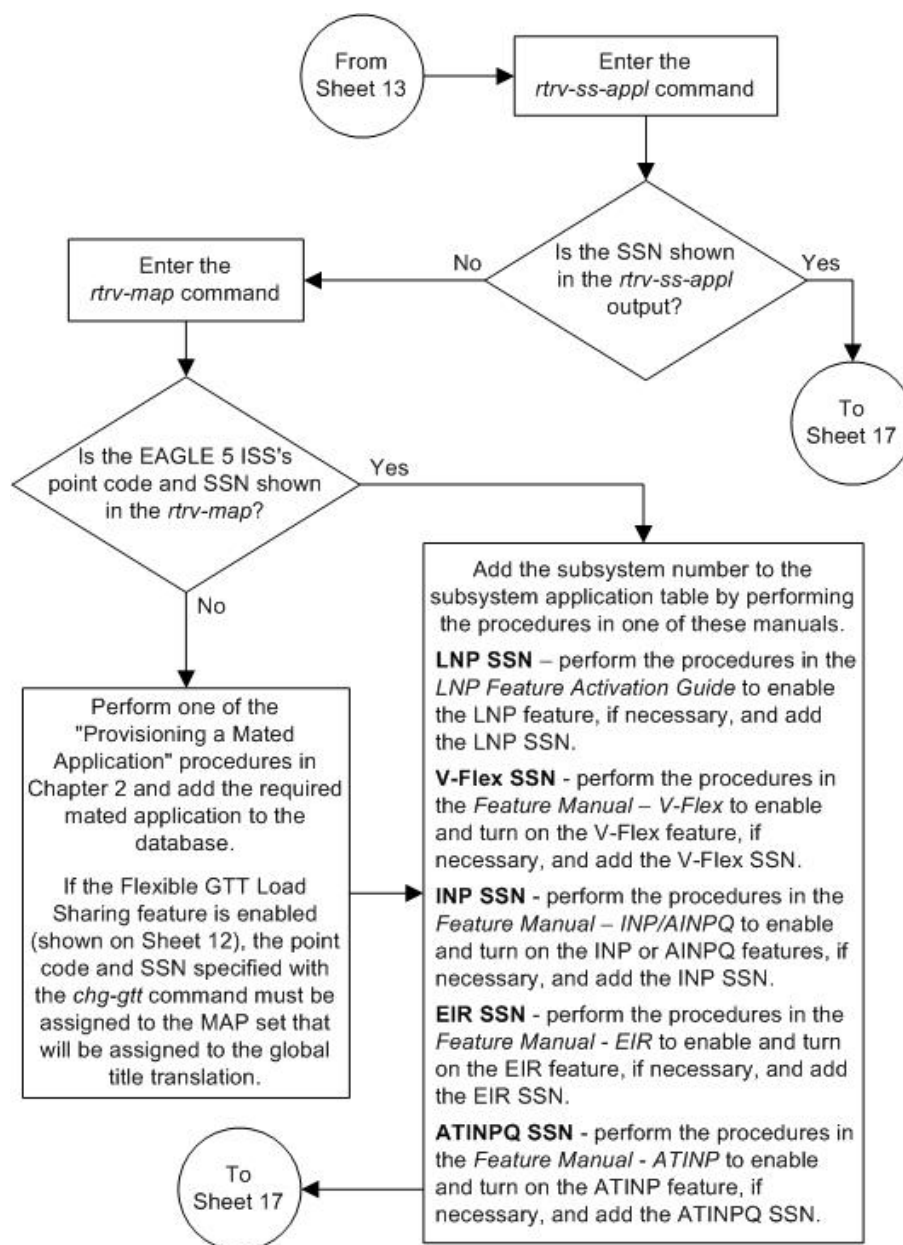


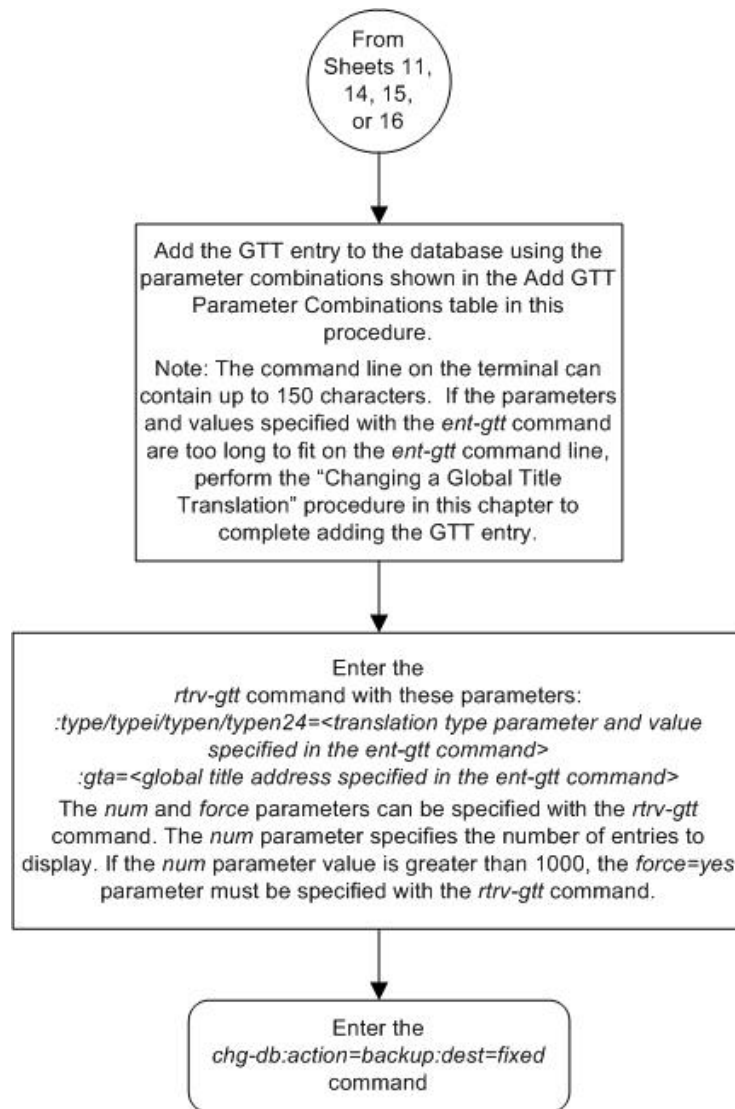












Removing a Global Title Translation

This procedure is used to remove a global title translation from the database using the *dlt-gtt* command.

The *dlt-gtt* command uses these parameters.

:gta – Global title start address – along with the *egta* parameter, identifies all valid global titles for the given translation type to translate to the given *pc*, *ssn*, or *ngt* parameters. These are the non-SS7 addresses transmitted to the EAGLE 5 ISS for translation.

:egta – Global title end address – along with the *gta* parameter, identifies all valid global titles for the given translation type to translate to the given *pc*, *ssn*, or *ngt* parameters. These are the non-SS7 addresses transmitted to the EAGLE 5 ISS for translation.

:type/typea/typei/typen/typen24 – The translation type and network type of that translation type. :type or :typea – an ANSI network :typei – an ITU international network :typen/typen24 – an ITU national network.

:ttn – The name of the global title translation type

If the translation type is defined as an alias, it cannot be used in the dlt-gtt command.

If the end of the global title address (egta) parameter is specified, the GTA and EGTA must have the same number of digits, but the EGTA must be larger than the GTA. The range, as specified by the start and end global title addresses, must be in the database for the specified translation type. Each range may be contained completely within a previously defined range, in which case splitting is performed. However, if the ranges overlap, splitting cannot occur, and the dlt-gtt command is rejected with this message.

The range of global title addresses, as specified by the start and end global title addresses, must be in the database for the specified translation type. The gta and egta parameter values must have the same number of digits, but the egta parameter value must be larger than the gta parameter value. Each range may be contained completely within a previously defined range, in which case splitting is performed. However, if the ranges overlap, splitting cannot occur, and the dlt-gtt command is rejected with this message.

E2401 Cmd Rej:GTA range overlaps a current range

Along with error message 2401, a list of the overlapped global title addresses is displayed as shown in the following example.

```
rlghncxa03w 07-05-24 08:29:15 GMT EAGLE5 37.0.0
The following GTA ranges overlap the input GTA range

START GTA          END GTA
8005550000         8005551999
8005552000         8005553999
8005554000         8005555999

DLT-GTT: MASP A - Command Aborted
```

For a range of global title addresses to be split, the new entry created by the split cannot increase the number of entries in the GTT table beyond the quantity shown in the rtrv-gtt output.

The length of the global title addresses specified by the gta or egta parameters must match the length of any existing global title addresses assigned to the specific translation type. The lengths are shown in the START GTA and END GTA fields of the rtrv-gtt command output, or in the NDGT field of the rtrv-tt command output. If the length of the global title address does not match one of the lengths already assigned to the translation type, the dlt-gtt command is rejected with this message.

E2960 Cmd Rej: The GTA length is not defined for the specified TT

When the VGTT feature is on, up to 10 different length global title addresses can be assigned to a translation type. If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, up to 16 different length global title addresses can be assigned to a translation type. The length of the global title address is only limited by the range of values for the gta and egta parameters of the ent-gtt and chg-gtt commands, one to 21 digits, and by the global title addresses already assigned to the translation type. The ndgt parameter of the ent-tt command has no effect on the length of the global title address and cannot be used. If the ndgt parameter is specified with the ent-tt command and the VGTT feature is on, the ent-tt command is rejected with this message.

E4011 Cmd Rej: NDGT parameter is invalid for VGTT

If the Variable-length Global Title Translation Feature (VGTT) is on, or the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, the NDGT field of the `rtrv-tt` command shows the different lengths of global title addresses assigned to a translation type, as shown in the following example.

```
rlghncxa03w 07-05-25 09:57:31 GMT  EAGLE5 37.0.0
TYPEA
TTN
NDGT
1          lidb          6, 12, 15
2          c800          10
3          d700          6

ALIAS      TYPEA
50         3
65         3
TYPEI      TTN          NDGT
105        itudb        8

ALIAS      TYPEI
7          105
TYPEN      TTN          NDGT
120        dbitu        7

ALIAS      TYPEN
8          120
```

In this example of the `rtrv-tt` command output, the ANSI translation type 1 contains three different length global title addresses; global title addresses containing six digits, 12 digits, and 15 digits.

When the VGTT feature is on, or the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, and the last global title address of a particular length is deleted for the specified translation type, then that length is no longer supported. That length is not displayed in the NDGT field of the `rtrv-tt` command output. For example, if the last 6-digit global title address is deleted from ANSI translation type 1 (from the previous example), the NDGT field of the `rtrv-tt` command shows only the numbers 12 and 15 in the NDGT field indicating that ANSI translation type 1 contains only 12- and 15-digit global title addresses.

Canceling the RTRV-GTT Command

Because the `rtrv-gtt` command used in this procedure can output information for a long period of time, the `rtrv-gtt` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-gtt` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-gtt` command was entered, from another terminal other than the terminal where the `rtrv-gtt` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the translation types in the database using the `rtrv-tt` command.

This is an example of the possible output.

```
rlghncxa03w 07-05-25 09:42:31 GMT EAGLE5 37.0.0
TYPEA      TTN      NDGT
1          lidb      5
2          c800      10
3          d700      6
5          scp1      6
10         scp2      6
15         scp3      3

ALIAS      TYPEA
30         5
40         10
50         3
65         3

TYPEI      TTN      NDGT
105        itudb     8

ALIAS      TYPEI
7          105

TYPEN      TTN      NDGT
120        dbitu     7

ALIAS      TYPEN
8          120
```

2. Display the global title translations in the database using the `rtrv-gtt` command specifying a translation type, translation type name, or both from the `rtrv-tt` command output shown in [Step 1](#) on page 610.

For this example, enter this command.

```
rtrv-gtt:typea=10
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
10     scp2      6

GTT TABLE IS 10 % FULL (27000 of 269999)

START GTA      END GTA      XLAT  RI      PC
615370          615380      DPCSSN SSN    003-003-003
      SSN=254 NGT=---
423555          423600      DPCSSN SSN    004-003-003
      SSN=254 NGT=---
336200          336399      DPCSSN SSN    004-005-003
      SSN=254 NGT=---

Command Retrieved 3 Entries
```

Continue the procedure by performing one of these steps.

- If the range of global title addresses will not be split in this procedure, continue the procedure with [Step 4](#) on page 611.

- If the range of global title addresses will be split in this procedure, continue the procedure with [Step 3](#) on page 611.
3. If the `rtrv-gtt` output in [Step 2](#) on page 610 shows that the maximum number of global title addresses is 1,000,000, do not perform this step. Continue the procedure with [Step 4](#) on page 611.

If the `rtrv-gtt` output in [Step 2](#) on page 610 shows that the maximum number of global title addresses is either 269,999 or 400,000, and the number of global title addresses will not increase the number beyond the quantity shown in the `rtrv-gtt` output in [Step 2](#) on page 610 when the range of global title addresses is split, do not perform this step. Continue the procedure with [Step 4](#) on page 611.

If the `rtrv-gtt` output in [Step 2](#) on page 610 shows that the maximum number of global title addresses is either 269,999 or 400,000, and the number of global title addresses will be more than the maximum number of global title addresses when the range of global title addresses is split, perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable the XGTT Table Expansion feature for either 400,000 or 1,000,000 global title addresses as required. Then continue the procedure with [Step 4](#) on page 611.

4. Remove the global title translation from the database using the `dlt-gtt` command.

For this example, enter this command.

```
dlt-gtt:typea=10:ttn=scp2:gta=615370:egta=615380
```

This message should appear.

```
rlghncxa03w 07-05-25 09:44:31 GMT EAGLE5 37.0.0
DLT-GTT: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-gtt` command specifying the translation type, translation type name, or both used in [Step 4](#) on page 611 .

For this example, enter this command.

```
rtrv-gtt:typea=10
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
10      scp2      6

GTT TABLE IS 10 % FULL (27000 of 269999)

START GTA      END GTA      XLAT  RI      PC
423555          423600          DPCSSN SSN    004-003-003
      SSN=254 NGT=---
336200          336399          DPCSSN SSN    004-005-003
      SSN=254 NGT=---
```

Command Retrieved 2 Entries

If all the entries for the translation type have been removed in [Step 4](#) on page 611 , then this message should appear.

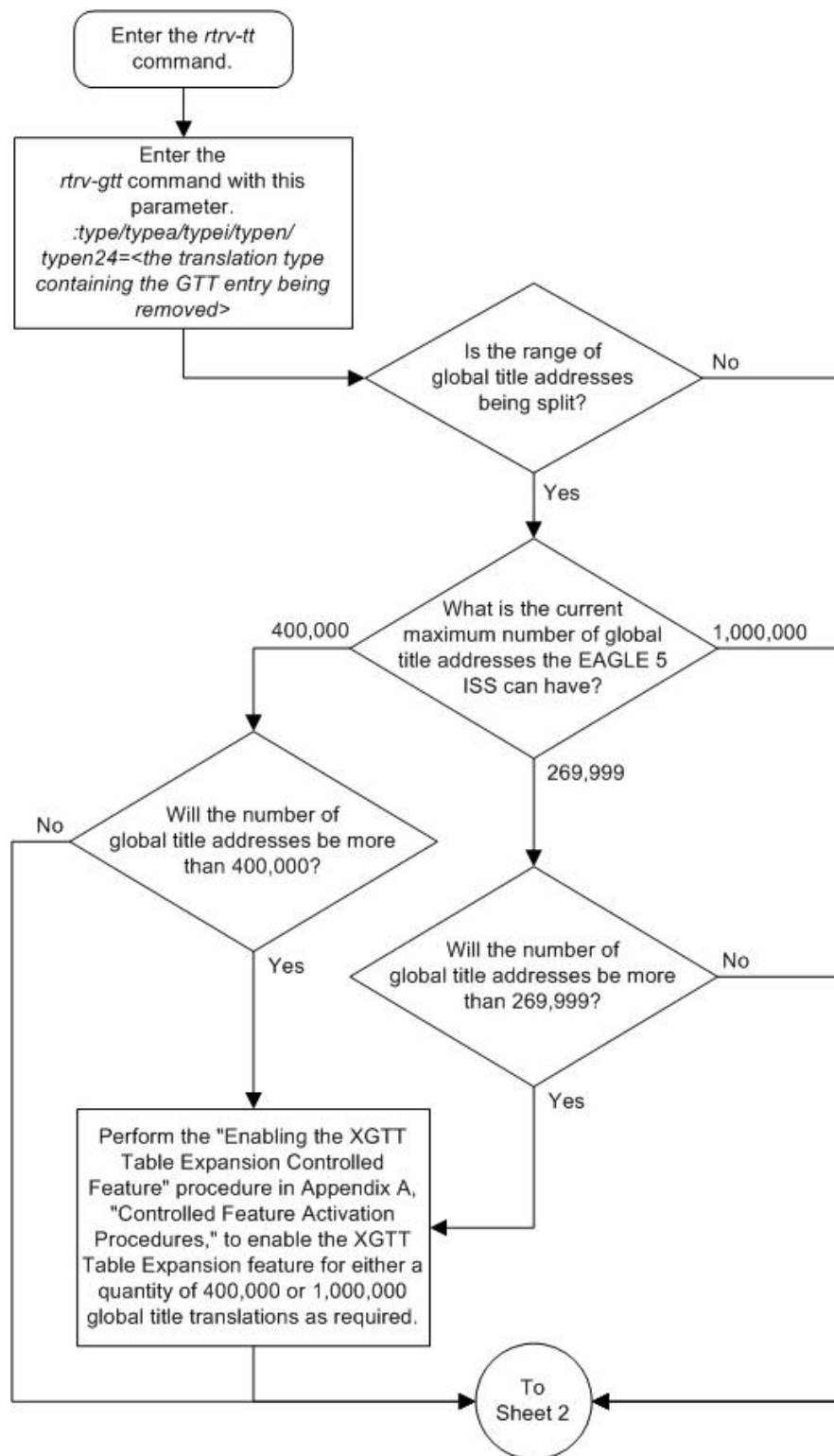
```
E2466 Cmd Rej: Translation TYPE specified does not exist
```

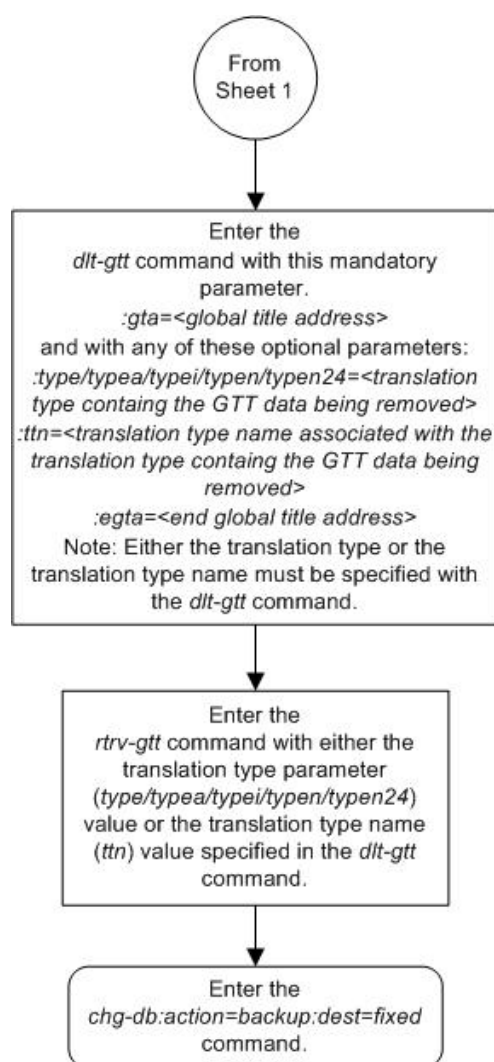
6. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 52: Removing a Global Title Translation





Changing a Global Title Translation

This procedure is used to change the routing objects for messages requiring global title translation in the database using the *chg-gtt* command.

The *chg-gtt* command uses these parameters.

:gta – Global title start address – along with the *egta* parameter, identifies all valid global titles for the given translation type to translate to the given *pc*, *ssn*, or *ngt* parameters. These are the non-SS7 addresses transmitted to the STP for translation.

:type/typea/typeei/typen/typen24 – The translation type and network type of that translation type. :type or :typea – an ANSI network :typeei – an ITU international network :typen/typen24 – an ITU national network.

:ttn – The name of the global title translation type

:egta – Global title end address. This parameter, along with the gta parameter, identifies all valid global titles for the given translation type to translate to the given pc, ssn, or ngi parameters. These are the non-SS7 addresses transmitted to the STP for translation.

:ngt – New global title – identifies the type of global title translation to replace the received global title.

:xlat – Translate indicator – defines the type of global title translation that is to be performed.

:ri – Route indicator – indicates whether a subsequent global title translation is required.

:pc/pca/pci/pcn/pcn24 – The point code of the signaling point that is to receive the message.

Note: See Chapter 2, Configuring Destination Tables, in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

:ssn – Subsystem number – identifies the subsystem address that is to receive the message.

:nnp – The new numbering plan

:nnai – The new nature of address indicator

:npdd – The number of digits to be deleted from the beginning of the Global Title Address digits (the prefix digits)

:npds – The digits that are being substituted for the prefix digits

:rmgtt – removes the current values for the nnp, nnai, ngi, npdd, npds, nsdd, and nsds parameters.

:nsdd – The number of digits to be deleted from the end of the Global Title Address digits (the suffix digits)

:nsds – The digits that are being substituted for the suffix digits

:ngi – The new GT indicator value

:mrnset – The MRN set ID, shown in the rtrv-mrn command. The mrnset parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled and the ri parameter value will be ri=gt when this procedure is completed, and the original global title translation being changed in this procedure did not have an MRN set ID assigned to it, the mrnset parameter must be specified with the chg-gtt command. The MRN set ID assigned to the global title translation in this step must contain the point code value that will be assigned to the global title translation being changed in this step.

:mapset – The MRN set ID, shown in the rtrv-mrn command. The mapset parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled and the ri parameter value will be ri=ssn when this procedure is completed, and the original global title translation being changed in this procedure did not have an MAP set ID assigned to it, the mapset parameter must be specified with the chg-gtt command. The MAP set ID assigned to the global title translation in this step must contain the point code and SSN values that will be assigned to the global title translation being changed in this step.

The status of the Flexible GTT Load Sharing feature is shown in the rtrv-ctrl-feat output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.

:loopset – The value of this parameter is the name of the loopset that is assigned to the GTT. This parameter can be specified only if the SCCP Loop Detection feature is enabled. Enter the

`rtrv-loopset` command to verify that the SCCP Loop Detection feature is enabled. Perform [Activating the SCCP Loop Detection Feature](#) on page 929, if necessary.

`:cggtmod` - The calling party GT modification indicator. This parameter specifies whether or not calling party global title modification is required. The values for this parameter are `yes` (calling party global title modification is required) or `no` (calling party global title modification is not required). This parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled. Enter the `rtrv-ctrl-feat` command to verify that either the AMGTT or AMGTT CgPA Upgrade feature is enabled. If the AMGTT or AMGTT CgPA Upgrade feature is not enabled, perform [Activating the Advanced GT Modification Feature](#) on page 946 to enable the required feature.

`:split` - Split or change the range of global title addresses. If the `split=yes` parameter is specified, the existing range of global title addresses is split based on the values of the `gta` and `egta` parameters. New entries are created in the global title translation table for each new range created by the `split` parameter. The attributes of each new entry, other than the range of global title addresses, are the same as the original global title translation entry, if these values are not changed when the `chg-gtt` command is executed. If other attributes are changed when the `chg-gtt` command is executed, the changed values are in each new entry created by the `split` parameter.

If the `split=no` parameter is specified, the range of global title addresses is replaced with the new range of global title addresses specified by the `gta` and `egta` parameters.

The default value for the `split` parameter is `yes`.



CAUTION

CAUTION: Changes to the range of global title addresses occur only if the both the `gta` and `egta` parameters are specified and the values for either of these parameters, or both parameters are different from the original values in the global title translation. If the `gta` and `egta` parameters are specified for the global title translation being changed, and you do not wish to change either of these values, make sure the `gta` and `egta` values shown in the `rtrv-gtt` output for the global title translation being changed are specified in the `chg-gtt` command.

The following examples illustrate how the `split` parameter works and ranges of global title addresses can be changed.

A global title translation entry in the database contains this range of global title addresses, 5556000 - 5558000.

```
rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0

TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL

START GTA          END GTA          XLAT  RI      PC
5556000            5558000          DPCSSN GT    003-003-003
      MRNSET=114   SSN=254 NGT=---

Command Retrieved 1 Entries
```

The global title translation is changed with a new range of global title addresses, 5556800 - 5559000, and with the `split=no` parameter.

```
chg-gtt:ttn=tst1:gta=5556800:egta=5559000:split=no
```

The range of global title addresses is changed to 5556800 - 5559000.

```
rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0

TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL

START GTA          END GTA          XLAT  RI      PC
5556800            5559000          DPCSSN GT    003-003-003
      MRNSET=114    SSN=254 NGT=---

Command Retrieved 1 Entries
```

In this example, the range of global title addresses is made smaller by specifying the range of global title addresses 5556500 - 5557500, and with the `split=no` parameter.

`chg-gtt:ttn=tst1:gta=5556500:egta=5557500:split=no`

```
rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0

TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL

START GTA          END GTA          XLAT  RI      PC
5556500            5557500          DPCSSN GT    003-003-003
      MRNSET=114    SSN=254 NGT=---

Command Retrieved 1 Entries
```

In this next example, the range of global title addresses is split with the `gta=5556900` and `egta=5557000` defining where the splits occur.

`chg-gtt:ttn=tst1:gta=5556900:egta=5557000`

Since the default value for the `split` parameter is `yes`, the `split=yes` parameter does not have to be specified to split the range of global title addresses. When the `chg-gtt` command is entered, three new global title translation entries with the new global title address ranges are created, and the original global title translation entry is removed from the database. Since the `gta` and `egta` parameter values specified in this example are within the original range of global title addresses, the original range of global title addresses is split into three new ranges. The `START GTA` value of the first new range is the original `START GTA` value and the `END GTA` value is the `gta` parameter value minus one. The `START GTA` value of the second new range is the `gta` parameter value and the `END GTA` value is the `egta` parameter value. The `START GTA` value of the third new range is the `egta` parameter value plus 1 and the `END GTA` value is the original `END GTA` value.

```
rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0

TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL

START GTA          END GTA          XLAT  RI      PC
5556000            5556899          DPCSSN GT    003-003-003
      MRNSET=114    SSN=254 NGT=---

Command Retrieved 1 Entries
```

```

rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL
START  GTA          END  GTA              XLAT  RI      PC
5556900              5557000              DPCSSN GT      003-003-003
      MRNSET=114    SSN=254 NGT=---

Command Retrieved 1 Entries

rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL
START  GTA          END  GTA              XLAT  RI      PC
5557001              5558000              DPCSSN GT      003-003-003
      MRNSET=114    SSN=254 NGT=---

Command Retrieved 1 Entries

```

In this next example, the global title translation containing the range of global title addresses 5557001 - 5558000 is split into two new ranges with the gta=5557501 and egta=5558000 defining where the split occurs.

```
chg-gtt:ttn=tst1:gta=5557501:egta=5558000:split=yes
```

When the chg-gtt command is entered, two new global title translation entries with the new global title address ranges are created, and the original global title translation entry is removed from the database. The START GTA value of the first new range is the original START GTA value and the END GTA value is the gta parameter value minus one. The START GTA value of the second new range is the gta parameter value and the END GTA value is the egta parameter value. In this example, the egta parameter is also the original END GTA value.

```

rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL

START  GTA          END  GTA              XLAT  RI      PC
5557001              5557500              DPCSSN GT      003-003-003
      MRNSET=114    SSN=254 NGT=---

Command Retrieved 1 Entries

rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      tst1     7

GTT TABLE IS      (27000 of 269999)      10 % FULL
START  GTA          END  GTA              XLAT  RI      PC
5557501              5558000              DPCSSN GT      003-003-003
      MRNSET=114    SSN=254 NGT=---

```

Command Retrieved 1 Entries

The range of global title addresses can be changed so long as the new range of global title addresses does not overlap an existing range of global title addresses.

For example, using the range of global title addresses from the previous examples, 5556000 - 5558000, you wish to extend the range of global title addresses to 5556000 - 5559000. The range of global title addresses can be extended to 5559000 by specifying the `egta=5559000` and `split=no` parameters with the `chg-gtt` command. However, if another range of global title addresses begins with the value 5558500, the `egta=5559000` parameter cannot be specified with the `chg-gtt` command as the new range created with the `egta=5559000` parameter would overlap the range of global title addresses beginning with the value 5558500. In this situation, the maximum value for the `egta` parameter would be 5558499.

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `chg-gtt` command are too long to fit on the `chg-gtt` command line, perform the `chg-gtt` command as many times as necessary to complete the GTT entry.

The XLAT parameter does not have a SEAS equivalent. When global title translations are configured at the SEAS interface, the values for the SEAS parameters RI, DPC, and SSN, all mandatory parameters for the SEAS ADD-GTT and CHG-GTT commands, are converted to the EAGLE 5 ISS parameters and values shown in [Table 48: SEAS and Global Title Translation Parameter Conversion](#) on page 619.

Table 48: SEAS and Global Title Translation Parameter Conversion

SEAS GTT Parameters			GTT Parameters			
RI	DPC	SSN	XLAT	RI	PC/PCA	SSN
G	xxx-xxx-xxx	000	DPC	GT	xxx-xxx-xxx	Not Specified
D	xxx-xxx-xxx	002-255	DPCSSN	SSN	xxx-xxx-xxx	002-255
G	xxx-xxx-xxx	002-255	DPCSSN	GT	xxx-xxx-xxx	002-255
D	xxx-xxx-xxx	000	DPC	SSN	xxx-xxx-xxx	Not Specified
Notes: <ul style="list-style-type: none"> • The SEAS RI=G parameter denotes global title routing, further global title translation is required. • The SEAS RI=D parameter denotes DPC routing, no further global title translation is required. • The RI=GT parameter denotes further global title translation is required and uses MTP routing. • The RI=SSN parameter denotes final global title translation and uses MAP routing. • The XLAT=DPC parameter indicates that the DPC & RI values in the MSU are to be replaced. 						

SEAS GTT Parameters	GTT Parameters
<ul style="list-style-type: none"> The XLAT=DPCSSN parameter indicates that the DPC, RI, & SSN values in the MSU are to be replaced. The XLAT=DPCNGT parameter indicates that the DPC, RI, & TT values in the MSU are to be replaced. 	

The examples in this procedure are used to change the global title translation data for translation type 15 in the database.

If the translation type is defined as an alias, it cannot be used in the `chg-gtt` command.

If the translate indicator is equal to `dpc` (`xlat=dpc`) and the routing indicator is equal to `ssn` (`ri=ssn`), the point code and subsystem number specified in the `chg-gtt` command must be defined in the database as a mated application. Verify this by entering the `rtrv-map` command. If this point code and subsystem number is not defined as a mated application, perform one of these procedures to add the point code and subsystem number to the database as a mated application:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

The point code and subsystem number do not have to be in the mated application table when the `chg-gtt` command is executed when these parameters are specified with the `chg-gtt` command.

- `ri=gt`
- `xlat=dpcssn` and `ri=ssn`

If the point code and subsystem are not in the mated application table when either of these parameters are specified with the `chg-gtt` command, the EAGLE 5 ISS creates a solitary mated application in the mated application table using the point code and subsystem values specified in the `chg-gtt` command.

If the `xlat=dpcssn` parameter is specified, the `ssn` parameter must be specified. Otherwise, the `ssn` parameter cannot be specified.

If a point code is the STP's True PC, then the value of the XLAT parameter must be set to DPCSSN and the value of the RI parameter must be set to SSN. If the SSN parameter is specified and a point code is the STP's True PC, then the subsystem number specified must exist in the SS-APPL table. This can be verified with the `rtrv-ss-appl` command. To execute the `rtrv-ss-appl` command, either the LNP or ATINP features must be enabled, or the EIR, INP, V-Flex, or ANSI-41 INP Query features must be enabled and turned on. If the LNP feature is enabled, the entry LNP TNS with a quantity greater than zero is shown in the `rtrv-ctrl-feat` command output. If the EIR feature is enabled and turned on, the entry EIR is shown in the `rtrv-ctrl-feat` command output as being permanently or temporarily enabled and with the status set to on. If the INP feature is enabled and turned on, the entry INP is shown in the `rtrv-ctrl-feat` command output with the status set to on. If the ANSI-41 INP Query feature is enabled and turned on, the entry ANSI-41 INP Query is shown in the `rtrv-ctrl-feat` command output with the status set to on. If the V-Flex feature is enabled and turned on, the entry VFLEX is shown in the `rtrv-ctrl-feat`

command output with the status set to on. If the ATINP feature is enabled and turned on, the entry ATINP is shown in the `rtrv-ctrl-feat` command output with the status set to on.

Note: The Local Number Portability (LNP), Equipment Identity Register (EIR), INAP Number Portability (INP), V-Flex, ATINP, or ANSI-41 INP Query features must be purchased before you can enable the LNP or ATINP features, or enable and turn on the EIR, INP, V-Flex, or ANSI-41 INP Query features. If you are not sure whether you have purchased the LNP, EIR, or INP, V-Flex, ATINP, or ANSI-41 INP Query feature, contact your Tekelec Sales Representative or Account Representative.

Once the LNP or ATINP feature is enabled with the `enable-ctrl-feat` command, or the EIR, INP, V-Flex, and ANSI-41 INP Query features are turned on with the `chg-ctrl-feat` command, they cannot be turned off or disabled.

The point code specified in the `chg-gtt` command (`pc/pca`, `pci`, `pcn` or `pcn24`) must be defined in the routing table. For ANSI point codes (`pc/pca`), the point code specified in the `chg-gtt` command, must be a full point code. That point code can be defined as a full point code in the destination point code table, or can be a member of a cluster point code defined in the destination point code table. Cluster point codes or a network routing point codes cannot be specified with this command. The `rtrv-rte` command can be used to verify the point codes in the routing table. The point codes are shown in the `DPCA`, `DPCI`, `DPCN`, or `DPCN24` fields of the `rtrv-rte` command output. If the point code is not defined as a route, perform one of the Adding a Route procedures in the *Database Administration Manual – SS7* to define the point code as a route.

If the EAGLE 5 ISS's point code is specified with the `chg-gtt` command, then the `xlat=dpcssn` and `ri=ssn` parameters must be specified. The EAGLE 5 ISS's point code is shown in the `PCA`, `PCI`, `PCN`, or `PCN24` fields of the `rtrv-sid` command output.

If the `xlat=dpcngt` parameter is specified, the `ngt` parameter and the `ri=gt` parameters must be specified. Otherwise, the `ngt` parameter cannot be specified.

A point code containing all zeros is not a valid point code.

An ANSI point code or ITU international point code containing all zeros is not a valid point code and cannot be entered into the database. An ITU national point code containing all zeros is a valid point code and can be entered into the database.

Either the `type` parameter or the `ttn` parameter must be specified.

If the `type` parameter is specified, the translation type must be in the database. This can be verified with the `rtrv-tt` command.

If the `type` parameter is not specified, the translation type name must be assigned to a translation type in the database. This can be verified with the `rtrv-tt` command.

The end global title address (`egta`) must be greater than or equal to the start global title address (`gta`) and its length must be equal to the start global title address.

If the range as specified by the `gta` and `egta` parameters does not exactly match the existing range, the existing range is split. All addresses in the existing range that are outside the range specified by `gta` and `egta`, retain the original `xlat`, `ri`, `pc`, `ssn`, and `ngt` parameters. A new range is created and bounded by the `gta` and `egta` containing new values of `xlat`, `ri`, `pc`, `ssn` and `ngt` as present in the command, and retaining parameter values from the previous range that do not have corresponding new values in the command.

However, if the ranges overlap, splitting cannot occur and the command is rejected. However, if the ranges overlap, splitting cannot occur, and the `chg-gtt` command is rejected with this message.

E2401 Cmd Rej:GTA range overlaps a current range

Along with error message 2401, a list of the overlapped global title addresses is displayed as shown in the following example.

```
rlghncxa03w 07-02-24 08:29:15 GMT EAGLE5 37.0.0

The following GTA ranges overlap the input GTA range

START GTA          END GTA
8005550000         8005551999
8005552000         8005553999
8005554000         8005555999

CHG-GTT: MASP A - Command Aborted
```

If the translation type is ANSI (*type* or *typea*), the *pc* type must be ANSI (*pc* or *pca*). If the translation type is one of the ITU types (*typei*, *typen*, or *typen24*) the *pc* type may be either of the ITU types (*pci*, *pcn*, or *pcn24*). If the ANSI-ITU-China SCCP Conversion feature is enabled, the domain (ANSI or ITU) of the translation type and point code do not have to be the same.

The *npn*, *nnai*, *npdd*, *npds*, *nsdd*, and *nsds* parameters are used by the Advanced GT Modification feature to modify the numbering plan, nature of address indicator, and the prefix or suffix digits in the called party address portion of outbound MSUs in addition to the translation type when the MSU requires further global title translation and the translation type is to be replaced.

Being able to change the numbering plan, nature of address indicator, and either the prefix or suffix digits in the called party address portion of outbound MSUs makes the MSU more compatible with the network that the MSU is being sent to and to ensure that the MSU is routed correctly. These changes are made after the global title translation process, but before the MSU is routed to its destination.

The prefix parameters (*npdd* and *npds*) and the suffix parameters (*nsdd* and *nsds*) cannot be specified in the *chg-gtt* command at the same time. If you wish to specify these parameters, you must specify either the *npdd* and *npds* or the *nsdd* and *nsds* parameters.

The prefix and suffix parameter values can be removed from the global title translation with the *rmgtt=yes* parameter.

To change the prefix parameter values to suffix parameter values, or suffix parameter values to prefix parameter values, the *chg-gtt* command must be entered twice, once with the *rmgtt=yes* parameter to remove the exiting prefix or suffix parameter values, then with either the *npdd* and *npds* or the *nsdd* and *nsds* parameters.

The *rmgtt* parameter cannot be specified with either the *npn*, *nnai*, *ngti*, *npdd*, *npds*, *nsdd*, or *nsds* parameters.

The *npn*, *nnai*, *npdd*, *npds*, *nsdd*, *nsds*, and *rmgtt* parameters can be specified only when the Advanced GT Modification feature is enabled. This can be verified by entering the *rtrv-ctrl-feat* command. For more information on the Advanced GT Modification feature, refer to [Advanced GT Modification Feature](#) on page 26.

The values specified for the *gta*, *egta*, *npds*, and *nsds* parameters can be decimal digits (0-9) or hexadecimal digits (0-9, a-f, A-F). Hexadecimal digits can be specified only if the Hex Digit Support for GTT feature is enabled. Verify the status of the Hex Digit Support for GTT feature with the *rtrv-ctrl-feat* command. Refer to [Hex Digit Support for GTT](#) on page 42 for more information on this feature. If the Hex Digit Support for GTT feature is not enabled, perform [Activating the Hex Digit Support for GTT Feature](#) on page 902 to enable the Hex Digit Support for GTT feature.

The `ngti=2` parameter can be specified with an ANSI point code or an ITU point code and not with the `nnp` and `nnai` parameters.

The `ngti=4` parameter can be specified only with an ITU point code. The `nnp` and `nnai` parameters must be specified with the `ngti=4` parameter.

The `ngti` parameter can be specified only if the domain (ANSI or ITU) of the translation type and point code of the global title translation are not the same (the translation type is ANSI and the point code is ITU or the translation type is ITU and the point code is ANSI), or if the domain of the translation type and point code is ITU. The Advanced GT Modification feature must be enabled and the ANSI-ITU-China SCCP Conversion feature must be enabled before the `ngti` parameter can be specified with the global title translation.

Table 49: Valid Parameter Combinations for the `chg-gtt Routing Parameters` on page 623 shows the valid combinations for the `xlat`, `ri`, `ssn`, and `ngt` parameters. All other combinations are rejected.

Table 49: Valid Parameter Combinations for the `chg-gtt Routing Parameters`

New or Existing XLAT Value	New or Existing RI Value	Routing Action	SSN Value	NGT Value
DPC	GT	Translate DPC only and route on GT	Cannot be specified. The current database entry is removed.	Can be specified (See note)
DPC	SSN	Translate DPC only and route on SSN	Cannot be specified. The current database entry is removed.	Cannot be specified. The current database entry is removed.
DPCSSN	GT	Translate DPC and SSN and route on GT	Must be specified.	Cannot be specified. The current database entry is removed.
DPCSSN	SSN	Translate DPC and SSN and route on SSN	Must be specified.	Cannot be specified. The current database entry is removed.
DPCNGT	GT	Translate DPC, new translation type (TT), and route on GT	Cannot be specified. The current database entry is removed.	Must be specified.
Note: The <code>ngt</code> parameter can be specified with the <code>xlat=dpc</code> and <code>ri=gt</code> parameters only if the ANSI-ITU-China SCCP Conversion feature is enabled. If this type of entry is changed by specifying the <code>xlat=dpc</code> parameter without specifying the <code>ngt</code> parameter, the existing <code>ngt</code>				

New or Existing XLAT Value	New or Existing RI Value	Routing Action	SSN Value	NGT Value
parameter value is removed. If the ANSI-ITU-China SCCP Conversion feature not enabled, the ngt parameter cannot be specified with the xlat=dpc and ri=gt parameters.				

Canceling the RTRV-GTT Command

Because the `rtrv-gtt` command used in this procedure can output information for a long period of time, the `rtrv-gtt` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-gtt` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-gtt` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-gtt` command was entered, from another terminal other than the terminal where the `rtrv-gtt` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the translation types in the database using the `rtrv-tt` command. This is an example of the possible output.

```
rlghncxa03w 07-02-25 09:42:31 GMT EAGLE5 37.0.0
TYPEA      TTN      NDGT
1          lidb      5
2          c800      10
3          d700      6
5          scp1      6
10         scp2      6
15         scp3      3

ALIAS      TYPEA
30         5
40         10
50         3
65         3

TYPEI      TTN      NDGT
105        itudb     8

ALIAS      TYPEI
7          105

TYPEN      TTN      NDGT
120        dbitu     7

ALIAS      TYPEN
8          120
```

2. Display the global title translations in the database using the `rtrv-gtt` command specifying a translation type, translation type name, or both from the `rtrv-tt` command output shown in [Step 1](#) on page 624.

For this example, enter this command.

```
rtrv-gtt:typea=15:gta=800
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      scp3     3

GTT TABLE IS          (27000 of 269999)      10 % FULL

START GTA              END GTA              XLAT  RI      PC
800                   900                   DPC   SSN    001-001-001
      SSN=--- NGT=---

Command Retrieved 1 Entries
```

```
rtrv-gtt:typea=15:gta=919
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      scp3     3

GTT TABLE IS          (27000 of 269999)      10 % FULL

START GTA              END GTA              XLAT  RI      PC
919                   919                   DPCSSN SSN  002-002-002
      SSN=50  NGT=---

Command Retrieved 1 Entries
```

Note: If the `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, `nsds`, or `cggtmod` parameters will not be specified in this procedure, continue the procedure with [Step 4](#) on page 626 .

3. To specify the `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, `nsds`, `rmgtt`, or `cggtmod` parameters in this procedure, the Advanced GT Modification feature must be enabled.

If the Advanced GT Modification feature is enabled, one of these entries is shown in the `rtrv-ctrl-feat` output.

- AMGTT
- AMGTT CdPA Only
- AMGTT CgPA Upgrade

Note: If the entry `AMGTT CdPA Only` is shown in the `rtrv-ctrl-feat` output, the `cggtmod` parameter cannot be specified in this procedure. To specify the `cggtmode` parameter, either the `AMGTT` or `AMGTT CgPA Upgrade` entry must be shown in the `rtrv-ctrl-feat` output.

Enter the `rtrv-ctrl-feat` command to verify the status of the AMGTT feature.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
IPGWx Signaling TPS	893012814	on	20000
ISUP Normalization	893000201	on	----
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
HC-MIM SLK Capacity	893012707	on	64

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the appropriate Advanced GT Modification feature is not shown in the `rtrv-ctrl-feat` output in this step, perform [Activating the Advanced GT Modification Feature](#) on page 946 to enable the appropriate Advanced GT Modification feature. After the Advanced GT Modification feature has been enabled, continue the procedure with [Step 4](#) on page 626.

- If the domain (ANSI or ITU) of the point code and the translation type assigned to the global title translation type will be different, and the `ngt i` parameter will be specified with the global title translation, the ANSI-ITU-China SCCP Conversion feature (SCCP Conversion) must be enabled. If the ANSI-ITU-China SCCP Conversion feature is not being used, continue the procedure with [Step 6](#) on page 627.

Verify that the ANSI-ITU-China SCCP Conversion feature is enabled by entering the `rtrv-ctrl-feat:partnum=893012001` command.

The following is an example of the possible output.

```
rlghncxa03w 07-02-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
SCCP Conversion	893012001	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 to enable the ANSI-ITU-China SCCP Conversion feature.

- If the `rtrv-gtt` output in [Step 2](#) on page 625 shows that the maximum number of global title translations is 1,000,000, do not perform this step. Continue the procedure with [Step 6](#) on page 627.

Note: If a range of GTAs is not shown in [Step 2](#) on page 625, or if the range of GTAs will not be split in this procedure, continue the procedure with [Step 6](#) on page 627.

If the `rtrv-gtt` output in [Step 2](#) on page 625 shows that the maximum number of global title addresses is either 269,999 or 400,000, and the number of global title addresses will not increase the number beyond the quantity shown in the `rtrv-gtt` output in [Step 2](#) on page 625 when the range of GTAs is split, do not perform this step. Continue the procedure with [Step 6](#) on page 627.

If the `rtrv-gtt` output in [Step 2](#) on page 625 shows that the maximum number of global title addresses is either 269,999 or 400,000, and the number of global title addresses will be more than the maximum number of global title addresses when the range of GTAs is split, perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable XGTTTable Expansion controlled feature for either 400,000 or 1,000,000 global title addresses as required, then continue the procedure with [Step 6](#) on page 627.

- Hexadecimal digits (0-9, a-f, A-F) can be specified as values for the `gta`, `egta`, `npds`, or `nsds` parameters only if the Hex Digit Support for GTT feature is enabled. Verify the status of the Hex Digit Support for GTT feature by entering the `rtrv-ctrl-feat` command with the Hex Digit Support for GTT feature part number.

Enter this command.

```
rtrv-ctrl-feat:partnum=893018501
```

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
```

The following features have been permanently enabled:

Feature Name	Partnum	Status	Quantity
Hex Digit Support for GTT	893018501	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the Hex Digit Support for GTT feature has not been enabled, perform [Activating the Hex Digit Support for GTT Feature](#) on page 902 to enable this feature. After the Hex Digit Support for GTT feature is enabled, continue the procedure with [Step 7](#) on page 627.

Note: If the point code value will be the EAGLE 5 ISS's point code, the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpcssn` when this procedure is completed, continue the procedure with [Step 12](#) on page 630.

Note: If you do not wish to change the loopset parameter value with the `chg-gtt` command, continue the procedure with [Step 9](#) on page 629.

- If the loopset field appears in the output shown in [Step 2](#) on page 625, the SCCP Loop Detection feature is enabled, continue the procedure with [Step 8](#) on page 627.

If the loopset field appears in the output shown in [Step 2](#) on page 625, the SCCP Loop Detection feature is not enabled. Perform [Activating the SCCP Loop Detection Feature](#) on page 929 to enable the SCCP Loop Detection feature. After the SCCP Loop Detection Feature has been enabled, perform [Adding a Loopset](#) on page 510 to add the required loopset. After the loopset has been added, continue the procedure with [Step 9](#) on page 629.

- Display all the loopsets in the database by entering this command.

```
rtrv-loopset:num=1000:force=yes
```

This is an example of the possible output.

LoopSet	Mode	Point Codes	
cary2	notify	005-015-005 033-004-003 005-027-005	007-007-007 033-007-003 007-004-007 (ANSI)
cary4	notify	005-012-005 003-049-003 005-008-055	007-026-007 033-002-003 007-014-007 (ANSI)
apex3	discard	005-017-008 033-005-043 005-017-005 033-002-043 007-009-027 005-012-005	007-017-009 005-014-005 007-014-007 005-038-005 033-003-043 007-002-027 (ANSI)
apex4	discard	005-007-008 033-005-003 027-001-007 033-007-003 027-008-007	027-007-009 005-004-055 033-008-003 005-003-055 (ANSI)
ral5	notify	005-005-005 003-004-003 005-007-005 003-002-003 007-009-007 005-002-005	007-007-007 003-001-003 007-004-007 005-008-005 003-003-003 007-002-007 (ANSI)
ral6	notify	005-007-008 003-005-003 005-007-005	007-007-009 003-007-003 (ANSI)
dunn1	discard	005-002-055 003-008-033	007-051-007 (ANSI)
rtp9	discard	005-002-005 003-008-003 005-003-005 005-004-005	007-001-007 003-007-003 007-008-007 (ANSI)
rtp5	discard	005-007-008 003-005-003	007-007-009 (ANSI)
rtp1	discard	005-005-005 003-004-003 005-007-005 005-004-005	007-007-007 003-007-003 007-004-007 (ANSI)
rtp2	notify	005-007-008 003-005-003	007-007-009 (ANSI)

```
rlghncxa03w 07-03-07 08:50:15 GMT Rel 37.0.0
LOOPSET table is (11 of 1000) 1% full
RTRV-LOOPSET: MASP A - COMPLTD
```

Note: If the `rtrv-loopset` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-loopset` command and the `num` parameter

value must be greater than 50. Since there can be a maximum of 1000 loopsets in the database, to display all the loopsets in the database, the `force=yes` and `num=1000` parameters must be specified with the `rtrv-loopset` command.

If the required loopset is shown in the `rtrv-loopset` output, continue the procedure with [Step 9](#) on page 629.

If the required loopset is not shown in the `rtrv-loopset` output, perform [Adding a Loopset](#) on page 510 to add the required loopset. After the loopset has been added, continue the procedure with [Step 9](#) on page 629.

Note: If the point code value will be the EAGLE 5 ISS's point code, the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpcssn` when this procedure is completed, continue the procedure with [Step 12](#) on page 630.

9. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
001-207-000	-----	no	---	-----	-----	SS7
001-001-001	-----	no	---	-----	-----	SS7
001-001-002	-----	no	---	-----	-----	SS7
001-005-000	-----	no	---	-----	-----	SS7
001-007-000	-----	no	---	-----	-----	SS7
008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7

DPCI	CLLI	BEI	ELEI	ALIASA	ALIASN/N24	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7

```
Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 12](#) on page 630.

10. Display the point code that will be assigned to the global title translation by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.
`rtrv-dstn:dPCA=010-020-005`

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
------	------	-----	------	--------	------------	-----

```

010-020-005 ----- no --- ----- SS7
PPCA          NCAI PRX      RCAUSE   NPRST    SPLITIAM
009-002-003   ---- no       50        on       20

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

If the adjacent point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

If the point code is not shown in the `rtrv-dstn` output, perform the “Adding a Destination Point Code” procedure in the *Database Administration Manual - SS7* and add the point code to the destination point code table.

11. The point code specified with the `chg-gtt` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code.

Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `chg-gtt` command to verify whether or not the point code is the DPC of a route. For this example, enter these commands.

```
rtrv-rte:dpc=003-003-003
```

This is an example of the possible output.

```

rlghncxa03w 07-02-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI      ALIASN/N24   LSN        RC        APCA
002-002-003   -----   -----        ls05        10        002-002-003
                                   ls15        30        089-047-123
                                   lsa8        50        077-056-000
                                   RTX:No     CLLI=ls05c1li

```

```
rtrv-rte:dpc=002-002-003
```

This is an example of the possible output.

```

rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI      ALIASN/N24   LSN        RC        APCA
003-003-003   -----   -----        ls07        10        003-003-003
                                   ls08        30        025-025-150
                                   lsa5        50        066-030-100
                                   RTX:No     CLLI=ls07c1li

```

If the point code is not shown in the `rtrv-rte` output, perform one of the procedures in the *Database Administration Manual - SS7* and add the required route to the database.

12. To use either the `mrnset` parameter (if the routing indicator value for the global title translation is GT when this procedure is completed) or `mapset` parameter (if the routing indicator value

for the global title translation is SSN when this procedure is completed), the Flexible GTT Load Sharing feature must be enabled

If the Flexible GTT Load Sharing feature is enabled, either the `mrnset` or `mapset` parameters, depending on the routing indicator value for the global title translation when this procedure is completed, must be specified with the `chg-gtt` command.

Verify that the Flexible GTT Load Sharing feature is enabled by entering the `rtrv-ctrl-feat:partnum=893015401` command. The following is an example of the possible output.

```
rlghncxa03w 07-02-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Zero entries found.			

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the Flexible GTT Load Sharing feature is enabled, the following is an example of the possible output.

```
rlghncxa03w 07-02-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Flexible GTT Load Sharing	893015401	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the routing indicator for the global title translation will be GT when this procedure is completed, there are three actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the `mrnset` parameter for the global title translation, continue the procedure with [Step 20](#) on page 637.
- If the Flexible GTT Load Sharing feature is not enabled, and you do wish to specify the `mrnset` parameter for the global title translation, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature. After enabling the Flexible GTT Load Sharing feature, continue the procedure with [Step 13](#) on page 632.
- If the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 13](#) on page 632.

If the routing indicator for the global title translation will be SSN when this procedure is completed, there are three actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the `mapset` parameter for the global title translation, continue the procedure with one of these steps.
 - If the point code value is being changed to the EAGLE 5 ISS's point code, continue the procedure with [Step 17](#) on page 635.
 - If the point code value is being changed to a point code other than the EAGLE 5 ISS's point code, and the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpc` when this procedure is completed, continue the procedure with [Step 19](#) on page 636.
 - If the point code value is being changed to a point code other than the EAGLE 5 ISS's point code, and the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpcssn` when this procedure is completed, continue the procedure with [Step 14](#) on page 633 .
 - If the point code value is not being changed, continue the procedure with [Step 20](#) on page 637.
 - If the Flexible GTT Load Sharing feature is not enabled, and you do wish to specify the `mapset` parameter for the global title translation, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature. After enabling the Flexible GTT Load Sharing feature, continue the procedure with one of these steps:
 - If the point code value is being changed to the EAGLE 5 ISS's point code, continue the procedure with [Step 17](#) on page 635.
 - If the point code value is being changed to a point code other than the EAGLE 5 ISS's point code, or the `xlat` parameter value is being changed to `dpc`, continue the procedure with [Step 19](#) on page 636.
 - If the point code value is not being changed, continue the procedure with [Step 19](#) on page 636 to verify that the required MAP set is provisioned in the database.
 - If the Flexible GTT Load Sharing feature is enabled, perform one of these steps:
 - If the point code value is being changed to the EAGLE 5 ISS's point code, continue the procedure with [Step 17](#) on page 635.
 - If the point code value is being changed to a point code other than the EAGLE 5 ISS's point code, the `mapset` parameter value is being changed, or the `xlat` parameter value is being changed to `dpc`, continue the procedure with [Step 19](#) on page 636.
 - If the point code and the `mapset` parameter values are not being changed, continue the procedure with [Step 20](#) on page 637.
13. The point code and MRN set ID specified for the global title translation must be shown in the `rtrv-mrn` command output. The point code must be assigned to the MRN set that will be assigned to the global title translation.

Enter the `rtrv-mrn` command to verify that the required MRN set is configured in the database, and that the required point code is assigned to the MRN set. The following is an example of the possible output.

```
rlghncxa03w 07-02-28 21:15:37 GMT EAGLE5 37.0.0
```

```

MRNSET    PC          RC
DFLT      001-001-001  10
          001-001-002  20
          001-001-003  30

MRNSET    PC          RC
110       001-001-001  10
          001-001-005  20
          001-001-006  30
          001-001-003  40
          001-001-008  50

MRNSET    PC          RC
111       001-001-001  30
          001-001-005  30
          001-001-006  30
          001-001-003  30
          001-001-008  30

MRNSET    PC          RC
112       001-003-001  10
          001-003-002  10
          001-003-003  30
          001-003-004  30
          001-003-006  60
          001-003-007  60
          001-003-008  80
          001-003-009  80

MRNSET    PCN         RC
113       s-1-1-1-0123-aa  1
          s-1-1-1-0235-aa  2
          s-1-1-1-0235-aa  3

```

Note: If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-mrn` output

If the required MRN set is not shown in the `rtrv-mrn` output, or if the required point code is not assigned to the required MRN set, provision the required MRN set by performing [Provisioning MRN Entries](#) on page 367. After provisioning the required MRN set, continue the procedure with [Step 20](#) on page 637. If the required MRN set is shown in the `rtrv-mrn` output, or if the required point code is assigned to the required MRN set, continue the procedure with [Step 20](#) on page 637.

14. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA          CLLI          BEI  ELEI    ALIASI          ALIASN/N24    DMN
  001-207-000   ----- no    --- -----
  001-001-001   ----- no    --- -----
  001-001-002   ----- no    --- -----
  001-005-000   ----- no    --- -----
  001-007-000   ----- no    --- -----
  008-012-003   ----- no    --- -----
  003-002-004   ----- no    --- -----
  009-002-003   ----- no    --- -----
  010-020-005   ----- no    --- -----

  DPCI          CLLI          BEI  ELEI    ALIASA          ALIASN/N24    DMN
  1-207-0       ----- no    --- -----

```

```

0-015-0      ----- no  --- ----- SS7
0-017-0      ----- no  --- ----- SS7
1-011-1      ----- no  --- ----- SS7
1-011-2      ----- no  --- ----- SS7

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, and perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 19](#) on page 636.

15. Display the point code that will be assigned to the global title translation by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA      CLLI      BEI  ELEI  ALIASI      ALIASN/N24  DMN
  010-020-005 ----- no  --- ----- SS7

  PPCA      NCAI PRX      RCAUSE  NPRST  SPLITIAM
  009-002-003 ---- no      50      on      20

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

If the adjacent point code is not shown in the `rtrv-dstn` command output, the following output is displayed.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

No destinations meeting the requested criteria were found

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

If the point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* and add the point code to the destination point code table.

16. The point code specified with the `chg-gtt` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code.

Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `chg-gtt` command to verify whether or not the point code is the DPC of a route. For this example, enter these commands.

```
rtrv-rte:dpca=003-003-003
```

This is an example of the possible output.

```
rlghncxa03w 07-02-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24      LSN          RC          APCA
002-002-003   -----          -----          ls05         10         002-002-003
                                   ls15         30         089-047-123
                                   lsa8         50         077-056-000
                                           RTX:No     CLLI=ls05clli
```

```
rtrv-rte:dpca=002-002-003
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 11:43:04 GMT EAGLE5 37.0.0
DPCA          ALIASI          ALIASN/N24      LSN          RC          APCA
003-003-003   -----          -----          ls07         10         003-003-003
                                   ls08         30         025-025-150
                                   lsa5         50         066-030-100
                                           RTX:No     CLLI=ls07clli
```

If the point code is not shown in the `rtrv-rte` output, perform one of the procedures in the *Database Administration Manual - SS7* and add the required route to the database.

17. If the `ri=ssn` and `xlat=dpcssn` parameters are specified with the `chg-gtt` command, and you wish to use the EAGLE 5 ISS's point code for the value of the `pc` parameter of the `chg-gtt` command, the point code value must be in the EAGLE 5 ISS's self ID table.

Display the EAGLE 5 ISS self-identification, using the `rtrv-sid` command. This is an example of the possible output.

```
rlghncxa03w 07-02-10 11:43:04 GMT EAGLE5 37.0.0
PCA          PCI          PCN          CLLI          PCTYPE
010-020-030  1-023-1      12-0-14-1    rlghncxa03w   OTHER
               s-1-023-1    s-12-0-14-1
CPCA
002-002-002      002-002-003      002-002-004      002-002-005
002-002-006      002-002-007      002-002-008      002-002-009
004-002-001      004-003-003      050-060-070
CPCI
1-001-1          1-001-2          1-001-3          1-001-4
1-002-1          1-002-2          1-002-3          1-002-4
2-001-1          7-222-7
CPCN
2-0-10-3        2-0-11-0        2-0-11-2        2-0-12-1
2-2-3-3        2-2-4-0        10-14-10-1
```

18. Enter the `rtrv-ss-appl` command to verify that either the LNP, EIR, INP, V-Flex, or ATINPQ subsystem number (depending on which feature is on) is the subsystem application table.

This is an example of the possible output.

```
rlghncxa03w 08-09-28 14:42:38 GMT EAGLE5 39.2.0
APPL          SSN          STAT
LNP          254          ONLINE
```

```
SS-APPL table is 20% FULL (1 of 5)
```

If the subsystem number is shown in the `rtrv-ss-appl` output, continue the procedure with [Step 20](#) on page 637.

If no subsystem number is shown in the `rtrv-ss-appl` output, or if the `rtrv-ss-appl` command is rejected, go to one of these manuals, depending on the type of subsystem you wish to use, and enable the feature if necessary, and add the subsystem to the subsystem application table.

- EIR subsystem – go to the *Feature Manual - EIR*.
- INP subsystem – go to the *Feature Manual - INP/AINPQ*.
- LNP subsystem – go to the *LNP Feature Activation Guide*.
- V-Flex subsystem – go to the *Feature Manual - V-Flex*.
- ATINPQ subsystem – go to the *Feature Manual - ATINP*.

Note: If the Flexible GTT Load Sharing feature is enabled, shown in [Step 12](#) on page 630, a MAP set ID must be specified for the final global title translation. The point code and SSN specified for the final global title translation being changed in this procedure must be assigned to the MAP set ID that will be assigned to the final global title translation. Perform [Step 19](#) on page 636 to verify that the required MAP set is configured in the database.

Note: If the Flexible GTT Load Sharing feature is not enabled, and the `ri` parameter value will be `ssn`, the `xlat` parameter value will be `dpcssn`, the point code value will not be the EAGLE 5 ISS's point code, and the SSN parameter value will not be the EAGLE 5 ISS's subsystem number when this procedure is completed, continue the procedure with [Step 20](#) on page 637.

19. Enter the `rtrv-map` command with the `pc` parameter specifying the required point code to verify that the required data is in the mated application table.

For this example enter this command.

```
rtrv-map:pca=002-002-003
```

If the Flexible GTT Load Sharing feature is not enabled, this is an example of the possible output.

```
rlghncxa03w 07-02-25 09:42:31 GMT EAGLE5 37.0.0
MAP TABLE IS          (37 of 1024)          4 % FULL

  PCA      SSN RC MULT-----Mate-----SRM MRC GRP NAME   SSO
                PCA      SSN RC MULT
002-002-003 250 10  SOL                      --- ---  GRP01   ON
```

If the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

```
rlghncxa03w 07-02-25 09:42:31 GMT EAGLE5 37.0.0
MAP TABLE IS    (12 of 36000)          1 % FULL

PCA      SSN RC MULT-----Mate-----SRM MRC GRP NAME   SSO
                PCA      SSN  RC MULT
MAPSET ID=DFLT
002-002-003 55  5  DOM                      YES YES ----- OFF
                001-001-002 15 15  DOM      YES YES ----- ON
                001-001-003 25 20  DOM      YES YES ----- ON
```

```

001-001-002    40  35  DOM    YES YES  ----- OFF
MAPSET ID= 1
002-002-003 254   5  DOM      YES YES  ----- OFF
001-001-002    10  15  DOM    YES YES  ----- ON
001-001-003    20  20  DOM    YES YES  ----- ON
001-001-002    40  35  DOM    YES YES  ----- OFF
MAPSET ID= 2
002-002-003          5  10  SOL  ---  ---  ----- OFF

```

Note: If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-mrn` output

Note: If the parameter values for the `ri` and `xlat` parameters will be `ri=ssn` and `xlat=dpc` when this procedure is completed, the point code value must be in the mated application table. If the point code is not in the mated application table when the `chg-gtt` command is executed, the `force=yes` parameter must be specified with the `chg-gtt` command.

If the parameter values for the `ri` and `xlat` parameters will be `ri=ssn` and `xlat=dpcssn`, and the point code and subsystem number values will be the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number when this procedure is completed, the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number must be in the mated application table.

If the required point code, subsystem number, or MAP set ID is not shown in the `rtrv-map` output, perform one of these procedures to add the required information mated application table:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

20. Change the global title translation using the `chg-gtt` command using the parameter combinations shown in [Table 50: Change GTT Parameter Combinations](#) on page 637 .

For this example, enter this command.

```
chg-gtt:type=15:gta=800:egta=850:xlat=dpcssn:ri=gt:pc=003-003-003:ssn=254
:mrnset=114
```

```
chg-gtt:type=15:gta=919:xlat=dpcssn:ri=ssn:pc=002-002-003:ssn=254:mapset=1
:loopset=rtp2
```

This message should appear.

```
rlghncxa03w 07-02-25 09:44:31 GMT EAGLE5 37.0.0
CHG-GTT: MASP A - COMPLTD
```

Table 50: Change GTT Parameter Combinations

RI = GT XLAT= DPCNGT	RI = GT XLAT=DCPSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
Mandatory Parameters				

RI = GT XLAT= DPCNGT	RI = GT XLAT= DCPSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
TYPE/TYPEA/ TYPEI/TYPEN TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN TYPEN24 (See Notes 2 and 3)	TYPE/TYPEA/ TYPEI/TYPEN TYPEN24 (See Notes 2 and 3)
GTA (See Notes 14, 16, and 18)	GTA (See Notes 14, 16, and 18)	GTA (See Notes 14, 16, and 18)	GTA (See Notes 14, 16, and 18)	GTA (See Notes 14, 16, and 18)
Optional Parameters (See Note 23)				
PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 9)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 9)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 9)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 9)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 3, and 9)
TTN (See Notes 16, 17, and 18)	TTN (See Notes 16, 17, and 18)	TTN (See Notes 16, 17, and 18)	TTN (See Notes 16, 17, and 18)	TTN (See Notes 16, 17, and 18)
EGTA	EGTA	EGTA	EGTA	EGTA
NNP (See Notes 4, 6, and 7)	NNP (See Notes 4, 6, and 7)	NNP (See Notes 4, 6, and 7)	NNP (See Notes 4, 6, and 7)	NNP (See Notes 4, 6, and 7)
NNAI (See Notes 4, 6, and 7)	NNAI (See Notes 4, 6, and 7)	NNAI (See Notes 4, 6, and 7)	NNAI (See Notes 4, 6, and 7)	NNAI (See Notes 4, 6, and 7)
NPDD (See Notes 4 and 8)	NPDD (See Notes 4 and 8)	NPDD (See Notes 4 and 8)	NPDD (See Notes 4 and 8)	NPDD (See Notes 4 and 8)
NPDS (See Notes 4, 8, and 14)	NPDS (See Notes 4, 8, and 14)	NPDS (See Notes 4, 8, and 14)	NPDS (See Notes 4, 8, and 14)	NPDS (See Notes 4, 8, and 14)
NSDD (See Notes 4 and 8)	NSDD (See Notes 4 and 8)	NSDD (See Notes 4 and 8)	NSDD (See Notes 4 and 8)	NSDD (See Notes 4 and 8)
NSDS (See Notes 4, 8, and 14)	NSDS (See Notes 4, 8, and 14)	NSDS (See Notes 4, 8, and 14)	NSDS (See Notes 4, 8, and 14)	NSDS (See Notes 4, 8, and 14)
NGTI (See Notes 4, 6, and 7)	NGTI (See Notes 4, 6, and 7)	NGTI (See Notes 4, 6, and 7)	NGTI (See Notes 4, 6, and 7)	NGTI (See Notes 4, 6, and 7)
MRNSET (See Notes 11 and 20)	MRNSET (See Notes 11 and 20)	MRNSET (See Notes 11 and 20)	MAPSET (See Notes 11 and 20)	MAPSET (See Notes 11 and 20)
SPLIT (See Note 22)	SPLIT (See Note 22)	SPLIT (See Note 22)	SPLIT (See Note 22)	SPLIT (See Note 22)

RI = GT XLAT= DPCNGT	RI = GT XLAT= DCPSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
RMGTT (See Note 4)	RMGTT (See Note 4)	RMGTT (See Note 4)	RMGTT (See Note 4)	RMGTT (See Note 4)
LOOPSET (See Note 15)	LOOPSET (See Note 15)	LOOPSET (See Note 15)	LOOPSET (See Note 15)	LOOPSET (See Note 15)
CGGTMOD (See Note 5)	CGGTMOD (See Note 5)	CGGTMOD (See Note 5)	CGGTMOD (See Note 5)	CGGTMOD (See Note 5)
NGT	SSN	NGT (See Note 10)	SSN	FORCE (See Note 12)
Parameter Values:				
TYPE / TYPEA / TYPEI / TYPEN / TYPEN24 – The translation type from the TYPE/TYPEA/TYPEI/TYPEN/TYPEN24 column of the rtrv-tt output – See Note 2 TTN – The translation type name from the TTN column of the rtrv-tt output. GTA – 1 - 21 digits or 1 - 21 hexadecimal digits PC / PCA / PCI / PCN / PCN24 – See Note 1 SSN – 0 - 255 NGT – 0 - 255 EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = same as the GTA value FORCE – yes, no. Default = no LOOPSET – Loopset name from the rtrv-loopset output SPLIT - yes, no. Default = yes RMGTT - yes, no. Default = no			NNP – 0 - 15. Default = 0xFFFF NNAI – 0 - 127. Default = 0xFFFF NPDD – 0 - 21. Default = 0 NPDS – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = no digits NSDD – 0 - 21. Default = 0 NSDS – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = no digits NGTI – 2, 4. Default = not applicable MRNSET – MRN set ID from the rtrv-mrn output MAPSET – MAP set ID from the rtrv-map output CGGTMOD – yes, no. Default = no	
Notes:				
1. The pc/pca/pci/pcn/pcn24 parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes to the global title translation (GTT). <ul style="list-style-type: none">pc/pca = ANSI point codepci = ITU-I or ITU-I spare point codepcn = 14-bit ITU-N or 14-bit ITU-N spare point codepcn24 = 24-bit ITU-N point code.				

RI = GT XLAT= DPCNGT	RI = GT XLAT=DCPSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
<p>2. The <code>type/typea/typei/typen/typen24</code> parameters specify the translation type and the network type of the translation type.</p> <ul style="list-style-type: none"> • <code>type/typea</code> = ANSI translation type • <code>typei</code> = ITU-I translation type • <code>typen/typen24</code> = ITU-N translation type <p>3. The domain (ANSI or ITU) of the point code and translation type must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTT may contain an ANSI point code and an ITU translation type, or an ITU point code and an ANSI translation type. Whether the ANSI-ITU-China SCCP Conversion feature is enabled or not, the translation type parameters <code>typei</code>, <code>typen</code>, or <code>typen24</code> can be specified with either the <code>pci</code>, <code>pcn</code>, or <code>pcn24</code> parameters.</p> <p>4. The <code>nnp</code>, <code>nnai</code>, <code>npdd</code>, <code>npds</code>, <code>nsdd</code>, <code>nsds</code> and <code>rmgtt</code> parameters can be specified only if the Advanced GT Modification feature is enabled. The <code>ngti</code> parameter can be specified only if the Advanced GT Modification feature is enabled and if the ANSI-ITU-China SCCP Conversion feature is enabled. The <code>nnp</code>, <code>nnai</code>, <code>npdd</code>, <code>npds</code>, <code>nsdd</code>, <code>nsds</code>, and <code>ngti</code> parameters cannot be specified with the <code>rmgtt</code> parameter.</p> <p>5. The <code>cggmod</code> parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled.</p> <p>6. The <code>ngti=2</code> parameter can be specified with an ANSI point code or an ITU point code, and not with the <code>nnp</code> and <code>nnai</code> parameters.</p> <p>7. The <code>ngti=4</code> parameter can be specified only with an ITU point code, and the <code>nnp</code> and <code>nnai</code> parameters must also be specified for the GTA.</p> <p>8. The prefix parameters (<code>npdd</code> and <code>npds</code>) and the suffix parameters (<code>nsdd</code> and <code>nsds</code>) cannot be specified in the <code>ent-gtt</code> command at the same time. If you wish to specify these parameters, you must specify either the <code>npdd</code> and <code>npds</code> or the <code>nsdd</code> and <code>nsds</code> parameters.</p> <p>9. If the point code is the EAGLE 5 ISS's point code, then the <code>xlat</code> parameter value must be <code>dpcssn</code> and the <code>ri</code> parameter value must be <code>ssn</code>.</p> <p>10. The <code>ngt</code> parameter can be specified only if the ANSI-ITU-China SCCP Conversion feature is enabled.</p> <p>11. The <code>mrnset</code> parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled.</p> <p>12. If the <code>pc/pca/pci/pcn/pcn24</code> parameter value is not shown in the <code>rtrv-map</code> output, the <code>force=yes</code> parameter must be specified with the <code>ent-gtt</code> command.</p> <p>13. The <code>mapset</code> parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled.</p> <p>14. Hexadecimal digits (0-9, a-f, A-F) can be specified for the <code>gta</code>, <code>egta</code>, <code>npds</code>, or <code>nsds</code> parameters only if the Hex Digit support for GTT feature is enabled.</p> <p>15. The <code>loopset</code> parameter can be specified only if the SCCP Loop Detection feature is enabled.</p> <p>16. Either the <code>type</code> parameter or the <code>ttn</code> parameter must be specified.</p>				

RI = GT XLAT= DPCNGT	RI = GT XLAT=DCPSSN	RI = GT XLAT= DPC	RI = SSN XLAT= DCPSSN	RI = SSN XLAT= DPC
<p>17. If the <code>type</code> parameter is not specified, the translation type name must be assigned to a translation type in the database. This can be verified with the <code>rtrv-tt</code> command.</p> <p>18. If the <code>type</code> and <code>ttn</code> parameters are specified, the specified translation type must be in the database and the specified translation type name must be assigned to the translation type.</p> <p>19. The end global title address (<code>egta</code>) must be greater than or equal to the start global title address (<code>gta</code>) and its length must be equal to the start global title address.</p> <p>20. Specifying the <code>mrnset=none</code> parameter removes the MRN set ID assignment from the global title translation.</p> <p>21. Specifying the <code>mapset=none</code> parameter removes the MAP set ID assignment from the global title translation.</p> <p>22. The range of global title addresses assigned to a global title translation can be extended, reduced, or split to create a new range of global title addresses. Refer to split parameter description on page 616 for information on changing the range of global title addresses.</p> <p>23. Unless a default value is shown in this table, the value of any optional parameter that is not specified in this procedure is not changed.</p>				

21. Verify the changes using the `rtrv-gtt` command specifying the translation type, translation type name, or both used in [Step 20](#) on page 637. If the `num` parameter is specified with the `rtrv-gtt` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gtt` command.

For this example, enter this command.

```
rtrv-gtt:typea=15:gta=800
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:45:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      scp3      3

GTT TABLE IS          (27000 of 269999)          10 % FULL

START GTA              END GTA              XLAT  RI      PC
800                    850                    DPCSSN GT    003-003-003
      MRNSET=114  SSN=254 NGT=---
      LOOPSET = none
```

Command Retrieved 1 Entries

```
rtrv-gtt:typea=15:gta=919
```

This is an example of the possible output.

```
rlghncxa03w 08-10-25 09:43:31 GMT EAGLE5 39.2.0
TYPEA  TTN      NDGT
15      scp3      3

GTT TABLE IS          (27000 of 269999)          10 % FULL
```

```

START GTA          END GTA          XLAT  RI    PC
919                919              DPCSSN SSN    002-002-003
      MAPSET=1      SSN=254 NGT=---
      LOOPSET = rtp2

Command Retrieved 1 Entries

```

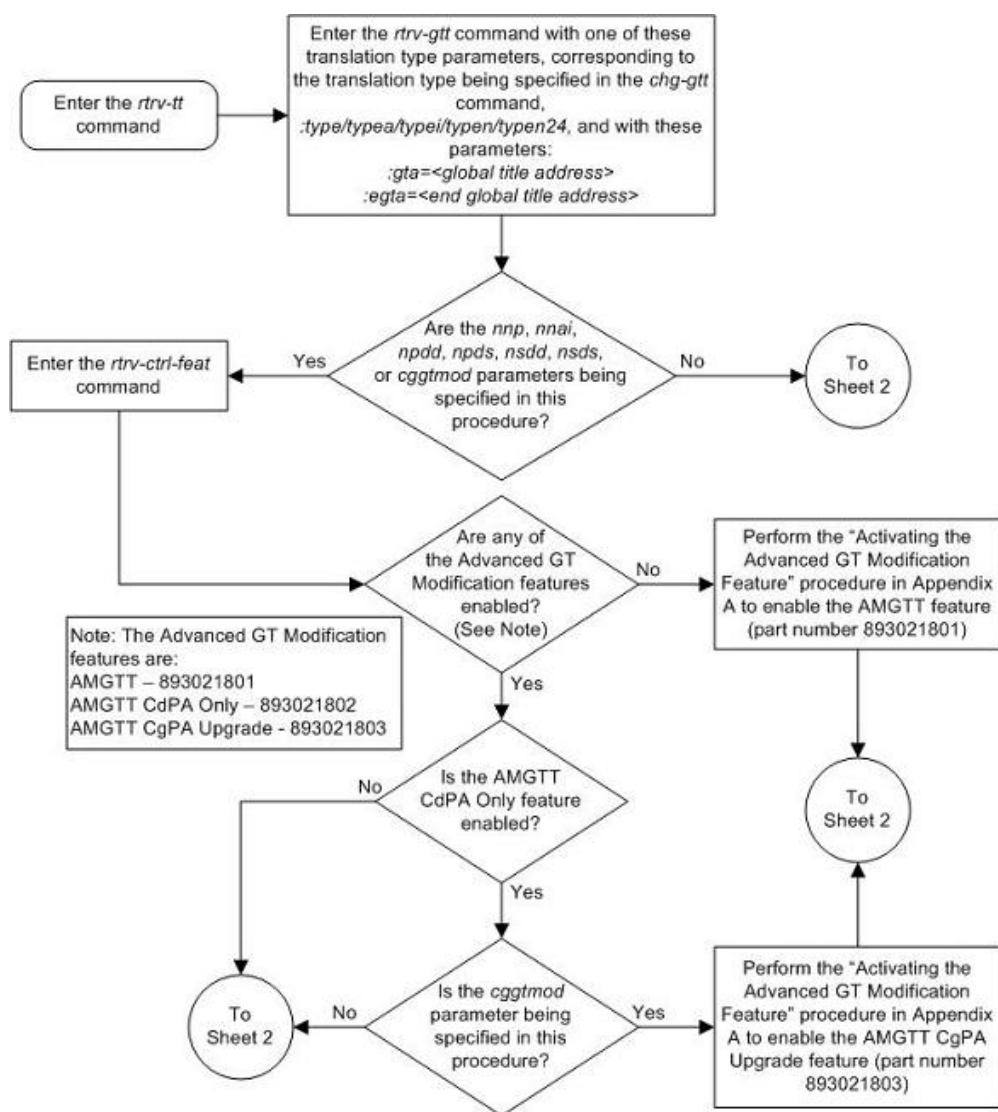
22. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

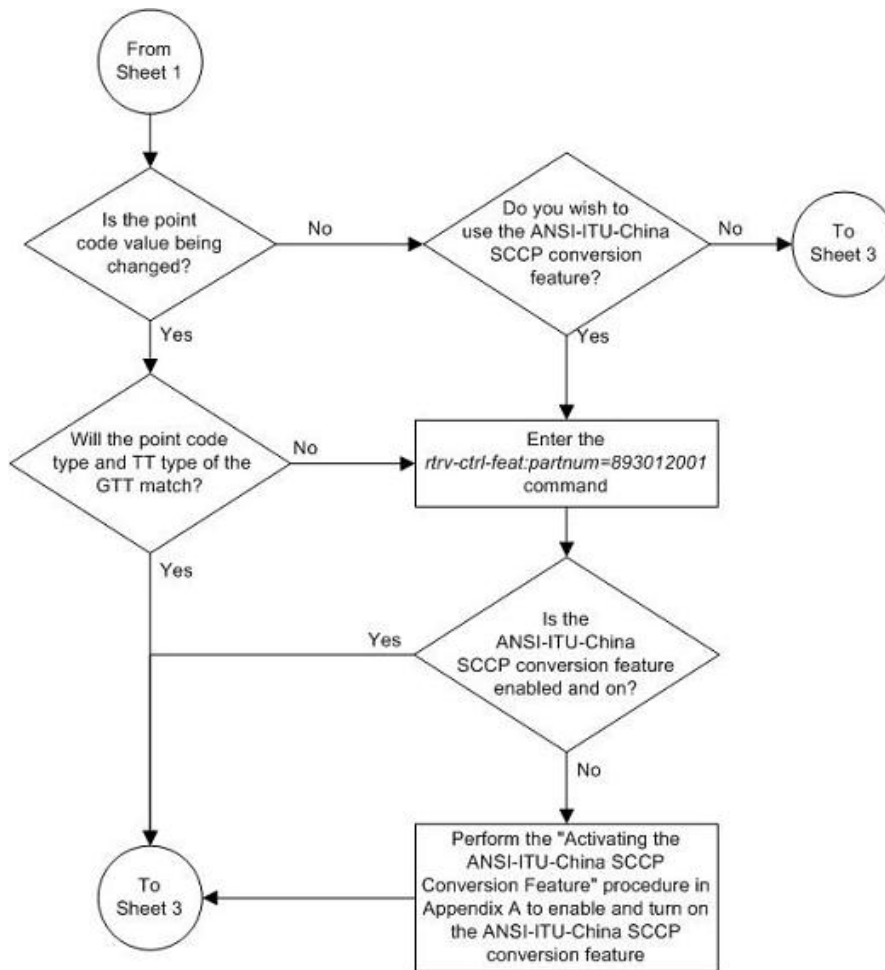
```

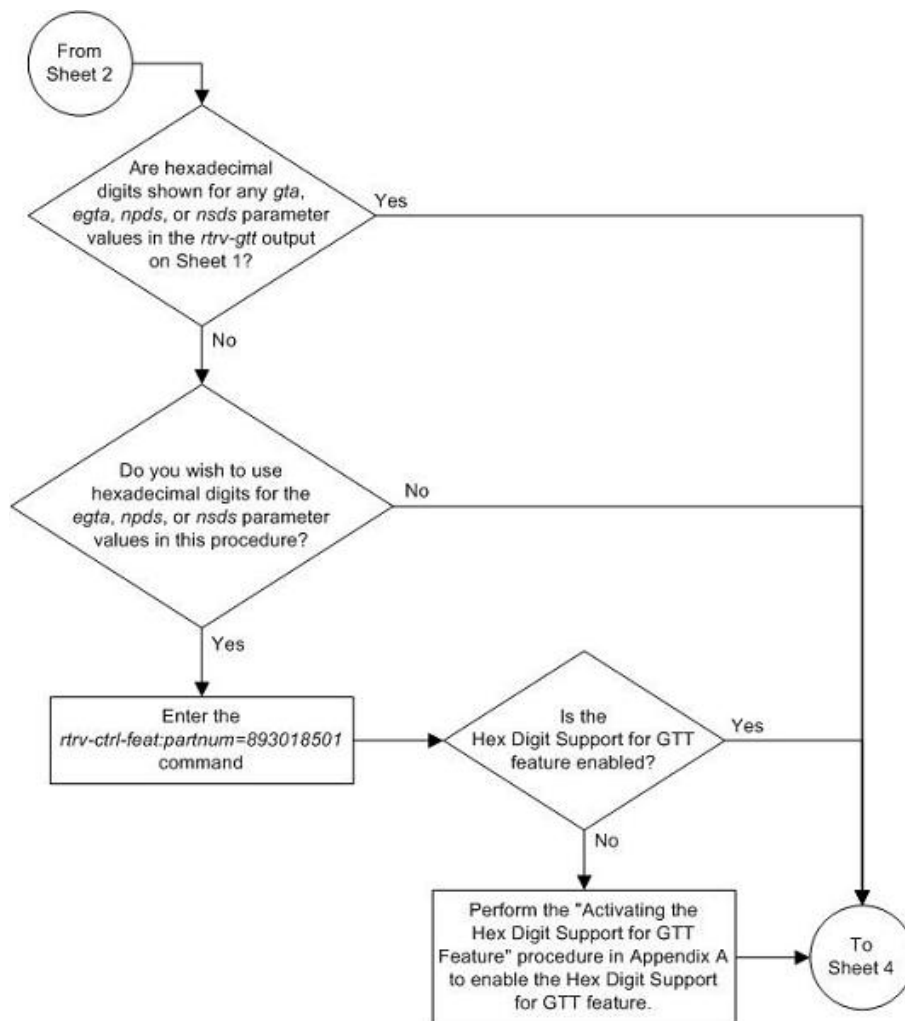
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

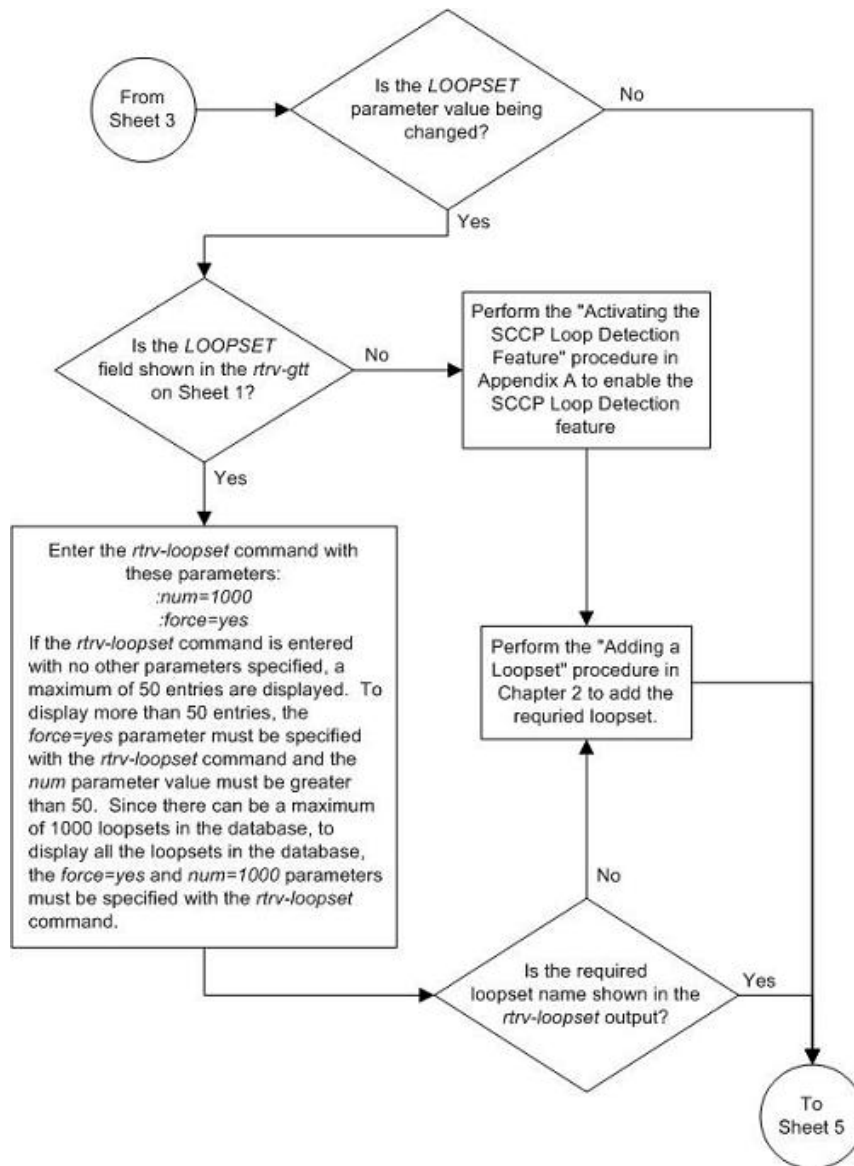
```

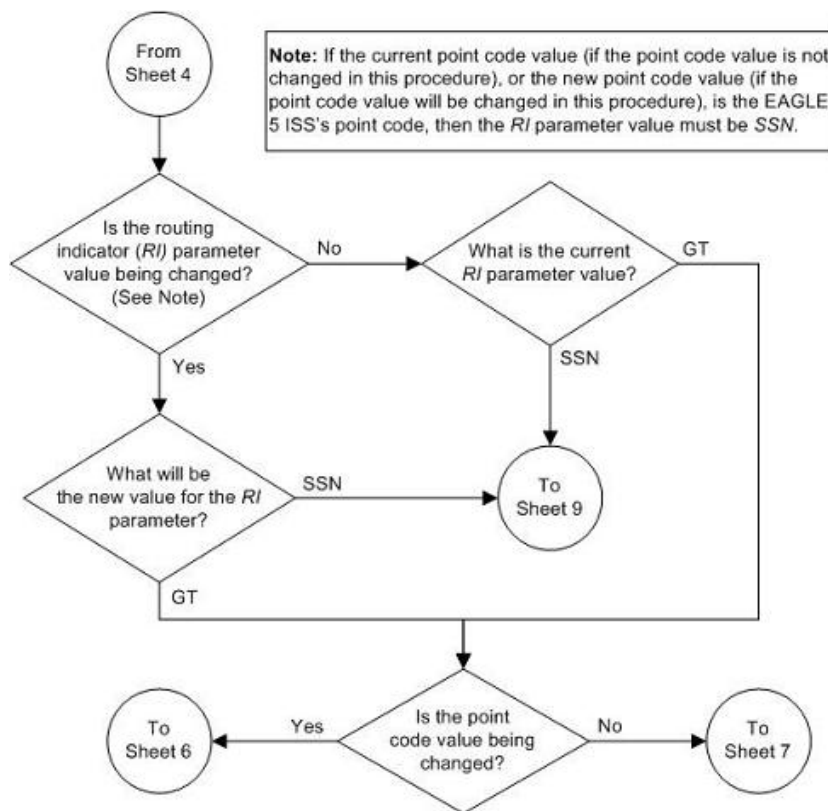
Figure 53: Changing a Global Title Translation

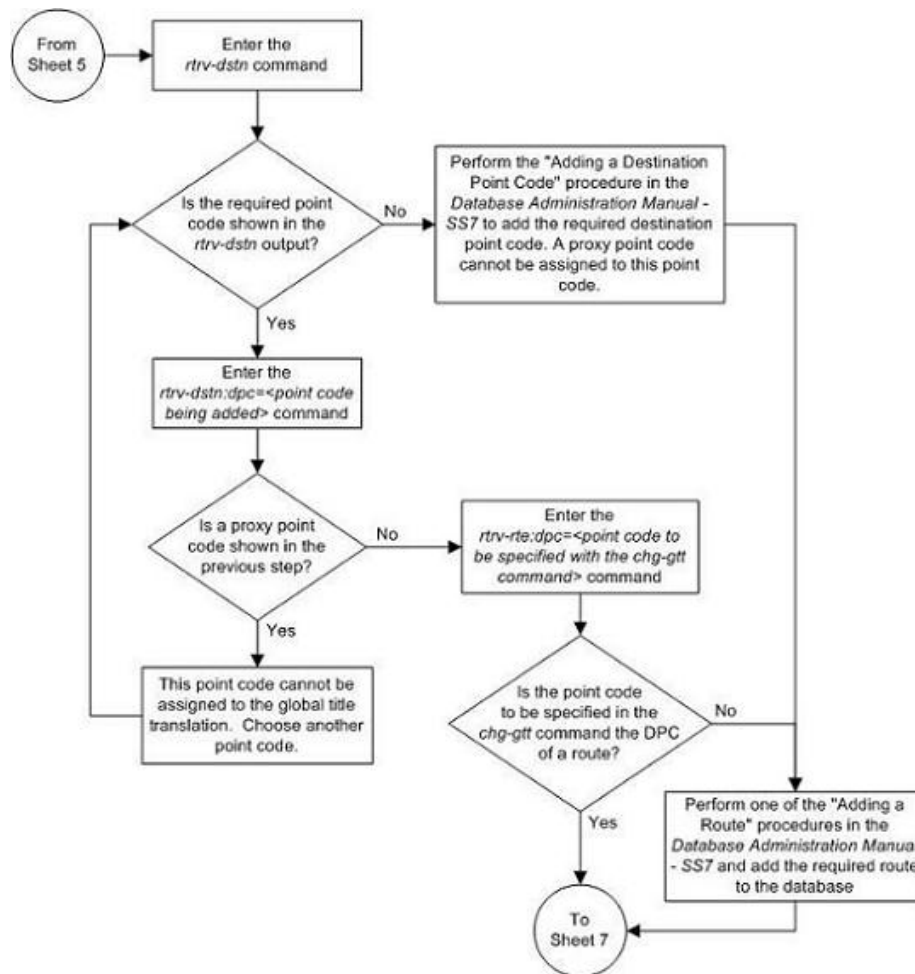


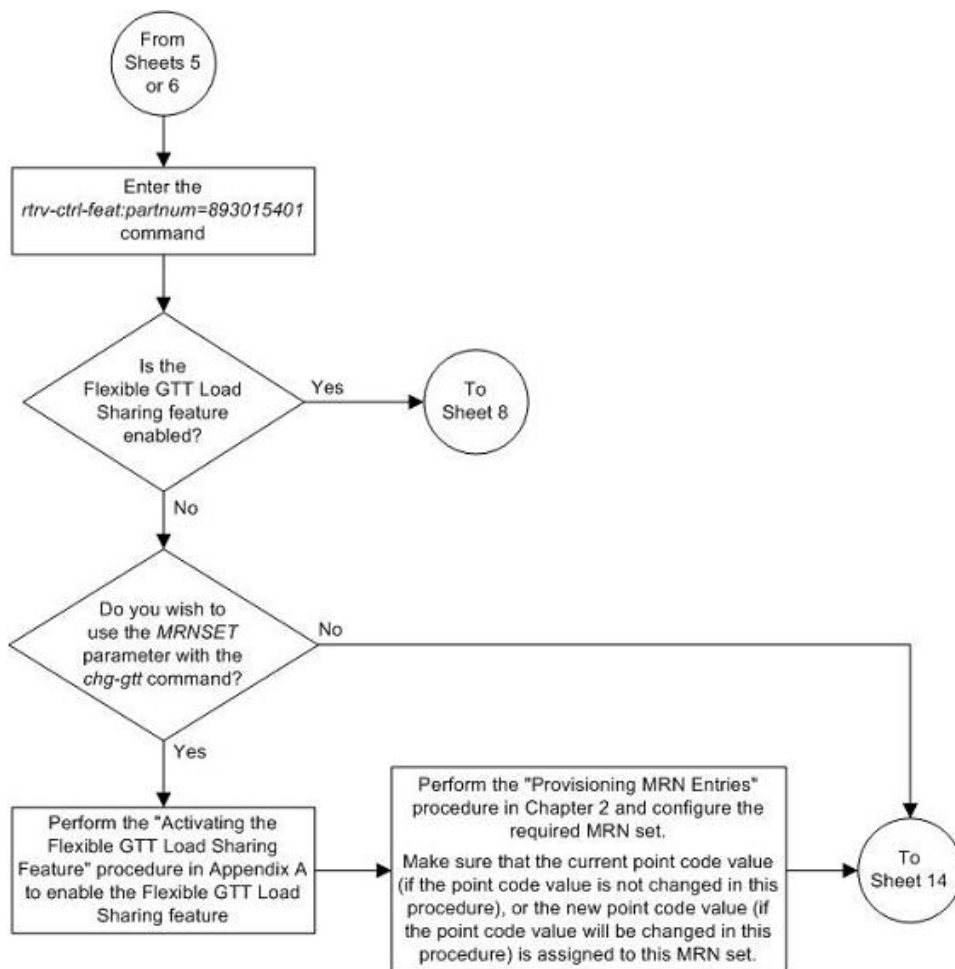


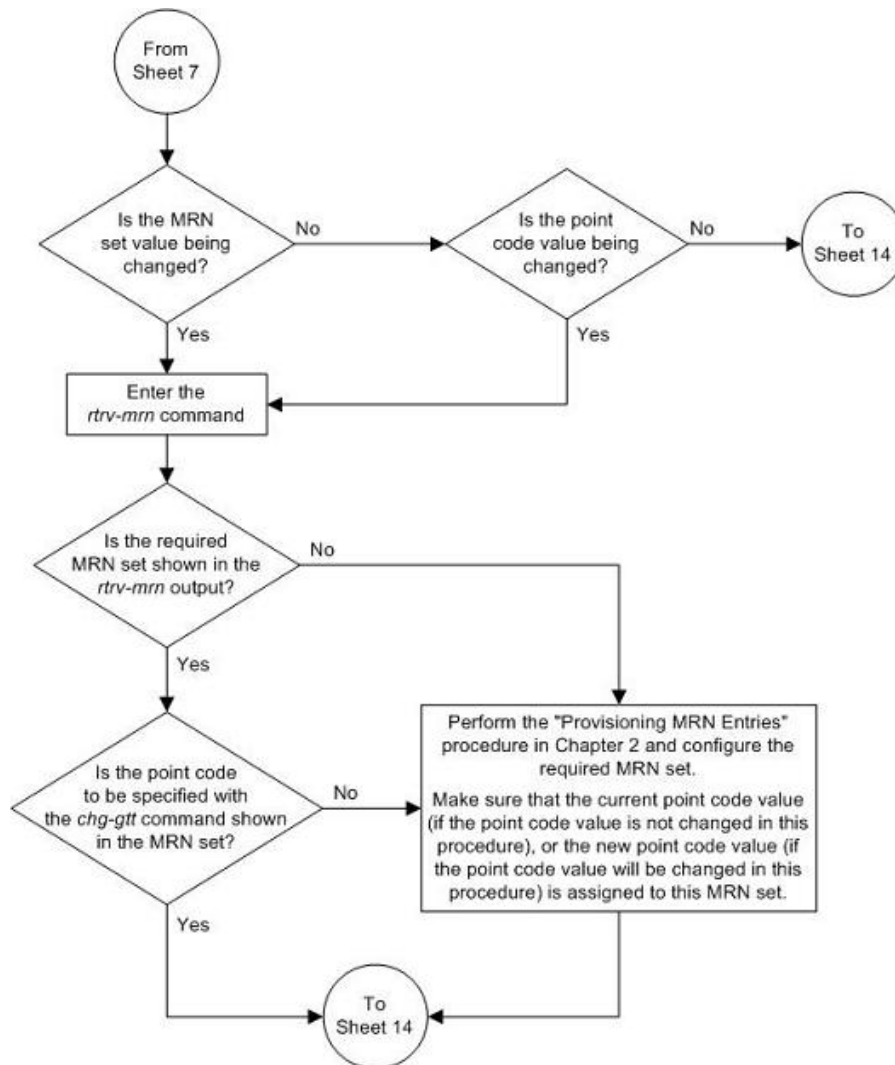


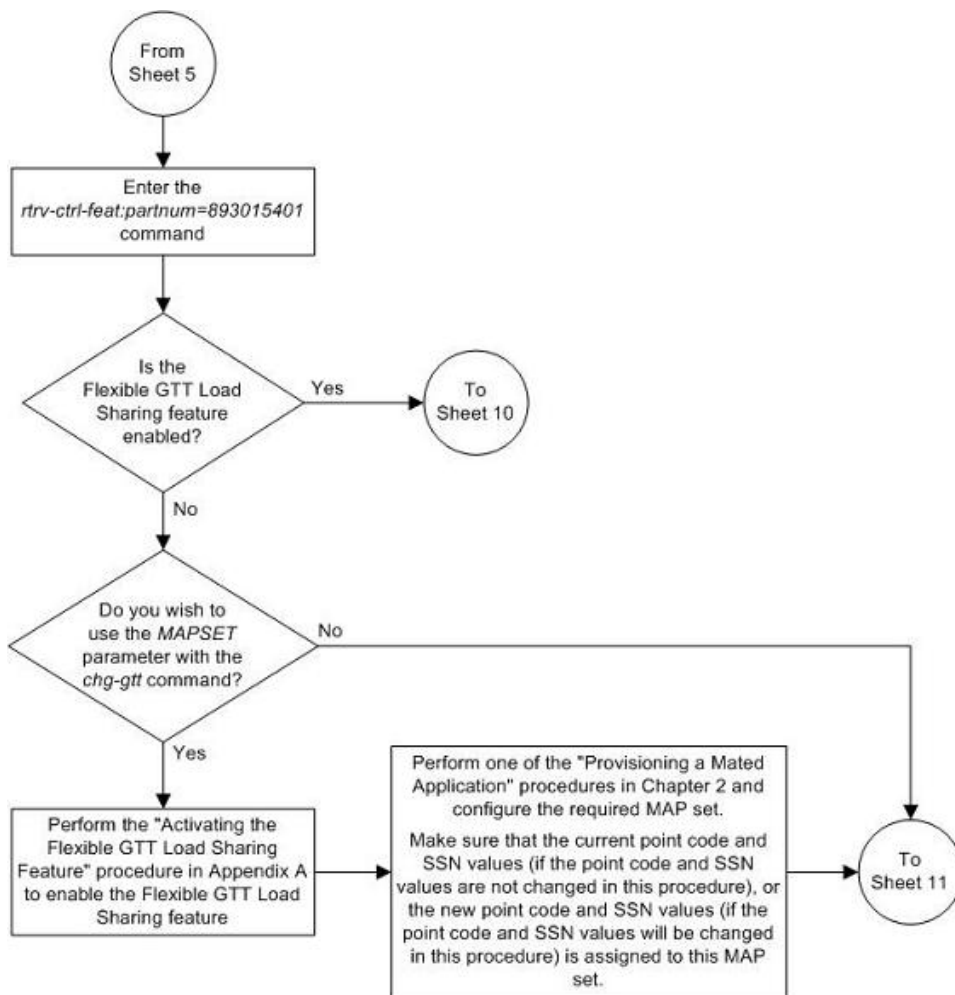


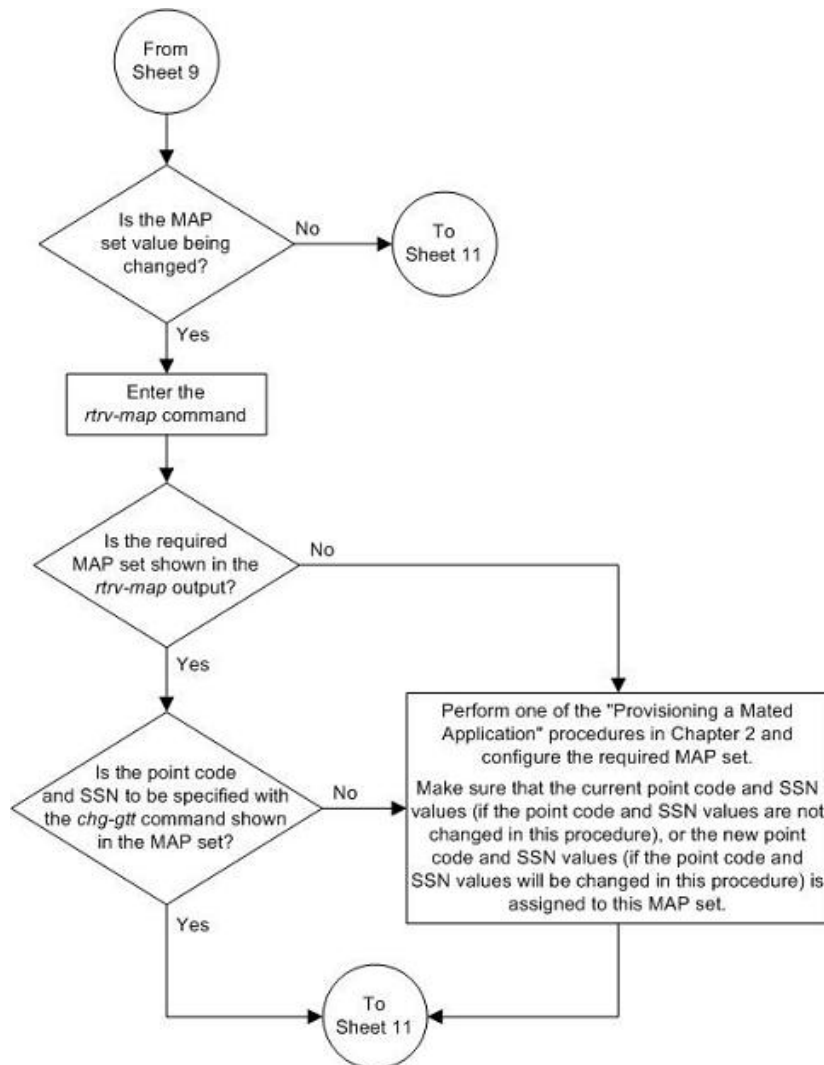


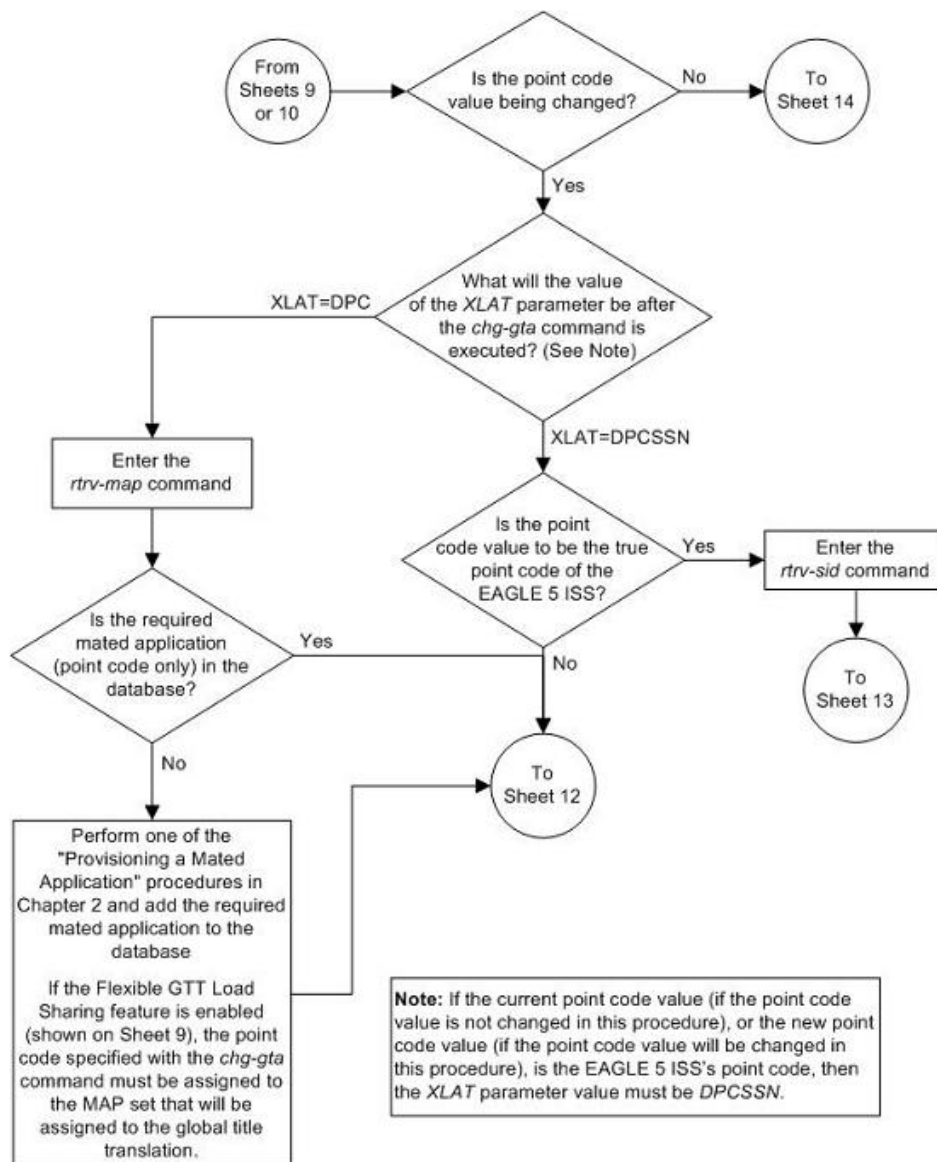


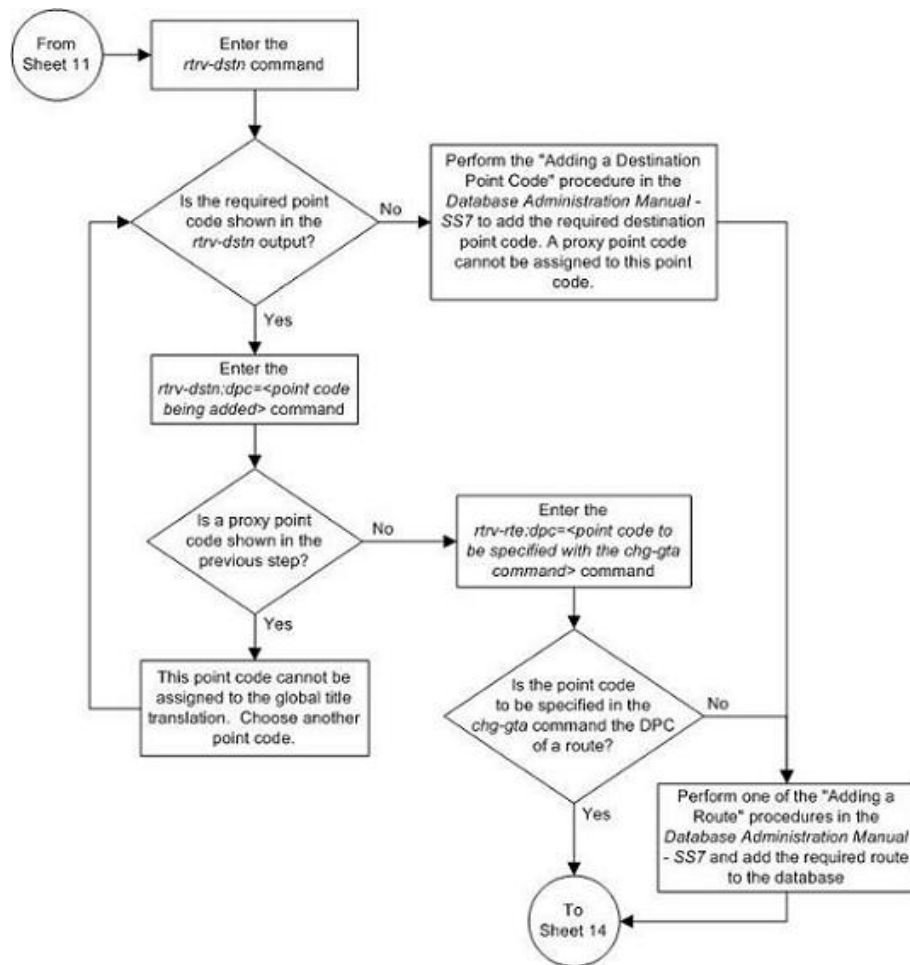


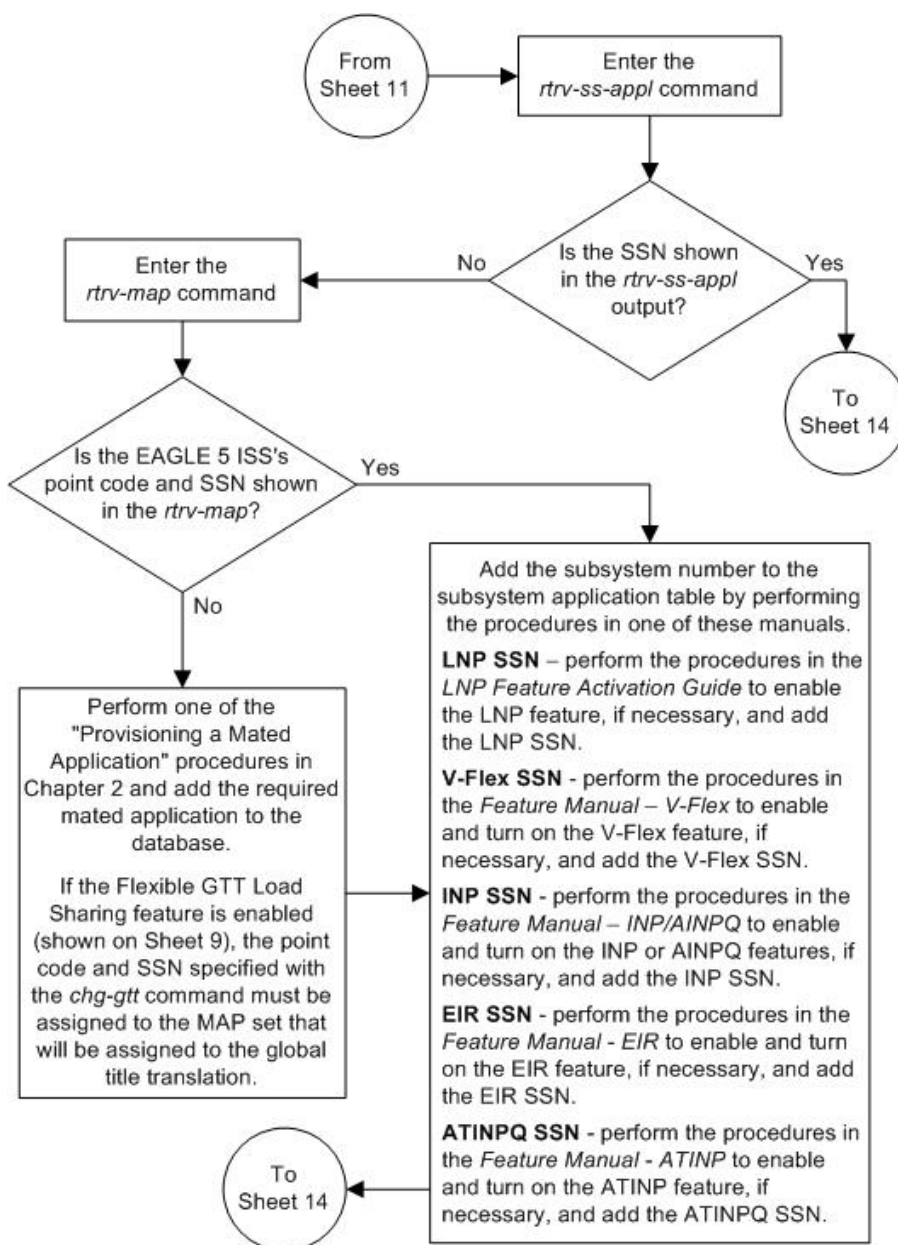


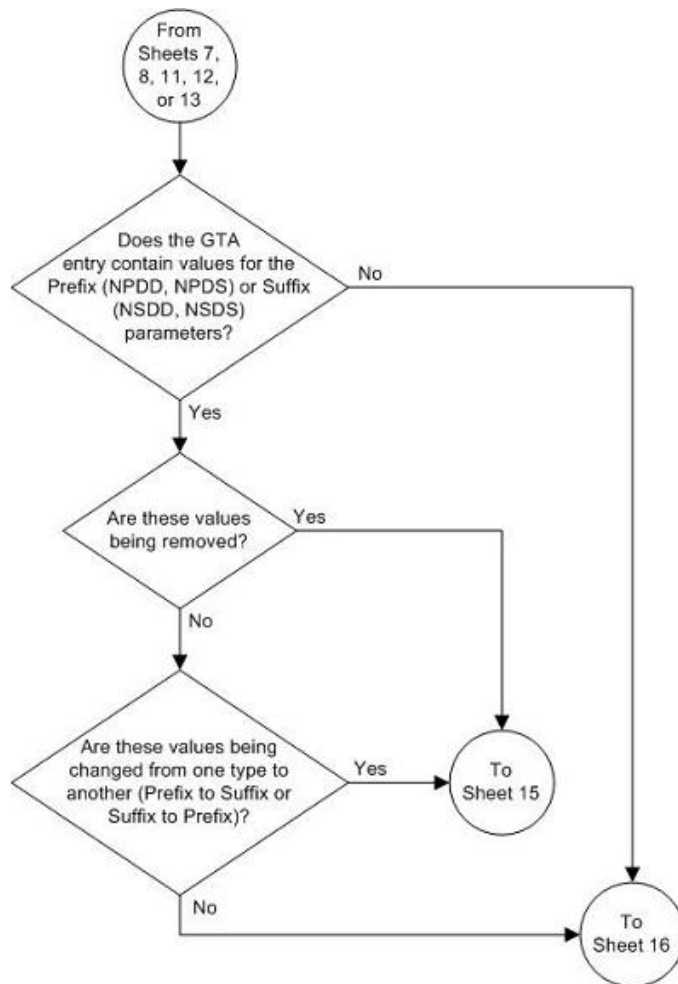


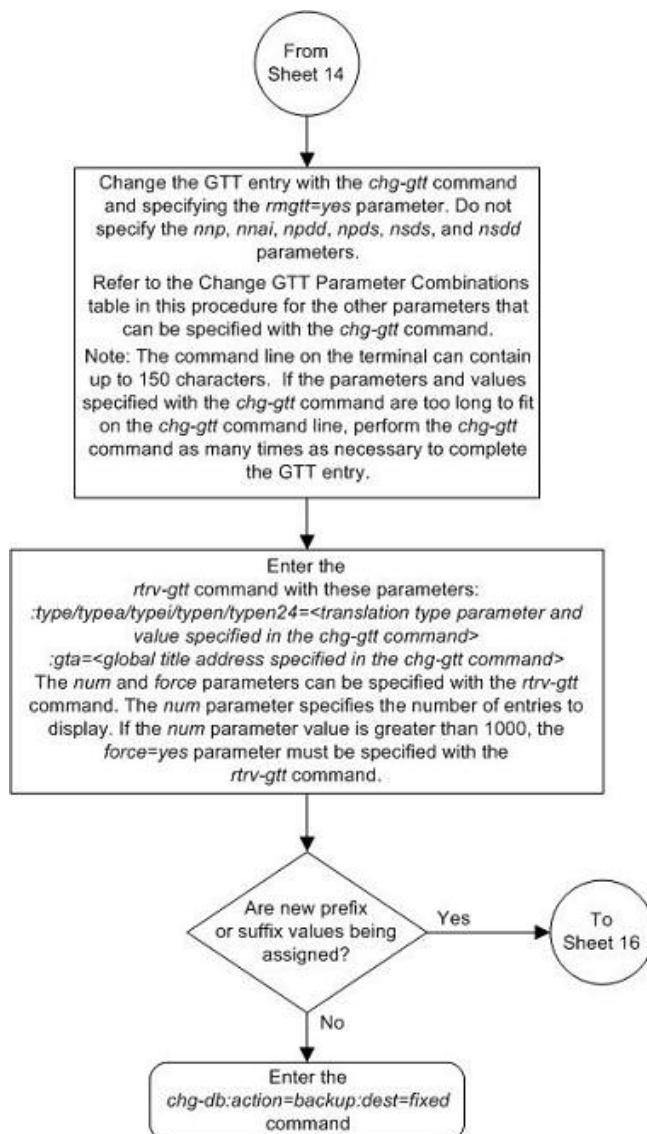


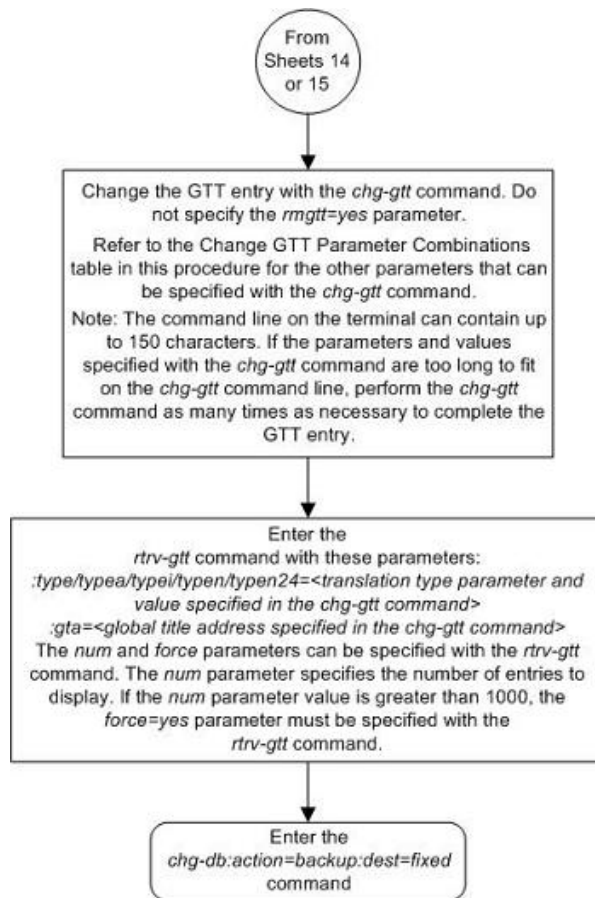












Chapter 4

Enhanced Global Title Translation (EGTT) Configuration

Topics:

- [*Introduction.....660*](#)
- [*Adding a GTT Set.....660*](#)
- [*Removing a GTT Set.....671*](#)
- [*Changing a GTT Set.....680*](#)
- [*Adding a GTT Selector.....690*](#)
- [*Removing a GTT Selector.....710*](#)
- [*Changing a GTT Selector.....716*](#)
- [*Adding Global Title Address Information.....727*](#)
- [*Removing Global Title Address Information.777*](#)
- [*Changing Global Title Address Information.787*](#)
- [*Changing the Default GTT Mode Options...835*](#)

Chapter 4, Enhanced Global Title Translation (EGTT) Configuration, contains the procedures specific to configure the enhanced global title translation feature.

Introduction

This chapter describes the procedures needed to add, remove, or change enhanced global title translation (EGTT) data in the database.

The items configured in this section are:

- GTT selectors
- GTT sets
- Global title addresses.

The following items must also be configured for the Enhanced Global Title Translation feature. The procedures to configure these items are located in [Global Title Translation \(GTT\) Overview](#) on page 15 .

- Service modules
- Translation type mapping
- Concerned signaling point codes
- Mate applications
- Mated relay node groups
- GT Conversion Table Entries for the ANSI-ITU-China SCCP Conversion feature.

The procedures shown in this chapter use a variety of commands. For more information on these commands, refer to the *Commands Manual*.



CAUTION

CAUTION: The Enhanced Global Title Translation (EGTT) feature overrides the Global Title Translation (GTT) feature when the EGTT feature is turned on with the `chg-feat:egtt=on` command. The override causes an immediate and automatic update of the GTT database and the rejection of GTT feature commands when entered. Only turn on the EGTT feature if you intend to configure the EAGLE 5 ISS for enhanced global title translation. Once a feature is turned on with the `chg-feat` command, it cannot be turned off.

Notes:

1. Before turning the Enhanced Global Title Translation (EGTT) feature on with the `chg-feat:egtt=on` command, make sure you have purchased this feature. If you are not sure whether you have purchased the EGTT feature, contact your Tekelec Sales Representative or Account Representative.
2. The GTT feature has to be turned on (`chg-feat:gtt=on` command) but not configured before the Enhanced Global Title Translation (EGTT) feature is enabled. If the GTT feature has been configured previously, enabling the EGTT feature will upgrade the GTT database. For more information on the upgrade process, refer to the [Upgrading from Global Title Translation \(GTT\) to Enhanced Global Title Translation \(EGTT\)](#) on page 73 section.

Adding a GTT Set

Use this procedure to add a global title translation (GTT) set to the database using the `ent-gttset` command. This command also creates a tree to which global title addresses (GTAs) can be added.

Subsequent global title selector (`gttsel`) or global title address (`gta`) commands may then be entered.

The `ent-gttset` command uses these parameters:

`:gttsn` – The GTT set name.

`:netdom` – The network domain of the global title translation set, either ANSI, ITU, or CROSS. The network domain CROSS can be specified only if the ANSI-ITU-China SCCP Conversion feature, part number 893012001, is enabled. The CROSS GTT set can be assigned to either an ANSI or ITU GTT selector.

Note: The ITU domain does not distinguish between ITU-N (either ITU-N or ITU-N24) and ITU-I since the Enhanced Global Title Translation (EGTT) database does not yet distinguish ITU-National and ITU-International translations.

`:ndgt` – The number of digits contained in the global title translation.

`:settype` – The type of GTT set being added in this procedure, either CDGTA, CGGTA, CGPC, CGSSN, OPC, CDSSN, or OPCODE. The `settype` parameter values CDGTA, CGGTA, CGPC, CGSSN, and OPC can be specified only if the Origin-Based SCCP Routing feature is enabled. The `settype` parameter values CDSSN or OPCODE can be specified only if the TCAP Opcode Based Routing feature is enabled and turned on.

The Global Title Translation (GTT) and the Enhanced Global Title Translation (EGTT) features must be on before using this command. Use the `rtrv-feat` command to verify the settings. If the features are off, perform [Adding a Service Module](#) on page 94 to turn these features on and to make sure that the correct hardware is installed to support these features.

Note: Once the Global Title Translation (GTT) feature and the Enhanced Global Title Translation (EGTT) feature are turned on with the `chg-feat` command, they cannot be turned off.

The GTT feature and the EGTT feature must be purchased before you turn these features on. If you are not sure whether you have purchased the GTT feature and/or the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

The GTT set name (`gttsn`) may not already exist and must be specified with the domain. The GTT set table may not have more than 2000 entries.

If the Variable-length Global Title Translation Feature (VGTT) is on, shown by the entry `VGTT = on` in the `rtrv-feat` command output, or the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, the `ndgt` parameter cannot be specified with the `ent-gttset` command. If the VGTT feature is on, a GTT set can contain a maximum of 10 different length global title addresses. If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, a GTT set can contain a maximum of 16 different length global title addresses. The length of the global title address is determined when the global title address is entered with the `ent-gta` command. For more information on the VGTT feature and the length of global title addresses, refer to [Variable-length Global Title Translation Feature](#) on page 24 and [Adding Global Title Address Information](#) on page 727.

If the Origin-Based SCCP Routing feature is enabled, VGTT functionality is supported only for CDPA GTT sets (`settype=cdgta`) and CGPA GTT sets (`settype=cggta`).

Table 51: GTT Set Parameter Combinations - Only the EGTT feature is on or only the Flexible Linkset Optional Based Routing Feature is Enabled and Turned On

SCCP Conversion Not Enabled VGTT=off	SCCP Conversion Not Enabled VGTT=on or Support for 16 GTT Lengths for VGTT is Enabled and Turned On	SCCP Conversion Enabled VGTT=off	SCCP Conversion Enabled VGTT=on or Support for 16 GTT Lengths for VGTT is Enabled and Turned On
Mandatory Parameters			
GTTSN	GTTSN	GTTSN	GTTSN
NETDOM = ANSI, ITU	NETDOM = ANSI, ITU	NETDOM = CROSS, ANSI, ITU	NETDOM = CROSS, ANSI, ITU
Optional Parameter			
NDGT		NDGT	
<p>Notes:</p> <p>SCCP Conversion refers to the ANSI-ITU-China SCCP Conversion feature - part number 893012001</p> <p>VGTT refers to the Variable Global Title Translation feature</p> <p>Parameter Values:</p> <p>GTTSN = the GTT Set Name consisting of 1 to 9 alpha-numeric characters - the first character must be a letter, the remaining characters must be letters or numbers. The <code>gttsn</code> value cannot be the word <code>none</code>.</p> <p>NDGT = the number of digits in the global title address - 1 to 21. The default value is 6.</p>			

Table 52: GTT Set Parameter Combinations - The Origin-Based SCCP Routing Feature is Enabled or the TCAP Opcode Based Routing Feature is Enabled or Turned On

SCCP Conversion Not Enabled VGTT=off	SCCP Conversion Not Enabled VGTT=on or Support for 16 GTT Lengths for VGTT is Enabled and Turned On (See Note 3)	SCCP Conversion Enabled VGTT=off	SCCP Conversion Enabled VGTT=on or Support for 16 GTT Lengths for VGTT is Enabled and Turned On (See Note 3)
Mandatory Parameters			

SCCP Conversion Not Enabled VGTT=off	SCCP Conversion Not Enabled VGTT=on or Support for 16 GTT Lengths for VGTT is Enabled and Turned On (See Note 3)	SCCP Conversion Enabled VGTT=off	SCCP Conversion Enabled VGTT=on or Support for 16 GTT Lengths for VGTT is Enabled and Turned On (See Note 3)
GTTSN	GTTSN	GTTSN	GTTSN
NETDOM = ANSI, ITU	NETDOM = ANSI, ITU	NETDOM = CROSS, ANSI, ITU (See Note 2)	NETDOM = CROSS, ANSI, ITU (See Note 2)
SETTYPE (See Note 4)	SETTYPE (See Note 4)	SETTYPE (See Note 4)	SETTYPE (See Note 4)
Optional Parameter			
NDGT (See Note 1)		NDGT (See Note 1)	
<p>Notes:</p> <p>SCCP Conversion refers to the ANSI-ITU-China SCCP Conversion feature - part number 893012001</p> <p>VGTT refers to the Variable Global Title Translation feature</p> <p>Parameter Values:</p> <p>GTTSN = the GTT Set Name consisting of 1 to 9 alpha-numeric characters - the first character must be a letter, the remaining characters must be letters or numbers. The <code>gttsn</code> value cannot be the word none.</p> <p>NDGT = the number of digits in the global title address - 1 to 21.</p> <p>SETTYPE = the GTA set type - If the Origin-Based SCCP Routing feature is enabled, the SETTYPE parameter value can be CDGTA, CGGTA, CGPC, CGSSN, or OPC. If the TCAP Opcode Based Routing feature is enabled and turned on, the SETTYPE parameter value can be CDGTA, CDSSN, or OPCODE.</p> <p>1. The NDGT parameter can be specified only if the SETTYPE parameter value is either CDGTA or CGGTA. The default value is 6.</p> <p>2. The NETDOM=CROSS parameter can be specified only if the SETTYPE parameter is CDGTA, and only if the ANSI-ITU-China SCCP Conversion feature is enabled.</p> <p>3. VGTT functionality is supported only if the SETTYPE parameter value is either CDGTA or CGGTA.</p> <p>4. If the GTT set name will be specified as the value for the <code>BPARTYGTTSN</code> parameter of either the <code>chg-gsmmssopts</code> or <code>chg-is41smssopts</code> commands, the <code>settype</code> parameter value for this GTT set name must be <code>cdgta</code>.</p>			

1. Display the GTT sets in the database by entering the `rtrv-gttset` command. This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
```

GTTSN	NETDOM	SETTYPE	NDGT
cdgtt1	ansi	CDGTA	6
opcode1	ansi	OPCODE	-
opcode2	ansi	OPCODE	-
opcode3	ansi	OPCODE	-
cdssn1	ansi	CDSSN	-
cggta1	ansi	CGGTA	0
cdgtt2	itu	CDGTA	0
cgpc1	ansi	CGPC	-
cgpc2	ansi	CGSSN	-
cgssn2	ansi	CGSSN	-
opc2	ansi	OPC	-
opcode6	itu	OPCODE	-
opcode7	itu	OPCODE	-
cdssn6	itu	CDSSN	-
cdssn7	itu	CDSSN	-

If GTT sets are shown in this step, or error message “E3557 Cmd Rej: EGTT must be ON before this command can be entered” is not displayed, continue the procedure with [Step 2](#) on page 664.

If error message is displayed, “E3557 Cmd Rej: EGTT must be ON before this command can be entered,” the EGTT feature is not on. Perform [Adding a Service Module](#) on page 94 to turn the EGTT feature on and to make sure that the correct hardware is installed and provisioned. After [Adding a Service Module](#) on page 94 has been performed, continue the procedure with [Step 2](#) on page 664.

2. To specify any of these parameters or values for the GTT set, the feature that corresponds to the parameter or value must be shown as enabled, and turned on if required, in the `rtrv-ctrl-feat` output.

Perform the procedure, shown in this list, that corresponds to the parameters and values that you wish to specify for the GTT set.

- `settype` - one of these features must be enabled, and turned on if necessary. If the `SETTYPE` column is not shown in the `rtrv-gttset` output and you wish to use the `settype` parameter, one of these features must be enabled and turned on, if necessary. If the `settype` column is shown in the `rtrv-gttset` output in [Step 1](#) on page 664, the `settype` parameter must be specified with the `ent-gttset` command.
 - If the `settype` value will be either `cdgta`, `cggta`, `cdssn`, `cgpc`, or `opc`, the Origin-Based SCCP Routing feature must be enabled. Perform [Activating the Origin-Based SCCP Routing Feature](#) on page 892 to verify the status of the Origin-Based SCCP Routing feature, and to enable the Origin-Based SCCP Routing feature if necessary. If the `cggta`, `cgssn`, `cgpc`, or `opc` values are shown in the `SETTYPE` column of the `rtrv-gttset` output for any GTT set, [Activating the Origin-Based SCCP Routing Feature](#) on page 892 does not need to be performed.
 - If the `settype` value will be either `cdgta`, `cdssn`, or `opcode`, the TCAP Opcode Based Routing feature must be enabled and turned on. Perform [Activating the TCAP Opcode Based Routing Feature](#) on page 985 to verify the status of the TCAP Opcode Based Routing feature, and to enable and turn on the TCAP Opcode Based Routing feature if necessary. If the `cdssn` or `opcode` values are shown in the `SETTYPE` column of the `rtrv-gttset`

output for any GTT set, [Activating the TCAP Opcode Based Routing Feature](#) on page 985 does not need to be performed.

- If the SETTYPE column is not shown in the `rtrv-gttset` output, and you do not wish to use the `settype` parameter, [Activating the Origin-Based SCCP Routing Feature](#) on page 892 and [Activating the TCAP Opcode Based Routing Feature](#) on page 985 do not need to be performed.
- `netdom=cross` - the ANSI-ITU-China SCCP Conversion feature must be enabled. Perform [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 to verify the status of the ANSI-ITU-China SCCP Conversion feature and to enable the ANSI-ITU-China SCCP Conversion feature if necessary. If the `CROSS` value is shown in the `NETDOM` column of the `rtrv-gttset` output for any GTT set, [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 does not need to be performed.
- If the GTT set will contain 11 to 16 different GTA lengths, the Support for 16 GTT Lengths in VGTT feature must be enabled and turned on. Perform [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 to verify the status of the Support for 16 GTT Lengths in VGTT feature and to enable and turn on the Support for 16 GTT Lengths in VGTT feature if necessary. If GTT sets containing 11 to 16 different GTA lengths are shown in the `rtrv-gttset`, [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 does not need to be performed.

Continue the procedure by performing one of these steps.

- If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on or [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 was performed in this step, continue the procedure with [Step 5](#) on page 666.
 - If the Support for 16 GTT Lengths in VGTT feature is not enabled or turned on and [Activating the Support for 16 GTT Lengths in VGTT Feature](#) on page 966 was not performed in this step, continue the procedure by performing one of these steps.
 - If the GTT set will contain two to 10 different GTA lengths, the VGTT feature must be turned on. If GTA sets containing two to 10 different GTA lengths are shown in the `rtrv-gttset` output, the VGTT feature is turned on. Continue the procedure with [Step 5](#) on page 666.
 - If the GTT set will contain two to 10 different GTA lengths, and no GTT sets are shown in the `rtrv-gttset` output that contain two to 10 different GTA lengths, continue the procedure with [Step 3](#) on page 665.
 - If the GTT set will contain GTAs that have only one length, continue the procedure with [Step 5](#) on page 666.
3. Verify that the VGTT feature is on by entering the `rtrv-feat` command. If the VGTT feature is on, the VGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

Continue the procedure by performing one of these steps.

- If the VGTT feature is on, continue the procedure with [Step 5](#) on page 666.
 - If the VGTT feature is off, continue the procedure with [Step 4](#) on page 665.
4. Turn the VGTT feature on by entering this command.

```
chg-feat:vgtt=on
```

Note: Once the Variable-length Global Title Translation (VGTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The VGTT feature must be purchased before you turn this feature on. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0  
CHG-FEAT: MASP A - COMPLTD
```

5. Add the GTT sets to the database using the `ent-gttset` command.

Table 51: GTT Set Parameter Combinations - Only the EGTT feature is on or only the Flexible Linkset Optional Based Routing Feature is Enabled and Turned On on page 662 and *Table 52: GTT Set Parameter Combinations - The Origin-Based SCCP Routing Feature is Enabled or the TCAP Opcode Based Routing Feature is Enabled or Turned On* on page 662 shows the parameter combinations that can be used with the `ent-gttset` command.

If only the EGTT feature is on or only the Flexible Linkset Optional Based Routing feature is enabled and turned on for this example, enter these commands.

```
ent-gttset:gttsn=lidb:ndgt=10:netdom=ansi
```

```
ent-gttset:gttsn=t800:netdom=ansi:ndgt=6
```

```
ent-gttset:gttsn=si000:netdom=itu:ndgt=15
```

If the Origin-Based SCCP routing feature is enabled for this example, enter these commands.

```
ent-gttset:gttsn=cdgtal:ndgt=10:netdom=ansi:settype=cdgta
```

```
ent-gttset:gttsn=cggtal:netdom=ansi:ndgt=6:settype=cggtta
```

```
ent-gttset:gttsn=cgpc1:netdom=itu:settype=cgpc
```

If the TCAP Opcode Based Routing feature is enabled and turned on for this example, enter these commands.

```
ent-gttset:gttsn=opcode1:netdom=ansi:settype=opcode
```

```
ent-gttset:gttsn=cdssn1:netdom=ansi:settype=cdssn
```

```
ent-gttset:gttsn=opcode2:netdom=itu:settype=opcode
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0  
ENT-GTTSET: MASP A - COMPLTD
```

6. Verify the changes using the `rtrv-gttset` command with the `gttsn` parameter and value specified in [Step 5](#) on page 666.

For this example, enter these commands.

```
rtrv-gttset:gttsn=lidb
```

```
rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0
```

GTTSN	NETDOM	NDGT
l1db	ansi	10

rtrv-gttset:gttsn=t800

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	NDGT
t800	ansi	6

rtrv-gttset:gttsn=si000

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	NDGT
si000	itu	15

rtrv-gttset:gttsn=cdgtal

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	SETTYPE	NDGT
cdgtal	ansi	CDGTA	10

rtrv-gttset:gttsn=cggtal

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	SETTYPE	NDGT
cggtal	ansi	CGGTA	6

rtrv-gttset:gttsn=cgpc1

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	SETTYPE	NDGT
cgpc1	itu	CGPC	-

rtrv-gttset:gttsn=opcode1

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	SETTYPE	NDGT
opcode1	ansi	OPCODE	-

rtrv-gttset:gttsn=cdssn1

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	SETTYPE	NDGT
cdssn1	ansi	CDSSN	-

rtrv-gttset:gttsn=opcode2

rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTTSN	NETDOM	SETTYPE	NDGT
opcode2	itu	OPCODE	-

The first three examples shown in this step are GTT sets that are provisioned when only the EGTT feature is on or when only the Flexible Linkset Optional Based Routing feature is enabled and turned on.

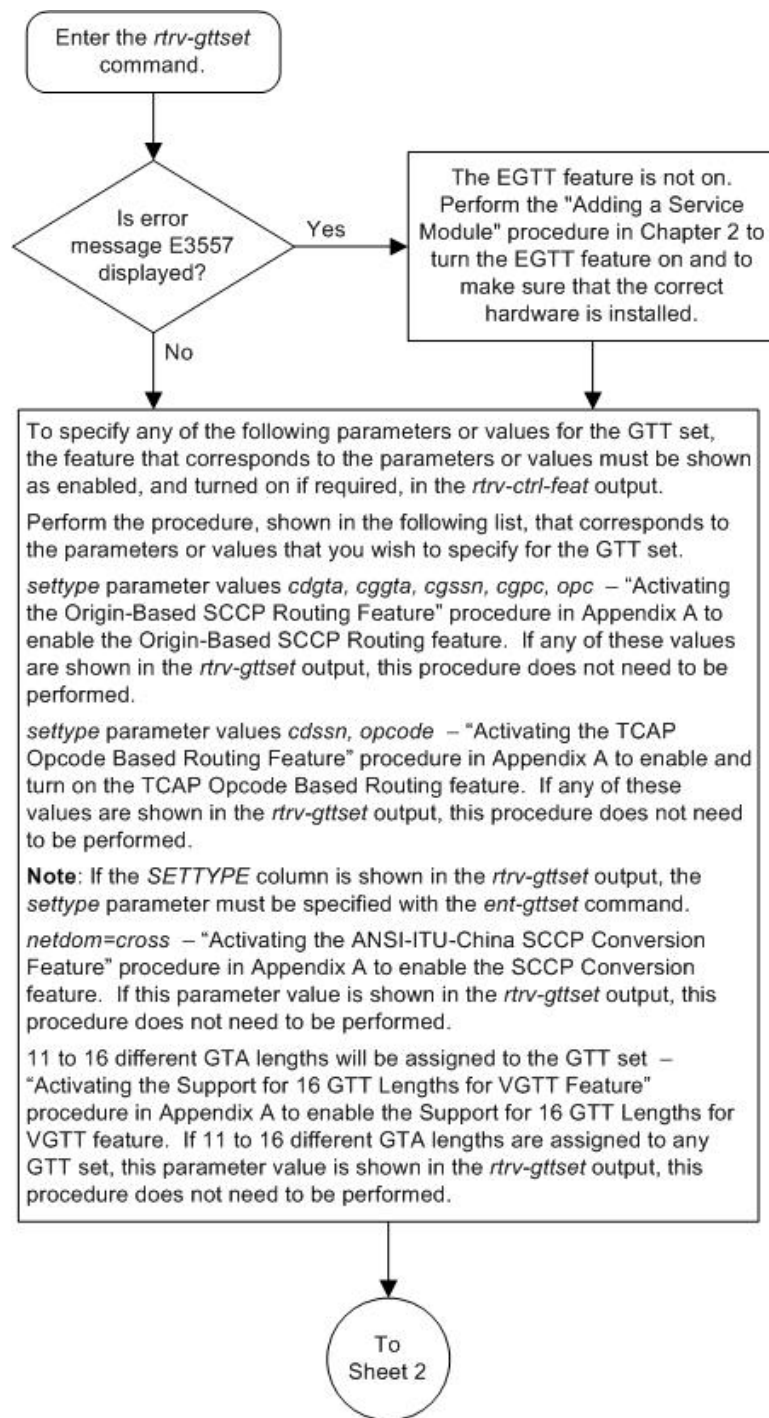
The second three examples shown in this step are GTT sets that are provisioned when the Origin-Based SCCP Routing feature is enabled.

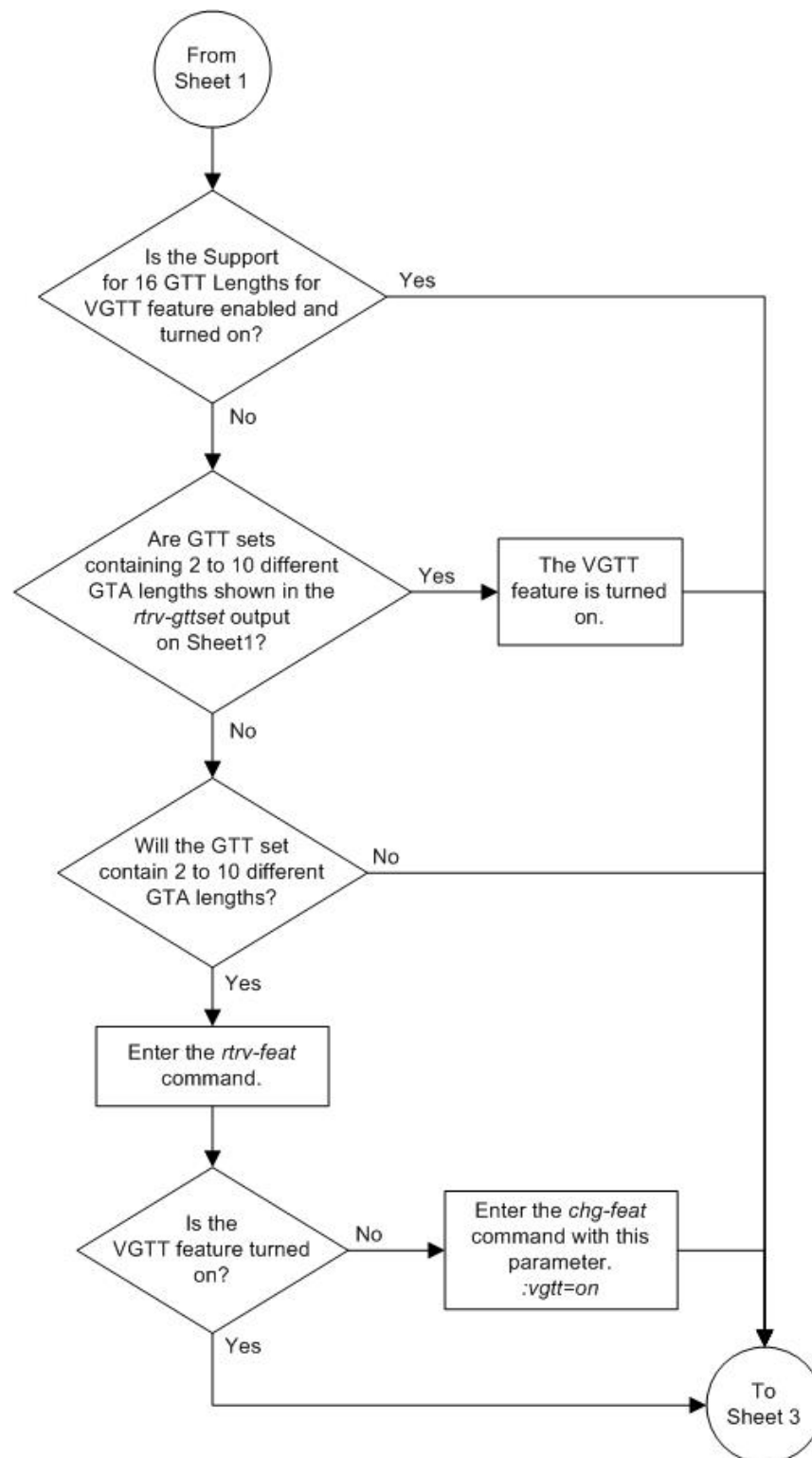
The final three examples shown in this step are GTT sets that are provisioned when the TCAP Opcode Based Routing feature is enabled and turned on.

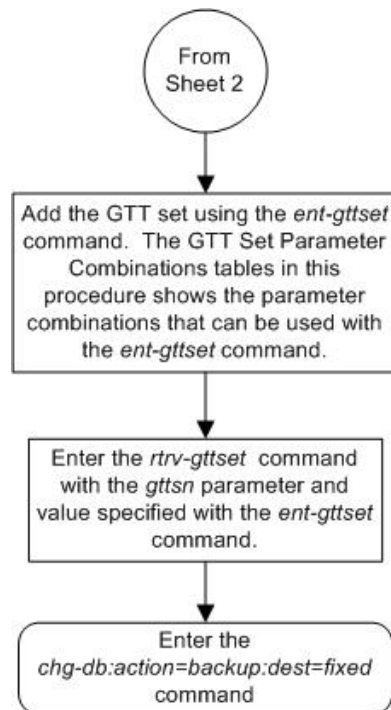
7. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 54: Adding a GTT Set







Removing a GTT Set

Use this procedure to remove a GTT Set from the database using the `dlt-gttset` command.

The `dlt-gttset` command uses this parameter.

:gttsn – The GTT set name.

The GTT set name (gttsn) must be specified and match an existing GTT set. Use the `rtrv-gttset` command to view the GTT set names.

The GTT set name cannot be removed from the database if the name is referenced by any of these entities.

- GTT Selectors - Use the `rtrv-gttset:gttsn=<GTT set name>` command to view the GTT selectors using the specified GTT set name. If any GTT selectors are assigned to this GTT set name, perform the procedure [Removing a GTT Selector](#) on page 710 to remove the selector from the database.
- GTA entries - Use the `rtrv-gta:gttsn=<GTT set name>` command to view the global title address information using the specified GTT set name. If any GTAs are assigned to this GTT set name, perform the procedure [Removing Global Title Address Information](#) on page 777 to remove the global title address information from the database.
- If the GTT set is a CGPC GTT set, the CGPC GTT set name cannot shown in the `rtrv-sccopts` output as either the DFLTGPCCASN or DFLTGPCCISN values. Perform the procedure [Changing the Default GTT Mode Options](#) on page 835 to remove the CGPC GTT set name as either the DFLTGPCCASN or DFLTGPCCISN values.

- The GTT set name cannot be shown in the `rtrv-gsmmssopts` or `rtrv-is41smssopts` output as the `BPARTYGTTSN` value. Perform the procedure [Configuring the GSM MO SMS B-Party Routing Options](#) on page 1007 or the procedure [Configuring the IS-41 MO SMS B-Party Routing Options](#) on page 1010 to remove the GTT set name as the `BPARTYGTTSN` value.

The examples in this procedure are used to remove the GTT set name `t800` from the database.

1. Display the existing GTT sets from the database using the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
abcd1234   itu      CDGTA    12
gttset1    ansi     CDGTA    6
gttset2    ansi     CGGTA    10
gttset3    ansi     OPC      -
gttset4    ansi     CGPC     -
gttset5    itu      CGPC     -
imsi       itu      CDGTA    15
lidx       ansi     CDGTA    10
si000      itu      CDGTA    15
t800       ansi     CDGTA    10
gttset6    ansi     CDSSN    -
gttset7    itu      OPCODE   -
```

If the Origin-Based SCCP Routing feature is not enabled and the TCAP Opcode Based Routing feature is not enabled or turned on, the `SETTYPE` column is not shown in the `rtrv-gttset` output.

If the Origin-Based SCCP Routing feature is not enabled, the values `CGGTA`, `CGPC`, `CGSSN`, and `OPC` are not shown in the `rtrv-gttset` output.

If the TCAP Opcode Based Routing feature is not enabled, the values `CDSSN`, and `OPCODE` are not shown in the `rtrv-gttset` output.

2. Verify that no global title address information references the GTT set name being removed from the database. Use the `rtrv-gta` command with the `gttsn` parameter specifying the GTT set name being removed from the database. If the `num` parameter is specified with the `rtrv-gta` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gta` command. For this example, enter this command.

```
rtrv-gta:gttsn=t800
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  SETTYPE  NDGT
imsi       itu      CDGTA    10

GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI    PC
8005550000 8005551999 dpcssn ssn    001-254-255
      SSN=255 CCGT=no NTT=---
      FALLBACK=sysdfilt TESTMODE=off
      OPTSN=gttset1 CGSELID=----- CDSELID=----- OPCS=-----
8005552000 8005553999 dpc    gt    001-254-255
      SSN=0 CCGT=no NTT=---
      FALLBACK=sysdfilt TESTMODE=off
```

```

      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
8005554000 8005555999 dpcngt gt      001-254-255
      SSN=--- CCGT=no NTT=123
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=gttset3
8005556000 8005557999 dpcssn ssn    001-254-255
      SSN=255 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
8005558000 8005559999 dpcssn ssn    001-254-255
      SSN=255 CCGT=yes NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=gttset2 CGSELID=----- CDSELID=----- OPCSN=-----
9195551212 9195551212 dpcssn ssn    008-001-001
      SSN=222 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9194600000 9194600000 dpc      gt      001-255-252
      SSN=0 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9194610000 9194680000 dpcssn ssn    001-255-252
      SSN=222 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9762428487 9762428487 dpcssn ssn    001-254-255
      SSN=222 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9766423277 9766423277 dpcssn ssn    001-254-255
      SSN=222 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9769388928 9769388928 dpcssn ssn    001-254-255
      SSN=222 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----

```

Command Retrieved 11 Entries

If no global title address entries are shown in the `rtrv-gta` output, continue the procedure with [Step 3](#) on page 673.

If global title address entries are shown in the `rtrv-gta` output, perform [Removing Global Title Address Information](#) on page 777 to remove any global title address entries that are shown in the `rtrv-gta` command output. After the global title address entries have been removed, continue the procedure with [Step 3](#) on page 673.

3. Verify that no GTT selectors reference the GTT set name being removed from the database.

Use the `rtrv-gttset` command with the GTT set name being removed from the database. [Table 53: GTT Set Name Parameters](#) on page 673 shows the parameters that are used to specify the GTT set name.

Table 53: GTT Set Name Parameters

Parameter	When is this Parameter Used
gttsn	Only if the SETTYPE column is not shown in the <code>rtrv-gttset</code> output.

Parameter	When is this Parameter Used
cdgtasn	If the GTT set type is CDGTA. This parameter can be specified only if the Origin-Based SCCP Routing feature is enabled and the Flexible Linkset Optional Based Routing feature is not enabled or turned on.
cggtsn	If the GTT set type is CGGTA. This parameter can be specified only if the Origin-Based SCCP Routing feature is enabled and the Flexible Linkset Optional Based Routing feature is not enabled or turned on.
cgpcsn	If the GTT set type is CGPC. This parameter can be specified only if the Origin-Based SCCP Routing feature is enabled and the Flexible Linkset Optional Based Routing feature is not enabled or turned on.
cdgttsn	Only if the Flexible Linkset Optional Based Routing feature is enabled and turned on
cggtsn	Only if the Flexible Linkset Optional Based Routing feature is enabled and turned on
Notes: <ol style="list-style-type: none"> 1. If the FALLBACK, TESTMODE, CGSELID, and CDSELID fields are shown in the rtrv-gta output in Step 2 on page 672, the Flexible Linkset Optional Based Routing feature is enabled and turned on. 2. If the Flexible Linkset Optional Based Routing feature is enabled and turned on, the cdgttsn and cggtsn parameters should be specified with the name of the GTT set. 3. If the Flexible Linkset Optional Based Routing feature is enabled and turned on, the gttsn,cdgtasn, cggtsn, and cgpcsn parameters cannot be specified with the rtrv-gttset command. 	

For this example, enter this command if the Origin-Based SCCP Routing feature is not enabled and the Flexible Linkset Optional Based Routing feature is not enabled or turned on.

```
rtrv-gttset:gttsn=t800
```

This is an example of the possible output.

```
rlghncxa03w 07-05-07 00:29:31 GMT EAGLE5 37.0.0
GTIA TT NP NAI GTTSN
2 10 -- --- t800
```

If the Origin-Based SCCP Routing feature is enabled for this example, enter this command.

```
rtrv-gttset:cdgtasn=t800
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
GTI CG CDPA CGPA
```

```

ANSI TT NP      NAI  SSN SELID LSN      GTTSET      GTTSET
2    10  --      ---  any none  any      t800      (cdgta) ----- (--- )

```

If the Flexible Linkset Optional Based Routing feature is enabled and turned on for this example, enter these commands.

```
rtrv-gttset:cdgttsn=t800
```

This is an example of the possible output.

```

rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
GTI          CG          CDPA          CGPA
ANSI TT NP      NAI  SSN SELID LSN      GTTSET      GTTSET
2    10  --      ---  any none  any      t800      (cdgta) ----- (--- )

```

```
rtrv-gttset:cgttsn=t800
```

This is an example of the possible output.

```

rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
GTI          CG          CDPA          CGPA
ANSI TT NP      NAI  SSN SELID LSN      GTTSET      GTTSET
2    11  --      ---  any none  any      ----- (--- ) t800 (cggta )

```

Continue the procedure by performing one of these steps.

- If no GTT selectors are shown in this step, continue the procedure by performing one of these steps.
 - If the GTT set that is being removed is not a CGPC GTT set, continue the procedure with [Step 5](#) on page 676.
 - If the GTT set that is being removed is a CGPC GTT set, continue the procedure with [Step 4](#) on page 675.
 - If GTT selectors are shown in this step, perform [Removing a GTT Selector](#) on page 710 to remove the GTT selectors that are shown in this step. After the GTT selectors have been removed, continue the procedure by performing one of these steps.
 - If the GTT set that is being removed is not a CGPC GTT set, continue the procedure with [Step 5](#) on page 676.
 - If the GTT set that is being removed is a CGPC GTT set, continue the procedure with [Step 4](#) on page 675.
4. Verify that the CGPC GTT set being removed in this procedure is not shown in the `rtrv-sccpopts` output as either the `DFLTCGPCASN` or `DFLTCGPCISN` values.

Enter the `rtrv-sccpopts` command. This is an example of the possible output.

```

rlghncxa03w 07-05-17 16:02:05 GMT EAGLE5 37.0.0

SCCP OPTIONS
-----
CLASS1SEQ                off
DFLTGTTMODE              CdPA
DFLTCGPCASN              gttset4
DFLTCGPCISN              gttset5

```

The CGPC GTT set being removed in this procedure is shown in the `rtrv-sccpopts` output as either the `DFLTCGPCASN` or `DFLTCGPCISN` values, remove the CGPC GTT set name

rtrv-sccpopts output by performing the procedure [Changing the Default GTT Mode Options](#) on page 835 and specify the value none for either the `df1tcgpcasn` or `df1tcgpcisn` parameter as required.

5. Verify the status of the MO SMS B-Party Routing feature by entering this command.

```
rtrv-ctrl-feat:partnum=893024601
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
MO SMS B-Party Routing 893024601  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the MO SMS B-Party Routing feature is not enabled, continue the procedure with [Step 8](#) on page 677.

If the MO SMS B-Party Routing feature is enabled, continue the procedure with [Step 6](#) on page 676.

6. Enter the `rtrv-gsmsmsopts` command.

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
GSM SMS OPTIONS
-----
BPARTYGTTSN          = NONE
MOSMSGTTDIG          = SCCPCDPA.
```

Note: The `rtrv-gsmsmsopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-gsmsmsopts` command, refer to the `rtrv-gsmsmsopts` command description in the *Commands Manual*.

If the GTT set name is not shown in the `rtrv-gsmsmsopts` output, continue the procedure with [Step 7](#) on page 676.

If the GTT set name is shown in the `rtrv-gsmsmsopts` output, perform the procedure *Configuring the GSM B-Party Routing Options* to remove the GTT set name as the `BPARTYGTTSN` value. After the procedure *Configuring the GSM B-Party Routing Options* has been performed, continue the procedure with [Step 7](#) on page 676.

7. Enter the `rtrv-is41smsopts` command.

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
IS41 SMS OPTIONS
-----
```

```
BPARTYGTTSN      = NONE
MOSMSGTTDIG      = SCCPCDPA.
```

Note: The `rtrv-is41smsopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-is41smsopts` command, refer to the `rtrv-is41smsopts` command description in the *Commands Manual*.

If the GTT set name is not shown in the `rtrv-is41smsopts` output, continue the procedure with [Step 8](#) on page 677.

If the GTT set name is shown in the `rtrv-is41smsopts` output, perform the procedure *Configuring the IS-41 B-Party Routing Options* to remove the GTT set name as the `BPARTYGTTSN` value. After the procedure *Configuring the IS-41 B-Party Routing Options* has been performed, continue the procedure with [Step 8](#) on page 677.

8. Remove the GTT set from the database using the `dlt-gttset` command with the `gttsn` parameter specifying the GTT set name being removed from the database.

For this example, enter this command.

```
dlt-gttset:gttsn=t800
```

When the command has successfully completed, this message should appear:

```
rlghncxa03w 07-05-07 00:30:31 GMT EAGLE5 37.0.0
DLT-GTTSET: MASP A - COMPLTD
```

9. Verify the changes using the `rtrv-gttset` command with the `gttsn` parameter and GTT set name specified in [Step 8](#) on page 677 .

The following message is displayed.

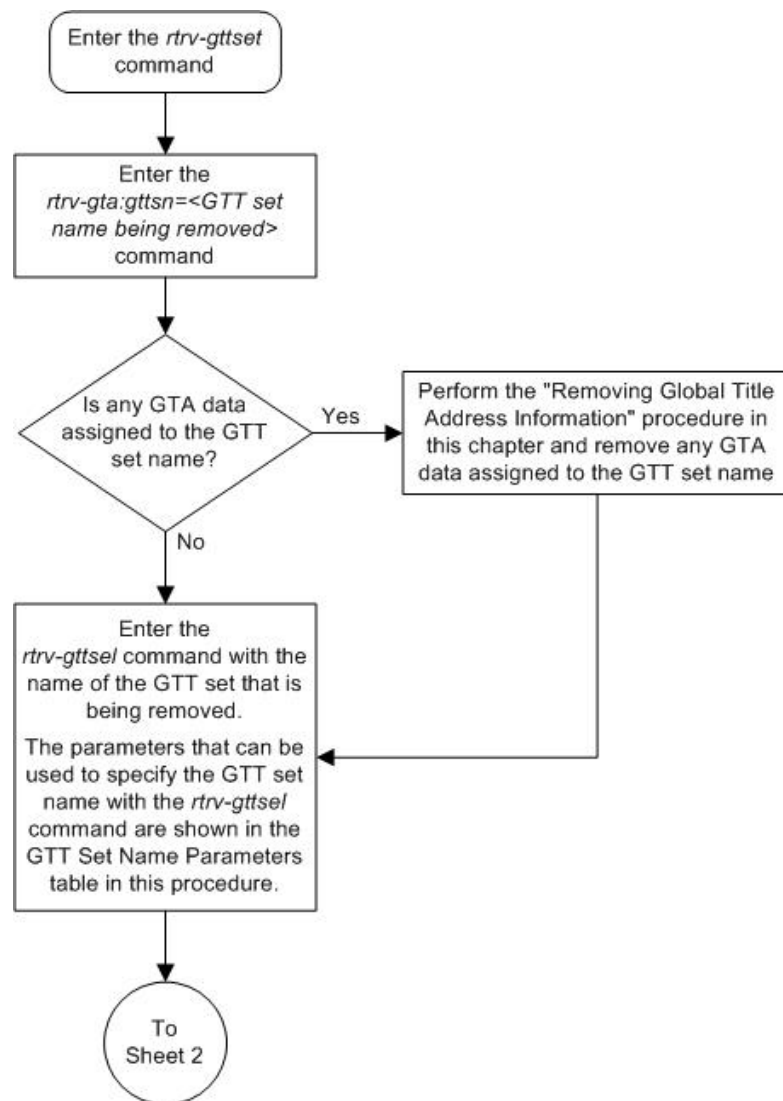
```
E3561 Cmd Rej: GTT Set specified by GTT Set Name/index does not exist
```

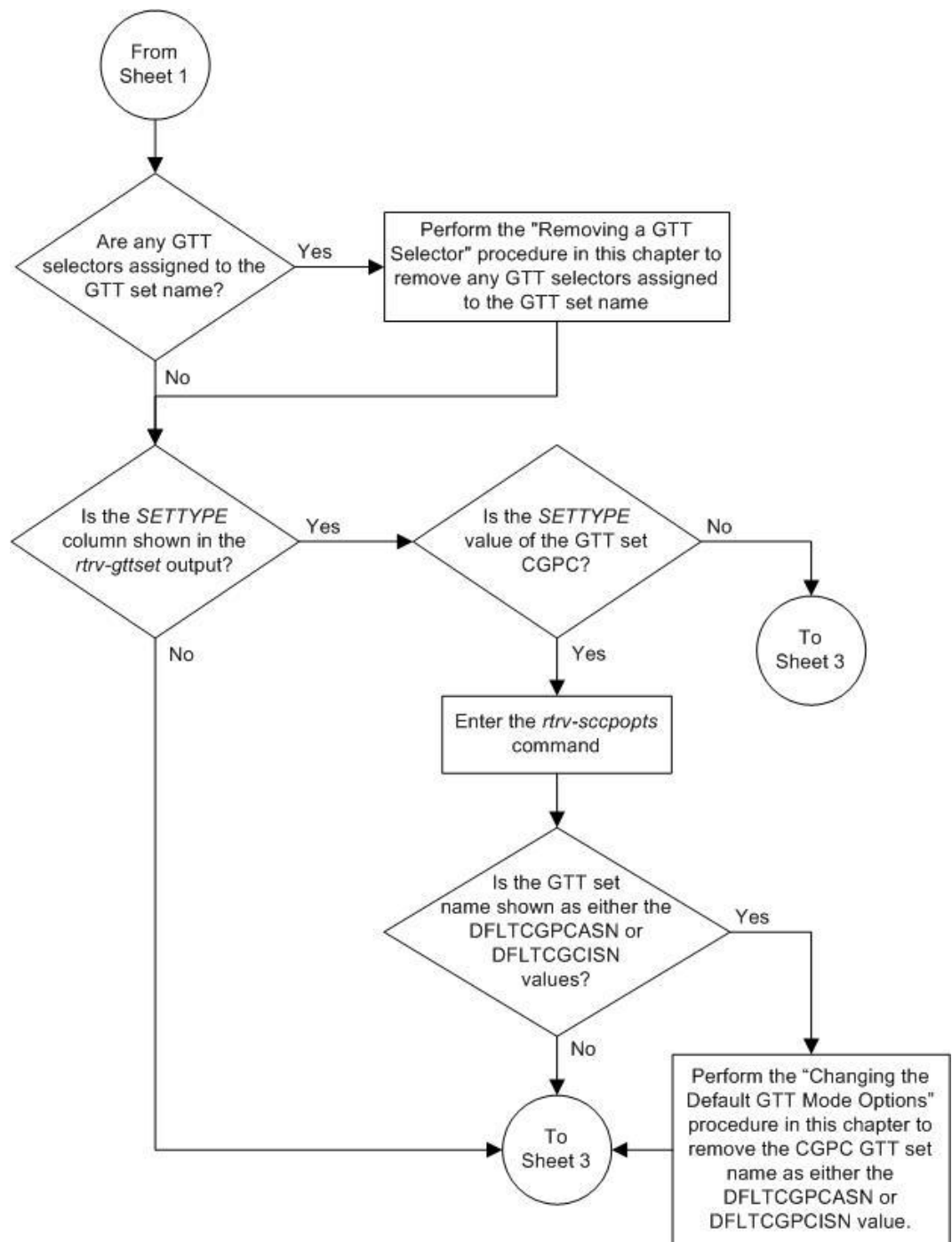
10. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

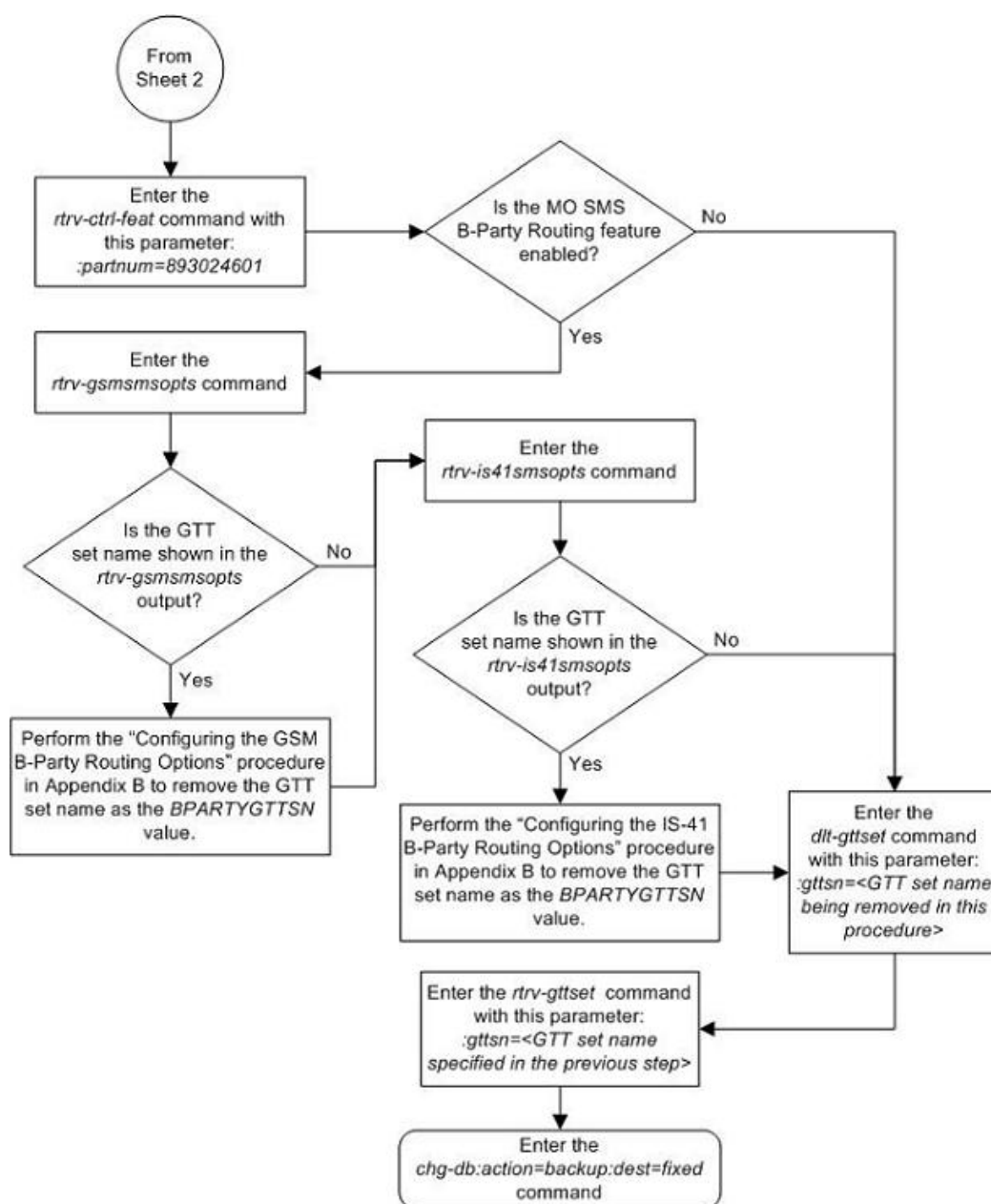
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 55: Removing a GTT Set







Changing a GTT Set

Use this procedure to change the number of digits assigned to a global title translation (GTT) set, or change the network domain of the GTT set to CROSS using the `chg-gttset` command.

The `chg-gttset` command uses these parameters:

`:gttsn` – The GTT set name. The GTT set name (`gttsn`) specifies the GTT set being changed and must be shown in the `rtrv-gttset` output.

:netdom=cross – The CROSS network domain of the global title translation set. The network domain CROSS can be specified only if the ANSI-ITU-China SCCP Conversion feature, part number 893012001, is enabled, and if the GTT set is a CDGTA GTT set. If the SETTYPE column is not shown in the rtrv-gttset output, all the GTT sets are CDGTA GTT sets. The CROSS GTT set can be assigned to either an ANSI or ITU GTT selector. For more information, refer to [ANSI-ITU-China SCCP Conversion Feature](#) on page 27.

:ndgt – The number of digits contained in the global title translation. The ndgt parameter cannot be specified:

- If the Origin-Based SCCP Routing feature is enabled, the SETTYPE value of the GTT set is CGSSN, CGPC, or OPC.
- If the TCAP Opcode Based Routing feature is enabled and turned on, the SETTYPE value of the GTT set is CDSSN or OPCODE.
- If GTAs are assigned to the GTT set. This can be verified with the rtrv-gta command and the GTT set name being changed in this procedure.
- If the VGTT feature is on, shown by the entry VGTT = on in the rtrv-feat command output. The length of the global title address is determined when the global title address is entered with the ent-gta command. For more information on the VGTT feature and the length of global title addresses, see [Variable-length Global Title Translation Feature](#) on page 24 and [Adding Global Title Address Information](#) on page 727.

If the Variable-length Global Title Translation Feature (VGTT) is on, the NDGT field of the rtrv-gttset command shows the different lengths of global title addresses assigned to a GTT set name, as shown in the following example.

```
rlghncxa03w 07-05-07 00:30:31 GMT EAGLE5 37.0.0
GTTSN      NETDOM  NDGT
l1db       ansi    3, 7, 10
t800       ansi    6
si000      itu     15
imsi       itu     15
abcd1234   itu     12
```

In this example of the rtrv-gttset command output, the GTT set l1db contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 digits.



CAUTION

CAUTION: If the VGTT feature is on and the ANSI-ITU-China SCCP Conversion feature is not enabled, this procedure cannot be performed.

1. Display the existing GTT sets in the database using the rtrv-gttset command. This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  SETTYPE  NDGT
abcd1234   itu     CDGTA     12
gttset1    ansi    CDGTA     6
gttset2    ansi    CGGTA    10
gttset3    ansi    OPC       -
gttset4    ansi    CGPC      -
gttset5    itu     CGPC      -
imsi       itu     CDGTA     15
l1db       ansi    CDGTA     10
```

si000	itu	CDGTA	15
t800	ansi	CDGTA	10
gttset6	ansi	CDSSN	-
gttset7	itu	OPCODE	-

If the SETTYPE column is not shown in the `rtrv-gttset` output, all the GTT sets are CDGTA GTT sets.

If the SETTYPE column is shown in the `rtrv-gttset` output, and the SETTYPE value for the GTT set is CGPC, CGSSN, OPC, CDSSN, or OPCODE, this procedure cannot be performed on these GTT sets.

If any GTT sets contain multiple entries in the NDGT column, the VGTT feature is on. The `ndgt` parameter cannot be specified with the `chg-gttset` command. The only action that can be performed on a GTT set is to change the NETDOM value to CROSS. This action can be performed only on a CDGTA GTT set. If you do not wish to change the NETDOM value to CROSS for a CDGTA GTT set, this procedure cannot be performed. If you wish to change the NETDOM value to CROSS for a CDGTA GTT set, continue this procedure by performing one of these steps.

- If any CDGTA GTT sets contain the value CROSS in the NETDOM column, continue the procedure with [Step 5](#) on page 684.
- If the value CROSS does not appear in the NETDOM column for all the CDGTA GTT sets, continue the procedure with [Step 3](#) on page 683.

If all the GTT sets contain only one entry in the NDGT column, continue the procedure with [Step 2](#) on page 682.

2. Verify whether or not either the VGTT feature is on by entering the `rtrv-feat` command.

The entry `VGTT = on` is shown if the VGTT feature is on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the VGTT feature is on, the `ndgt` parameter cannot be specified with the `chg-gttset` command.

If the VGTT feature is off, the `ndgt` parameter value can be changed under these conditions.

- If the SETTYPE column is not shown in the `rtrv-gttset` output in [Step 1](#) on page 681.
- If the SETTYPE column is shown in the `rtrv-gttset` output and the SETTYPE value for the GTT set is CDGTA or CGGTA.

If the NDGT value cannot be changed or you do not wish to change the NDGT value, the only action that can be performed on a GTT set is to change the NETDOM value to CROSS for a CDGTA GTT set. If you do not wish to change the NETDOM value to CROSS for a CDGTA GTT set, this procedure cannot be performed. If you wish to change the NETDOM value to CROSS for a CDGTA GTT set, continue the procedure by performing one of these steps.

- If any CDGTA GTT sets contain the value CROSS in the NETDOM column, continue the procedure by performing one of these steps.
 - If the `ndgt` parameter value will be changed, continue the procedure with [Step 4](#) on page 683.
 - If the `ndgt` parameter value will not be changed, continue the procedure with [Step 5](#) on page 684.

- If the value CROSS does not appear in the NETDOM column for all CDGTA GTT sets, continue the procedure with [Step 3](#) on page 683.

If you wish to change the ndgt parameter value and do not wish to change the NETDOM value to CROSS, continue the procedure with [Step 4](#) on page 683.

3. Display the status of the ANSI-ITU-China SCCP Conversion feature by entering this command.

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
SCCP Conversion       893012001  on        ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the ANSI-ITU-China SCCP Conversion feature is enabled, continue the procedure by performing one of these steps.

- If the ndgt parameter value will be changed, continue the procedure with [Step 4](#) on page 683.
- If the ndgt parameter value will not be changed, continue the procedure with [Step 5](#) on page 684.

If the ANSI-ITU-China SCCP Conversion feature is not enabled, the netdom=cross parameter cannot be specified with the chg-gttset command. If the ANSI-ITU-China SCCP Conversion feature is not enabled and the VGTT feature is on, this procedure cannot be performed.

If the ANSI-ITU-China SCCP Conversion feature is not enabled, perform the [Activating the ANSI-ITU-China SCCP Conversion Feature](#) on page 874 procedure to enable the ANSI-ITU-China SCCP Conversion feature. After the ANSI-ITU-China SCCP Conversion is enabled, continue the procedure with [Step 4](#) on page 683.

4. Verify that no global title address information references the GTT set name being changed in this procedure.

Use the rtrv-gta command with the gttsn parameter specifying the GTT set name being removed from the database. If the num parameter is specified with the rtrv-gta command, and the value of the num parameter is greater than 1000, the force=yes parameter must be specified with the rtrv-gta command. For this example, enter this command.

```
rtrv-gta:gttsn=imsi
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  SETTYPE  NDGT
imsi       itu     CDGTA     10
```

```

GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA  XLAT  RI  PC
8005550000 8005551999 dpcssn ssn 001-254-255
    SSN=255 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=gttset1 CGSELID=----- CDSELID=----- OPCSN=-----
8005552000 8005553999 dpc gt 001-254-255
    SSN=0 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
8005554000 8005555999 dpcngt gt 001-254-255
    SSN=--- CCGT=no NTT=123
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=gttset3
8005556000 8005557999 dpcssn ssn 001-254-255
    SSN=255 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
8005558000 8005559999 dpcssn ssn 001-254-255
    SSN=255 CCGT=yes NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=gttset2 CGSELID=----- CDSELID=----- OPCSN=-----
9195551212 9195551212 dpcssn ssn 008-001-001
    SSN=222 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9194600000 9194600000 dpc gt 001-255-252
    SSN=0 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9194610000 9194680000 dpcssn ssn 001-255-252
    SSN=222 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9762428487 9762428487 dpcssn ssn 001-254-255
    SSN=222 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9766423277 9766423277 dpcssn ssn 001-254-255
    SSN=222 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9769388928 9769388928 dpcssn ssn 001-254-255
    SSN=222 CCGT=no NTT=---
    FALLBACK=sysdflt TESTMODE=off
    OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----

Command Retrieved 11 Entries

```

If no global title address entries are shown in the `rtrv-gta` output, continue the procedure with [Step 5](#) on page 684.

If global title address entries are shown in the `rtrv-gta` output, perform [Removing Global Title Address Information](#) on page 777 to remove any global title address entries that are shown in the `rtrv-gta` command output. After the global title address entries have been removed, continue the procedure with [Step 5](#) on page 684.

5. Change the GTT set using the `chg-gttset` command.

For this example, enter this command.

```
chg-gttset:gttsn=imsi:ndgt=10:netdom=cross
```

Note:

1. The `netdom=cross` parameter can be specified only if the ANSI-ITU-China SCCP Conversion feature is enabled. If the `SETTYPE` column is shown in the `rtrv-gttset` output, the `netdom=cross` parameter can be specified only for a CDGTA GTT set.
2. The `ndgt` parameter can be specified only if the VGTT feature is off. If the `SETTYPE` column is shown in the `rtrv-gttset` output, the `ndgt` parameter can be specified only for a CDGTA or CCGTA GTT set.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-07 00:29:31 GMT EAGLE5 37.0.0
CHG-GTTSEL: MASP A - COMPLTD
```

6. Verify the changes using the `rtrv-gttset` command with the `gttsn` parameter and value specified in [Step 5](#) on page 684.

For this example, enter this command.

```
rtrv-gttset:gttsn=imsi
```

The following is an example of the possible output.

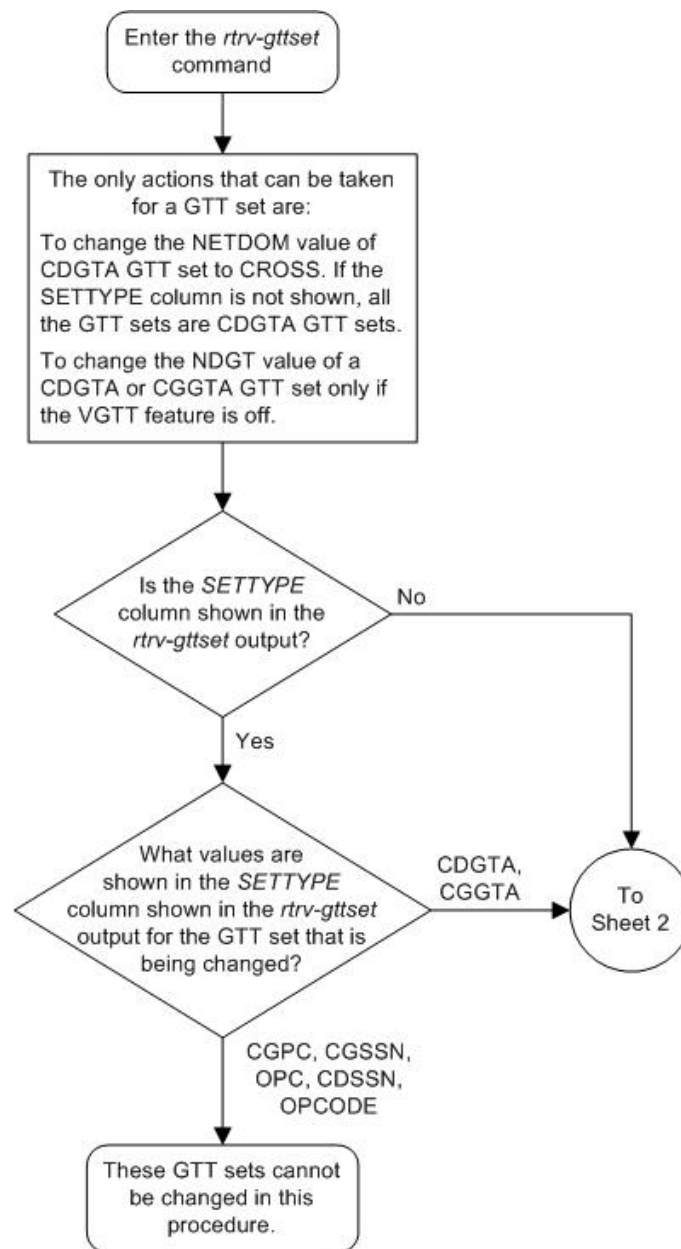
```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0

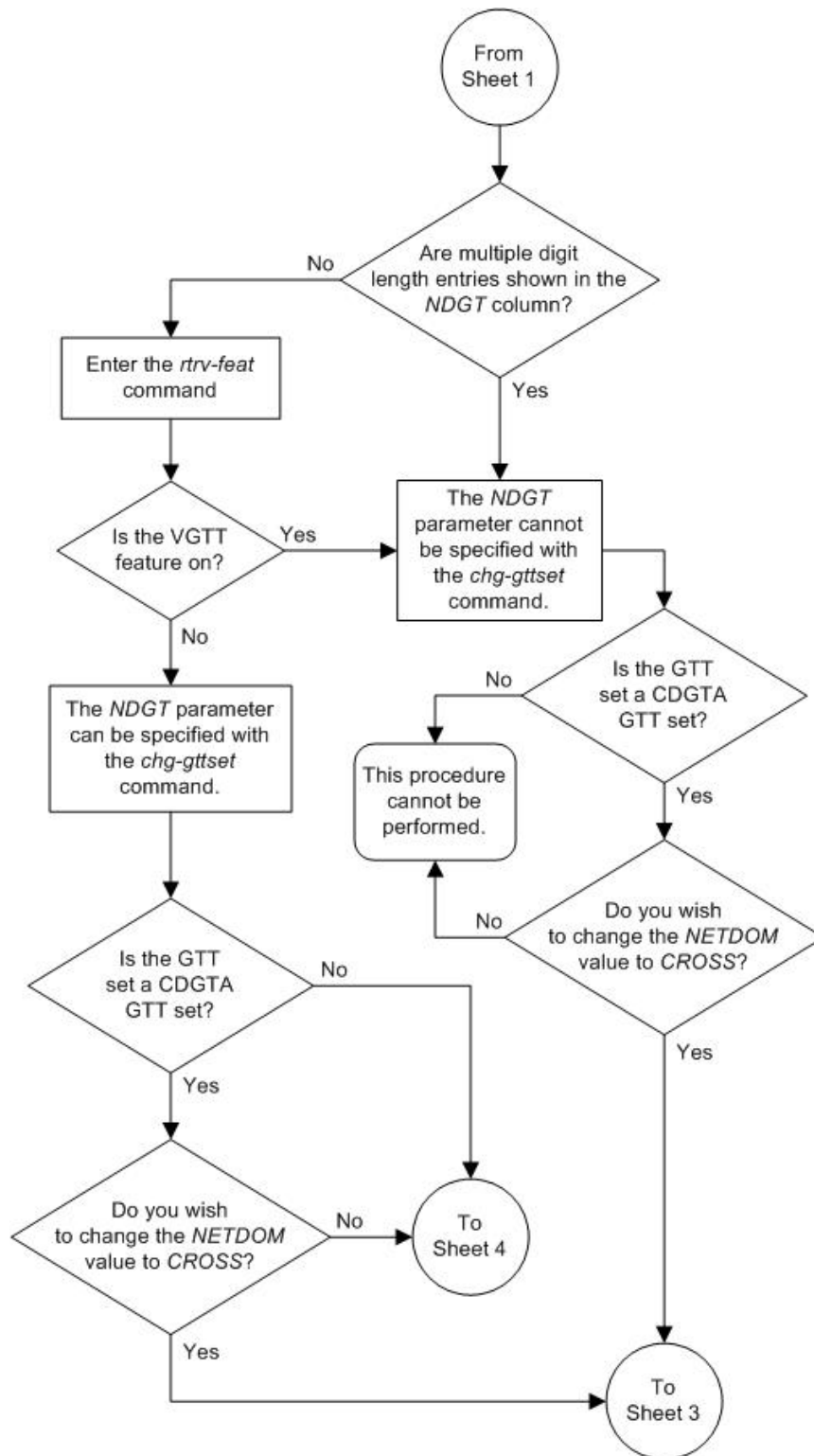
GTTSN      NETDOM  SETTYPE  NDGT
imsi       cross   CDGTA    10
```

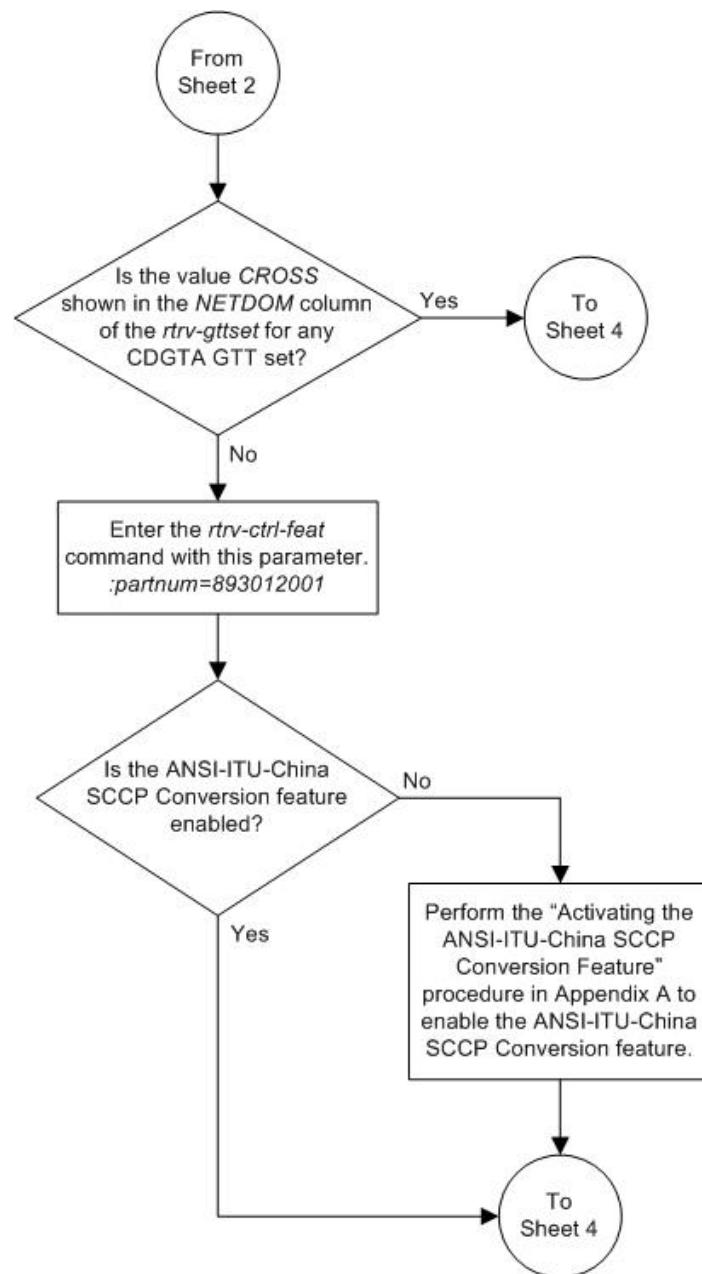
7. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

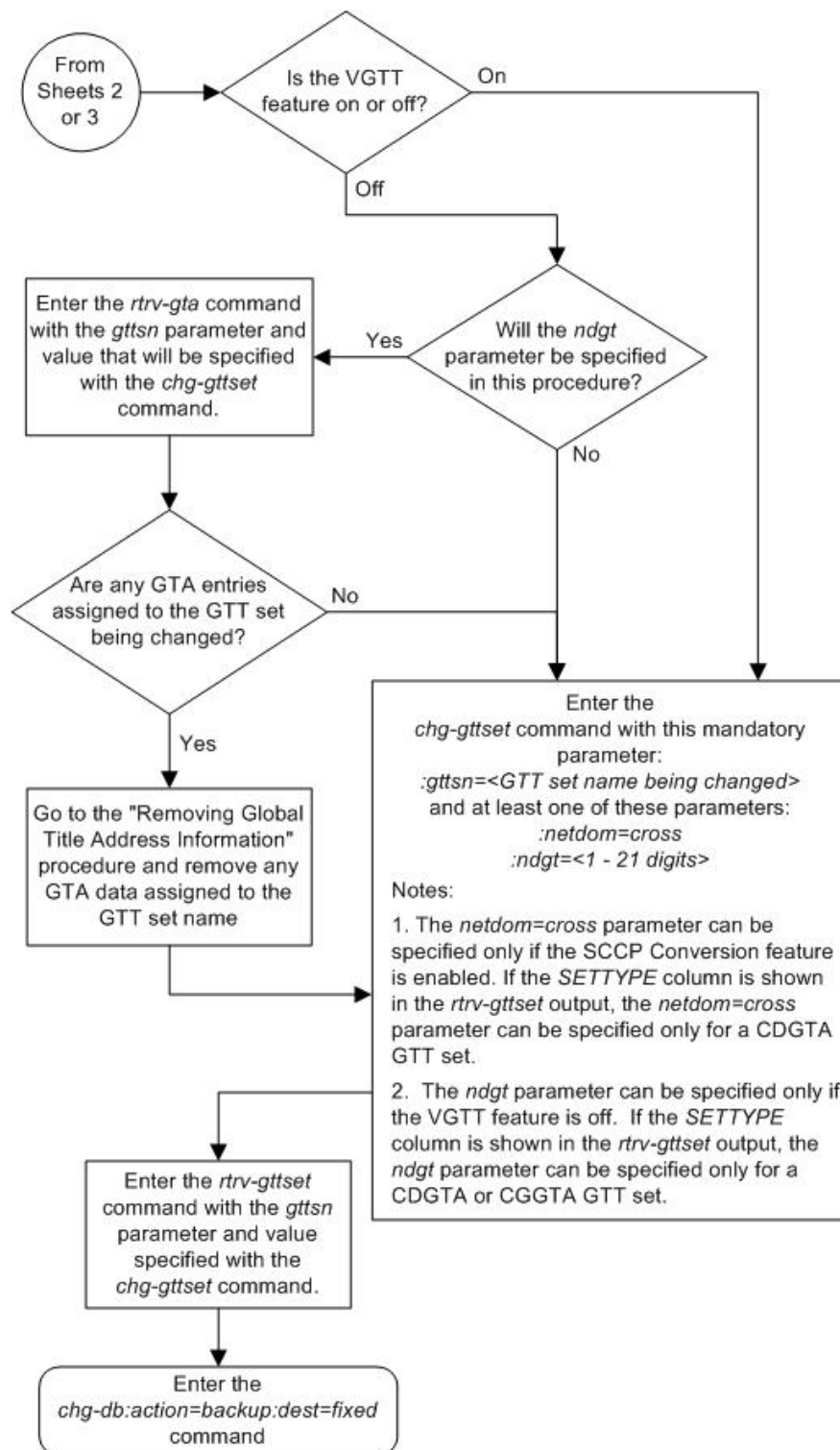
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 56: Changing a GTT Set









Adding a GTT Selector

Use the following procedure to specify the applicable GTT selectors for a global title entry using the `ent-gttset` command.

The `ent-gttset` command uses these parameters:

`:gti/gtia/gtii/gtin/gtin24` – The global title indicator. The GTI defines the domain as

- `gti` and `gtia` (ANSI) with GTI=2
- `gtii` (ITU international) with GTI=2 or GTI=4, and
- `gtin` and `gtin24` (ITU national) with GTI=2 or GTI=4.

For purposes of the selector commands, `gti` and `gtia` are equivalent, and `gtii` and `gtin/gtin24` are mutually exclusive because the EGTT database does not distinguish between ITU national and ITU international translations. This means that, while ITU-I and ITU-N selectors are stored separately, two separate ITU-I and ITU-N entries with the same selector values cannot exist. For example, if an entry with `gtii=2` and `tt=4` already exists, an entry of `gtin=2` (or `gtin24=2`) and `tt=4` cannot be entered.

`:tt` – The global title translation type. (0-255)

`:nai` – The nature of address indicator.

`:naiv` – The nature of address indicator value. (0-127) (Refer to [Table 54: NAIV/NAI Mapping](#) on page 690 for NAI/NAIV mapping)

Note: The nature of address indicator parameters (`naiv` or `nai`) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the `naiv` or `nai` parameter. [Table 54: NAIV/NAI Mapping](#) on page 690 shows the mapping between the `naiv` and the `nai` parameters.

Table 54: NAIV/NAI Mapping

NAIV	NAI	Description
0	--	Unknown
1	Sub	Subscriber Number
2	Rsvd	Reserved for national use
3	Natl	National significant number
4	Intl	International number
5-127	---	Spare

`:np` – The numbering plan.

:npv – The numbering plan value. (0-15) (Refer to [Table 55: NPV/NP Mapping](#) on page 691 for NP/NPV mapping)

Note: The numbering plan parameters (npv or np) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the npv or np parameter. [Table 55: NPV/NP Mapping](#) on page 691 shows the mapping between the npv and the np parameters.

Table 55: NPV/NP Mapping

NPV	NP	Description
0	--	Unknown
1	E164	ISDN/telephony numbering plan
2	Generic	Generic numbering plan
3	X121	Data numbering plan
4	F69	Telex numbering plan
5	E210	Maritime mobile numbering plan
6	E212	Land mobile numbering plan
7	E214	ISDN/mobile numbering plan
8	Private	Private network or network-specific numbering plan
9-15	---	Spare

:gttsn – the GTT set name.

:cdgtasn – The CDGTA GTT set name.

:cggtn – The CGGTA GTT set name.

:cgpcsn – The CGPC GTT set name.

:cgssn – The CGPA SSN.

:selid – The selector ID.

:cdgttsn – The CDGTA GTT set name.

:cggtsn – The CGGTA GTT set name.

:eaglegen – Indicates whether the GTT selector is used by messages generated by the EAGLE 5 ISS. If the GTT selector is used by messages generated by the EAGLE 5 ISS, the entry Eagle-Gen is shown in the LSN column of the rtrv-gttset output.

:lsn – The name of the linkset that is assigned to the GTT selector.

The Global Title Translation (GTT) feature and the Enhanced Global Title Translation (EGTT) features must be on before using this command. Use the rtrv-feat command to verify the settings. If the features are off, turn them on using the chg-feat:gtt=on:egtt=on command.

Note: Once the Global Title Translation (GTT) feature and the Enhanced Global Title Translation (EGTT) feature are turned on with the chg-feat command, they cannot be turned off.

The GTT feature and the EGTT feature must be purchased before you turn these features on. If you are not sure whether you have purchased the GTT feature and/or the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

The GTT selector table may not have more than 100,000 GTT selectors.

For the gtii=4, gtin=4, or gtin24=4 parameter, the entry dflt may appear in the rtrv-gttset output. The value dflt cannot be specified as value for the np or nai parameters when you specify the ent-gttset command. If you enter a new GTT selector that matches an existing GTT selector's gti and tt and the existing selector has dflt as value for the np or nai parameters, a new entry is created with the new np or nai parameter values. The existing GTT selector entry with the dflt value is also retained. Use the chg-gttset or dlt-gttset commands to change or delete the dflt value. The parameter combination npv/nai v cannot be specified if gtin=2 (or gtin24=2) or gtii=2. The gtia=4 parameter is not supported.

These tables shows the parameter combinations and the rules for the parameters of the ent-gttset command.

- [Table 56: Add GTT Selector Parameter Combinations - EGTT Only](#) on page 696
- [Table 57: Add GTT Selector Parameter Combinations - Origin-Based SCCP Routing Enabled Only](#) on page 697
- [Table 58: Add GTT Selector Parameter Combinations - Flexible Linkset Optional Based Routing Enabled and Turned On Only](#) on page 699
- [Table 59: Add GTT Selector Parameter Combinations - OBSR Enabled and FLOBR Enabled and Turned On](#) on page 700
- [Table 60: Add GTT Selector Parameter Combinations - FLOBR and TOBR Enabled and Turned On Only](#) on page 702
- [Table 61: Add GTT Selector Parameter Combinations - OBSR Enabled, and FLOBR and TOBR Enabled and Turned On](#) on page 704

1. Display the GTT selectors in the database by entering the rtrv-gttset command.

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0

GTI      CG      CDPA      CGPA
ANSI TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET
2       75  --      ---  ---  55    any      lidb        (cdgta)  -----  (--- )
2       100 --      ---  ---  56    any      t800        (cdgta)  -----  (--- )
2       150 --      ---  ---  57    any      lidb        (cdgta)  -----  (--- )

GTI      CG      CDPA      CGPA
INTL TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET
```

2	0	--	---	---	none	any	s1000	(cdgta)	-----	(---)
2	87	--	---	---	none	any	imsi	(cdgta)	-----	(---)
2	100	--	---	---	none	any	imsi	(cdgta)	-----	(---)
4	0	dflt	dflt	---	none	any	s1000	(cdgta)	-----	(---)
4	0	e164	intl	---	none	any	-----	(---)	s2000	(cggta)
4	97	e210	5	100	100	any	abcd1234	(cdgta)	-----	(---)
4	101	e210	5	101	101	lsn11	imsi	(cdgta)	-----	(---)
4	150	e210	5	---	none	Eagle-Gen	abcd1234	(cdgta)	-----	(---)
4	219	e210	11	20	20	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	21	20	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	21	22	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	23	22	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	23	24	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	23	25	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	26	25	any	gttset9	(cdgta)	-----	(---)
GTI					CG					
NATL	TT	NP		NAI	SSN	SELID	LSN	CDPA		CGPA
								GTTSET		GTTSET
GTI					CG					
N24	TT	NP		NAI	SSN	SELID	LSN	CDPA		CGPA
								GTTSET		GTTSET

if the desired GTT set for the new GTT selector is shown in the `rtrv-gttset` output, continue the procedure by performing one of these steps.

- If the GTTSN column is shown in the `rtrv-gttset` output, only the EGTT feature is turned on. Continue the procedure by performing one of these steps.
- If the new GTT selector will be provisioned for these features, perform these procedures to verify the status of these features and to enable, and turn on these features.
 - Origin-Based SCCP Routing - [Activating the Origin-Based SCCP Routing Feature](#) on page 892
 - Flexible Linkset Optional Based Routing - [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976
 - TCAP Opcode Based Routing - [Activating the TCAP Opcode Based Routing Feature](#) on page 985

After the applicable features have been verified, and enabled and turned on if required, continue the procedure by performing one of these steps.

- If the `lsn` parameter will not be specified for the GTT selector, continue the procedure with [Step 5](#) on page 696.
- If the `lsn` parameter will be specified for the GTT selector, continue the procedure by performing one of these steps.
 - If the name of the linkset that you wish to assign to the GTT selector is shown in the `rtrv-gttset` output in [Step 1](#) on page 692, continue the procedure with [Step 5](#) on page 696.
 - If the name of the linkset that you wish to assign to the GTT selector is not shown in the `rtrv-gttset` output in [Step 1](#) on page 692, continue the procedure with [Step 4](#) on page 696.
- If the new GTT selector will be provisioned for only the EGTT feature, continue the procedure with [Step 5](#) on page 696.

- If the CDPA GTTSET and CGPA GTTSET columns are shown in the `rtrv-gttset` output, continue the with [Step 3](#) on page 695.

if the desired GTT set for the new GTT selector is not shown in the `rtrv-gttset` output, continue the procedure with [Step 2](#) on page 694.

2. Display the GTT sets in the database using the `rtrv-gttset` command. This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
```

GTTSN	NETDOM	SETTYPE	NDGT
abcd1234	itu	CGGTA	12
imsi	itu	CDGTA	15
lidx	ansi	CDGTA	10
t800	ansi	CGGTA	6
s1000	itu	CDGTA	15
s2000	itu	CGPC	-

If the desired GTT set name is not shown in the `rtrv-gttset` output, perform [Adding a GTT Set](#) on page 660 to add the required GTT set.

After the GTT set has been added, or if the desired GTT set name is shown in the `rtrv-gttset` output, continue the procedure by performing one of these steps.

- If the GTTSN column is shown in the `rtrv-gttset` output in [Step 1](#) on page 692, only the EGTT feature is turned on. Continue the procedure by performing one of these steps.
 - If the new GTT selector will be provisioned for these features, perform these procedures to verify the status of these features and to enable, and turn on these features.
 - Origin-Based SCCP Routing - [Activating the Origin-Based SCCP Routing Feature](#) on page 892
 - Flexible Linkset Optional Based Routing - [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976
 - TCAP Opcode Based Routing - [Activating the TCAP Opcode Based Routing Feature](#) on page 985

After the applicable features have been verified, and enabled and turned on if required, continue the procedure by performing one of these steps.

- If the `lsn` parameter will not be specified for the GTT selector, continue the procedure with [Step 5](#) on page 696.
- If the `lsn` parameter will be specified for the GTT selector, continue the procedure by performing one of these steps.
 - If the name of the linkset that you wish to assign to the GTT selector is shown in the `rtrv-gttset` output in [Step 1](#) on page 692, continue the procedure with [Step 5](#) on page 696.
 - If the name of the linkset that you wish to assign to the GTT selector is not shown in the `rtrv-gttset` output in [Step 1](#) on page 692, continue the procedure with [Step 4](#) on page 696.
- If the new GTT selector will be provisioned for only the EGTT feature, continue the procedure with [Step 5](#) on page 696.

- If the CDPA GTTSET and CGPA GTTSET columns are shown in the `rtrv-gttset` output, continue the with [Step 3](#) on page 695.
3. Display the features that are enabled, and turned on if necessary, by entering the `rtrv-ctrl-feat` command. This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
SCCP Loop Detection	893016501	on	----
SCCP Conversion	893012001	off	----
HC-MIM SLK Capacity	893012707	on	64
Origin Based SCCP Routing	893014301	on	----
TCAP Opcode Based Routing	893027801	on	----
Flex Lset Optnl Based Rtg	893027701	on	----
VGTT with 16 GTT lengths	893024801	on	----
TOBR Opcode Quantity	893027907	on	1000000

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If you wish to provision the GTT selector according for these features and any of these features are not enabled, or turned on if required, perform these procedures as needed to enable, and turn on these features.

- Origin-Based SCCP Routing - [Activating the Origin-Based SCCP Routing Feature](#) on page 892
- Flexible Linkset Optional Based Routing - [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976
- TCAP Opcode Based Routing - [Activating the TCAP Opcode Based Routing Feature](#) on page 985

After the features have been enabled, and turned on if necessary, or if you wish to provision the GTT selector according to the features that are enabled, and turned on, continue the procedure by performing one of these steps.

- If the `lsn` parameter will not be specified for the GTT selector, continue the procedure with [Step 5](#) on page 696.
- If the `lsn` parameter will be specified for the GTT selector, continue the procedure by performing one of these steps.
 - If the name of the linkset that you wish to assign to the GTT selector is shown in the `rtrv-gttset` output in [Step 1](#) on page 692, continue the procedure with [Step 5](#) on page 696.
 - If the name of the linkset that you wish to assign to the GTT selector is not shown in the `rtrv-gttset` output in [Step 1](#) on page 692, continue the procedure with [Step 4](#) on page 696.

4. Display the linksets in the database by entering the `rtrv-ls` command. This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0

LSN          APCA   (SS7)   SCRNL3T SLT      GWS GWS GWS
lsn1         001-001-002 none 1  1  no  A   3   off off off no  off

LSN          APCI   (SS7)   SCRNL3T SLT      GWS GWS GWS
lsni1        2-002-2  none 1  2  no  A   3   off off off no  off
lsni2        2-002-3  none 1  2  no  A   4   off off off no  off

LSN          APCN   (SS7)   SCRNL3T SLT      GWS GWS GWS
lsnn1        00002   none 1  2  no  A   2   off off off no  off
lsnn2        00003   none 1  2  no  A   1   off off off no  off

Link set table is (5 of 1024) 1% full.
```

If the linkset that you wish to assign to the GTT selector is not shown in the `rtrv-ls` output, perform the "Adding an SS7 Linkset" procedure in the *Database Administration Manual - SS7* to add the linkset.

After the linkset has been added, or if the linkset that you wish to assign to the GTT selector is shown in the `rtrv-ls` output, continue the procedure with [Step 5](#) on page 696.

5. Add the GTT selector to the database with the `ent-gttset` command.

These tables shows the parameter combinations and the rules for the parameters of the `ent-gttset` command.

- [Table 56: Add GTT Selector Parameter Combinations - EGTT Only](#) on page 696
- [Table 57: Add GTT Selector Parameter Combinations - Origin-Based SCCP Routing Enabled Only](#) on page 697
- [Table 58: Add GTT Selector Parameter Combinations - Flexible Linkset Optional Based Routing Enabled and Turned On Only](#) on page 699
- [Table 59: Add GTT Selector Parameter Combinations - OBSR Enabled and FLOBR Enabled and Turned On](#) on page 700
- [Table 60: Add GTT Selector Parameter Combinations - FLOBR and TOBR Enabled and Turned On Only](#) on page 702
- [Table 61: Add GTT Selector Parameter Combinations - OBSR Enabled, and FLOBR and TOBR Enabled and Turned On](#) on page 704

Table 56: Add GTT Selector Parameter Combinations - EGTT Only

Mandatory Parameters	
GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 2)	GTII/GTIN/GTIN24 = 4 (See Note 2)
TT = < the translation type - 0 to 255>	TT = < translation type - 0 to 255>

GTTSN = <the GTT set name, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Note 2)	GTTSN = <the GTT set name, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Note 2)
	NP = <numbering plan> (See Note 1) or NPV = <numbering plan value> (See Note 1)
	NAI = <nature of address indicator> (See Note 1) or NAIV = <nature of address indicator value> (See Note 1)
<p>Notes:</p> <p>1. The <code>np</code> and <code>npv</code>, and the <code>nai</code> and <code>naiv</code> parameters cannot be specified together in the <code>ent-gttset</code> command. Refer to Table 65: NAI/NAI Mapping on page 717 for the <code>nai</code> and <code>naiv</code> parameter values. Refer to Table 66: NPV/NP Mapping on page 718 for the <code>np</code> and <code>npv</code> parameter values.</p> <ul style="list-style-type: none"> The value <code>df1t</code> cannot be specified for the <code>np/npv</code> or <code>nai/naiv</code> parameters. Each translation type (TT) and NP (NPV) combination can have a maximum of five different NAI (NAIV) assigned to it. <p>2. If the <code>gti/gtia</code> parameter is specified, the domain of the new GTT set must be ANSI. If the <code>gtii/gtin/gtin24</code> parameter is specified, the domain of the new GTT set must be ITU. The domain of the GTT set can be CROSS, regardless of the value of the <code>gti</code> parameter.</p>	

Table 57: Add GTT Selector Parameter Combinations - Origin-Based SCCP Routing Enabled Only

Mandatory Parameters	
GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 3)	GTII/GTIN/GTIN24 = 4 (See Note 3)
TT = <the translation type - 0 to 255>	TT = <translation type - 0 to 255>
CDGTASN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 6, and 8)	CDGTASN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 6, and 8)
CGGTASN = <the CGGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 6, 7, and 8)	CGGTASN = <the CGGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 6, 7, and 8)
CGPCSN = <the CGPC GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 6, 7, and 8)	CGPCSN = <the CGPC GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 6, 7, and 8)

	NP=<numbering plan> (See Note 2) or NPV = <numbering plan value> (See Note 2)
	NAI = <nature of address indicator> (See Note 2) or NAIV = <nature of address indicator value> (See Note 2)
Optional Parameters	
CGSSN = <CGSSN value - 0 to 255> (See Notes 5 and 7)	CGSSN = <CGSSN value - 0 to 255> (See Notes 5 and 7)
SELID = <SELID value - 0 to 65534> (See Notes 5 and 7)	SELID = <SELID value - 0 to 65534> (See Notes 5 and 7)
<p>Notes:</p> <ol style="list-style-type: none"> 1. CDGTA GTT sets are shown in the CDPA GTTSET column of the <code>rtrv-gttset</code> output. CGGTA and CGPC GTT sets are shown in the CGPA GTTSET column of the <code>rtrv-gttset</code> output. 2. The <code>np</code> and <code>npv</code>, and the <code>nai</code> and <code>naiv</code> parameters cannot be specified together in the <code>ent-gttset</code> command. Refer to Table 65: NAI/NAI Mapping on page 717 for the <code>nai</code> and <code>naiv</code> parameter values. Refer to Table 66: NPV/NP Mapping on page 718 for the <code>np</code> and <code>npv</code> parameter values. <ul style="list-style-type: none"> • The value <code>dflt</code> cannot be specified for the <code>np/npv</code> or <code>nai/naiv</code> parameters. • Each translation type (TT) and NP (NPV) combination can have a maximum of five different NAI (NAIV) assigned to it. The TT, NP (NPV), and NAI, (NAIV) combination can have more than five entries as long as different CGSSN and SELID values are assigned to each entry. 3. If the <code>gti/gtia</code> parameter is specified, the domain of the new GTT set must be ANSI. If the <code>gtii/gtin/gtin24</code> parameter is specified, the domain of the new GTT set must be ITU. If the <code>cdgtasn</code> parameter is specified in this procedure, the domain of the GTT set can be CROSS, regardless of the value of the <code>gti</code> parameter. 4. A GTT selector can contain the following combinations of GTT set name parameters. <ul style="list-style-type: none"> • CDGTASN only • CGGTASN only • CGPCSN only • CDGTASN and CGGTASN • CDGTASN and CGPCSN 5. If either the <code>cgssn</code> or <code>selid</code> parameters, or both parameters, are specified with the <code>ent-gttset</code> command, either the <code>cggtasn</code> or <code>cgpcsn</code> parameters must be specified with the <code>ent-gttset</code> command. The <code>cgssn</code> parameter cannot be specified with the <code>cdgtasn</code> parameter. 	

6. If a CCGTA or CGPC GTT set is specified for a selector that has a CDGTA GTT set assigned to it, the selector will have the CCGTA or CGPC GTT set and the CDGTA GTT set assigned to it.
7. Multiple entries can be assigned to a selector only if the `cggtasn` or `cgpcsn` parameters are specified for the selector. The `cgssn` and `selid` parameter values must be different for each entry that has the same `cggtasn` or `cgpcsn` parameter value. The first time a selector is added, the `cdgtasn` and either the `cggtasn` or `cgpcsn` parameters can be specified. If additional entries are added to the selector, only the `cggtasn` or `cgpcsn` parameters can be specified. All of these entries will contain the `cdgtasn` parameter value and either the `cggtasn` or `cgpcsn` parameter values.
8. If the selector contains multiple entries containing only the `cggtasn` or `cgpcsn` parameter values, and the `cdgtasn` parameter is specified for one of the entries of the selector, the `cdgtasn` parameter value is added to all the entries of the selector.

Table 58: Add GTT Selector Parameter Combinations - Flexible Linkset Optional Based Routing Enabled and Turned On Only

GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 3)	GTII/GTIN/GTIN24 = 4 (See Note 3)
TT = <the translation type - 0 to 255>	TT = <translation type - 0 to 255>
CDGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, and 5)	CDGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, and 5)
CGGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 7)	CGGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 7)
	NP=<numbering plan> (See Note 2) or NPV = <numbering plan value> (See Note 2)
	NAI = <nature of address indicator> (See Note 2) or NAIV = <nature of address indicator value> (See Note 2)
Optional Parameters	
SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)	SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)
LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)	LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)

EAGLEGEN=YES (See Note 7)	EAGLEGEN=YES (See Note 7)
<p>Notes:</p> <ol style="list-style-type: none"> 1. The SETTYPE column is not shown in the <code>rtrv-gttset</code> output, so all the GTT sets are CDGTA GTT sets. 2. The <code>np</code> and <code>npv</code>, and the <code>nai</code> and <code>naiv</code> parameters cannot be specified together in the <code>ent-gttset</code> command. Refer to Table 65: NAI/NAI Mapping on page 717 for the <code>nai</code> and <code>naiv</code> parameter values. Refer to Table 66: NPV/NP Mapping on page 718 for the <code>np</code> and <code>npv</code> parameter values. <ul style="list-style-type: none"> • The value <code>dflt</code> cannot be specified for the <code>np/npv</code> or <code>nai/naiv</code> parameters. • Each translation type (TT) and NP (NPV) combination can have a maximum of five different NAI (NAIV) assigned to it. The TT, NP (NPV), and NAI, (NAIV) combination can have more than five entries as long as different CGSSN and SELID values are assigned to each entry. 3. If the <code>gti/gtia</code> parameter is specified, the domain of the new GTT set must be ANSI. If the <code>gtii/gtin/gtin24</code> parameter is specified, the domain of the new GTT set must be ITU. The domain of the GTT set can be CROSS, regardless of the value of the <code>gti</code> parameter. 4. Multiple entries can be assigned to a selector only if the <code>selid</code> or <code>lsn</code> parameter values are different for each entry. 5. If the GTT selector contains one GTT set, another GTT set can be added to the GTT selector. If the GTT selector contains an entry in the <code>CDPA GTTSET</code> column, the other GTT set is added by specifying the <code>cggtsn</code> parameter. If the GTT selector contains an entry in the <code>CGPA GTTSET</code> column, the other GTT set is added by specifying the <code>cdgtsn</code> parameter. 6. The domain of the linkset, ANSI, ITU-I, ITU-N, or ITU-N24, must be the same as the domain of the <code>gti/gtia/gtii/gtin/gtin24</code> parameter. 7. If the <code>eaglegen=yes</code> parameter is specified for the GTT selector, the <code>cggtsn</code>, <code>selid</code>, and <code>lsn</code> parameters cannot be specified for the GTT selector. 	

Table 59: Add GTT Selector Parameter Combinations - OBSR Enabled and FLOBR Enabled and Turned On

GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 3)	GTII/GTIN/GTIN24 = 4 (See Note 3)
TT = <the translation type - 0 to 255>	TT = <translation type - 0 to 255>
CDGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 8)	CDGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 8)
CGGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 7, and 8)	CGGTTSN = <the CDGTA GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 7, and 8)

	NP=<numbering plan> (See Note 2) or NPV = <numbering plan value> (See Note 2)
	NAI = <nature of address indicator> (See Note 2) or NAIV = <nature of address indicator value> (See Note 2)
Optional Parameters	
SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)	SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)
CGSSN = <CGSSN value - 0 to 255> (See Notes 7 and 8)	CGSSN = <CGSSN value - 0 to 255> (See Notes 7 and 8)
LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)	LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)
EAGLEGEN=YES (See Note 7)	EAGLEGEN=YES (See Note 7)
OBSR - the Origin-Based SCCP Routing feature FLOBR - the Flexible Linkset Optional Based Routing feature	
<p>Notes:</p> <p>1. The SETTYPE column is shown in the <code>rtrv-gttset</code> output. These GTT sets can be provisioned in the database and assigned to a GTT selector with either the <code>cdgttsn</code> or <code>cggtsn</code> parameters.</p> <ul style="list-style-type: none"> • CDGTA GTT sets • CGGTA GTT sets • CGPC GTT sets • CGSSN GTT sets • OPC GTT sets <p>2. The <code>np</code> and <code>npv</code>, and the <code>nai</code> and <code>naiv</code> parameters cannot be specified together in the <code>ent-gttset</code> command. Refer to Table 65: NAI/NAIV Mapping on page 717 for the <code>nai</code> and <code>naiv</code> parameter values. Refer to Table 66: NPV/NP Mapping on page 718 for the <code>np</code> and <code>npv</code> parameter values.</p> <ul style="list-style-type: none"> • The value <code>df1t</code> cannot be specified for the <code>np/npv</code> or <code>nai/naiv</code> parameters. • Each translation type (TT) and NP (NPV) combination can have a maximum of five different NAI (NAIV) assigned to it. The TT, NP (NPV), and NAI, (NAIV) combination can have more than five entries as long as different CGSSN and SELID values are assigned to each entry. 	

3. If the `gti/gtia` parameter is specified, the domain of the new GTT set must be ANSI. If the `gtii/gtin/gtin24` parameter is specified, the domain of the new GTT set must be ITU. The domain of the GTT set can be CROSS, regardless of the value of the `gti` parameter.
4. Multiple entries can be assigned to a selector only if the `selid` or `lsn` parameter values are different for each entry.
5. If the GTT selector contains one GTT set, another GTT set can be added to the GTT selector. If the GTT selector contains an entry in the CDPA GTTSET column, the other GTT set is added by specifying the `cggttsn` parameter. If the GTT selector contains an entry in the CGPA GTTSET column, the other GTT set is added by specifying the `cdgttsn` parameter. If the GTT selector contains an entry in the CGPA GTTSET column and the GTT selector contains a `cgssn` value, the `cdgttsn` parameter cannot be specified.
6. The domain of the linkset, ANSI, ITU-I, ITU-N, or ITU-N24, must be the same as the domain of the `gti/gtia/gtii/gtin/gtin24` parameter.
7. If the `eaglegen=yes` parameter is specified for the GTT selector, the `cggttsn`, `cgssn`, `selid`, and `lsn` parameters cannot be specified for the GTT selector.
8. The `cgssn` parameter can be specified only if the `cggttsn` parameter is specified and without the `cdgttsn` parameter.

Table 60: Add GTT Selector Parameter Combinations - FLOBR and TOBR Enabled and Turned On Only

GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 3)	GTII/GTIN/GTIN24 = 4 (See Note 3)
TT = <the translation type - 0 to 255>	TT = <translation type - 0 to 255>
CDGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, and 5)	CDGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, and 5)
CGGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 7)	CGGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 7)
	NP=<numbering plan> (See Note 2) or NPV = <numbering plan value> (See Note 2)
	NAI = <nature of address indicator> (See Note 2) or NAIV = <nature of address indicator value> (See Note 2)
Optional Parameters	

SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)	SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)
LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)	LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)
EAGLEGEN=YES (See Note 7)	EAGLEGEN=YES (See Note 7)
FLOBR - the Flexible Linkset Optional Based Routing feature TOBR - the TCAP Opcode Based Routing feature	
<p>Notes:</p> <ol style="list-style-type: none"> 1. The SETTYPE column is shown in the <code>rtrv-gttset</code> output. Only CDGTA, CDSSN, OPCODE GTT sets can be provisioned The <code>cdgttsn</code> or <code>cggttsn</code> parameter value can be any of these types of GTT sets.. 2. The <code>np</code> and <code>npv</code>, and the <code>nai</code> and <code>naiv</code> parameters cannot be specified together in the <code>ent-gttset</code> command. Refer to Table 65: NAIV/NAI Mapping on page 717 for the <code>nai</code> and <code>naiv</code> parameter values. Refer to Table 66: NPV/NP Mapping on page 718 for the <code>np</code> and <code>npv</code> parameter values. <ul style="list-style-type: none"> • The value <code>df1t</code> cannot be specified for the <code>np/npv</code> or <code>nai/naiv</code> parameters. • Each translation type (TT) and NP (NPV) combination can have a maximum of five different NAI (NAIV) assigned to it. The TT, NP (NPV), and NAI, (NAIV) combination can have more than five entries as long as different CGSSN and SELID values are assigned to each entry. 3. If the <code>gti/gtia</code> parameter is specified, the domain of the new GTT set must be ANSI. If the <code>gtii/gtin/gtin24</code> parameter is specified, the domain of the new GTT set must be ITU. The domain of the GTT set can be CROSS, regardless of the value of the <code>gti</code> parameter. 4. Multiple entries can be assigned to a selector only if the <code>selid</code> or <code>lsn</code> parameter values are different for each entry. 5. If the GTT selector contains one GTT set, another GTT set can be added to the GTT selector. If the GTT selector contains an entry in the CDPA GTTSET column, the other GTT set is added by specifying the <code>cggttsn</code> parameter. If the GTT selector contains an entry in the CGPA GTTSET column, the other GTT set is added by specifying the <code>cdgttsn</code> parameter. 6. The domain of the linkset, ANSI, ITU-I, ITU-N, or ITU-N24, must be the same as the domain of the <code>gti/gtia/gtii/gtin/gtin24</code> parameter. 7. If the <code>eaglegen=yes</code> parameter is specified for the GTT selector, the <code>cggttsn</code>, <code>selid</code>, and <code>lsn</code> parameters cannot be specified for the GTT selector. 	

Table 61: Add GTT Selector Parameter Combinations - OBSR Enabled, and FLOBR and TOBR Enabled and Turned On

GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 3)	GTII/GTIN/GTIN24 = 4 (See Note 3)
TT = <the translation type - 0 to 255>	TT = <translation type - 0 to 255>
CDGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 8)	CDGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, and 8)
CGGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 7, and 8)	CGGTTSN = <the GTT set name>, from other GTT selectors or the <code>rtrv-gttset</code> output> (See Notes 1, 3, 4, 5, 7, and 8)
	NP=<numbering plan> (See Note 2) or NPV = <numbering plan value> (See Note 2)
	NAI = <nature of address indicator> (See Note 2) or NAIV = <nature of address indicator value> (See Note 2)
Optional Parameters	
SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)	SELID = <SELID value - 0 to 65534> (See Notes 4 and 7)
CGSSN = <CGSSN value - 0 to 255> (See Notes 7 and 8)	CGSSN = <CGSSN value - 0 to 255> (See Notes 7 and 8)
LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)	LSN = The name of the linkset from other GTT selectors or the <code>rtrv-ls</code> output> (See Notes 4, 6, and 7)
EAGLEGEN=YES (See Note 7)	EAGLEGEN=YES (See Note 7)
OBSR - the Origin-Based SCCP Routing feature FLOBR - the Flexible Linkset Optional Based Routing feature TOBR - the TCAP Opcode Based Routing feature	
Notes:	

1. The SETTYPE column is shown in the `rtrv-gttset` output. These GTT sets can be provisioned in the database and assigned to a GTT selector with either the `cdgttsn` or `cggttsn` parameters.
 - CDGTA GTT sets
 - CGGTA GTT sets
 - CGPC GTT sets
 - CGSSN GTT sets
 - OPC GTT sets
 - CDSSN GTT sets
 - OPCODE GTT sets
2. The `np` and `npv`, and the `nai` and `naiv` parameters cannot be specified together in the `ent-gttset` command. Refer to [Table 65: NAI/NAIV Mapping](#) on page 717 for the `nai` and `naiv` parameter values. Refer to [Table 66: NPV/NP Mapping](#) on page 718 for the `np` and `npv` parameter values.
 - The value `dflt` cannot be specified for the `np/npv` or `nai/naiv` parameters.
 - Each translation type (TT) and NP (NPV) combination can have a maximum of five different NAI (NAIV) assigned to it. The TT, NP (NPV), and NAI, (NAIV) combination can have more than five entries as long as different CGSSN and SELID values are assigned to each entry.
3. If the `gti/gtia` parameter is specified, the domain of the new GTT set must be ANSI. If the `gtii/gtin/gtin24` parameter is specified, the domain of the new GTT set must be ITU. The domain of the GTT set can be CROSS, regardless of the value of the `gti` parameter.
4. Multiple entries can be assigned to a selector only if the `selid`, `lsn`, or `cgssn` parameter values are different for each entry.
5. If the GTT selector contains one GTT set, another GTT set can be added to the GTT selector. If the GTT selector contains an entry in the `CDPA GTTSET` column, the other GTT set is added by specifying the `cggttsn` parameter. If the GTT selector contains an entry in the `CGPA GTTSET` column, the other GTT set is added by specifying the `cdgttsn` parameter. If the GTT selector contains an entry in the `CGPA GTTSET` column and the GTT selector contains a `cgssn` value, the `cdgttsn` parameter cannot be specified.
6. The domain of the linkset, ANSI, ITU-I, ITU-N, or ITU-N24, must be the same as the domain of the `gti/gtia/gtii/gtin/gtin24` parameter.
7. If the `eaglegen=yes` parameter is specified for the GTT selector, the `cggttsn`, `selid`, `cgssn`, and `lsn` parameters cannot be specified for the GTT selector.
8. The `cgssn` parameter can be specified only if the `cggttsn` parameter is specified and without the `cdgttsn` parameter.

For this example, enter these commands.

```
ent-gttset:gtii=4:tt=0:cdgttsn=cdgtt2:selid=50:lsn=lsn1:cggttsn=opcode6
:np=e164:nai=intl

ent-gttset:gtii=4:tt=0:selid=50:lsn=lsn1:cggttsn=cggtal0:np=e164
:nai=intl:cgssn=25
```

When these commands have successfully completed, this message appears.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
ENT-GTTSEL: MASP A   COMPLTD
```

6. Verify the changes using the `rtrv-gttset` command with the `gti`, `tt`, and either the `gttsn`, `cdgtasn`, `cggtasn`, `cgpcsn`, `cdgttsn`, or `cggttsn` parameters and values specified in [Step 5](#) on page 696.

For this example, enter these commands.

```
rtrv-gttset:gtii=4:tt=0:cdgttsn=cdggtt2:cggttsn=opcode6
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

GTI          CG          CDPA          CGPA
INTL TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET
4    0   e164   intl any  50   lsn1l   cdggtt2   (cdgta) opcode6   (opcde)

rtrv-gttset:gtii=4:tt=0:cggttsn=cggtal0
```

This is an example of the possible output.

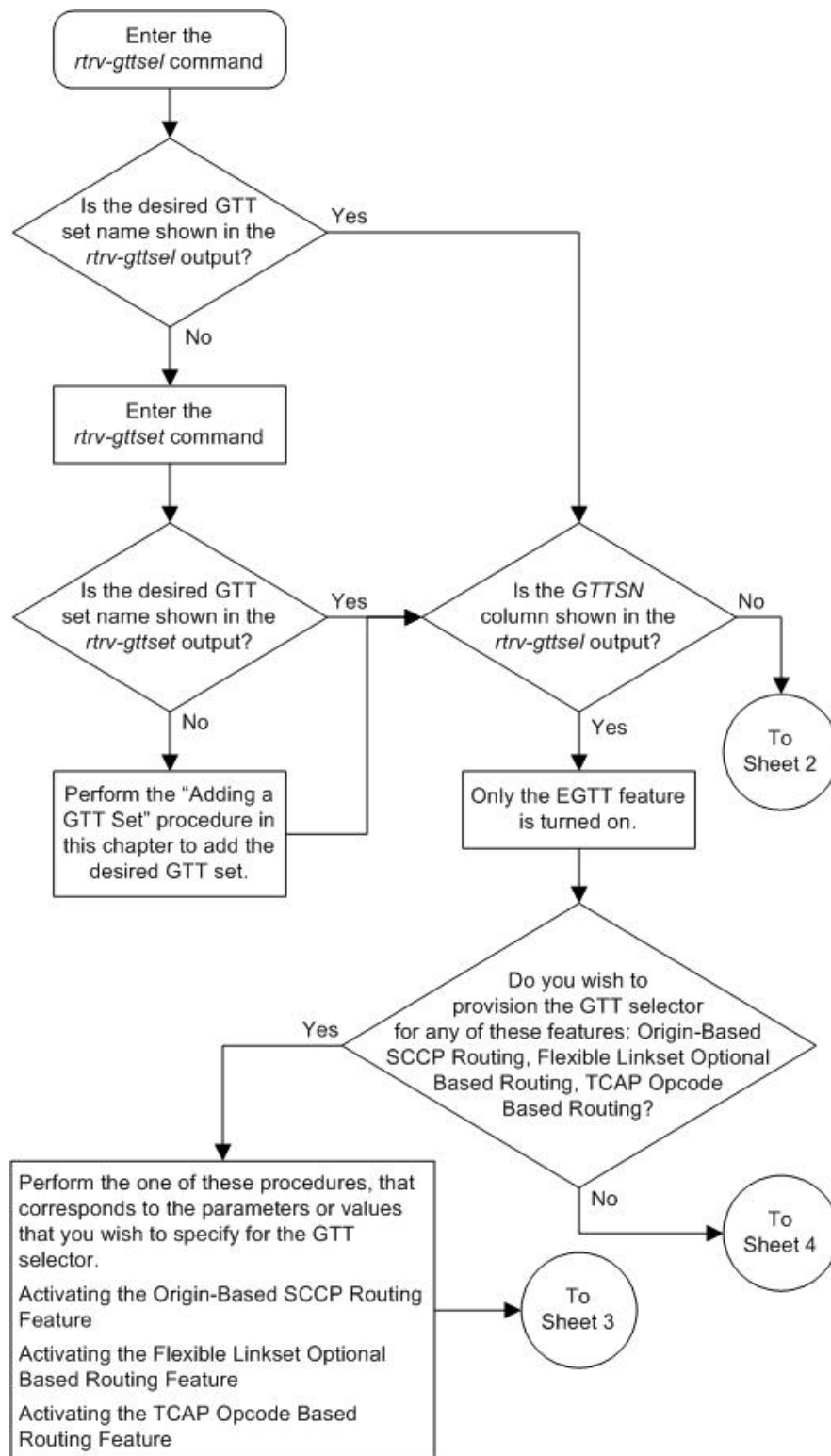
```
rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0

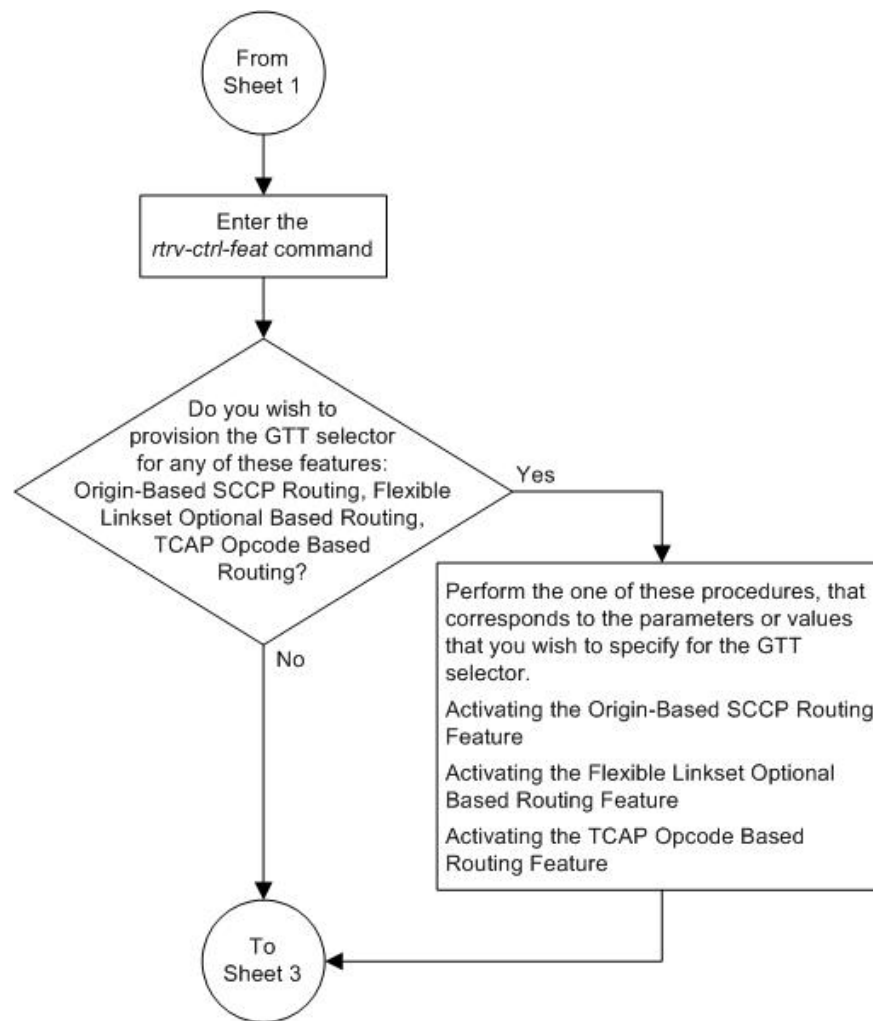
GTI          CG          CDPA          CGPA
INTL TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET
4    0   e164   intl 25   50   lsn1l   -----   (--- ) cggtal0   (cggta)
```

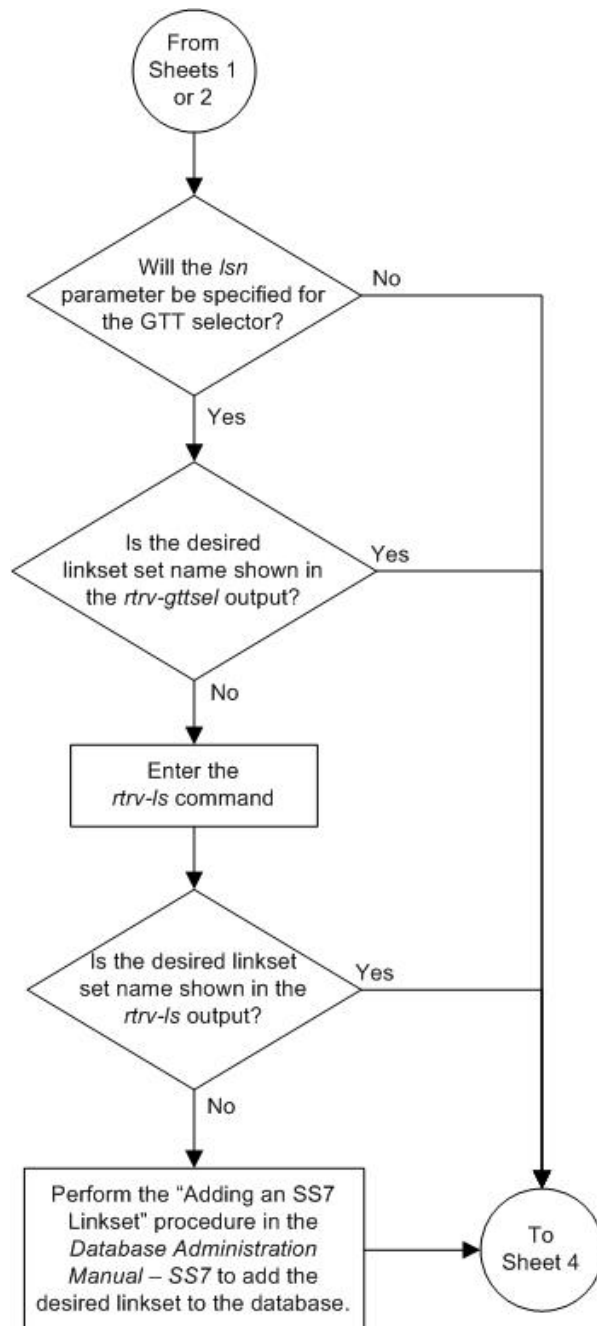
7. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

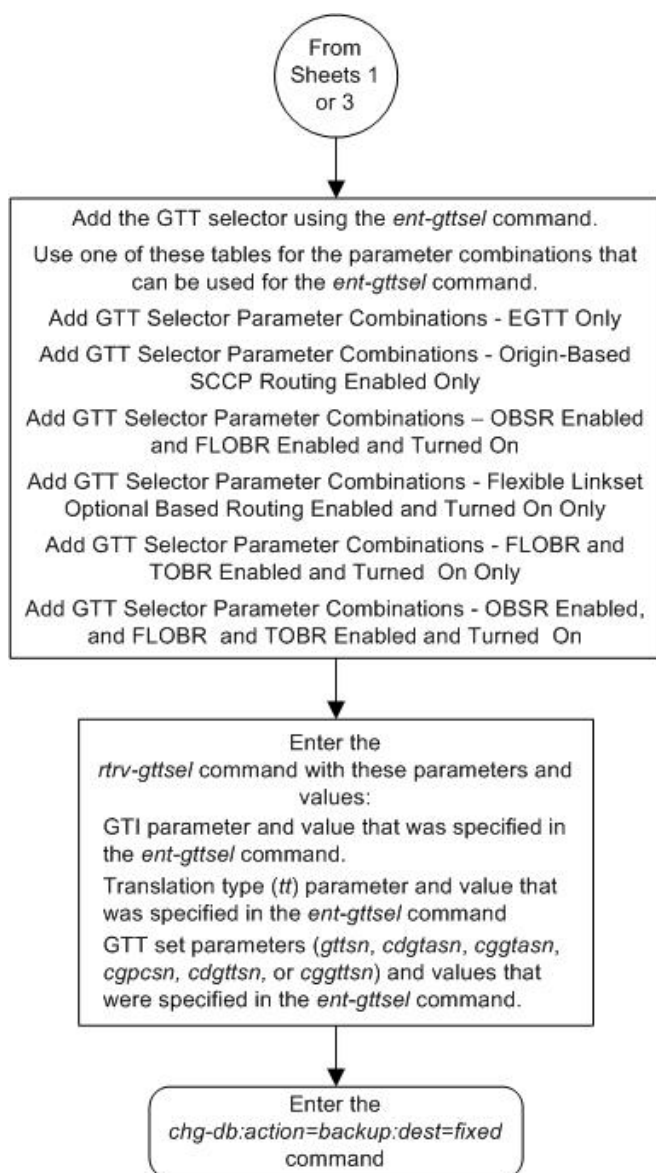
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 57: Adding a GTT Selector









Removing a GTT Selector

Use the following procedure to delete the global title selector using the *dlt-gttset* command.

The *dlt-gttset* command uses these parameters:

:gti/gtia/gtii/gtin/gtin24 – The global title indicator. The GTI defines the domain as

- gti and gtia (ANSI) with GTI=2
- gtii (ITU international) with GTI=2 or GTI=4, and
- gtin and gtin24 (ITU national) with GTI=2 or GTI=4.

For purposes of the selector commands, `gti` and `gtia` are equivalent, and `gtii` and `gtin`/`gtin24` are mutually exclusive because the EGTT database does not distinguish between ITU national and ITU international translations. This means that, while ITU-I and ITU-N selectors are stored separately, two separate ITU-I and ITU-N entries with the same selector values cannot exist. For example, if an entry with `gtii=2` and `tt=4` already exists, an entry of `gtin=2` (or `gtin24=2`) and `tt=4` cannot be entered.

:`cgssn` – The CgPA subsystem number that is assigned to the GTT selector.

:`eaglegen` – Indicates whether the GTT selector is used by messages generated by the EAGLE 5 ISS. If the GTT selector is used by messages generated by the EAGLE 5 ISS, the entry `Eagle-Gen` is shown in the `LSN` column of the `rtrv-gtt sel` output.

:`lsn` – The name of the linkset that is assigned to the GTT selector.

:`selid` – The selector ID that is assigned to the GTT selector.

:`tt` – The global title translation type. (0-255)

:`nai` – The nature of address indicator.

:`naiv` – The nature of address indicator value. (0-127) (See [Table 62: NAIV/NAI Mapping](#) on page 711 for NAI/NAIV mapping)

Note: The nature of address indicator parameters (`naiv` or `nai`) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the `naiv` or `nai` parameter. [Table 62: NAIV/NAI Mapping](#) on page 711 shows the mapping between the `naiv` and the `nai` parameters.

Table 62: NAIV/NAI Mapping

NAIV	NAI	Description
0	--	Unknown
1	Sub	Subscriber Number
2	Rsvd	Reserved for national use
3	Natl	National significant number
4	Intl	International number
5-127	---	Spare

:`np` – The numbering plan.

:`npv` – The numbering plan value. (0-15) (See [Table 63: NPV/NP Mapping](#) on page 712 for NP/NPV mapping)

Note: The numbering plan parameters (`npv` or `np`) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be

specified at the same time for the same parameter. You can specify either the npv or np parameter. [Table 63: NPV/NP Mapping](#) on page 712 shows the mapping between the npv and the np parameters.

Table 63: NPV/NP Mapping

NPV	NP	Description
0	--	Unknown
1	E164	ISDN/telephony numbering plan
2	Generic	Generic numbering plan
3	X121	Data numbering plan
4	F69	Telex numbering plan
5	E210	Maritime mobile numbering plan
6	E212	Land mobile numbering plan
7	E214	ISDN/mobile numbering plan
8	Private	Private network or network-specific numbering plan
9-15	---	Spare

1. Display the GTT selectors assigned to a specified domain using the `rtrv-gttset` command. This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0

GTT          CG          CDPA          CGPA
ANSI TT  NP      NAI  SSN SELID LSN      GTTSET          GTTSET
2    75  --      ---  ---  55   any      lidb   (cdgta)  -----  (--- )
2    100 --      ---  ---  56   any      t800   (cdgta)  -----  (--- )
2    150 --      ---  ---  57   any      lidb   (cdgta)  -----  (--- )

GTT          CG          CDPA          CGPA
INTL TT  NP      NAI  SSN SELID LSN      GTTSET          GTTSET
2     0  --      ---  --- none  any      s1000  (cdgta)  -----  (--- )
2     87 --      ---  --- none  any      imsi   (cdgta)  -----  (--- )
2    100 --      ---  --- none  any      imsi   (cdgta)  -----  (--- )
4     0  dflt    dflt --- none  any      s1000  (cdgta)  -----  (--- )
```

```

4      0    e164      intl --- none any      ----- (--- ) s2000 (cggtta)
4      97    e210      5    100 100 any      abcd1234 (cdgta) ----- (--- )
4     101    e210      5    101 101 lsni1    imsi     (cdgta) ----- (--- )
4     150    e210      5      --- none Eagle-Gen abcd1234 (cdgta) ----- (--- )
4     219    e210     11    20  20 any      gttset9  (cdgta) ----- (--- )
4     219    e210     11    21  20 any      gttset9  (cdgta) ----- (--- )
4     219    e210     11    21  22 any      gttset9  (cdgta) ----- (--- )
4     219    e210     11    23  22 any      gttset9  (cdgta) ----- (--- )
4     219    e210     11    23  24 any      gttset9  (cdgta) ----- (--- )
4     219    e210     11    23  25 any      gttset9  (cdgta) ----- (--- )
4     219    e210     11    26  25 any      gttset9  (cdgta) ----- (--- )

```

```

GTI      CG      CDPA      CGPA
NATL TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET

```

```

GTI      CG      CDPA      CGPA
N24 TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET

```

If the Origin-based SCCP Routing feature is not enabled or the Flexible Linkset Optional Based Routing feature is not enabled and turned on, the CGSSN, SELID, LSN, CDPA GTTSET and CGPA GTTSET columns are not shown. The GTTSN column is shown in place of the CDPA GTTSET column. The GTI ANSI, GTI INTL, and GTI NATL are replaced by the GTIA, GTII, and the GTIN columns.

Note: If the GTTSN column is shown in the `rtrv-gttset` output in step 1, skip step 2 and go to step 3.

2. Delete the GTT selector from the database using the `dlt-gttset` command.

[Table 64: Remove GTT Selector Parameter Combinations](#) on page 713 shows the parameter combinations that can be used with the `dlt-gttset` command.

Table 64: Remove GTT Selector Parameter Combinations

GTT Set Name Column Header in the RTRV-GTTSEL Output - GTTSN		GTT Set Column Header in the RTRV-GTTSEL Output - CDPA GTTSET and CGPA GTTSET			
:gti/gtia/ gtii/gtin/ gtin24=2	:gtii/gtin/ gtin24=4	:gti/gtia/ gtii/gtin/ gtin24=2	:gti/gtia/ gtii/gtin/ gtin24=2	:gtii/gtin/ gtin24=4	:gtii/gtin/ gtin24=4
:tt=<the translation type assigned to the GTT selector> (See Note 1)	:tt=<the translation type assigned to the GTT selector> (See Note 1)	:tt=<the translation type assigned to the GTT selector> (See Note 1)	:tt=<the translation type assigned to the GTT selector> (See Note 1)	:tt=<the translation type assigned to the GTT selector> (See Note 1)	:tt=<the translation type assigned to the GTT selector> (See Note 1)
	:nai/naiv=<the NAI value assigned to the GTT	:cgssn=<the CGSSN value assigned to the GTT	:eagleleg=yes (See Note 3)	:nai/naiv=<the NAI value assigned to the GTT	:nai/naiv=<the NAI value assigned to the GTT

GTT Set Name Column Header in the RTRV-GTTSEL Output - GTTSN		GTT Set Column Header in the RTRV-GTTSEL Output - CDPA GTTSET and CGPA GTTSET			
	selector> (See Notes 1 and 2)	selector> (See Notes 1 and 2)		selector> (See Notes 1, 2, and 4)	selector> (See Notes 1, 2, and 4)
	:np/npv=<the NP value assigned to the GTT selector> (See Notes 1 and 2)	;selid<the SELID value assigned to the GTT selector> (See Notes 1 and 2)		:np/npv=<the NP value assigned to the GTT selector> (See Notes 1, 2, and 4)	:np/npv=<the NP value assigned to the GTT selector> (See Notes 1, 2, and 4)
		:lsn<the LSN value assigned to the GTT selector> (See Notes 1, 2, and 3)		:cgssn<the CGSSN value assigned to the GTT selector> (See Notes 1, 2, and 4)	:eagleGen=yes (See Notes 3 and 4)
				:selid<the SELID value assigned to the GTT selector> (See Notes 1, 2, and 4)	
				:lsn<the LSN value assigned to the GTT selector> (See Notes 1, 2, 3, and 4)	
Notes: 1. The values for these parameters must be entered as shown in the <code>rtrv-gttset</code> output for the GTT selector that is being removed, except for the <code>nai/naiv</code> and <code>np/npv</code> parameters. Refer to Table 62: NAIV/NAI Mapping on page 711 and Table 63: NPV/NP Mapping on page 712 for the values that can be used. 2. If dashes, the value any, or the value none are shown for this value in the GTT selector, this parameter cannot be specified with the <code>dlt-gttset</code> command. 3. A GTT selector is used by messages generated by the EAGLE 5 ISS if the value <code>Eagle-Gen</code> is shown in the LSN column for the GTT selector. For this GTT selector, the <code>eagleGen=yes</code> parameter must be specified with the <code>dlt-gttset</code> command.					

GTT Set Name Column Header in the RTRV-GTTSEL Output - GTTSN	GTT Set Column Header in the RTRV-GTTSEL Output - CDPA GTTSET and CGPA GTTSET
4. If the GTT selector contains the value DFLT in the NP and NAI columns of the rtrv-gttset output, the cgssn, selid, lsn, and eaglegen=yes parameters cannot be specified with the dlt-gttset command.	

For this example, enter this command.

```
dlt-gttset:gtii=4:tt=0:np=e164:nai=intl
```

When the command has successfully completed, this message should appear:

```
rlghncxa03w 06-10-07 00:28:31 GMT EAGLE5 36.0.0
DLT-GTTSEL: MASP A - COMPLTD
```

3. Verify the changes using the rtrv-gttset command with the gti/gtia/gtii/gtin/gtin24 and tt parameters and values specified in [Step 2](#) on page 713.

For this procedure, enter the following command.

```
rtrv-gttset:gtii=4:tt=0
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0

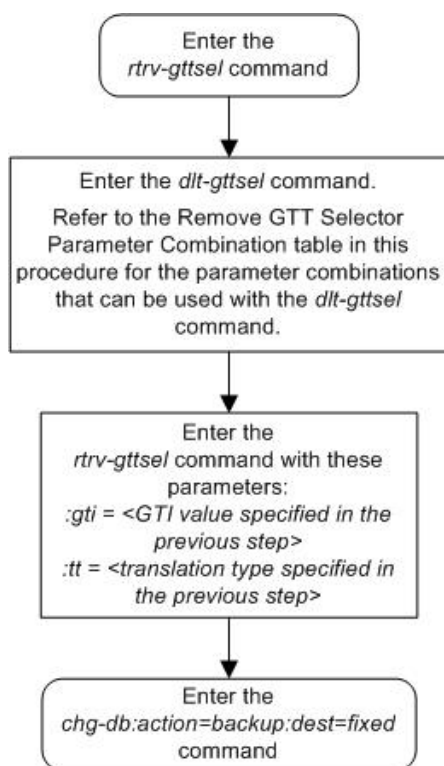
GTI          CG          CDPA          CGPA
INTL TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET
4      0  dflt   dflt --- none any      s1000      (cdgta) ----- (--- )
```

4. Backup the new changes using the chg-db:action=backup:dest=fixed command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 58: Removing a GTT Selector



Changing a GTT Selector

Use the following procedure to change the GTT set assigned to a selector using the *chg-gttset* command.

The *chg-gttset* command uses these parameters:

:gti/gtia/gtii/gtin/gtin24 – The global title indicator. The GTI defines the domain as

- gti and gtia (ANSI) with GTI=2
- gtii (ITU international) with GTI=2 or GTI=4
- gtin and gtin24 (ITU national) with GTI=2 or GTI=4.

For purposes of the selector commands, *gti* and *gtia* are equivalent, and *gtii* and *gtin/gtin24* are mutually exclusive because the EGTT database does not distinguish between ITU national and ITU international translations. This means that, while ITU-I and ITU-N selectors are stored separately, two separate ITU-I and ITU-N entries with the same selector values cannot exist. For example, if an entry with *gtii*=2 and *tt*=4 already exists, an entry of *gtin*=2 (or *gtin24*=2) and *tt*=4 cannot be entered.

:tt – The global title translation type. (0-255)

:nai – The nature of address indicator.

:naiv – The nature of address indicator value. (0-127) (See [Table 65: NAIV/NAI Mapping](#) on page 717 for NAI/NAIV mapping)

Note: The nature of address indicator parameters (naiv or nai) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the naiv or nai parameter. [Table 65: NAIV/NAI Mapping](#) on page 717 shows the mapping between the naiv and the nai parameters.

:np – The numbering plan.

:npv – The numbering plan value. (0-15) (See [Table 66: NPV/NP Mapping](#) on page 718 for NP/NPV mapping)

Note: The numbering plan parameters (npv or np) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the npv or np parameter. [Table 66: NPV/NP Mapping](#) on page 718 shows the mapping between the npv and the np parameters.

:gttsn – the GTT set name.

:cdgtasn – The CDGTA GTT set name or the value none.

:cggtsn – The CGGTA GTT set name or the value none.

:cgpcsn – The CGPC GTT set name or the value none.

:cgssn – The CGPA SSN.

:selid – The selector ID.

:cdgttsn – The CDGTA GTT set name or the value none.

:cggtsn – The CGGTA GTT set name or the value none.

:eaglegen – Indicates whether the GTT selector is used by messages generated by the EAGLE 5 ISS. If the GTT selector is used by messages generated by the EAGLE 5 ISS, the entry Eagle-Gen is shown in the LSN column of the rtrv-gttset output.

:lsn – The name of the linkset that is assigned to the GTT selector.

These tables show the parameter combinations that can be used in this procedure.

- [Table 67: Change GTT Selector Parameter Combinations - EGTT Only](#) on page 721
- [Table 68: Change GTT Selector Parameter Combinations - Origin-Based SCCP Routing Enabled Only](#) on page 721
- [Table 69: Change GTT Selector Parameter Combinations - CDGTTSN and CGGTTSN Columns Shown in the RTRV-GTTSEL Output](#) on page 723

Table 65: NAIV/NAI Mapping

NAIV	NAI	Description
0	--	Unknown
1	Sub	Subscriber Number
2	Rsvd	Reserved for national use

NAIV	NAI	Description
3	Natl	National significant number
4	Intl	International number
5-127	---	Spare

Table 66: NPV/NP Mapping

NPV	NP	Description
0	--	Unknown
1	E164	ISDN/telephony numbering plan
2	Generic	Generic numbering plan
3	X121	Data numbering plan
4	F69	Telex numbering plan
5	E210	Maritime mobile numbering plan
6	E212	Land mobile numbering plan
7	E214	ISDN/mobile numbering plan
8	Private	Private network or network-specific numbering plan
9-15	---	Spare

1. Display the GTT selectors in the database by entering the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
```

GTI			CG			CDPA		CGPA	
ANSI	TT	NP	NAI	SSN	SELID	LSN	GTTSET		GTTSET
2	75	--	---	---	55	any	l1db	(cdgta)	----- (---)
2	100	--	---	---	56	any	t800	(cdgta)	----- (---)
2	150	--	---	---	57	any	l1db	(cdgta)	----- (---)

GTI				CG			CDPA		CGPA	
INTL	TT	NP	NAI	SSN	SELID	LSN	GTTSET		GTTSET	
2	0	--	---	---	none	any	s1000	(cdgta)	-----	(---)
2	87	--	---	---	none	any	imsi	(cdgta)	-----	(---)
2	100	--	---	---	none	any	imsi	(cdgta)	-----	(---)
4	0	dflt	dflt	---	none	any	s1000	(cdgta)	-----	(---)
4	0	e164	intl	---	none	any	-----	(---)	s2000	(cggta)
4	97	e210	5	100	100	any	abcd1234	(cdgta)	-----	(---)
4	101	e210	5	101	101	lsn11	imsi	(cdgta)	-----	(---)
4	150	e210	5	---	none	Eagle-Gen	abcd1234	(cdgta)	-----	(---)
4	219	e210	11	20	20	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	21	20	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	21	22	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	23	22	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	23	24	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	23	25	any	gttset9	(cdgta)	-----	(---)
4	219	e210	11	26	25	any	gttset9	(cdgta)	-----	(---)

GTI				CG			CDPA		CGPA	
NATL	TT	NP	NAI	SSN	SELID	LSN	GTTSET		GTTSET	

GTI				CG			CDPA		CGPA	
N24	TT	NP	NAI	SSN	SELID	LSN	GTTSET		GTTSET	

If the GTTSN column is shown in the `rtrv-gttset` output, only the EGTT feature is turned on. Continue the procedure by performing one of these steps.

- If the new GTT set that will be assigned to the GTT selector is shown in the `rtrv-gttset` output, continue the procedure with [Step 4](#) on page 720.
- If the new GTT set that will be assigned to the GTT selector is not shown in the `rtrv-gttset` output, continue the procedure with [Step 3](#) on page 720.

If the CDPA GTTSET and CGPA GTTSET columns are shown in the `rtrv-gttset` output, continue the procedure with [Step 2](#) on page 719.

2. Display the features that are enabled by entering the `rtrv-ctrl-feat` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
SCCP Loop Detection	893016501	on	----
SCCP Conversion	893012001	off	----
HC-MIM SLK Capacity	893012707	on	64
Origin Based SCCP Routing	893014301	on	----
TCAP Opcode Based Routing	893027801	on	----
Flex Lset Optnl Based Rtg	893027701	on	----
VGTT with 16 GTT lengths	893024801	on	----
TOBR Opcode Quantity	893027907	on	1000000

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

```
Feature Name          Partnum
Zero entries found.
```

Continue the procedure by performing one of these steps.

- If the new GTT set that will be assigned to the GTT selector is shown in the `rtrv-gttset` output, continue the procedure with [Step 4](#) on page 720.
 - If the new GTT set that will be assigned to the GTT selector is not shown in the `rtrv-gttset` output, continue the procedure with [Step 3](#) on page 720.
3. Display the GTT set names in the database using the `rtrv-gttset` command. This is an example of the possible output.

```
rlghncxa03w 06-10-07 00:27:31 GMT EAGLE5 36.0.0
GTTSN      NETDOM  NDGT
abcd1234   itu      12
imsi       itu      15
lidx       ansi     10
t800       ansi     10
s1000      itu      15
```

If the Origin-Based SCCP Routing feature is enabled, or if the TCAP Opcode Based Routing feature is enabled and turned on, the `SETTYPE` column is shown in the `rtrv-gttset` output as shown in the following example.

```
rlghncxa03w 06-10-07 00:29:31 GMT EAGLE5 36.0.0
GTTSN      NETDOM  SETTYPE  NDGT
abcd1234   itu      CGGTA     12
imsi       itu      CDGTA     15
lidx       ansi     CDGTA     10
t800       ansi     CGGTA     6
s1000      itu      CDGTA     15
s2000      itu      CGPC      -
```

If the desired GTT set name is shown in the `rtrv-gttset` output, continue the procedure with [Step 4](#) on page 720.

If the desired GTT set name is not shown in the `rtrv-gttset` output, perform [Adding a GTT Set](#) on page 660 to add the desired GTT set. After the GTT set has been added, continue the procedure with [Step 4](#) on page 720.

Note: If the `gti/gtia` parameter is specified, the domain of the new GTT set must be ANSI. If the `gtii/gtin/gtin24` parameter is specified, the domain of the new GTT set must be ITU. If the `cdgtasn` parameter is specified, the domain of the CDGTAGTT set can be CROSS, regardless of what the `gti` parameter is.

4. Change the selector using the `chg-gttset` command.

These tables show the parameter combinations that can be used in this procedure, based on the features that are turned on, enabled, or enabled and turned on, shown in [Step 1](#) on page 718 and [Step 2](#) on page 719.

- [Table 67: Change GTT Selector Parameter Combinations - EGTT Only](#) on page 721
- [Table 68: Change GTT Selector Parameter Combinations - Origin-Based SCCP Routing Enabled Only](#) on page 721
- [Table 69: Change GTT Selector Parameter Combinations - CDGTTSN and CGGTTSN Columns Shown in the RTRV-GTTSEL Output](#) on page 723

Table 67: Change GTT Selector Parameter Combinations - EGTT Only

GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 2)	GTII/GTIN/GTIN24 = 4 (See Note 2)
TT = < current translation type>	TT = < current translation type>
GTTSN = <the new GTT set name> (See Note 2)	GTTSN = <the new GTT set name> (See Note 2)
	NP = <current numbering plan> (See Note 1) or NPV = <current numbering plan value> (See Note 1)
	NAI = <current nature of address indicator> (See Note 1) or NAIV = <current nature of address indicator value> (See Note 1)
Notes: 1. The np and npv, and the nai and naiv parameters cannot be specified together in the chg-gttset command. Refer to Table 65: NAIV/NAI Mapping on page 717 for the nai and naiv parameter values. Refer to Table 66: NPV/NP Mapping on page 718 for the np and npv parameter values. 2. If the gti/gtia parameter is specified, the domain of the new GTT set must be ANSI. If the gtii/gtin/gtin24 parameter is specified, the domain of the new GTT set must be ITU. The domain of the GTT set can be CROSS, regardless of the value of the gti parameter.	

Table 68: Change GTT Selector Parameter Combinations - Origin-Based SCCP Routing Enabled Only

GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 6)	GTII/GTIN/GTIN24 = 4 (See Note 6)
TT = < current translation type>	TT = < current translation type>
CGSSN = <current CGSSN value> (See Note 4)	CGSSN = <current CGSSN value> (See Note 4)
SELID = <current SELID value> (See Note 4)	SELID = <current SELID value> (See Note 4)
CDGTASN = <the new CDGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, and 7)	NP=<current numbering plan> (See Note 5) or

	NPV = <current numbering plan value> (See Note 5)
CGGTASN = <the new CGGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, and 7)	NAI = <current nature of address indicator> (See Note 5) or NAIV = <current nature of address indicator value> (See Note 5)
CGPCSN = <the new CGPC GTT set name> or the value none (See Notes 1, 2, 3, 6, and 7)	CDGTASN = <the new CDGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, and 7)
	CGGTASN = <the new CGGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, and 7)
	CGPCSN = <the new CGPC GTT set name> or the value none (See Notes 1, 2, 3, 6, and 7)
<p>Notes:</p> <ol style="list-style-type: none"> 1. If there are two GTT sets assigned to the GTT selector, the value none can be specified for the <code>cdgtasn</code>, <code>cggtnsn</code>, or <code>cgpcsn</code> parameters. This will remove the GTT set from the GTT selector. The GTT selector must contain one GTT set. 2. If only a single entry exists for the selector, only the GTT set name can be changed. The value none cannot be specified for the <code>cdgtasn</code>, <code>cggtnsn</code>, or <code>cgpcsn</code> parameters. 3. CDGTA GTT sets are shown in the <code>CDPA GTTSET</code> column of the <code>rtrv-gttset</code> output. CGGTA and CGPC GTT sets are shown in the <code>CGPA GTTSET</code> column of the <code>rtrv-gttset</code> output. 4. If dashes or the values any or none are shown in the NP, NAI, CGSSN, SELID, or LSN columns of the <code>rtrv-gttset</code> output, the parameter corresponding to that column cannot be specified. 5. The <code>np</code> and <code>npv</code>, and the <code>nai</code> and <code>naiv</code> parameters cannot be specified together in the <code>chg-gttset</code> command. Refer to Table 65: NAIV/NAI Mapping on page 717 for the <code>nai</code> and <code>naiv</code> parameter values. Refer to Table 66: NPV/NP Mapping on page 718 for the <code>np</code> and <code>npv</code> parameter values. 6. If the <code>gti/gtia</code> parameter is specified, the domain of the new GTT set must be ANSI. If the <code>gtii/gtin/gtin24</code> parameter is specified, the domain of the new GTT set must be ITU. If the <code>cdgtasn</code> parameter is specified in this procedure, the domain of the GTT set can be CROSS, regardless of the value of the <code>gti</code> parameter. 7. A GTT selector can contain the following combinations of GTT set name parameters. <ul style="list-style-type: none"> • CDGTASN only • CGGTASN only • CGPCSN only • CDGTASN and CGGTASN 	

- CDGTASN and CGPCSN

Table 69: Change GTT Selector Parameter Combinations - CDGTTSN and CGGTTSN
Columns Shown in the RTRV-GTTSEL Output

GTI/GTIA/GTII/GTIN/GTIN24 = 2 (See Note 6)	GTIII/GTIN/GTIN24 = 4 (See Note 6)
TT = < current translation type>	TT = < current translation type>
CGSSN = <current CGSSN value> (See Notes 3, 4, and 7)	CGSSN = <current CGSSN value> (See Notes 3, 4, and 7)
SELID = <current SELID value> (See Notes 3 and 4)	SELID = <current SELID value> (See Notes 3 and 4)
LSN = <current LSN value> (see Notes 3 and 4)	LSN = <current LSN value> (see Notes 3 and 4)
EAGLEGEN = YES (see Note 3)	EAGLEGEN = YES (see Note 3)
CDGTTSN = <the new CDGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, 7, 8, 9, and 10)	NP = <current numbering plan> (See Note 5) or NPV = <current numbering plan value> (See Note 5)
CGGTTSN = <the new CGGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, 8, 9, and 10)	NAI = <current nature of address indicator> (See Note 5) or NAIV = <current nature of address indicator value> (See Note 5)
	CDGTTSN = <the new CDGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, 7, 8, 9, and 10)
	CGGTTSN = <the new CGGTA GTT set name> or the value none (See Notes 1, 2, 3, 6, 8, 9, and 10)
Notes: 1. If there are two GTT sets assigned to the GTT selector, the value none can be specified for the cdgttsn or cggtsn parameters. This will remove the GTT set from the GTT selector. The GTT selector must contain one GTT set.	

2. If only a single entry exists for the selector, only the GTT set name can be changed. The value none cannot be specified for the `cdgttsn` or `cggttsn` parameters.
3. If the LSN column contains the value Eagle-Gen, the `eagle-gen=yes` parameter must be specified with the `chg-gttset` command. The `cggttsn`, `cgssn`, `selid`, and `lsn` parameters cannot be specified with the `chg-gttset` command. The new GTT set for this GTT selector must be a CDGTA GTT set and can be specified only with the `cdgttsn` parameter.
4. If dashes or the values any or none are shown in the NP, NAI, CGSSN, SELID, or LSN columns of the `rtrv-gttset` output, the parameter corresponding to that column cannot be specified.
5. The `np` and `npv`, and the `nai` and `naiv` parameters cannot be specified together in the `chg-gttset` command. Refer to [Table 65: NAI/NAI Mapping](#) on page 717 for the `nai` and `naiv` parameter values. Refer to [Table 66: NPV/NP Mapping](#) on page 718 for the `np` and `npv` parameter values.
6. If the `gti/gtia` parameter is specified, the domain of the new GTT set must be ANSI. If the `gtii/gtin/gtin24` parameter is specified, the domain of the new GTT set must be ITU. The domain of the GTT set can be CROSS, regardless of the value of the `gti` parameter. A GTT set with the NETDOM value of CROSS must be a CDGTA GTT set.
7. If the GTT selector contains a CGSSN value, the CDGTTSN parameter cannot be specified for the GTT selector. The CGSSN parameter cannot be specified with the CDGTTSN parameter. The CGSSN parameter can be specified only if the Origin-Based SCCP Routing feature is enabled.
8. If the TCAP Opcode Based Routing feature is enabled and turned on, CDGTA, CDSSN, and OPCODE GTT sets, shown with the entries CDGTA, CDSSN, and OPCODE in the SETTYPE column in the `rtrv-gttset` output, can be assigned to the GTT selector.
9. If the Origin-Based SCCP Routing feature is enabled, CDGTA, CGGTA, CGPC, CGSSN, and OPC GTT sets, shown with the entries CDGTA, CGGTA, CGPC, CGSSN, and OPC in the `rtrv-gttset` output, can be assigned to the GTT selector.
10. If only the Flexible Linkset Optional Based Routing feature is enabled and turned on, all the GTT sets shown in the `rtrv-gttset` output are CDGTA GTT sets.

For this example, enter this command.

```
chg-gttset:gtii=4:tt=0:np=e210:naiv=4:cdgttsn=s1000:cggttsn=abcd1234
```

After the successful completion of this command, this message appears:

```
rlghncxa03w 06-10-07 00:28:31 GMT EAGLE5 36.0.0  
CHG-GTTSEL: MASP A - COMPLTD
```

If a GTT set name is being removed from a selector containing multiple entries, for this example enter this command.

5. Verify the changes by entering the `rtrv-gttset` command with these parameters and values that were specified in [Step 4](#) on page 720.

```
gti/gtia/gtii/gtin/gtin24  
tt  
np/npv  
nai/naiv
```

```
selid
cgssn
lsn
eaglelegen=yes
```

For this example, enter this command.

```
rtrv-gtttsel:gtii=4:tt=0:np=e210:naiv=4
```

This is an example of the possible output.

```
rlghncxa03w 09-05-02 13:54:39 GMT EAGLE5 41.0.0

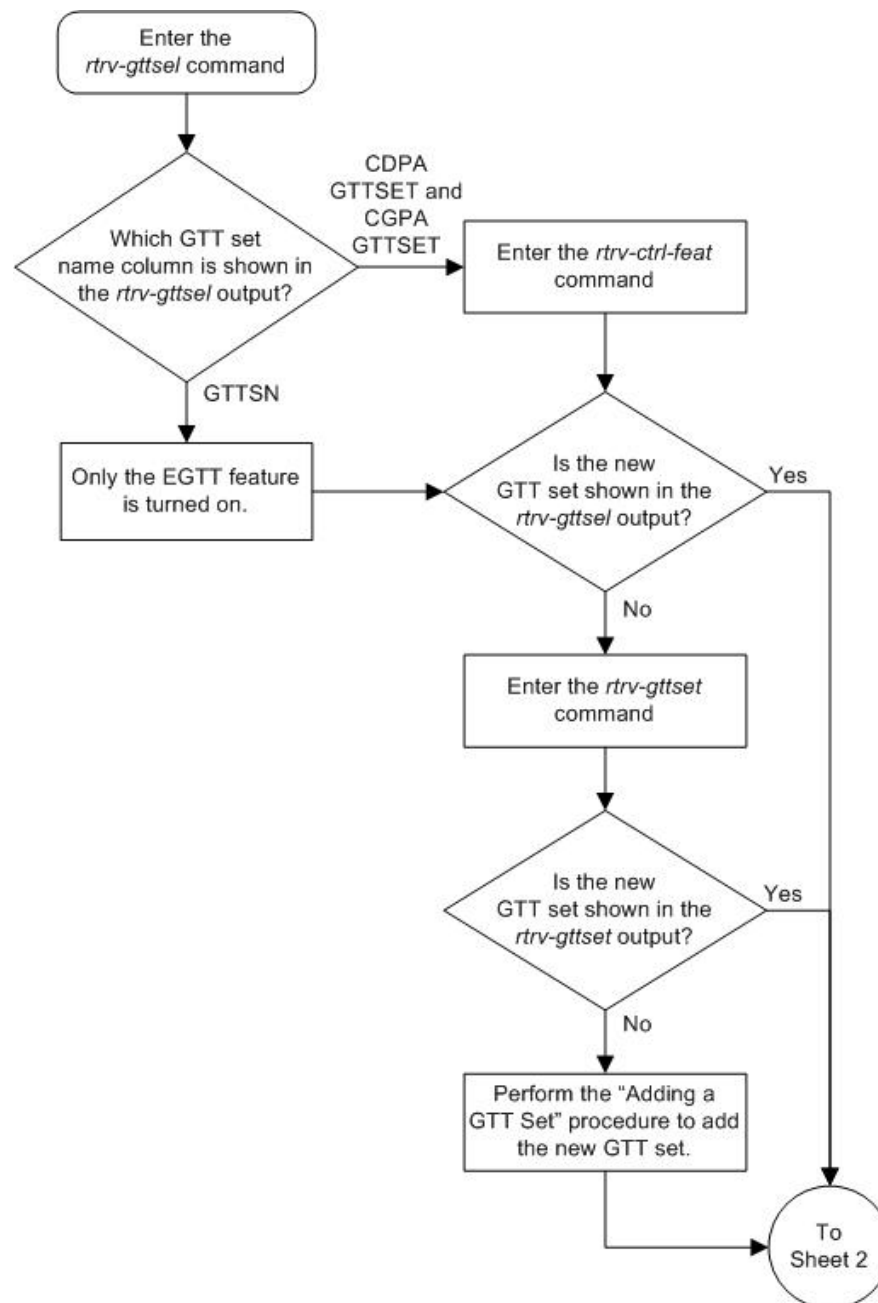
GTI          CG          CDPA          CGPA
INTL TT  NP      NAI  SSN SELID LSN      GTTSET      GTTSET
4      0  e164    4    --- none  any      s1000      (cdgta) abcd1234      (cggta)
```

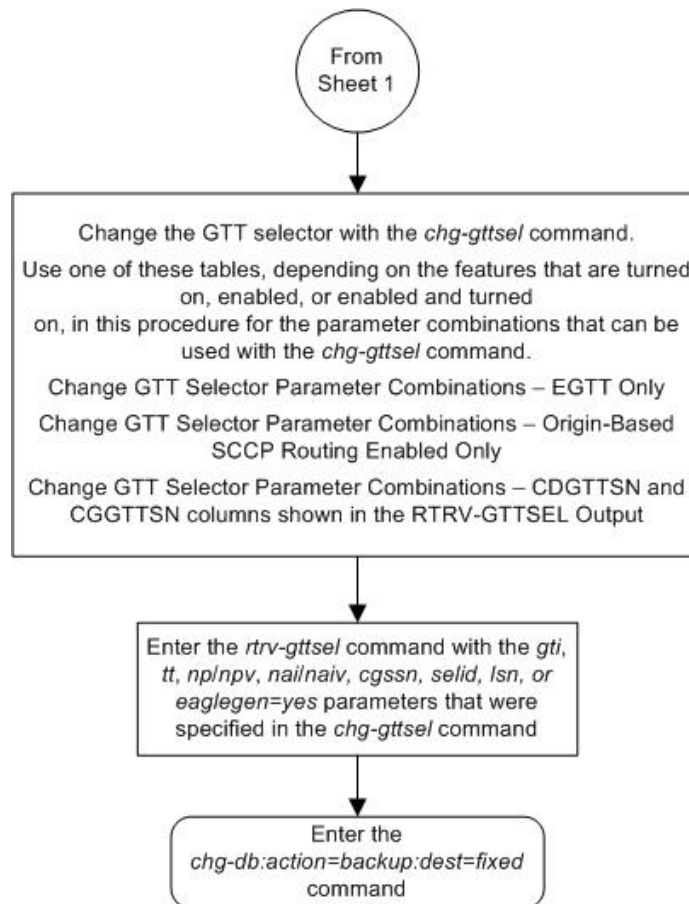
6. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 59: Changing a Global Title Translation Selector





Adding Global Title Address Information

This procedure is used to add global title address (GTA) information for applicable global title selectors required to specify a global title entry. This command adds the routing object (a destination address and a subsystem number) for messages requiring global title translation. The translation is performed on the basis of the GTA, global title indicator (GTI), numbering plan (NP), nature of address indicator (NAI), and translation type (TT) of each SS7 SCCP message directed to the STP with a routing indicator of 0, indicating that global title translation is required.

The *ent-gta* command uses these parameters:

- :gttsn – The GTT set name
- :gta – The global title address or the beginning value of a range of global title addresses
- :egta – The end of global title address
- :pc/pca/pci/pcn/pcn24 – The translated point code
- :ssn – The translated subsystem number
- :ri – The routing indicator

- :xlat – The translate indicator
- :ntt – The new translation type
- :ccgt – The cancel called global title indicator
- :force – The check mated application override
- :nnp – The new numbering plan
- :nnai – The new nature of address indicator
- :npdd – The number of digits to be deleted from the beginning of the Global Title Address digits (the prefix digits)
- :npds – The digits that are being substituted for the prefix digits
- :nsdd – The number of digits to be deleted from the end of the Global Title Address digits (the suffix digits)
- :nsds – The digits that are being substituted for the suffix digits
- :ngti – The new GT indicator value
- :mrnset – The MRN set ID, shown in the `rtrv-mrn` output. This parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled and if the `ri=gt` parameter is specified with the `ent-gta` command. If the Flexible GTT Load Sharing feature is enabled, the point code specified with the `ent-gta` command must be assigned to the MRN set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the `rtrv-ctrl-feat` output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.
- :mapset – The MAP set ID, shown in the `rtrv-map` output. This parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled and if the `ri=ssn` parameter is specified with the `ent-gta` command. If the Flexible GTT Load Sharing feature is enabled, the point code and SSN specified with the `ent-gta` command must be assigned to the MAP set specified by this parameter. The status of the Flexible GTT Load Sharing feature is shown in the `rtrv-ctrl-feat` output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.
- :optsn – The optional GTT set name shown in the `rtrv-gttset` output. [Table 70: GTTSN and OPTSN Combinations](#) on page 728 shows the types of GTT sets that can be specified for the `optsn` parameter based on the type of GTT set that is specified for the `gttsn` parameter and the features that are enabled and turned on.

Table 70: GTTSN and OPTSN Combinations

GTTSN Set Type	OPTSN Set Type
Origin-Based SCCP Routing Feature Enabled Only	
CDGTA	CGGTA, CGPC The OPC GTT set type can be specified with a CDGTA GTT set, but the OPC GTT set is specified with the <code>opcsn</code> parameter.
CGGTA	CGSSN

GTTSN Set Type	OPTSN Set Type
CGPC	CGSSN
CGSSN	The optsn parameter cannot be specified.
OPC	CGSSN
Origin-Based SCCP Routing Enabled and Flexible Linkset Optional Based Routing Enabled and Turned On Only	
CDGTA	CGGTA, CGPC, CGSSN The OPC GTT set type can be specified with a CDGTA GTT set, but the OPC GTT set is specified with the opcsn parameter.
CGGTA	CDGTA, CGPC, CGSSN, OPC
CGPC	CDGTA, CGGTA, CGSSN, OPC
CGSSN	CDGTA, CGGTA, CGPC, OPC
OPC	CDGTA, CGGTA, CGPC, CGSSN
Flexible Linkset Optional Based Routing and TCAP Opcode Based Routing Feature Enabled and Turned On Only	
CDGTA	CDSSN, OPCODE
CDSSN	CDGTA, OPCODE
OPCODE	CDGTA, CDSSN
Origin-Based SCCP Routing Enabled , Flexible Linkset Optional Based Routing and TCAP Opcode Based Routing Feature Enabled and Turned On	
CDGTA	CGGTA, CGPC, CGSSN, CDSSN, OPCODE The OPC GTT set type can be specified with a CDGTA GTT set, but the OPC GTT set is specified with the opcsn parameter.
CGGTA	CDGTA, CGPC, CGSSN, CDSSN, OPCODE, OPC The opcsn parameter cannot be specified.
CGPC	CDGTA, CGGTA, CGSSN, CDSSN, OPCODE, OPC The opcsn parameter cannot be specified.
CGSSN	CDGTA, CGGTA, CGPC, CDSSN, OPCODE, OPC The opcsn parameter cannot be specified.

GTTSN Set Type	OPTSN Set Type
OPC	CDGTA, CGGTA, CGPC, CGSSN, CDSSN, OPCODE
CDSSN	CDGTA, CGGTA, CGPC, CGSSN, OPCODE The OPC GTT set type can be specified with a CDSSN GTT set, but the OPC GTT set is specified with the opcsn parameter.
OPCODE	CDGTA, CGGTA, CGPC, CGSSN, CDSSN The OPC GTT set type can be specified with an OPCODE GTT set, but the OPC GTT set is specified with the opcsn parameter.

:opcsn – The OPC GTT set name shown in the `rtrv-gttset` output.

:cgssn – The CgPA subsystem number or the beginning value of a range of CgPA subsystem numbers

:ecgssn – The end value of a range of CgPA subsystem numbers

:cgpc/cgpcac/cgpci/cgpcn/cgpcn24 – The CgPA point code

:opc/opca/opci/opcn/opcn24 – The originating point code

:cdssn – The CdPA subsystem number or the beginning value of a range of CdPA subsystem numbers

:ecdssn – The end value of a range of CdPA subsystem numbers

:cgselid – The CgPA selector ID

:cdselid – The CdPA selector ID

:fallback – The action to be taken when the final translation does not match while performing global title translation using a FLOBR-specific GTT mode.

:testmode – This parameter invokes a field-safe test tool to debug the rules used for the Flexible Linkset Optional Based Routing or TCAP Opcode Based Routing features.

:cgcnvsn – The CgPA conversion set name

:family – The ANSI TCAP family field in the incoming message

:opcode – The TCAP opcode field in the incoming message

:pkgtype – The TCAP package type. [Table 78: GTTSN = OPCODE GTT Set Parameter Combinations](#) on page 746 shows the ANSI and ITU TCAP package types.

:acn – The application context name (ACN) field in the ITU TCAP message

:loopset – The value of this parameter is the name of the loopset that is assigned to the GTA. This parameter can be specified only if the SCCP Loop Detection feature is enabled. Enter the `rtrv-loopset` command to verify that the SCCP Loop Detection feature is enabled. By default, the value of the `loopset` parameter is “none” because no loopset is assigned to the GTA.

:cggtmod - The calling party GT modification indicator. This parameter specifies whether or not calling party global title modification is required. The values for this parameter are *yes* (calling party global title modification is required) or *no* (calling party global title modification is not required). This parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled. Enter the `rtrv-ctrl-feat` command to verify that either the AMGTT or AMGTT CgPA Upgrade feature is enabled.

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `ent-gta` command are too long to fit on the `ent-gta` command line, perform [Changing Global Title Address Information](#) on page 787 to complete adding the GTA entry.

The Global Title Translation (GTT) feature and the Enhanced Global Title Translation (EGTT) feature must be on before using this command. Use the `rtrv-feat` command to verify the settings. If the features are off, turn them on using the `chg-feat:gtt=on:egtt=on` command.

Note: Once the Global Title Translation (GTT) feature and the Enhanced Global Title Translation (EGTT) feature are turned on with the `chg-feat` command, they cannot be turned off.

The GTT feature and the EGTT feature must be purchased before you turn these features on. If you are not sure whether you have purchased the GTT feature and/or the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

The global title address cannot contain alphabetic characters

If the Variable-Length Global Title Translation (VGTT) feature is off, shown the entry `VGTT = off`, the global title address length must be equal to the number of digits specified by the given GTT set name. The length of the global title address can be verified with the `rtrv-gttset` command.

If the Variable-Length Global Title Translation (VGTT) feature is on, shown the entry `VGTT = on`, up to 10 different length global title addresses can be assigned to a GTT set. If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, up to 16 different length global title addresses can be assigned to a GTT set. The length of the global title address is only limited by the range of values for the `gta` and `egta` parameters, one to 21 digits, and by the global title addresses already assigned to the GTT set name. The `ndgt` parameter of the `ent-gttset` command has no effect on the length of the global title address. As global title addresses of different lengths are assigned to a specific translation type, these lengths are displayed in the `NDGT` field of the `rtrv-gttset` command output, as shown in the following example.

```
rlghncxa03w 09-05-07 00:30:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
l1db       ansi    3, 7, 10
t800       ansi    6
si000      itu     15
imsi       itu     15
abcd1234   itu     12
```

In this example of the `rtrv-gttset` command output, the GTT set `l1db` contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 digits.

If the GTT set contains the maximum number of different length global title addresses, and another global title address is specified for the GTT set name, the length of the global title address being added to the GTT set name must be the same as one of the lengths already assigned to the GTT set name. If the length of the global title address does not match one of the lengths already assigned to the GTT set name, the `ent-gta` command is rejected with this message

E4008 Cmd Rej: Exceeding max GTA Lengths supported per GTTSET

If the GTT set name has less than the maximum number of different length global title addresses assigned to it, and another global title address is specified for the GTT set name, the length of the global title address can be from one to 21 digits and does not have to match the length of the other global title addresses assigned to the GTT set name.

Refer to [Variable-length Global Title Translation Feature](#) on page 24 for more information about this feature.

The range, as specified by the start and end global title addresses, cannot already exist in the global title translation data for the specified translation type. If the ranges overlap, the range of global title addresses cannot be split and the `ent-gta` command is rejected with this message.

E2401 Cmd Rej:GTA range overlaps a current range

Along with error message 2401, a list of the overlapped global title addresses is displayed as shown in the following example.

```
rlghncxa03w 06-10-24 08:29:15 GMT EAGLE5 36.0.0
The following GTA ranges overlap the input GTA range

START GTA          END GTA
8005550000         8005551999
8005552000         8005553999
8005554000         8005555999

ENT-GTA: MASP A - Command Aborted
```

The translate indicator (`xlat`) must be `DPCSSN` if the `SSN` parameter is specified. If the translate indicator is set to `DPCNGT`, the value of the `RI` parameter must be `GT`. If the translate indicator is set to `DPCNGT`, the new translation type (`NTT`) parameter must be specified and `NTT` parameter value must be a translation type.

If a point code is the STP's True PC, then the value of the `XLAT` parameter must be set to `DPCSSN` and the value of the `RI` parameter must be set to `SSN`. If the `SSN` parameter is specified and a point code is the STP's True PC, then the subsystem number specified must exist in the `SS-APPL` table. This can be verified with the `rtrv-ss-appl` command. To execute the `rtrv-ss-appl` command, these features must be enabled, and turned on if necessary.

- LNP - shown by the entry `LNP TNS` with a quantity greater than zero in the `rtrv-ctrl-feat` command output
- ATINP - shown by the entry `ATINP` in the `rtrv-ctrl-feat` command output with the status set to on
- EIR - shown by the entry `EIR` in the `rtrv-ctrl-feat` command output as being permanently or temporarily enabled and with the status set to on.
- INP - shown by the entry `INP` in the `rtrv-ctrl-feat` command output with the status set to on.
- V-FLEX - shown by the entry `VFLEX` in the `rtrv-ctrl-feat` command output with the status set to on.
- ANSI-41 INP Query - shown by the entry `ANSI-41 INP Query` in the `rtrv-ctrl-feat` command output with the status set to on.

Note: The Local Number Portability (LNP), Equipment Identity Register (EIR), INAP Number Portability (INP), V-Flex, ATINP, or ANSI-41 INP Query features must be purchased before you can enable the LNP or ATINP features, or enable and turn on the EIR, INP, V-Flex, or ANSI-41 INP Query features. If you are not sure whether you have purchased the LNP, EIR, or INP, V-Flex,

ATINP, or ANSI-41 INP Query feature, contact your Tekelec Sales Representative or Account Representative.

Once the LNP or ATINP feature is enabled with the `enable-ctrl-feat` command, or the EIR, INP, V-Flex, and ANSI-41 INP Query features are turned on with the `chg-ctrl-feat` command, they cannot be turned off or disabled.

A point code must exist as a destination in the route table or reside in a cluster that exists as a destination in the route table (for global title routing) unless the point code is the STP's true point code.

If a final GTT is specified (`ri=ssn`) with the `xlat=dpc` parameter, and the value of the `force` parameter is `no`, the point code must be in the Remote Point Code/Mated Application table. Verify this by entering the `rtrv-map` command. If this point code and subsystem number is not defined as a mated application, perform one of these procedures to add the point code and subsystem number to the database as a mated application:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262.

The point code and subsystem number do not have to be in the mated application table when the `ent-gta` command is executed when these parameters are specified with the `ent-gta` command.

- `ri=gt`
- `xlat=dpcssn` and `ri=ssn` (provided the point code value is not the STP's true point code)

If the point code and subsystem are not in the mated application table when either of these parameters are specified with the `ent-gta` command, the EAGLE 5 ISS creates a solitary mated application in the mated application table using the point code and subsystem values specified in the `ent-gta` command.

If the `xlat=udts` parameter is specified for a global title translation, messages containing the CdPA GTA or range of GTAs, the CgPA GTA or range of GTAs, the CgPA point code, CgPA subsystem number or range of CgPA subsystem numbers, OPC, CdPA subsystem number or range of CdPA subsystem numbers, or OPCODE is discarded. UIM 1192 "SCCP translation found: XLAT=UDTS" is generated, and a UDTS (or XUDTS for XUDT) with Return Cause = 1 "No translation for address" is also generated regardless of the Message Handling value in the MSU.

If the `xlat=disc` parameter is specified for a global title translation, messages containing the CdPA GTA or range of GTAs, the CgPA GTA or range of GTAs, the CgPA point code, CgPA subsystem number or range of CgPA subsystem numbers, OPC, CdPA subsystem number or range of CdPA subsystem numbers, or OPCODE will be discarded. UIM 1193 "SCCP translation found: XLAT=DISCARD" is generated.

For more information on these UIMs, see the *Unsolicited Alarm and Information Messages Manual*.

The following tables show the valid parameter combinations that can be used with the `xlat=udts` and `xlat=disc` parameters.

- [Table 72: GTTSN = CDGTA GTT Set Parameter Combinations](#) on page 736
- [Table 73: GTTSN = CGGTA GTT Set Parameter Combinations](#) on page 738
- [Table 74: GTTSN = CGPC GTT Set Parameter Combinations](#) on page 740
- [Table 75: GTTSN = CGSSN GTT Set Parameter Combinations](#) on page 741
- [Table 76: GTTSN = OPC GTT Set Parameter Combinations](#) on page 743

- [Table 77: GTTSN = CDSSN GTT Set Parameter Combinations](#) on page 744
- [Table 78: GTTSN = OPCODE GTT Set Parameter Combinations](#) on page 746

The `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, and `nsds` parameters are used by the Advanced GT Modification feature to modify the numbering plan, nature of address indicator, and the prefix or suffix digits in the called party address portion of outbound MSUs in addition to the translation type when the MSU requires further global title translation and the translation type is to be replaced.

Being able to change the numbering plan, nature of address indicator, and either the prefix or suffix digits in the called party address portion of outbound MSUs makes the MSU more compatible with the network that the MSU is being sent to and to ensure that the MSU is routed correctly. These changes are made after the global title translation process, but before the MSU is routed to its destination.

The `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, and `nsds` parameters can be specified only when the Advanced GT Modification feature is enabled. This can be verified by entering the `rtrv-ctrl-feat` command. For more information on the Advanced GT Modification feature, refer to [Advanced GT Modification Feature](#) on page 26.

The `ngti` parameter can be specified only if the domain (ANSI or ITU) of the translation type and point code of the global title translation are not the same (the translation type is ANSI and the point code is ITU or the translation type is ITU and the point code is ANSI), or if the domain of the translation type and point code is ITU. The Advanced GT Modification feature must be enabled and the ANSI-ITU-China SCCP Conversion feature must be enabled before the `ngti` parameter can be specified with the global title translation.

The EAGLE 5 ISS can contain 269,999, 400,000, or 1,000,000 global title addresses. The system default is 269,999 global title addresses. This quantity can be increased to 400,000 by enabling the feature access key for part number 893-0061-01, or to 1,000,000 by enabling the feature access key for part number 893-0061-10. For more information on enabling these feature access keys, refer to [Enabling the XGTT Table Expansion Feature](#) on page 859.

Canceling the RTRV-GTA Command

Because the `rtrv-gta` command used in this procedure can output information for a long period of time, the `rtrv-gta` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-gta` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-gta` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-gta` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-gta` command was entered, from another terminal other than the terminal where the `rtrv-gta` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

Table 71: GTA Parameter Combinations - No SETTYPE Column in RTRV-GTTSET Output

RI = GT XLAT=DPCNGT	RI = GT XLAT=DPCSSN	RI = GT XLAT=DPC	RI = SSN XLAT=DPCSSN	RI = SSN XLAT=DPC
Mandatory Parameters				
GTTSN	GTTSN	GTTSN	GTTSN	GTTSN
PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 2, and 6)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 2, and 6)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 2, and 6)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 2, and 6)	PC/PCA/PCI/ PCN/PCN24 (See Notes 1, 2, and 6)
GTA (See Notes 3, 4, 5, and 7)	GTA (See Notes 3, 4, 5, and 7)	GTA (See Notes 3, 4, 5, and 7)	GTA (See Notes 3, 4, 5, and 7)	GTA (See Notes 3, 4, 5, and 7)
NTT	SSN		SSN	
<p>If only the EGTT feature is on, or only the Flexible Linkset Optional Based Routing feature is enabled and turned on, the SETTYPE column is not shown in the rtrv-gttset output.</p> <p>There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters.</p>				
<p>Parameter Values:</p> <p>GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output.</p> <p>GTA – 1 - 21 digits or 1 - 21 hexadecimal digits</p> <p>PC / PCA / PCI / PCN / PCN24 – See Note 1</p> <p>SSN – 0 - 255</p> <p>NTT – 0 - 255</p>				
<p>Notes:</p> <ol style="list-style-type: none"> The pc/pca/pci/pcn/pcn24 parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes to the global title address (GTA). <ul style="list-style-type: none"> pc/pca = ANSI point code pci = ITU-I or ITU-I spare point code pcn = 14-bit ITU-N or 14-bit ITU-N spare point code pcn24 = 24-bit ITU-N point code. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, 				

RI = GT XLAT=DPCNGT	RI = GT XLAT=DPCSSN	RI = GT XLAT=DPC	RI = SSN XLAT=DPCSSN	RI = SSN XLAT=DPC
<p>or an ITU point code and an ANSI GTT set. The CROSS GTT set, a GTT set containing the NETDOM value CROSS, can be specified with either ANSI or ITU point codes.</p> <p>3. If the VGTT feature is on, shown by the VGTT = on entry in the rtrv-feat output, and the GTT set name contains 10 different length GTAs, the length of the GTA must match any existing GTA assigned to the GTT set name.</p> <p>If the Support for 16 GTT Lengths for VGTT feature is enabled and turned on, shown by the VGTT with 16 GTT lengths entry in the rtrv-ctrl-feat output, and the GTT set name contains 16 different length GTAs, the length of the GTA must match any existing GTA assigned to the GTT set name.</p> <p>4. If the GTT set name contains less than the maximum number of different length GTAs, the length of the GTA can be from 1 to 21 digits.</p> <p>5. If the VGTT feature is off, the length of the GTA must contain the number of digits defined by the NDGT field of the rtrv-gttset output.</p> <p>6. If the point code is the EAGLE 5 ISS's point code, then the xlat parameter value must be dpcssn and the ri parameter value must be ssn.</p> <p>7. Hexadecimal digits (0-9, a-f, A-F) can be specified for the gta, egta, npds, or nsds parameters only if the Hex Digit support for GTT feature is enabled.</p>				

Table 72: GTTSN = CDGTA GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value CDGTA in the SETTYPE column.	GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value CDGTA in the SETTYPE column.
RI – GT, SSN (See Notes 6, 7, 8, and 9)	GTA – 1 - 21 digits or 1 - 21 hexadecimal digits (See Notes 3, 4, 5, and 10)
PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 6)	
GTA – 1 - 21 digits or 1 - 21 hexadecimal digits (See Notes 3, 4, 5, and 10)	
Optional Parameters	
SSN – 0 - 255. Default value – no SSN value is specified. (See Note 9)	EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. (See Note 10) Default = same as the GTA value.

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
	The length of the EGTA value must be the same as the GTA value. This is the only optional parameter that can be specified when the XLAT value is DISC or UDTs.
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output. Refer to Table 70: GTTSN and OPSN Combinations on page 728 for the valid GTT set types that can be specified. Default value – no GTT set is specified.	
OPCSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column. Default value – no OPC GTT set is specified.	
There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters.	
<p>Notes:</p> <ol style="list-style-type: none"> The <code>pc/pca/pci/pcn/pcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes to the global title address (GTA). <ul style="list-style-type: none"> <code>pc/pca</code> = ANSI point code <code>pci</code> = ITU-I or ITU-I spare point code <code>pcn</code> = 14-bit ITU-N or 14-bit ITU-N spare point code <code>pcn24</code> = 24-bit ITU-N point code. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The GTT sets can be specified with the <code>gttsn</code>, <code>optsn</code>, or <code>opcsn</code> parameters. The CROSS GTT set, a GTT set containing the NETDOM value CROSS, can be specified with either ANSI or ITU point codes, but can be specified only with the <code>gttsn</code> parameter. If the VGTT feature is on, shown by the <code>VGTT = on</code> entry in the <code>rtrv-feat</code> output, and the GTT set name contains 10 different length GTAs, the length of the GTA must match any existing GTA assigned to the GTT set name. If the Support for 16 GTT Lengths for VGTT feature is enabled and turned on, shown by the <code>VGTT with 16 GTT lengths</code> entry in the <code>rtrv-ctrl-feat</code> output, and the GTT set name contains 16 different length GTAs, the length of the GTA must match any existing GTA assigned to the GTT set name. If the GTT set name contains less than the maximum number of different length GTAs, the length of the GTA can be from 1 to 21 digits. 	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
<ol style="list-style-type: none"> If the VGTT feature is off, the length of the GTA must contain the number of digits defined by the NDGT field of the <code>rtrv-gttset</code> output. If the point code is the EAGLE 5 ISS's point code, then the <code>xlat</code> parameter value must be <code>dpcssn</code> and the <code>ri</code> parameter value must be <code>ssn</code>. The <code>force</code> parameter can be specified only if the <code>ri</code> parameter is <code>ssn</code> and the <code>xlat</code> parameter value is <code>dpc</code>. If the <code>pc/pca/pci/pcn/pcn24</code> parameter value is not shown in the <code>rtrv-map</code> output, the <code>force=yes</code> parameter must be specified with the <code>ent-gta</code> command. If the <code>ri</code> parameter value is <code>gt</code>, the <code>xlat</code> parameter value can be <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>. If the <code>ri</code> parameter value is <code>ssn</code>, the <code>xlat</code> parameter value can be <code>dpcssn</code> or <code>dpc</code>. The <code>ssn</code> parameter can be specified, and must be specified, only if the <code>xlat</code> parameter is <code>dpcssn</code>. Hexadecimal digits (0-9, a-f, A-F) can be specified for the <code>gta</code> or <code>egta</code> parameters only if the Hex Digit support for GTT feature is enabled. 	

Table 73: GTTSN = CGGTA GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGGTA in the SETTYPE column.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGGTA in the SETTYPE column.
RI – GT, SSN (See Notes 6, 7, 8, and 9)	GTA – 1 - 21 digits or 1 - 21 hexadecimal digits (See Notes 3, 4, 5, and 10)
PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 6)	
GTA – 1 - 21 digits or 1 - 21 hexadecimal digits (See Notes 3, 4, 5, and 10)	
Optional Parameters	
SSN – 0 - 255. Default value – no SSN value is specified. (See Note 9)	EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. (See Note 10) Default = same as the GTA value. The length of the EGTA value must be the same as the GTA value. This is the only optional parameter that can be specified when the XLAT value is DISC or UDTs.

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
OPTSN – The GTT set name from the GTTSN column of the rtrv-gttset output. Refer to Table 70: GTTSN and OPSN Combinations on page 728 for the valid GTT set types that can be specified. Default value – no GTT set is specified.	
There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters.	
<p>Notes:</p> <ol style="list-style-type: none"> The pc/pca/pci/pcn/pcn24 parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes to the global title address (GTA). <ul style="list-style-type: none"> pc/pca = ANSI point code pci = ITU-I or ITU-I spare point code pcn = 14-bit ITU-N or 14-bit ITU-N spare point code pcn24 = 24-bit ITU-N point code. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The GTT sets can be specified with the gttsn, optsn, or opcsn parameters. The CROSS GTT set, a GTT set containing the NETDOM value CROSS, can be specified with either ANSI or ITU point codes, but can be specified only with the gttsn parameter. If the VGTT feature is on, shown by the VGTT = on entry in the rtrv-feat output, and the GTT set name contains 10 different length GTAs, the length of the GTA must match any existing GTA assigned to the GTT set name. If the Support for 16 GTT Lengths for VGTT feature is enabled and turned on, shown by the VGTT with 16 GTT lengths entry in the rtrv-ctrl-feat output, and the GTT set name contains 16 different length GTAs, the length of the GTA must match any existing GTA assigned to the GTT set name. If the GTT set name contains less than the maximum number of different length GTAs, the length of the GTA can be from 1 to 21 digits. If the VGTT feature is off, the length of the GTA must contain the number of digits defined by the NDGT field of the rtrv-gttset output. If the point code is the EAGLE 5 ISS's point code, then the xlat parameter value must be dpcssn and the ri parameter value must be ssn. The force parameter can be specified only if the ri parameter is ssn and the xlat parameter value is dpc. If the pc/pca/pci/pcn/pcn24 parameter value is not shown in the rtrv-map output, the force=yes parameter must be specified with the ent-gta command. If the ri parameter value is gt, the xlat parameter value can be dpcngt, dpcssn, or dpc. If the ri parameter value is ssn, the xlat parameter value can be dpcssn or dpc. 	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
<p>9. The <code>ssn</code> parameter can be specified, and must be specified, only if the <code>xlata</code> parameter is <code>dpcssn</code>.</p> <p>10. Hexadecimal digits (0-9, a-f, A-F) can be specified for the <code>gta</code> or <code>egta</code> parameters only if the Hex Digit support for GTT feature is enabled.</p>	

Table 74: GTTSN = CGPC GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGPC in the SETTYPE column.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGPC in the SETTYPE column.
RI – GT, SSN (See Notes 3, 4, 5, and 6)	CGPC/CGPCA/CGPCI/CGPCN/CGPCN24 (See Notes 1, 2, and 3)
PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 3)	
CGPC/CGPCA/CGPCI/CGPCN/CGPCN24 (See Notes 1, 2, and 3)	
Optional Parameters	
SSN – 0 - 255. Default value – no SSN value is specified. (See Note 3)	No optional parameters can be specified when the XLAT value is DISC or UDTs.
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output. Refer to Table 70: GTTSN and OPTSN Combinations on page 728 for the valid GTT set types that can be specified. Default value – no GTT set is specified.	
There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters. The EGTA parameter cannot be specified with this entry.	
Notes: <p>1. The <code>pc/pca/pci/pcn/pcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the translated point code. The <code>cgpc/cgpca/cgpci/cgpcn/cgpcn24</code> parameters are used to assign either ANSI,</p>	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
<p>ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the CGPC parameter values.</p> <ul style="list-style-type: none"> • <code>pc/pca</code> and <code>cgpc/cgpca</code> = ANSI point code • <code>pci</code> and <code>cgpai</code> = ITU-I or ITU-I spare point code • <code>pcn</code> and <code>cgpai</code> = 14-bit ITU-N or 14-bit ITU-N spare point code • <code>pcn24</code> and <code>cgpai24</code> = 24-bit ITU-N point code. <p>2. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The GTT sets can be specified with the <code>gttsn</code>, <code>optsn</code>, or <code>opcsn</code> parameters. The CROSS GTT set, a GTT set containing the NETDOM value CROSS, can be specified with either ANSI or ITU point codes, but can be specified only with the <code>gttsn</code> parameter.</p> <p>3. If the point code is the EAGLE 5 ISS's point code, then the <code>xlai</code> parameter value must be <code>dpcssn</code> and the <code>ri</code> parameter value must be <code>ssn</code>.</p> <p>4. The <code>force</code> parameter can be specified only if the <code>ri</code> parameter is <code>ssn</code> and the <code>xlai</code> parameter value is <code>dpc</code>. If the <code>pc/pca/pci/pcn/pcn24</code> parameter value is not shown in the <code>rtrv-map</code> output, the <code>force=yes</code> parameter must be specified with the <code>ent-gta</code> command.</p> <p>5. If the <code>ri</code> parameter value is <code>gt</code>, the <code>xlai</code> parameter value can be <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>. If the <code>ri</code> parameter value is <code>ssn</code>, the <code>xlai</code> parameter value can be <code>dpcssn</code> or <code>dpc</code>.</p> <p>6. The <code>ssn</code> parameter can be specified, and must be specified, only if the <code>xlai</code> parameter is <code>dpcssn</code>.</p>	

Table 75: GTTSN = CGSSN GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGSSN in the SETTYPE column.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGSSN in the SETTYPE column.
RI = GT, SSN (See Notes 3, 4, 5, and 6)	CGSSN – 0 - 255
PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 3)	
CGSSN – 0 - 255	
Optional Parameters	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
SSN – 0 - 255. Default value – no SSN value is specified. (See Note 3)	ECGSSN – 0 - 255. Default value – no ECGSSN value is specified. The ECGSSN value must be greater than the CGSSN value. This is the only optional parameter that can be specified when the XLAT value is DISC or UDTs.
ECGSSN – 0 - 255. Default value – no ECGSSN value is specified. The ECGSSN value must be greater than the CGSSN value.	
OPTSN – The GTT set name from the GTTSN column of the rtrv-gttset output. Refer to Table 70: GTTSN and OPSN Combinations on page 728 for the valid GTT set types that can be specified. Default value – no GTT set is specified.	
There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters. The EGTA parameter cannot be specified with this entry.	
<p>Notes:</p> <ol style="list-style-type: none"> The pc/pca/pci/pcn/pcn24 parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the translated point code. <ul style="list-style-type: none"> pc/pca = ANSI point code pci = ITU-I or ITU-I spare point code pcn = 14-bit ITU-N or 14-bit ITU-N spare point code pcn24 = 24-bit ITU-N point code. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The GTT sets can be specified with the gttsn, optsn, or opcsn parameters. The CROSS GTT set, a GTT set containing the NETDOM value CROSS, can be specified with either ANSI or ITU point codes, but can be specified only with the gttsn parameter. If the point code is the EAGLE 5 ISS's point code, then the xlat parameter value must be dpcssn and the ri parameter value must be ssn. The force parameter can be specified only if the ri parameter is ssn and the xlat parameter value is dpc. If the pc/pca/pci/pcn/pcn24 parameter value is not shown in the rtrv-map output, the force=yes parameter must be specified with the ent-gta command. If the ri parameter value is gt, the xlat parameter value can be dpcngt, dpcssn, or dpc. If the ri parameter value is ssn, the xlat parameter value can be dpcssn or dpc. 	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
6. The <code>ssn</code> parameter can be specified, and must be specified, only if the <code>xlata</code> parameter is <code>dpcssn</code> .	

Table 76: GTTSN = OPC GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column.
RI – GT, SSN (See Notes 3, 4, 5, and 6)	OPC/OPCA/OPCI/OPCN/OPCN24 (See Notes 1, 2, and 3)
PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 3)	
OPC/OPCA/OPCI/OPCN/OPCN24 (See Notes 1, 2, and 3)	
Optional Parameters	
SSN – 0 - 255. Default value – no SSN value is specified. (See Note 3)	No optional parameters can be specified when the XLAT value is DISC or UDTs.
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output. Refer to Table 70: GTTSN and OPSN Combinations on page 728 for the valid GTT set types that can be specified. Default value – no GTT set is specified.	
There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters. The EGTA parameter cannot be specified with this entry.	
Notes: <ol style="list-style-type: none"> The <code>pc/pca/pci/pcn/pcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the translated point code. The <code>opc/opca/opci/opcn/opcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the OPC parameter values. 	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
<ul style="list-style-type: none"> • <code>pc/pca</code> and <code>opc/opca</code> = ANSI point code • <code>pci</code> and <code>opci</code> = ITU-I or ITU-I spare point code • <code>pcn</code> and <code>opcn</code> = 14-bit ITU-N or 14-bit ITU-N spare point code • <code>pcn24</code> and <code>opcn24</code> = 24-bit ITU-N point code. <ol style="list-style-type: none"> 2. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The GTT sets can be specified with the <code>gttsn</code>, <code>optsn</code>, or <code>opcsn</code> parameters. The CROSS GTT set, a GTT set containing the <code>NETDOM</code> value <code>CROSS</code>, can be specified with either ANSI or ITU point codes, but can be specified only with the <code>gttsn</code> parameter. 3. If the point code is the EAGLE 5 ISS's point code, then the <code>xlat</code> parameter value must be <code>dpcssn</code> and the <code>ri</code> parameter value must be <code>ssn</code>. 4. The <code>force</code> parameter can be specified only if the <code>ri</code> parameter is <code>ssn</code> and the <code>xlat</code> parameter value is <code>dpc</code>. If the <code>pc/pca/pci/pcn/pcn24</code> parameter value is not shown in the <code>rtrv-map</code> output, the <code>force=yes</code> parameter must be specified with the <code>ent-gta</code> command. 5. If the <code>ri</code> parameter value is <code>gt</code>, the <code>xlat</code> parameter value can be <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>. If the <code>ri</code> parameter value is <code>ssn</code>, the <code>xlat</code> parameter value can be <code>dpcssn</code> or <code>dpc</code>. 6. The <code>ssn</code> parameter can be specified, and must be specified, only if the <code>xlat</code> parameter is <code>dpcssn</code>. 	

Table 77: GTTSN = CDSSN GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
Mandatory Parameters	
GTTSN – The GTT set name from the <code>GTTSN</code> column of the <code>rtrv-gttset</code> output containing the value <code>CDSSN</code> in the <code>SETTYPE</code> column.	GTTSN – The GTT set name from the <code>GTTSN</code> column of the <code>rtrv-gttset</code> output containing the value <code>CDSSN</code> in the <code>SETTYPE</code> column.
RI = GT, SSN (See Notes 3, 4, 5, and 6)	CDSSN – 0 - 255
PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 3)	
CDSSN – 0 - 255	
Optional Parameters	
SSN – 0 - 255. Default value – no SSN value is specified. (See Note 3)	ECDSSN – 0 - 255. Default value – no ECDSSN value is specified. The ECDSSN value must be greater than the CDSSN value.

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
	This is the only optional parameter that can be specified when the XLAT value is DISC or UDTs.
ECDSSN – 0 - 255. Default value – no ECDSSN value is specified. The ECDSSN value must be greater than the CDSSN value.	
OPTSN – The GTT set name from the GTTSN column of the rtrv-gttset output. Refer to Table 70: GTTSN and OPSN Combinations on page 728 for the valid GTT set types that can be specified. Default value – no GTT set is specified.	
OPCSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPC in the SETTYPE column. Default value – no OPC GTT set is specified.	
There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters. The EGTA parameter cannot be specified with this entry.	
<p>Notes:</p> <ol style="list-style-type: none"> The pc/pca/pci/pcn/pcn24 parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the translated point code. <ul style="list-style-type: none"> pc/pca = ANSI point code pci = ITU-I or ITU-I spare point code pcn = 14-bit ITU-N or 14-bit ITU-N spare point code pcn24 = 24-bit ITU-N point code. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The GTT sets can be specified with the gttsn, optsn, or opcsn parameters. The CROSS GTT set, a GTT set containing the NETDOM value CROSS, can be specified with either ANSI or ITU point codes, but can be specified only with the gttsn parameter. If the point code is the EAGLE 5 ISS's point code, then the xlat parameter value must be dpcssn and the ri parameter value must be ssn. The force parameter can be specified only if the ri parameter is ssn and the xlat parameter value is dpc. If the pc/pca/pci/pcn/pcn24 parameter value is not shown in the rtrv-map output, the force=yes parameter must be specified with the ent-gta command. 	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
<p>5. If the <i>ri</i> parameter value is <i>gt</i>, the <i>xlat</i> parameter value can be <i>dpcngt</i>, <i>dpcssn</i>, or <i>dpc</i>. If the <i>ri</i> parameter value is <i>ssn</i>, the <i>xlat</i> parameter value can be <i>dpcssn</i> or <i>dpc</i>.</p> <p>6. The <i>ssn</i> parameter can be specified, and must be specified, only if the <i>xlat</i> parameter is <i>dpcssn</i>.</p>	

Table 78: GTTSN = OPCODE GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC		XLAT=DISC or UDTs	
Mandatory Parameters			
GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPCODE in the SETTYPE column.		GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPCODE in the SETTYPE column.	
RI = GT, SSN (See Notes 3, 4, 5, and 6)		OPCODE – 0 - 255, *, none	
PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 3)		ANSI TCAP Translation	ITU TCAP Translation
OPCODE – See Notes 7, 10, and 11		FAMILY – See Notes 8, 10, and 11	ACN – The application context name – See Notes 9 and 10
ANSI TCAP Translation	ITU TCAP Translation	PKGTYPE – ansiabort, ansiumi, any, cwop, cwp, qwop, qwp, resp	PKGTYPE – any, bgn, cnt, end, ituabort, ituumi
FAMILY – See Notes 8, 10, and 11	ACN – The application context name – See Notes 9 and 10		
PKGTYPE – ansiabort, ansiumi, any, cwop, cwp, qwop, qwp, resp	PKGTYPE – any, bgn, cnt, end, ituabort, ituumi		
Optional Parameters			
SSN – 0 - 255. Default value – no SSN value is specified. (See Note 3)			
OPTSN – The GTT set name from the GTTSN column of the rtrv-gttset output. Refer to Table 70: GTTSN and OPSN Combinations on page 728 for the valid GTT set types that can be specified. Default value – no GTT set is specified.			

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
OPCSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column. Default value – no OPC GTT set is specified.	
There are other optional parameters that can be used with this entry. Refer to Table 79: Optional GTA Parameters on page 748 for these parameters. The EGTA parameter cannot be specified with this entry.	
<p>Notes:</p> <ol style="list-style-type: none"> The <code>pc/pca/pci/pcn/pcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the translated point code. <ul style="list-style-type: none"> <code>pc/pca</code> = ANSI point code <code>pci</code> = ITU-I or ITU-I spare point code <code>pcn</code> = 14-bit ITU-N or 14-bit ITU-N spare point code <code>pcn24</code> = 24-bit ITU-N point code. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The GTT sets can be specified with the <code>gttsn</code>, <code>optsn</code>, or <code>opcsn</code> parameters. The CROSS GTT set, a GTT set containing the NETDOM value CROSS, can be specified with either ANSI or ITU point codes, but can be specified only with the <code>gttsn</code> parameter. If the point code is the EAGLE 5 ISS's point code, then the <code>xlat</code> parameter value must be <code>dpcssn</code> and the <code>ri</code> parameter value must be <code>ssn</code>. The <code>force</code> parameter can be specified only if the <code>ri</code> parameter is <code>ssn</code> and the <code>xlat</code> parameter value is <code>dpc</code>. If the <code>pc/pca/pci/pcn/pcn24</code> parameter value is not shown in the <code>rtrv-map</code> output, the <code>force=yes</code> parameter must be specified with the <code>ent-gta</code> command. If the <code>ri</code> parameter value is <code>gt</code>, the <code>xlat</code> parameter value can be <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>. If the <code>ri</code> parameter value is <code>ssn</code>, the <code>xlat</code> parameter value can be <code>dpcssn</code> or <code>dpc</code>. The <code>ssn</code> parameter can be specified, and must be specified, only if the <code>xlat</code> parameter is <code>dpcssn</code>. The <code>opcode</code> parameter value is one of these values. <ul style="list-style-type: none"> the number 0 to 255 * - any valid value in the TCAP OPCODE field in the incoming MSU none - there is no value in the TCAP OPCODE field in the incoming MSU The <code>family</code> parameter value is one of these values. <ul style="list-style-type: none"> the number 0 to 255 * - any valid value in the ANSI TCAP FAMILY field in the incoming MSU none - there is no value in the ANSI TCAP FAMILY field in the incoming MSU The <code>acn</code> parameter value is one of these values. 	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs
<ul style="list-style-type: none"> • a maximum of 7 subfields containing the numbers 0 to 255 separated by dash (for example, 1-202-33-104-54-26-007) • * - any valid value in the ITU TCAP ACN field in the incoming MSU • none - there is no value in the ITU TCAP ACN field in the incoming MSU <p>10. If the <code>pkgtype=ituabort</code> parameter is specified, the value <code>none</code> must be specified for the <code>acn</code> and <code>opcode</code> parameters. If the <code>pkgtype=ansiabort</code> parameter is specified, the value <code>none</code> must be specified for the <code>family</code> and <code>opcode</code> parameters.</p> <p>11. If the value <code>none</code> is specified for either the <code>family</code> or <code>opcode</code> parameters, the value <code>none</code> must be specified for both parameters.</p>	

Table 79: Optional GTA Parameters

EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = same as the GTA value
NNP – 0 - 15. Default = 0xFFFF (See Notes 1, 3, and 4)
NNAI – 0 - 127. Default = 0xFFFF (See Notes 1, 3, and 4)
NPDD – 0 - 21. Default = 0 (See Notes 1 and 5)
NPDS – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = no digits (See Notes 1, 5, and 11)
NSDD – 0 - 21. Default = 0 (See Notes 1 and 5)
NSDS – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = no digits (See Notes 1, 5, and 11)
NGTI – 2, 4. Default = not applicable (See Notes 1, 3, 4, and 8)
MRNSET – MRN set ID from the <code>rtrv-mrn</code> output (See Note 6)
LOOPSET – Loopset name from the <code>rtrv-loopset</code> output (See Note 12)
CGGTMOD – yes, no. Default = no (See Note 13)
NTT – 0 - 255 (See Note 2)
CCGT – yes, no. Default = no (See Notes 7 and 8)
MAPSET – MAP set ID from the <code>rtrv-map</code> output. (See Note 10)
FORCE – yes, no. Default = no (See Note 9)
TESTMODE – on, off . Default = off. The Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter.

FALLBACK – sysdflt, yes, no. Default = sysdflt. The Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter.

CGSELID – 0 - 65534. Default = no CGSELID value is specified. The Origin-Based SCCP Routing feature must be enabled to use this parameter.

CDSELID – 0 - 65534. Default = no CDSELID value is specified. The Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter

CGCNVSN – GTT set name shown in the `rtrv-gttset` output. Default = no CGCNVSN value is specified. The ANSI-ITU-China SCCP Conversion feature must be enabled, and the Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter.

Notes:

1. The `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, and `nsds` parameters can be specified only if the Advanced GT Modification feature is enabled. The `ngti` parameter can be specified only if the Advanced GT Modification feature is enabled and if the ANSI-ITU-China SCCP Conversion feature is enabled. The `ngti` parameter can be specified only if the domain (ANSI or ITU) of the translation type and point code of the global title translation are not the same (the translation type is ANSI and the point code is ITU or the translation type is ITU and the point code is ANSI), or if the domain of the translation type and point code is ITU.
2. The `xlat=dpc` parameter can be specified with the `ntt` parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.
3. The `ngti=2` parameter can be specified only with an ANSI point code, and not with the `nnp` and `nnai` parameters.
4. The `ngti=4` parameter can be specified only with an ITU point code, and the `nnp` and `nnai` parameters must also be specified for the GTA.
5. The prefix parameters (`npdd` and `npds`) and the suffix parameters (`nsdd` and `nsds`) cannot be specified in the `ent-gta` command at the same time. If you wish to specify these parameters, you must specify either the `npdd` and `npds` or the `nsdd` and `nsds` parameters.
6. The `mrnset` parameter can be specified only, and must be specified, if the Flexible GTTLoad Sharing feature is enabled.
7. If the point code is the EAGLE 5 ISS's point code, then the value of the `ccgt` parameter must be set to `no`.
8. Either `ccgt` or `ngti` parameters can be specified with the `ent-gta` command, but both parameters cannot be specified together with the `ent-gta` command.
9. If the `pc/pca/pci/pcn/pcn24` parameter value is not shown in the `rtrv-map` output, the `force=yes` parameter must be specified with the `ent-gta` command.
10. The `mapset` parameter can be specified only, and must be specified, if the Flexible GTTLoad Sharing feature is enabled.
11. Hexadecimal digits (0-9, a-f, A-F) can be specified for the `gta`, `egta`, `npds`, or `nsds` parameters only if the Hex Digit support for GTT feature is enabled.
12. The `loopset` parameter can be specified only if the SCCP Loop Detection feature is enabled.
13. The `cggtmod` parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled.

1. Display the existing GTT sets in the database using the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
abcd1234   itu      CGGTA    12
imsi       itu      CDGTA    15
lidx       ansi    CDGTA    10
t800       ansi    CGGTA    6
s1000      itu      CDGTA    15
s2000      itu      CGPC     -
```

If the desired GTT set name is shown in the `rtrv-gttset` output, continue the procedure with [Step 2](#) on page 750.

If the desired GTT set name is not shown in the `rtrv-gttset` output, perform [Adding a GTT Set](#) on page 660 to add the required GTT set. After the GTT set has been added, continue the procedure with [Step 3](#) on page 751. If the `SETTYPE` column is not shown in the `rtrv-gttset` output and you wish to provision the GTA entry for any of these features, Origin-Based SCCP Routing, Flexible Linkset Optional Based Routing, or TCAP Opcode Based Routing, make sure the appropriate feature is enabled, and turned on if necessary, when adding the GTT set. After the GTT set has been added, continue the procedure with [Step 3](#) on page 751.

2. Display the global title address information for the GTT set that the global title address information will be added to using the `rtrv-gta` command with the `gttsn` parameter value shown in the output of [Step 1](#) on page 750.

If the `num` parameter is specified with the `rtrv-gta` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gta` command. For this example, enter this command.

```
rtrv-gta:gttsn=t800
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
t800       ansi    CDGTA    10
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI    PC
8005550000 8005551999 DPCSSN SSN    001-254-255
      SSN=255 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=gttset7 CGSELID=----- CDSELID=----- OPCS=-----
8005552000 8005553999 DPC    GT    001-254-255
      SSN=255 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=gttset7 CGSELID=----- CDSELID=----- OPCS=-----
8005554000 8005555999 DPCNGT GT    001-254-255
      SSN=255 CCGT=no NTT=123
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=----- CGSELID=----- CDSELID=----- OPCS=gttset12
8005556000 8005557999 DPCSSN SSN    001-254-255
      SSN=255 CCGT=no NTT=---
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=----- CGSELID=----- CDSELID=----- OPCS=gttset6
8005558000 8005559999 DPCSSN SSN    001-254-255
```



```

SSN=255 CCGT=yes NTT=---
FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
OPTSN=----- CGSELID=----- CDSELID=----- OPCS=gttset12
919551212 919551212 DPCSSN SSN 008-001-001
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
OPTSN=----- CGSELID=----- CDSELID=----- OPCS=gttset12
9762428487 9762428487 DPCSSN SSN 001-254-255
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
OPTSN=----- CGSELID=----- CDSELID=----- OPCS=-----
9766423277 9766423277 DPCSSN SSN 001-254-255
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
OPTSN=----- CGSELID=----- CDSELID=----- OPCS=-----
9769388928 9769388928 DPCSSN SSN 001-254-255
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
OPTSN=gttset9 CGSELID=----- CDSELID=----- OPCS=-----

Command Retrieved 9 Entries

```

- The global title address entry cannot be added to the database if the database contains the maximum number of global title addresses the EAGLE 5 ISS is allowed to have. The maximum number of global title addresses is shown in the `rtrv-ctrl-feat` output.

The following is an example of the possible output.

```

rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

```

Feature Name	Partnum	Status	Quantity
XGTT Table Expansion	893006101	on	400000
IPGWx Signaling TPS	893012814	on	20000
ISUP Normalization	893000201	on	----
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
HC-MIM SLK Capacity	893012707	on	64

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

Note: If the entry XGTT Table Expansion is not shown in the `rtrv-ctrl-feat` output, the maximum number of global title addresses that the database can contain is 269,999.

If the current number of global title translations that can be provisioned is 400,000, and the global title translation being added increases the number beyond 400,000 (the current number of global title translations that are provisioned is shown in the `rtrv-gta` output in [Step 2](#) on page 750), perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable XGTT Table Expansion feature for 1,000,000 global title translations.

If the current number of global title translations that can be provisioned is 269,999, and the global title translations being added increases the number beyond 269,999 (the current number of global title translations that are provisioned is shown in the `rtrv-gta` output in [Step 2](#) on

page 750), perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable XGTT Table Expansion feature for 400,000 global title translations.

If the maximum number of global title is either 269,999 or 400,000, and the global title translation being added will not increase the number beyond the maximum number of global title translations (shown in the `rtv-gta` output in [Step 2](#) on page 750), the maximum number of global title translations does not need to be increased. If the maximum number of global title translations is 1,000,000, the maximum number of global title translations cannot be increased.

4. Some parameters of the `ent-gta` command can be specified only when certain features are enabled, and turned on if necessary. [Table 80: Feature Requirements for ENT-GTA Parameters](#) on page 752 shows the feature requirements for these parameters.

Table 80: Feature Requirements for ENT-GTA Parameters

Required Feature	Parameters or Values
Origin-Based SCCP Routing Enabled	GTTSN - specifying CGGTA, CGPC, CGSSN, or OPC GTT sets
	OPTSN - specifying CGGTA, CGPC, or CGSSN GTT sets
	OPCSN
	CGPC
	CGSSN
	ECGSSN
	OPC
	CGSELID
	XLAT=DISC
	XLAT=UDTS
Flexible GTT Load Sharing Enabled	MAPSET
	MRNSET
Flexible Linkset Optional Based Routing Enabled and Turned On	FALLBACK
	TESTMODE
	CDSELID
ANSI-ITU-China SCCP Conversion Enabled and Flexible Linkset Optional Based Routing Enabled and Turned On	CGCNVSN
TCAP Opcode Based Routing Enabled and Turned On	GTTSN - specifying CDSSN or OPCODE GTT sets
	OPTSN - specifying CDSSN or OPCODE GTT sets
	CDSSN

Required Feature	Parameters or Values
	EDSSN
TOBR Quantity Enabled	ACN
	FAMILY
	OPCODE
	PKGTYPE
SCCP Loop Detection Enabled	LOOPSET
Advanced GT Modification or AMGTT CgPA Upgrade Enabled	CGGTMOD
	NNP
	NNAI
	NPDD
	NPDS
	NSDD
	NSDS
Advanced GT Modification or AMGTT CgPA Upgrade Enabled and ANSI-ITU-China SCCP Conversion Enabled	NGTI
ANSI-ITU-China SCCP Conversion Enabled	The domain (ANSI or ITU) of the point code and the GTT set that will be assigned to the GTA entry will be different.
Hex Digit Support for GTT Enabled	Hexadecimal digits will be specified for the gta, egta, npds, nsds parameter values.
<p>To enable, and turn on if necessary, any of these features, perform these procedures.</p> <ul style="list-style-type: none"> Origin-Based SCCP Routing - Activating the Origin-Based SCCP Routing Feature on page 892 Flexible GTT Load Sharing - Activating the Flexible GTT Load Sharing Feature on page 881. After the Flexible GTT Load Sharing feature has been enabled, perform one of these procedures. <ul style="list-style-type: none"> If the mrnset and ri=gt parameters will be specified for the GTA entry, perform Provisioning MRN Entries on page 367 to add the required MRNSET. If the mapset and ri=ssn parameters will be specified for the GTA entry, perform one of these procedures to add the required MAPSET. <ul style="list-style-type: none"> Provisioning a Solitary Mated Application on page 133 Provisioning a Dominant Mated Application on page 165 Provisioning a Load Shared Mated Application on page 217 Provisioning a Combined Dominant/Load Shared Mated Application on page 262 	

Required Feature	Parameters or Values
<ul style="list-style-type: none"> Flexible Linkset Optional Based Routing - Activating the Flexible Linkset Optional Based Routing Feature on page 976 TCAP Opcode Based Routing - Activating the TCAP Opcode Based Routing Feature on page 985 TOBR Opcode Quantity - Enabling a TOBR Opcode Quantity on page 990 SCCP Loop Detection - Activating the SCCP Loop Detection Feature on page 929. After the SCCP Loop Detection feature is enabled, perform Adding a Loopset on page 510 to add the required loopset. Advanced GT Modification or AMGTT CgPA Upgrade - Activating the Advanced GT Modification Feature on page 946 ANSI-ITU-China SCCP Conversion - Activating the ANSI-ITU-China SCCP Conversion Feature on page 874 Hex Digit Support for GTT Enabled - Activating the Hex Digit Support for GTT Feature on page 902 <p>If the required feature is enabled, and turned on if required, shown in the <code>rtrv-ctrl-feat</code> output in Step 3 on page 751, the procedure for that feature does not need to be performed.</p>	

After this step has been performed, continue the procedure by performing one of three steps.

- If the `xlat` parameter value will be `disc` or `udts`, continue the procedure with [Step 17](#) on page 763.
- If the `xlat` parameter value will be `dpcngt`, `dpcssn`, or `dpc`, continue the procedure by performing one of these steps.
 - If the `loopset` parameter will be specified for the GTA entry, and the `LOOPSET` field is shown in the `rtrv-gta` output, continue the procedure with [Step 5](#) on page 754.
 - If the `loopset` parameter will not be specified for the GTA entry, or the SCCP LOOP Detection feature was enabled in this step, continue the procedure with [Step 6](#) on page 755.

5. Display all the loopsets in the database by entering this command.

```
rtrv-loopset:num=1000:force=yes
```

This is an example of the possible output.

LoopSet	Mode	Point Codes		
=====				
cary2	notify	005-015-005	007-007-007	(ANSI)
		033-004-003	033-007-003	
		005-027-005	007-004-007	
cary4	notify	005-012-005	007-026-007	(ANSI)
		003-049-003	033-002-003	
		005-008-055	007-014-007	
apex3	discard	005-017-008	007-017-009	(ANSI)
		033-005-043	005-014-005	
		005-017-005	007-014-007	
		033-002-043	005-038-005	
		007-009-027	033-003-043	

		005-012-005	007-002-027	
apex4	discard	005-007-008 033-005-003 027-001-007 033-007-003 027-008-007	027-007-009 005-004-055 033-008-003 005-003-055	(ANSI)
ral5	notify	005-005-005 003-004-003 005-007-005 003-002-003 007-009-007 005-002-005	007-007-007 003-001-003 007-004-007 005-008-005 003-003-003 007-002-007	(ANSI)
ral6	notify	005-007-008 003-005-003 005-007-005	007-007-009 003-007-003	(ANSI)
dunn1	discard	005-002-055 003-008-033	007-051-007	(ANSI)
rtp9	discard	005-002-005 003-008-003 005-003-005 005-004-005	007-001-007 003-007-003 007-008-007	(ANSI)
rtp5	discard	005-007-008 003-005-003	007-007-009	(ANSI)
rtp1	discard	005-005-005 003-004-003 005-007-005 005-004-005	007-007-007 003-007-003 007-004-007	(ANSI)
rtp2	notify	005-007-008 003-005-003	007-007-009	(ANSI)
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0				
LOOPSET table is (11 of 1000) 1% full				
RTRV-LOOPSET: MASP A - COMPLTD				

Note: If the `rtrv-loopset` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-loopset` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 1000 loopsets in the database, to display all the loopsets in the database, the `force=yes` and `num=1000` parameters must be specified with the `rtrv-loopset` command.

If the required loopset is not shown in the `rtrv-loopset` output, perform [Adding a Loopset](#) on page 510 to add the required loopset.

if the required loopset is shown in the `rtrv-loopset` output, or if a new loopset was added, continue the procedure with [Step 6](#) on page 755.

- Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0						
DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN	DMN
001-207-000	-----	no	---	-----	-----	SS7
001-001-001	-----	no	---	-----	-----	SS7

001-001-002	-----	no	---	-----	-----	SS7
001-005-000	-----	no	---	-----	-----	SS7
001-007-000	-----	no	---	-----	-----	SS7
008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7
DPCI	CLLI	BEI	ELEI	ALIASI	ALIASN	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7
DPCN	CLLI	BEI	ELEI	ALIASA	ALIASI	DMN
DPCN24	CLLI	BEI	ELEI	ALIASA	ALIASI	DMN

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code. After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 9](#) on page 757.

If the required point code is shown in the `rtrv-dstn` output, continue the procedure with [Step 7](#) on page 756.

7. Display the point code that will be assigned to the GTA entry by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN	DMN
010-020-005	-----	no	---	-----	-----	SS7
PPC	NCAI		PRX			
009-002-003	----		no			

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

If a proxy point code is not assigned to the point code, continue the procedure with [Step 8](#) on page 756.

8. The point code specified with the `ent-gta` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code. Enter the `rtrv-rte` command with the `dpca`

parameter specifying the point code to be used with the `ent-gta` command to verify whether or not the point code is the DPC of a route. For this example, enter these commands.

```
rtrv-rte:dpca=001-255-100
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
  DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
    001-255-100  -----
                                ls03      10      001-255-100
                                ls02      30      150-150-150
                                lsa2      50      200-200-200
                                RTX:No    CLLI=ls03clli
```

```
rtrv-rte:dpca=001-255-252
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
  DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
    001-255-252  -----
                                ls07      10      001-255-252
                                ls08      30      025-025-150
                                lsa5      50      066-030-100
                                RTX:No    CLLI=ls07clli
```

```
rtrv-rte:dpca=001-255-001
```

This is an example of the possible output.

```
rlghncxa03w 06-10-07 11:43:04 GMT EAGLE5 36.0.0
  DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
    001-255-001  -----
                                ls05      10      001-255-001
                                ls15      30      089-047-123
                                lsa8      50      077-056-000
                                RTX:No    CLLI=ls05clli
```

If the point code is not shown in the `rtrv-rte` output, the point code is not the DPC of a route. Perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* to add the required route to the database.

If the point code is shown in the `rtrv-rte` output, or if a new route was added, continue the procedure with [Step 9](#) on page 757.

9. To use either the `mrnset` parameter (if the routing indicator value for the global title translation is GT) or `mapset` parameter (if the routing indicator value for the global title translation is SSN), the Flexible GTT Load Sharing feature must be enabled.

If the Flexible GTT Load Sharing feature is enabled, either the `mrnset` or `mapset` parameters, depending on the routing indicator value for the global title translation being added in this procedure, must be specified with the `ent-gta` command.

If the routing indicator for the global title translation being added is GT, there are two actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the `mrnset` parameter with the `ent-gta` command, continue the procedure with [Step 17](#) on page 763.
- If the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 10](#) on page 758.

If the routing indicator for the global title translation being added is SSN, there are two actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the mapset parameter with the `ent-gta` command, continue the procedure with one of these steps.
 - If the point code value is the EAGLE 5 ISS's point code, continue the procedure with [Step 14](#) on page 761.
 - If the point code value is a value other than the EAGLE 5 ISS's point code, the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpc`, continue the procedure with [Step 16](#) on page 762.
 - If the point code value is a value other than the EAGLE 5 ISS's point code, the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpcssn` when this procedure is completed, continue the procedure with [Step 11](#) on page 759.
 - If the Flexible GTT Load Sharing feature is enabled, perform one of these steps.
 - If the point code value is the EAGLE 5 ISS's point code continue the procedure with [Step 14](#) on page 761.
 - If the point code value is a value other than the EAGLE 5 ISS's point code, or the `xlat` parameter value will be `dpc`, continue the procedure with [Step 16](#) on page 762.
10. The point code and MRN set ID specified for the global title translation must be shown in the `rtrv-mrn` command output. The point code must be assigned to the MRN set that will be specified with the `ent-gta` command.

Enter the `rtrv-mrn` command to verify that the required MRN set is configured in the database, and that the required point code is assigned to the MRN set. The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
```

MRNSET	PC	RC
DFLT	001-001-001	10
	001-001-002	20
	001-001-003	30
	001-254-255	40
MRNSET	PC	RC
110	001-001-001	10
	001-001-005	20
	001-001-006	30
	001-001-003	40
	001-001-008	50
MRNSET	PC	RC
111	001-001-001	30
	001-001-005	30
	001-001-006	30
	001-001-003	30
	001-001-008	30
MRNSET	PC	RC
112	001-003-001	10
	001-003-002	10
	001-003-003	30
	001-003-004	30

	001-003-006	60
	001-003-007	60
	001-003-008	80
	001-003-009	80
MRNSET	PCN	RC
113	s-1-1-1-0123-aa	1
	s-1-1-1-0235-aa	2
	s-1-1-1-0235-aa	3

Note: If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the `rtrv-mrn` output

If the required MRN set is not shown in the `rtrv-mrn` output, or if the required point code is not assigned to the required MRN set, provision the required MRN set by performing [Provisioning MRN Entries](#) on page 367. After provisioning the required MRN set, continue the procedure with [Step 17](#) on page 763.

If the required MRN set is shown in the `rtrv-mrn` output, or if the required point code is assigned to the required MRN set, continue the procedure with [Step 17](#) on page 763.

11. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA          CLLI          BEI  ELEI   ALIASI          ALIASN          DMN
  001-207-000   -----   no   ---   -----   -----   SS7
  001-001-001   -----   no   ---   -----   -----   SS7
  001-001-002   -----   no   ---   -----   -----   SS7
  001-005-000   -----   no   ---   -----   -----   SS7
  001-007-000   -----   no   ---   -----   -----   SS7
  008-012-003   -----   no   ---   -----   -----   SS7
  003-002-004   -----   no   ---   -----   -----   SS7
  009-002-003   -----   no   ---   -----   -----   SS7
  010-020-005   -----   no   ---   -----   -----   SS7

  DPCI          CLLI          BEI  ELEI   ALIASI          ALIASN          DMN
  1-207-0       -----   no   ---   -----   -----   SS7
  0-015-0       -----   no   ---   -----   -----   SS7
  0-017-0       -----   no   ---   -----   -----   SS7
  1-011-1       -----   no   ---   -----   -----   SS7
  1-011-2       -----   no   ---   -----   -----   SS7

  DPCN          CLLI          BEI  ELEI   ALIASA          ALIASI          DMN
  DPCN24        CLLI          BEI  ELEI   ALIASA          ALIASI          DMN

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code. After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 16](#) on page 762.

If the required point code is shown in the `rtrv-dstn` output, continue the procedure with [Step 12](#) on page 760.

12. Display the point code that will be assigned to the mated application by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN	DMN
010-020-005	-----	no	---	-----	-----	SS7
PPC	NCAI		PRX			
009-002-003	----		no			

```
Destination table is (14 of 2000) 1% full
```

```
Alias table is (0 of 12000) 0% full
```

```
PPC table is (1 of 20) 5% full
```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

If a proxy point code is not assigned to the point code, continue the procedure with [Step 13](#) on page 760.

13. The point code specified with the `ent-gta` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code. Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `ent-gta` command to verify whether or not the point code is the DPC of a route. For this example, enter these commands.

```
rtrv-rte:dpca=001-255-100
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	ALIASI	ALIASN/N24	LSN	RC	APCA
001-255-100	-----	-----	ls03	10	001-255-100
			ls02	30	150-150-150
			lsa2	50	200-200-200

```
RTX:No CLLI=ls03clli
```

```
rtrv-rte:dpca=001-255-252
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	ALIASI	ALIASN/N24	LSN	RC	APCA
001-255-252	-----	-----	ls07	10	001-255-252
			ls08	30	025-025-150
			lsa5	50	066-030-100

```
RTX:No CLLI=ls07clli
```

```
rtrv-rte:dpca=001-255-001
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	ALIASI	ALIASN/N24	LSN	RC	APCA
001-255-001	-----	-----	ls05	10	001-255-001
			ls15	30	089-047-123

```
lsa8      50      077-056-000
RTX:No    CLLI=ls05c11i
```

If the point code is not shown in the `rtrv-rte` output, the point code is not the DPC of a route. Perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* to add the required route to the database.

If the point code is shown in the `rtrv-rte` output, or if a new route was added, continue the procedure with [Step 17](#) on page 763.

14. If the `ri=ssn` and `xlat=dpcssn` parameters are specified with the `ent-gta` command, and you wish to use the EAGLE 5 ISS's point code for the value of the `pc` parameter of the `ent-gta` command, the point code value must be in the EAGLE 5 ISS's self ID table. Display the EAGLE 5 ISS self-identification, using the `rtrv-sid` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
PCA          PCI          PCN          CLLI          PCTYPE
010-020-030  1-023-1      12-0-14-1    rlghncxa03w   OTHER
              s-1-023-1    s-12-0-14-1
CPCA
002-002-002  002-002-003  002-002-004  002-002-005
002-002-006  002-002-007  002-002-008  002-002-009
004-002-001  004-003-003  050-060-070
CPCI
1-001-1      1-001-2      1-001-3      1-001-4
1-002-1      1-002-2      1-002-3      1-002-4
2-001-1      7-222-7
CPCN
2-0-10-3     2-0-11-0     2-0-11-2     2-0-12-1
2-2-3-3     2-2-4-0     10-14-10-1
```

15. Enter the `rtrv-ss-appl` command to verify that either the LNP, EIR, V-Flex , ATINPQ, or INP subsystem number (depending on which feature is on) is in the subsystem application table.

This is an example of the possible output.

```
rlghncxa03w 09-05-28 14:42:38 GMT EAGLE5 41.0.0
APPL      SSN      STAT
LNP       254      ONLINE
SS-APPL table is 20% FULL (1 of 5)
```

If the subsystem number is shown in the `rtrv-ss-appl` output, continue the procedure with [Step 16](#) on page 762. If no subsystem number is shown in the `rtrv-ss-appl` output, or if the `rtrv-ss-appl` command is rejected, go to one of these manuals, depending on the type of subsystem you wish to use, to enable and turn on the feature as necessary, and add the subsystem to the subsystem application table.

- EIR subsystem – go to the *Feature Manual - EIR*.
- INP subsystem – go to the *Feature Manual - INP/AINPQ*.
- LNP subsystem – go to the *LNP Feature Activation Guide*.
- V-Flex subsystem – go to the *Feature Manual - V-Flex*.
- ATINPQ subsystem – go to the *Feature Manual - ATINP*.

If the Flexible GTT Load Sharing feature is enabled, shown in [Step 3](#) on page 751, a MAP set ID must be specified for the final global title translation. The point code and SSN specified for the final global title translation being added in this procedure must be assigned to the MAP set ID that will be assigned to the final global title translation. Perform [Step 16](#) on page 762 to verify that the required MAP set is configured in the database.

If the Flexible GTT Load Sharing feature is not enabled, and the `ri=ssn` and `xlat=dpc` parameters are not being specified with the `ent-gta` command, or if the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are not being specified with the `ent-gta` command, continue the procedure with [Step 17](#) on page 763.

16. Enter the `rtrv-map` command with the `pc` parameter specifying the required point code to verify that the required data is in the mated application table.

For this example enter this command.

```
rtrv-map:pca=001-255-001
```

```
rlghncxa03w 09-05-25 09:42:31 GMT EAGLE5 41.0.0
MAP TABLE IS 1 % FULL (12 of 36000)

PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
MAPSET ID=DFLT
001-255-001      55 5  DOM YES YES ----- OFF
                001-001-002 15 15 DOM YES YES ----- ON
                001-001-003 25 20 DOM YES YES ----- ON
                001-001-002 40 35 DOM YES YES ----- OFF
MAPSET ID=1
001-255-001      50 5  DOM YES YES ----- OFF
                001-001-002 10 15 DOM YES YES ----- ON
                001-001-003 20 20 DOM YES YES ----- ON
                001-001-002 40 35 DOM YES YES ----- OFF
MAPSET ID=2
001-255-001      5 10 SOL --- --- ----- OFF
```

Note: If the Weighted GTT Load Sharing feature is enabled, the `WT`, `%WT`, and `THR` columns are shown in the `rtrv-map` output

If the `ri=ssn` and `xlat=dpc` parameters are being specified with the `ent-gta` command, the point code must be in the mated application table. If the point code is not in the mated application table when the `ent-gta` command is executed, the `force=yes` parameter must be specified with the `ent-gta` command.

If the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters are being specified with the `ent-gta` command, the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number must be in the mated application table.

If the required point code, subsystem number, or MAP set ID is not shown in the `rtrv-map` output, perform one of these procedures to add the required information to the mated application table:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

17. Add the global title address to a GTT set using the `ent-gta` command. Use these tables as a guide for the parameters that can be used with the `ent-gta` command.

- [Table 71: GTA Parameter Combinations - No SETTYPE Column in RTRV-GTTSET Output](#) on page 735
- [Table 72: GTTSN = CDGTA GTT Set Parameter Combinations](#) on page 736
- [Table 73: GTTSN = CGGTA GTT Set Parameter Combinations](#) on page 738
- [Table 74: GTTSN = CGPC GTT Set Parameter Combinations](#) on page 740
- [Table 75: GTTSN = CGSSN GTT Set Parameter Combinations](#) on page 741
- [Table 76: GTTSN = OPC GTT Set Parameter Combinations](#) on page 743
- [Table 77: GTTSN = CDSSN GTT Set Parameter Combinations](#) on page 744
- [Table 78: GTTSN = OPCODE GTT Set Parameter Combinations](#) on page 746

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the `ent-gta` command are too long to fit on the `ent-gta` command line, perform [Changing Global Title Address Information](#) on page 787 to complete adding the GTA entry.

For this example, enter these commands:

```
ent-gta:gttsn=t800:gta=9194605555:xlata=dpcngt:ri=gt
:pc=001-255-100:nnp=3:nnai=120:npdd=2:npds=34:mrnset=114
:opcsn=gttset12:cggmod=yes

ent-gta:gttsn=t800:gta=9194610000:egta=9194689999:xlata=dpcssn
:ri=ssn:pc=001-255-252:ssn=254:mapset=3:opcsn=gttset12 :selid=12

ent-gta:gttsn=t800:gta=3365840000:egta=3365849999:xlata=dpc
:ri=ssn:pc=001-255-001:mapset=1:cggasn=gttset3
```

When each of these commands has successfully completed, this message appears.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
ENT-GTA: MASP A - COMPLTD
```

18. Verify the changes to the GTT set using the `rtrv-gta` command with the `gttsn` parameter value specified in [Step 17](#) on page 763 and one of the following parameters and values specified in [Step 17](#) on page 763, depending on what type of GTT set was specified in [Step 17](#) on page 763.

- The `gta` parameter and value – if the GTT set was a CDGTA or CGGTA GTT set, or if the GTT set had no SETTYPE value.
- The `cgssn` parameter and value – if the GTT set was a CGSSN GTT set.
- The `cgpc/cgpca/cgpci/cgpcn/cgpcn24` parameter and value – if the GTT set was a CGPC GTT set.
- The `opc/opca/opci/opcn/opcn24` parameter and value – if the GTT set was an OPC GTT set.
- The `cdssn` parameter and value – if the GTT set was a CDSSN GTT set.
- The `opcode` parameter and value – if the GTT set was an OPCODE GTT set.

If the `num` parameter is specified with the `rtrv-gta` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gta` command. For this example, enter these commands.

```
rtrv-gta:gttsn=t800:gta=9194605555
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
t800      ansi    10
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI      PC
9194605555 9194605555 dpcngt gt      001-255-100
      MRNSET=114 SSN=--- CCGT=no NTT=75 CGGTMOD=YES
      NNP=3 NNAI=120 NPDD=2 NPDS=34
      NGTI=
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=gttset12
```

Command Retrieved 1 Entries

```
rtrv-gta:gttsn=t800:gta=9194610000
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
t800      ansi    10
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI      PC
9194610000 9194689999 dpcssn ssn    001-255-252
      MAPSET=3      SSN=254 CCGT=no NTT=--- CGGTMOD=NO
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=gttset12
```

Command Retrieved 1 Entries

```
rtrv-gta:gttsn=t800:gta=3365840000
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
t800      ansi    10
GTA TABLE IS 1 % FULL (17 of 269999)

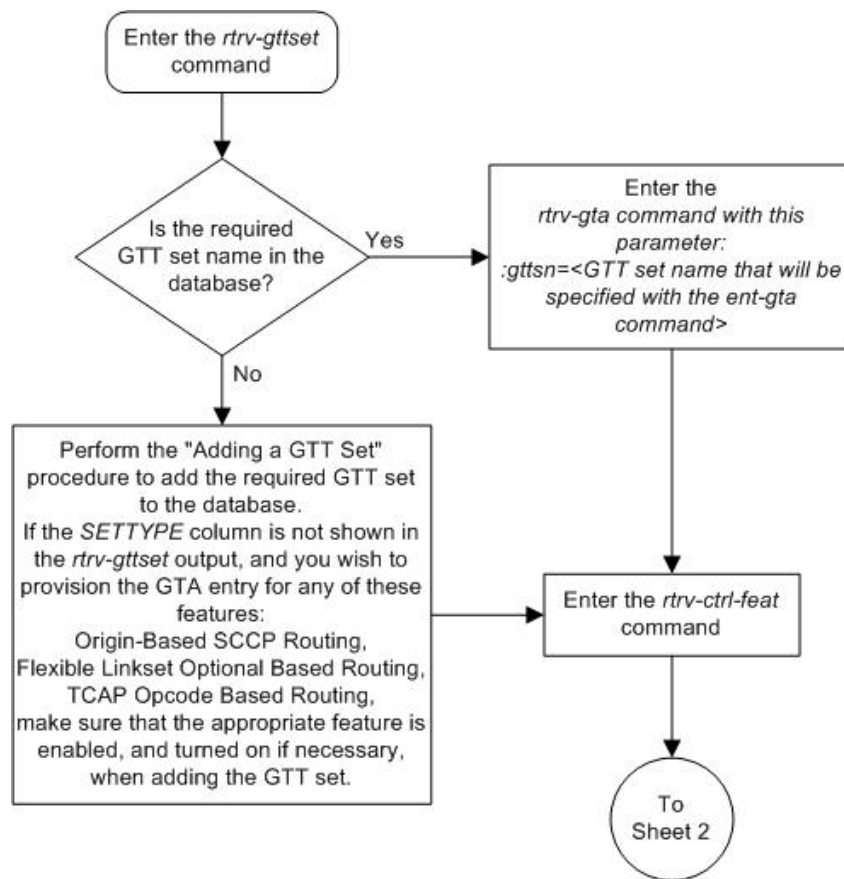
START GTA  END GTA    XLAT  RI      PC
3365840000 3365849999 dpc    ssn    001-255-001
      MAPSET=1      SSN=0    CCGT=no NTT=--- CGGTMOD=NO
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=gttset3  CGSELID=----- CDSELID=----- OPCSN=-----
```

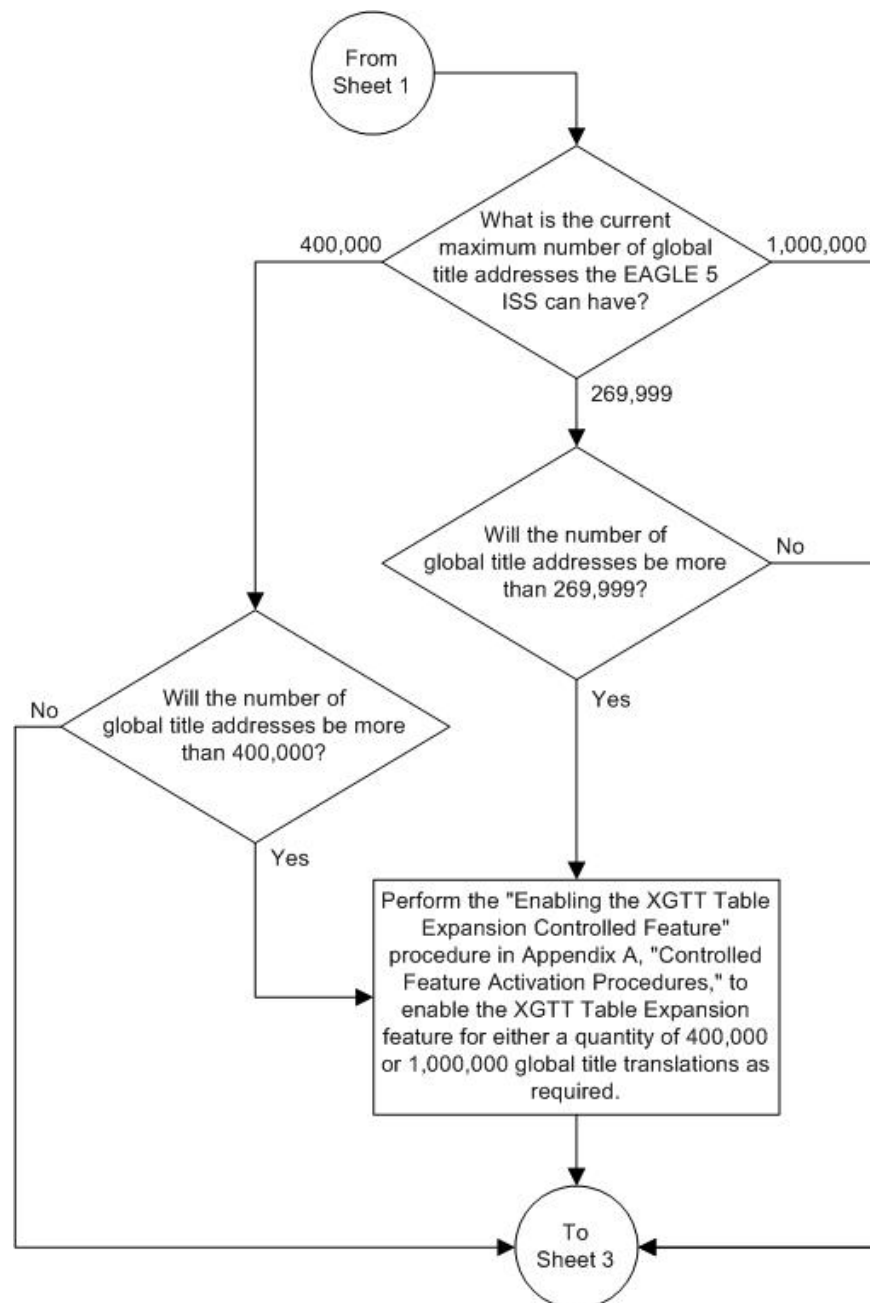
Command Retrieved 1 Entries

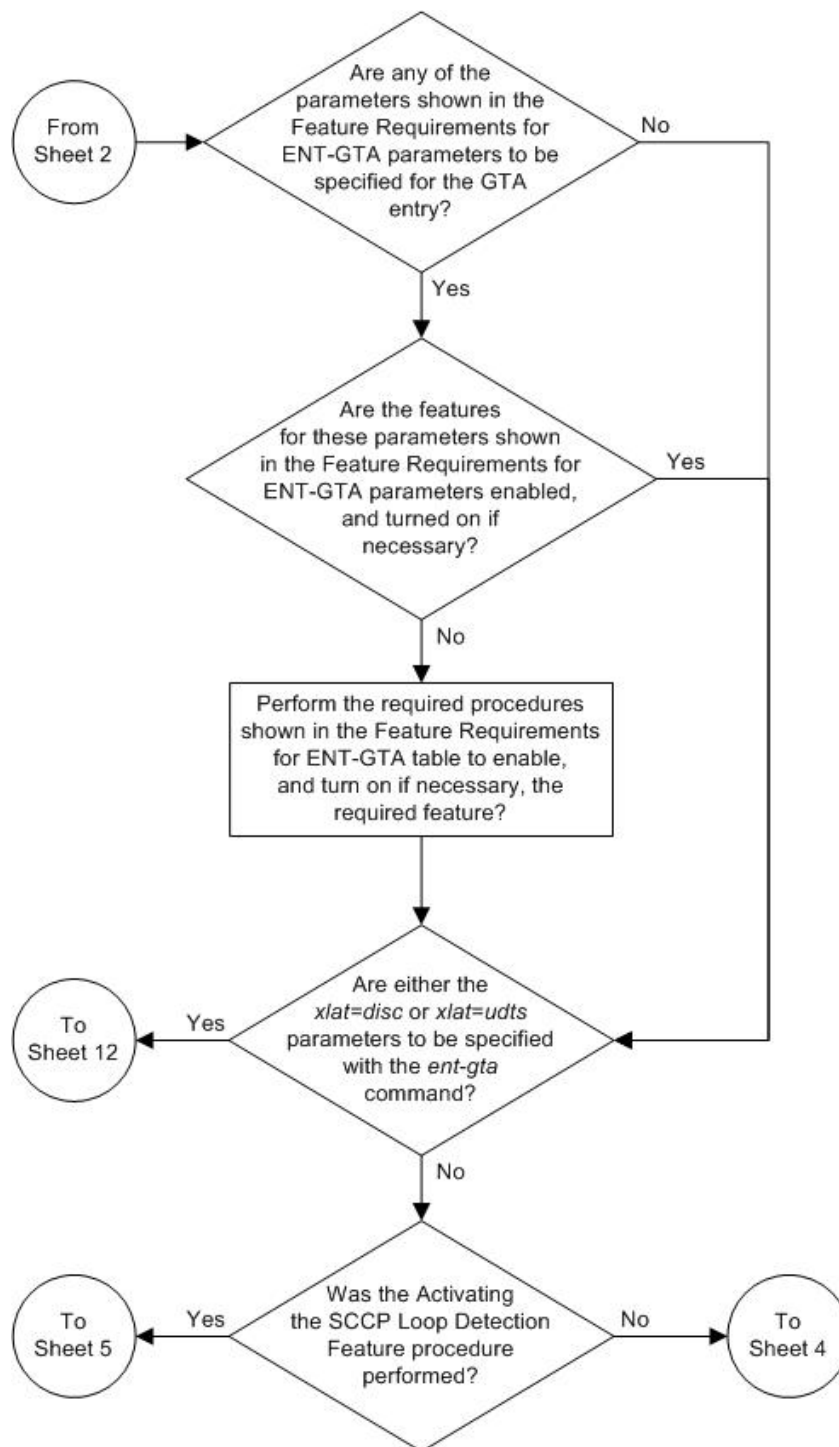
19. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

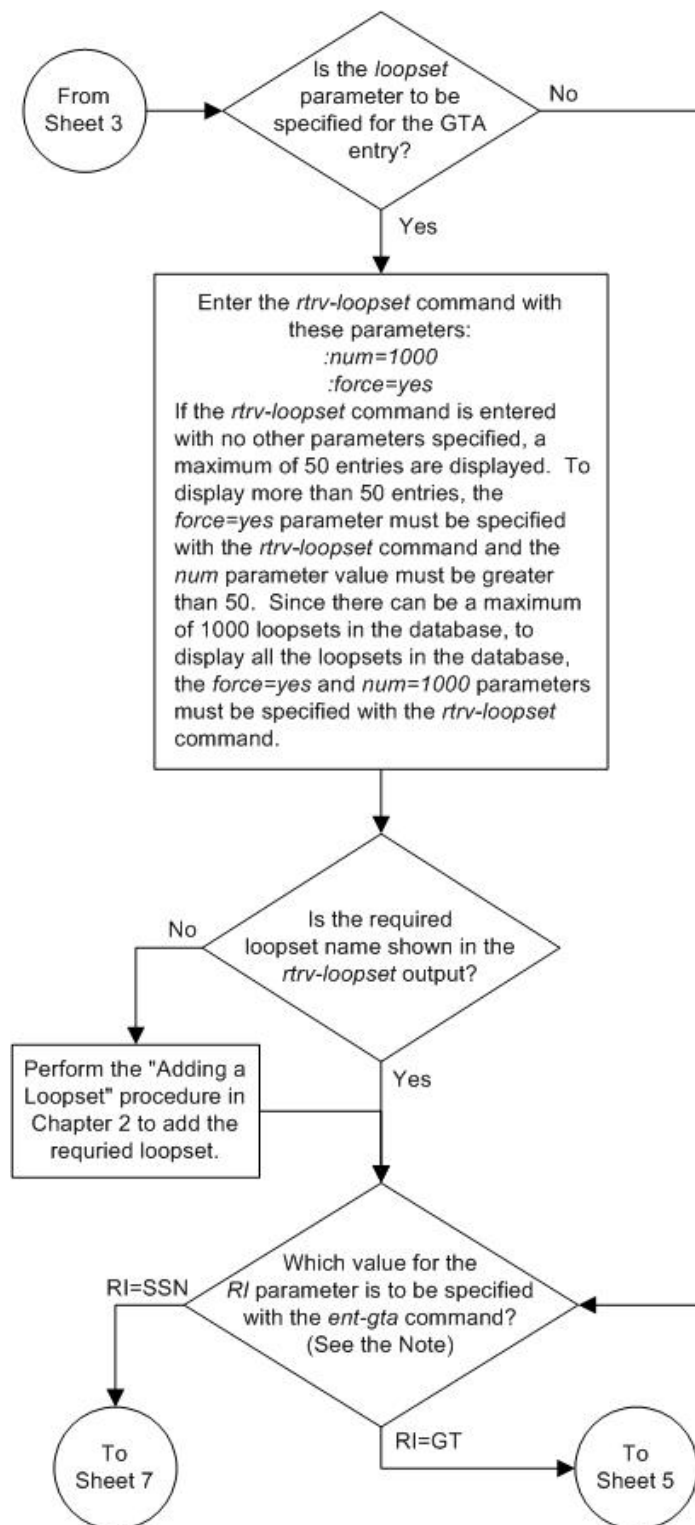
```
BACKUP (FIXED): MASP A - Backup starts on active MASP.
BACKUP (FIXED): MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED): MASP A - Backup starts on standby MASP.
BACKUP (FIXED): MASP A - Backup on standby MASP to fixed disk complete.
```

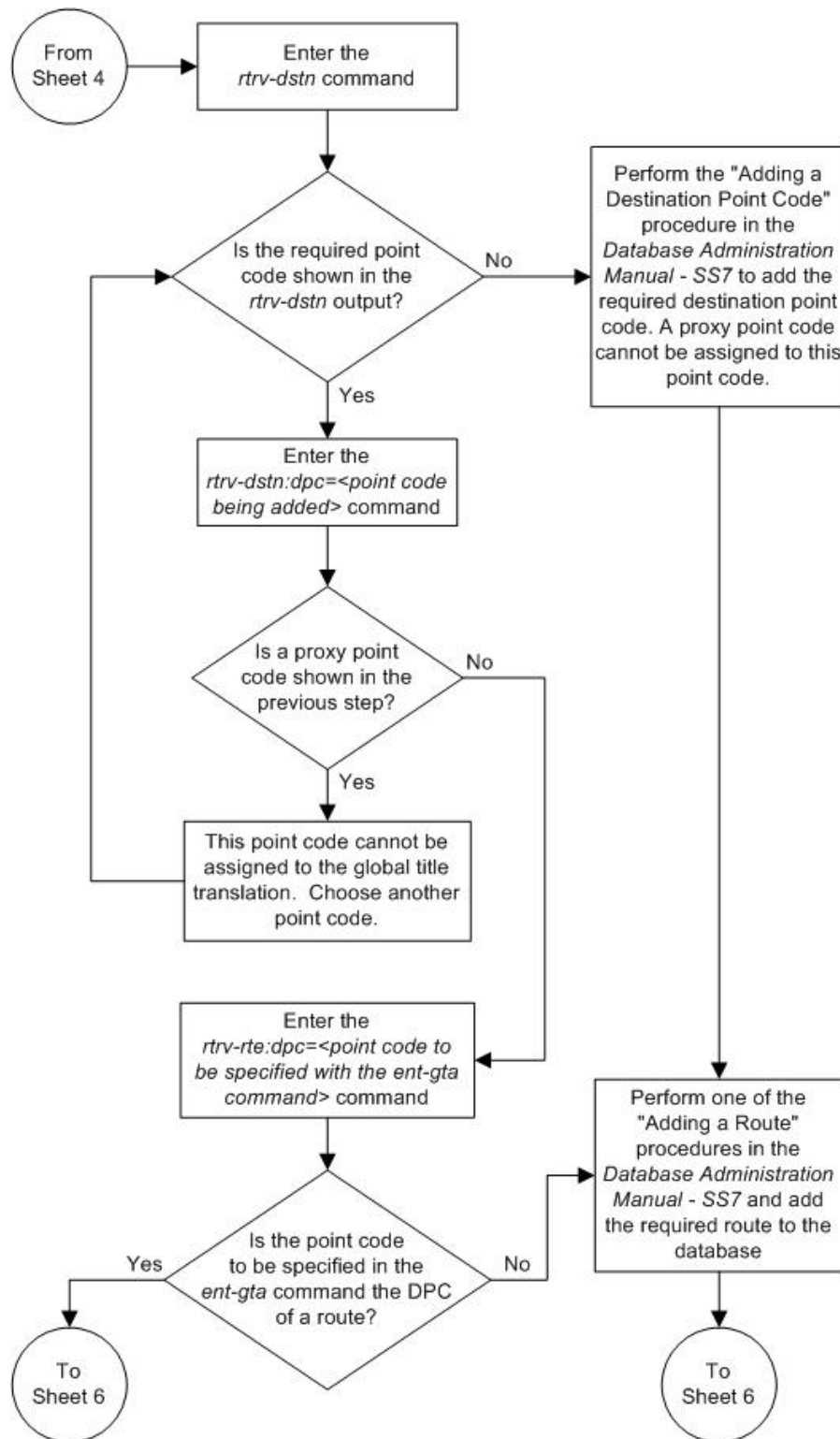
Figure 60: Adding Global Title Address Information to the Database

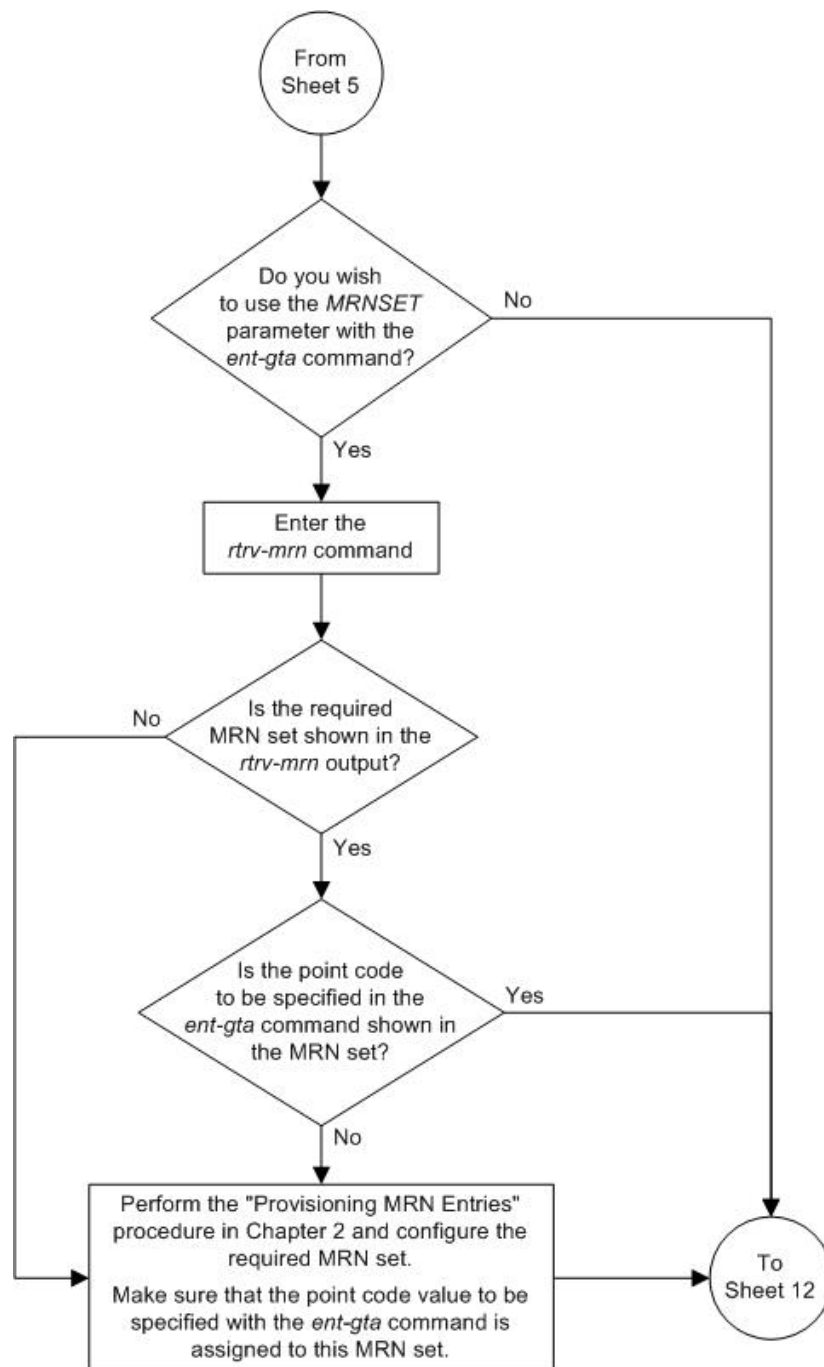


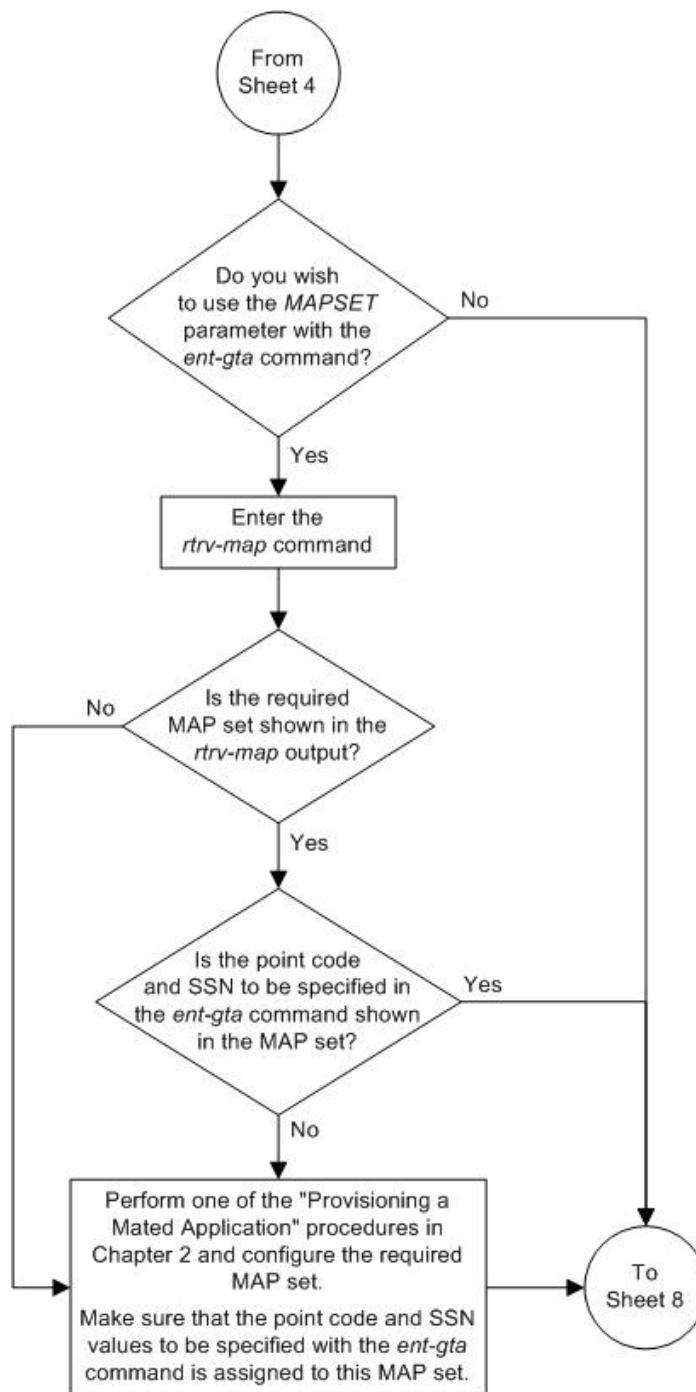


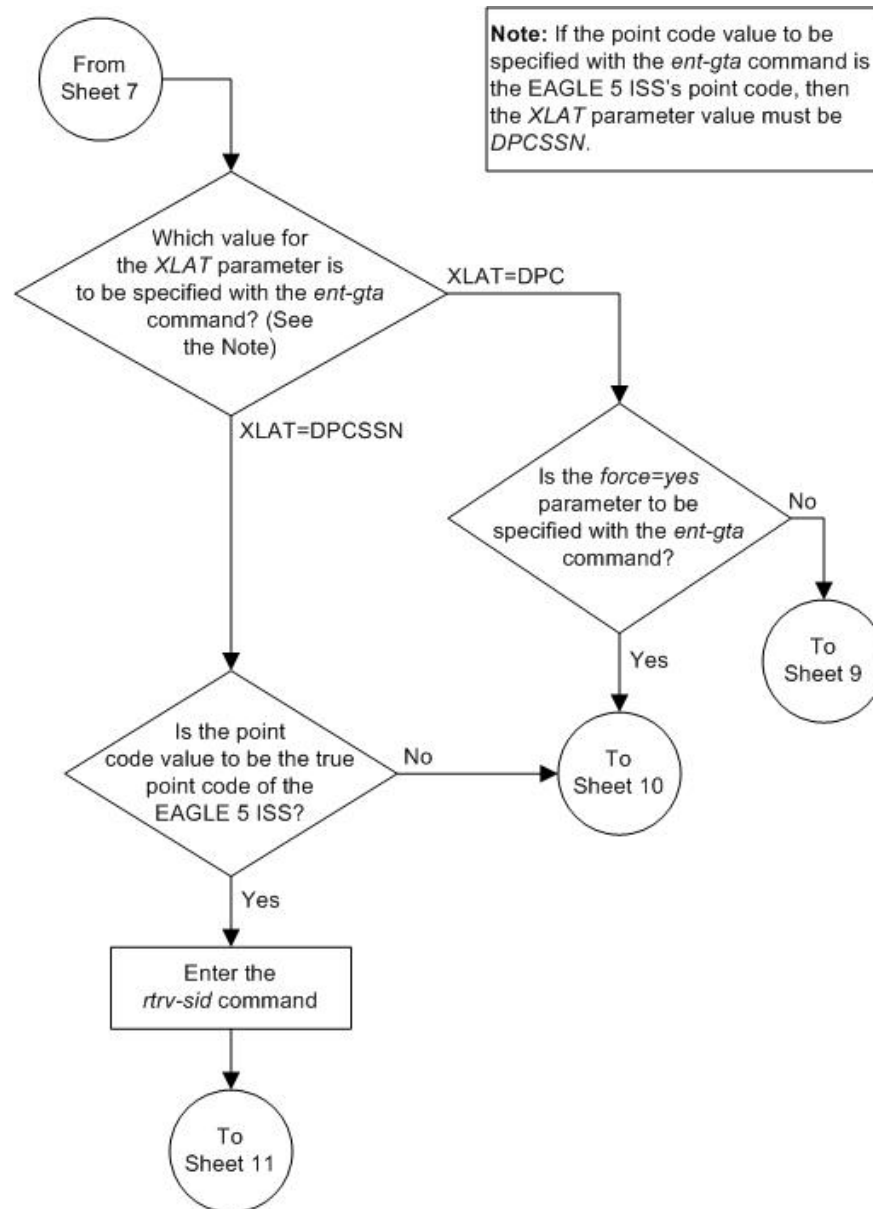


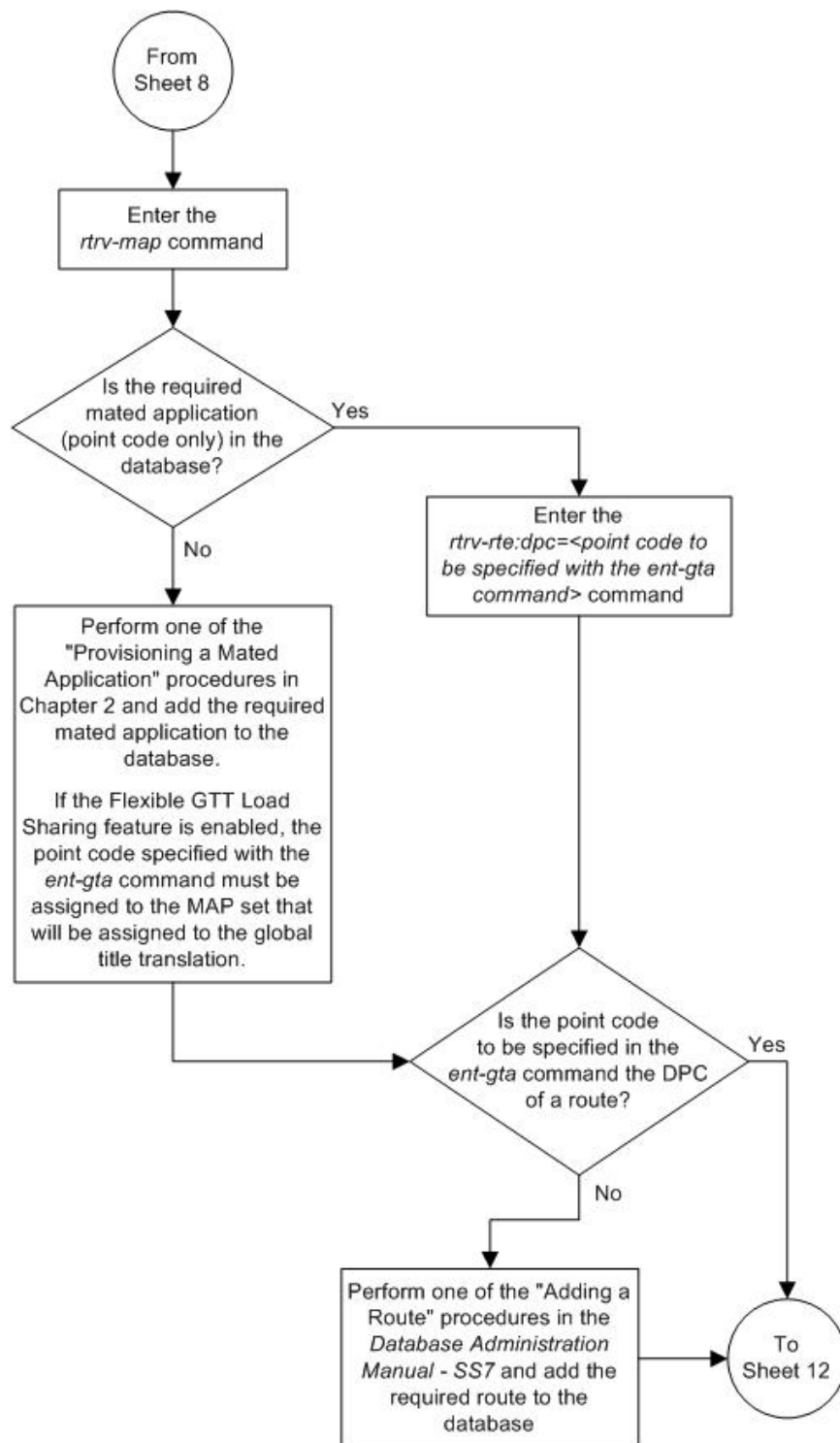


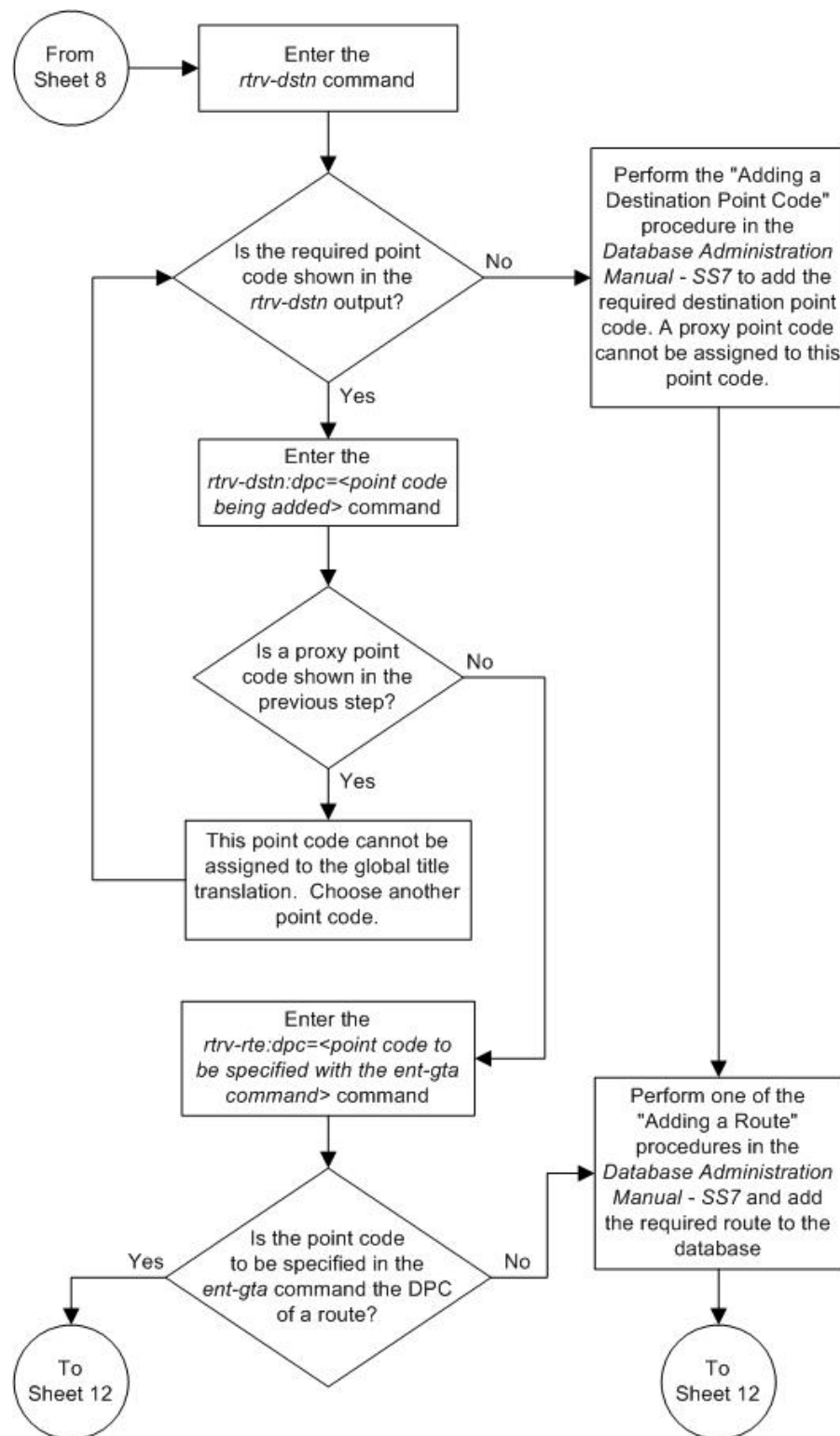


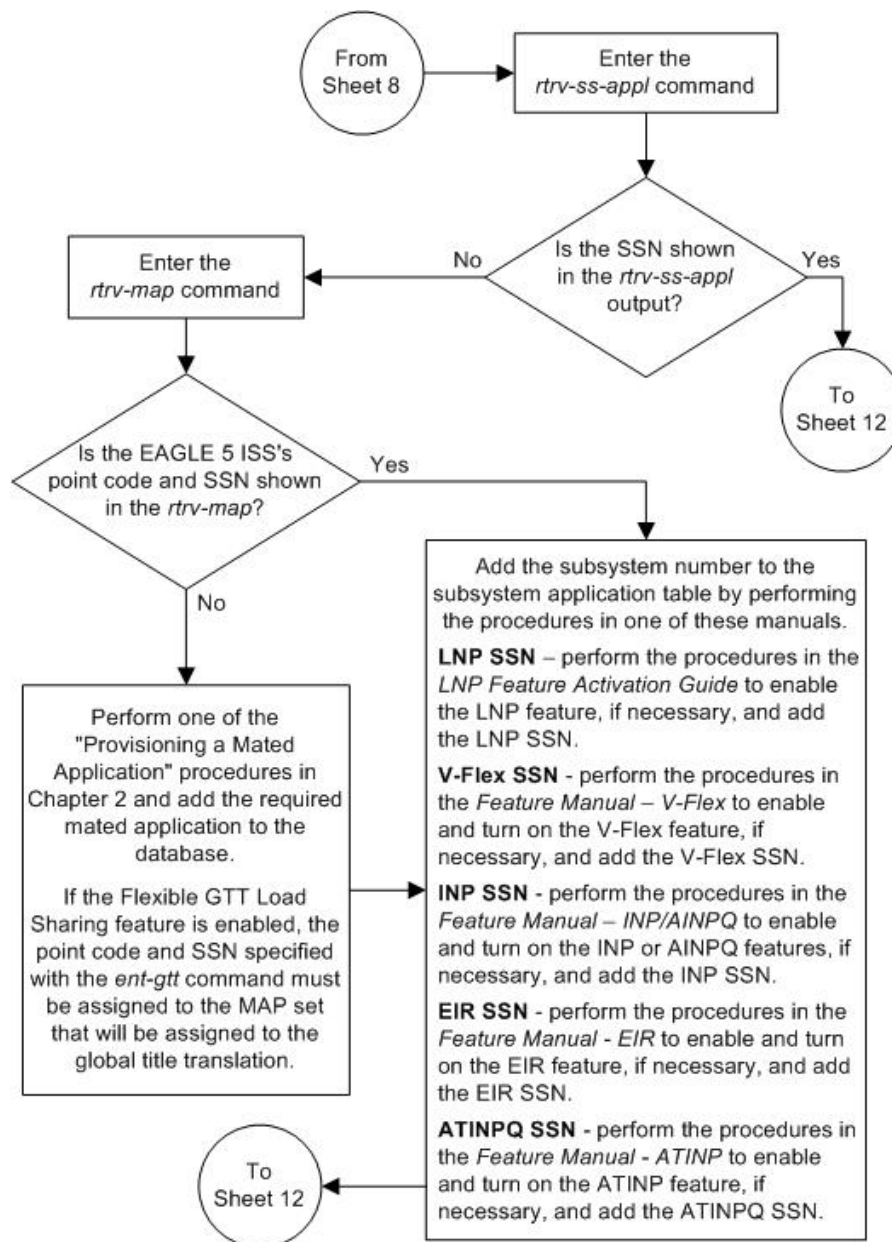


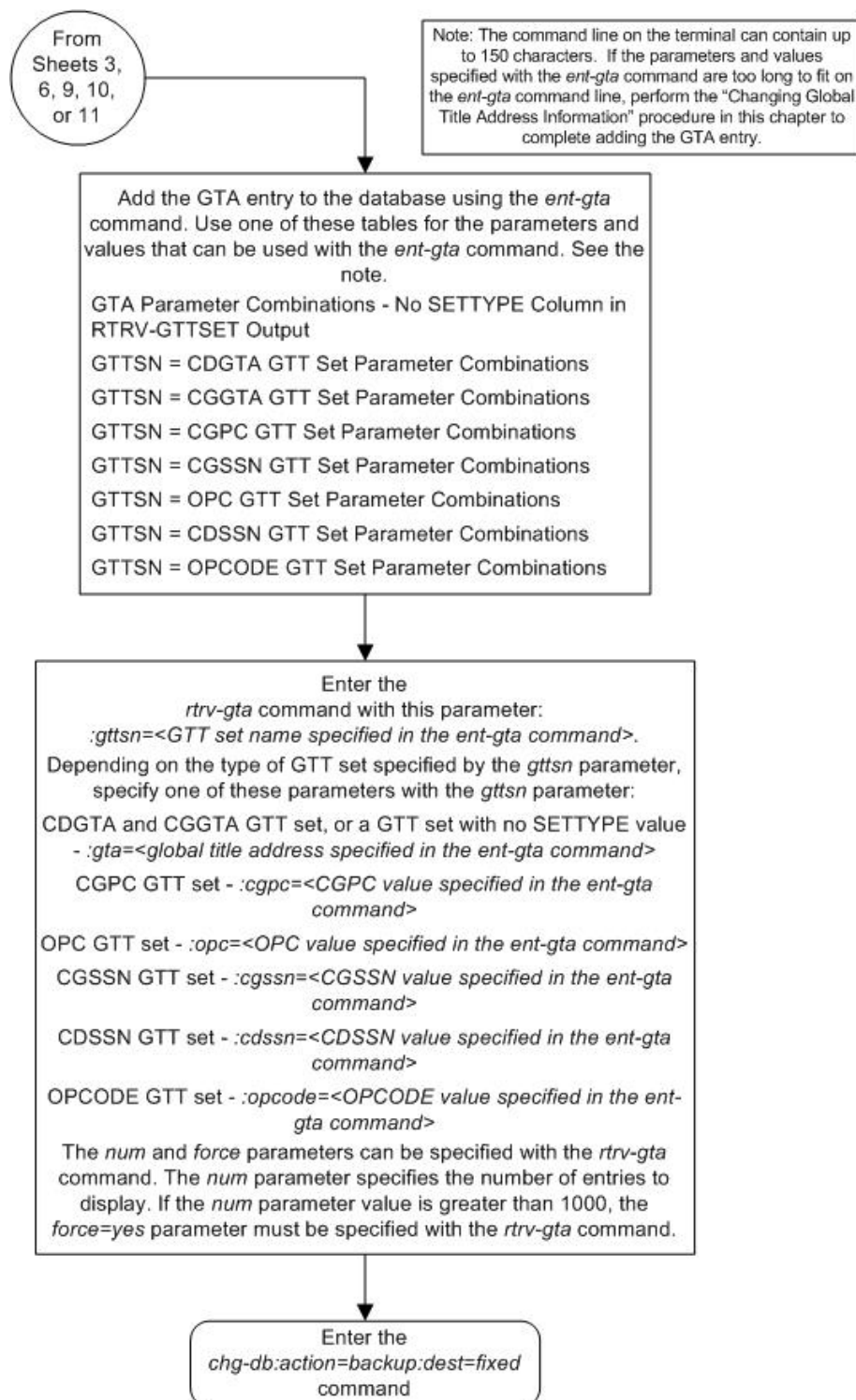












Removing Global Title Address Information

This procedure is used to remove an existing global title address information in the database using the `dlt-gta` command.

The `dlt-gta` command uses these parameters:

- :gttsn – The GTT set name
- :gta – The global title address or the beginning value of a range of global title addresses
- :egta – The end value of a range of global title address.
- :cgssn – The CGPA subsystem number or the beginning value of a range of CGPA subsystem numbers
- :ecgssn – The end value of a range of CGPA subsystem numbers
- :cgpc/cgpc/cgpci/cgpcn/cgpcn24 – The CGPA point code value
- :opc/opca/opci/opcn/opcn24 – The originating point code value
- :cdssn – The CDPA subsystem number or the beginning value of a range of CDPA subsystem numbers
- :ecdssn – The end value of a range of CDPA subsystem numbers
- :opcode – The TCAP opcode field value in the incoming MSU.
- :acn – The application context name value in the ITU TCAP ACN field in the incoming MSU.
- :family – The ANSI TCAP family field value in the incoming MSU
- :pkgtype – The ANSI TCAP and ITU TCAP package types.

The parameter combinations that can be used with the `dlt-gta` command are shown in these tables.

- [Table 81: DLT-GTA Parameter Combinations - EGTT Only](#) on page 778
- [Table 82: DLT-GTA Parameter Combinations - GTT Sets CDGTA, CGGTA, CGSSN, CGPC, OPC](#) on page 779
- [Table 83: DLT-GTA Parameter Combinations - GTT Sets CDSSN and OPCODE](#) on page 780

The GTT set name (`gttsn`) must be specified and match that of an existing GTT set name. Use the `rtrv-gttset` command to view the GTT set names. The destination point code (DPC) must be a full point code and cannot be out of range.

If the end of the global title address (`egta`) parameter is specified, the GTA and EGTA must have the same number of digits, but the EGTA must be larger than the GTA. The range, as specified by the start and end global title addresses, must be in the database for the specified translation type. Each range may be contained completely within a previously defined range, in which case splitting is performed. However, if the ranges overlap, splitting cannot occur, and the `dlt-gta` command is rejected with this message.

E2401 Cmd Rej:GTA range overlaps a current range

Along with error message 2401, a list of the overlapped global title addresses is displayed as shown in the following example.

```
rlghncxa03w 06-10-24 08:29:15 GMT EAGLE5 36.0.0
The following GTA ranges overlap the input GTA range

START GTA                END GTA
8005550000               8005551999
8005552000               8005553999
8005554000               8005555999

DLT-GTA: MASP A - Command Aborted
```

For a range of global title addresses, CGPA SSNs, or CDPA SSNs to be split, the new entry created by the split cannot increase the number of entries in the GTT table beyond the quantity shown in the `rtrv-gta` output.

When the VGTT feature is on, and the last global title address of a particular length is deleted for the specified GTT set name, then that length is no longer supported. That length is not displayed in the NDGT field of the `rtrv-gttset` command output. For example, if the last 7-digit global title address is deleted from GTT set `l1db` (from the previous example), the NDGT field of the `rtrv-gttset` command shows only the numbers three and 10 in the NDGT field indicating that GTT set `l1db` contains only 3- and 10-digit global title addresses.

Canceling the RTRV-GTA Command

Because the `rtrv-gta` command used in this procedure can output information for a long period of time, the `rtrv-gta` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-gta` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-gta` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-gta` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-gta` command was entered, from another terminal other than the terminal where the `rtrv-gta` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

Table 81: DLT-GTA Parameter Combinations - EGTT Only

Mandatory Parameters
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gta</code> output.
GTA – The GTA value from the START GTA column of the <code>rtrv-gta</code> output. (See Notes 1, 3, and 4)
Optional Parameters

EGTA – The EGTA value from the `END GTA` column of the `rtrv-gta` output. (See Notes 1 and 2)

Notes:

1. To remove an entry containing a range of GTAs, the `gta` and `egta` parameters must be specified with the values for each parameter that are shown in the `rtrv-gta` output.
2. The `egta` parameter does not need to be specified if the GTA entry contains an `egta` parameter value that is equal to the `gta` parameter value.
3. If a range of GTAs is assigned to the GTA entry, and only the `gta` parameter is specified, for example, 336337 - 3400000, and only the `gta=336337` parameter is specified, the entry is still in the database. The range of GTAs becomes 336338 - 3400000.
4. The range of GTAs can be split by specifying a `gta` parameter value in between the existing `gta` and `egta` parameter values. For example, the GTA range is 336337 - 3400000 and only the `gta=370000` parameter is specified. Two entries are created, one with the range of 336338 - 336999, and the other with the range of 337001 - 3400000.

Table 82: DLT-GTA Parameter Combinations - GTT Sets CDGTA, CGGTA, CGSSN, CGPC, OPC

GTT Set Type CDGTA	GTT Set Type CGGTA	GTT Set Type CGSSN	GTT Set Type CGPC	GTT Set Type OPC
Mandatory Parameters				
GTTSN – The GTT set name from the <code>GTTSN</code> column of the <code>rtrv-gttset</code> output containing the value <code>CDGTA</code> in the <code>SETTYPE</code> column.	GTTSN – The GTT set name from the <code>GTTSN</code> column of the <code>rtrv-gttset</code> output containing the value <code>CGGTA</code> in the <code>SETTYPE</code> column.	GTTSN – The GTT set name from the <code>GTTSN</code> column of the <code>rtrv-gttset</code> output containing the value <code>CGSSN</code> in the <code>SETTYPE</code> column.	GTTSN – The GTT set name from the <code>GTTSN</code> column of the <code>rtrv-gttset</code> output containing the value <code>CGPC</code> in the <code>SETTYPE</code> column.	GTTSN – The GTT set name from the <code>GTTSN</code> column of the <code>rtrv-gttset</code> output containing the value <code>OPC</code> in the <code>SETTYPE</code> column.
GTA – The GTA value from the <code>START GTA</code> column of the <code>rtrv-gta</code> output. (See Notes 1, 3, and 4)	GTA – The GTA value from the <code>START GTA</code> column of the <code>rtrv-gta</code> output. (See Notes 1, 3, and 4)	CGSSN – The CGSSN value from the <code>START SSN</code> column of the <code>rtrv-gta</code> output. (See Notes 5, 7, and 8)	CGPC/CGPCA/ CGPCI/CGPCN/ CGPCN24 – The CGPC value from the <code>CGPCA</code> or <code>CGPC (ITU)</code> column of the <code>rtrv-gta</code> output	OPC/OPCA/ OPCI/OPCN/ OPCN24 – The OPC value from the <code>OPCA</code> or <code>OPC (ITU)</code> column of the <code>rtrv-gta</code> output
Optional Parameters				

GTT Set Type CDGTA	GTT Set Type CGGTA	GTT Set Type CGSSN	GTT Set Type CGPC	GTT Set Type OPC
EGTA – The EGTA value from the END GTA column of the rtrv-gta output. (See Notes 1 and 2)	EGTA – The EGTA value from the END GTA column of the rtrv-gta output. (See Notes 1 and 2)	ECGSSN – The ECGSSN value from the END SSN column of the rtrv-gta output. (See Notes 5, 6, and 8)	No optional parameters.	No optional parameters.
<p>Notes:</p> <ol style="list-style-type: none"> 1. To remove an entry containing a range of GTAs, the gta and egta parameters must be specified with the values for each parameter that are shown in the rtrv-gta output. 2. The egta parameter does not need to be specified if the GTA entry contains an egta parameter value that is equal to the gta parameter value. 3. If a range of GTAs is assigned to the GTA entry, and only the gta parameter is specified, for example, 336337 - 3400000, and only the gta=336337 parameter is specified, the entry is still in the database. The range of GTAs becomes 336338 - 3400000. 4. The range of GTAs can be split by specifying a gta parameter value in between the existing gta and egta parameter values. For example, the GTA range is 336337 - 3400000 and only the gta=370000 parameter is specified. Two entries are created, one with the range of 336338 - 336999, and the other with the range of 337001 - 3400000. 5. To remove an entry containing a range of CGSSNs, the cgssn and ecgssn parameters must be specified with the values for each parameter that are shown in the rtrv-gta output. 6. The ecgssn parameter does not need to be specified if the GTA entry contains an ecgssn parameter value that is equal to the cgssn parameter value. 7. If a range of CGSSNs is assigned to the GTA entry, and only the cgssn parameter is specified, for example, 25 - 75, and only the cgssn=25 parameter is specified, the entry is still in the database. The range of CGSSNs becomes 26 - 75. 8. The range of CGSSNs can be split by specifying a cgssn parameter value in between the existing cgssn and ecgssn parameter values. For example, the CGSSN range is 25 - 75 and only the cgssn=50 parameter is specified. Two entries are created, one with the range of 25 - 49, and the other with the range of 51 - 75. 				

Table 83: DLT-GTA Parameter Combinations - GTT Sets CDSSN and OPCODE

GTT Set Type CDSSN	GTT Set Type OPCODE	
Mandatory Parameters		
GTTSN – The GTT set name from the GTTSN column of the	ANSI TCAP Translation	ITU TCAP Translation

GTT Set Type CDSSN	GTT Set Type OPCODE	
rtrv-gttset output containing the value CDSSN in the SETTYPE column.	GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPCODE in the SETTYPE column.	GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPCODE in the SETTYPE column.
CDSSN – The CDSSN value from the START SSN column of the rtrv-gta output. (See Notes 1, 3, and 4)	FAMILY – The FAMILY value from the FAMILY column of the rtrv-gta output.	ACN – The ACN value from the ACN column of the rtrv-gta output.
	OPCODE - The OPCODE value from the OPCODE column of the rtrv-gta output.	OPCODE - The OPCODE value from the OPCODE column of the rtrv-gta output.
	PKGTYPE - The PKGTYPE value from the PKGTYPE column of the rtrv-gta output.	PKGTYPE - The PKGTYPE value from the PKGTYPE column of the rtrv-gta output.
Optional Parameters		
ECDSSN – The ECDSSN value from the END SSN column of the rtrv-gta output. output. (See Notes 1 and 2)	No optional parameters.	No optional parameters.
<p>Notes:</p> <ol style="list-style-type: none"> 1. To remove an entry containing a range of CDSSNs, the cdssn and ecdssn parameters must be specified with the values for each parameter that are shown in the rtrv-gta output. 2. The ecdssn parameter does not need to be specified if the GTA entry contains an ecdssn parameter value that is equal to the cdssn parameter value. 3. If a range of CDSSNs is assigned to the GTA entry, and only the cdssn parameter is specified, for example, 100 - 200, and only the cdssn=100 parameter is specified, the entry is still in the database. The range of CDSSNs becomes 101 - 200. 4. The range of CDSSNs can be split by specifying a cdssn parameter value in between the existing cdssn and ecdssn parameter values. For example, the CDSSN range is 100 - 200 and only the cdssn=150 parameter is specified. Two entries are created, one with the range of 100 - 149, and the other with the range of 151 - 200. 		

1. Display the existing GTT sets in the database using the rtrv-gttset command.

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  SETTYPE  NDGT
```

abcd1234	itu	CDGTA	12
gttset1	ansi	CDGTA	6
gttset2	ansi	CGGTA	10
gttset3	ansi	OPC	-
gttset4	ansi	CGPC	-
gttset5	itu	CGPC	-
imsi	itu	CDGTA	15
lidx	ansi	CDGTA	10
si000	itu	CDGTA	15
t800	ansi	CDGTA	10
gttset6	ansi	CDSSN	-
gttset7	itu	OPCODE	-

If the Origin-Based SCCP Routing feature is not enabled and the TCAP Opcode Based Routing feature is not enabled or turned on, the SETTYPE column is not shown in the `rtrv-gttset` output.

If the Origin-Based SCCP Routing feature is not enabled, the values CGGTA, CGPC, CGSSN, and OPC are not shown in the `rtrv-gttset` output.

If the TCAP Opcode Based Routing feature is not enabled, the values CDSSN, and OPCODE are not shown in the `rtrv-gttset` output.

```
rlghncxa03w 06-10-07 00:27:31 GMT EAGLE5 36.0.0
GTTSN      NETDOM  NDGT
abcd1234   itu      12
imsi       itu      15
lidx       ansi     10
t800       ansi     10
si000      itu      15
```

If the Origin-Based SCCP Routing feature is enabled, or the TCAP Opcode Based Routing feature is enabled and turned on, the SETTYPE column is shown in the `rtrv-gttset` output as shown in the following example.

```
rlghncxa03w 06-10-07 00:29:31 GMT EAGLE5 36.0.0
GTTSN      NETDOM  SETTYPE  NDGT
abcd1234   itu      CGGTA     12
gttset3     ansi     CGGTA     10
gttset6     ansi     OPC        -
gttset7     ansi     CGPC       -
gttset12    ansi     OPC        -
imsi       itu      CDGTA     15
lidx       ansi     CDGTA     10
t800       ansi     CDGTA     10
s1000      itu      CDGTA     15
s2000      itu      CGPC       -
```

If the TCAP Opcode Based Routing feature is enabled and turned on, CDSSN GTT sets and Opcode GTT sets can be provisioned in the database.

2. Display the global title address (GTA) information for the GTT set that contains the GTA information to be removed.

Use the `rtrv-gta` command with the `gttsn` parameter value shown in the output of [Step 1](#) on page 781 . If the `num` parameter is specified with the `rtrv-gta` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gta` command. For this example, enter this command.

```
rtrv-gta:gttsn=t800
```


This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  SETTYPE  NDGT
t800      ansi    CDGTA    10

GTA TABLE IS      1 % FULL  (17 of 269999)

START GTA  END GTA    XLAT   RI      PC
3365840000 3365849999 DPC    SSN      001-255-001
      SSN=0    CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=gttset3  CGSELID=----- CDSELID=----- OPCSN=-----
8005550000 8005551999 dpcssn ssn      001-254-255
      SSN=255 CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=gttset1  CGSELID=----- CDSELID=----- OPCSN=-----
8005552000 8005553999 dpc    gt      001-254-255
      SSN=0    CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----
8005554000 8005555999 dpcngt gt      001-254-255
      SSN=---  CCGT=no  NTT=123
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=gttset3
8005556000 8005557999 dpcssn ssn      001-254-255
      SSN=255 CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----
8005558000 8005559999 dpcssn ssn      001-254-255
      SSN=255 CCGT=yes NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=gttset2  CGSELID=----- CDSELID=----- OPCSN=-----
9195551212 9195551212 dpcssn ssn      008-001-001
      SSN=222 CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----
9194600000 9194600000 dpc    gt      001-255-252
      SSN=0    CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----
9194610000 9194680000 dpcssn ssn      001-255-252
      SSN=222 CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----
9762428487 9762428487 dpcssn ssn      001-254-255
      SSN=222 CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----
9766423277 9766423277 dpcssn ssn      001-254-255
      SSN=222 CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----
9769388928 9769388928 dpcssn ssn      001-254-255
      SSN=222 CCGT=no  NTT=---
      FALLBACK=sysdflt  TESTMODE=off
      OPTSN=-----  CGSELID=----- CDSELID=----- OPCSN=-----

Command Retrieved 12 Entries
```

Continue the procedure by performing one of these steps.

- If the range of GTAs, CGPA SSN, or CDPA SSNs will not be split in this procedure, continue the procedure with [Step 4](#) on page 784.

- If the range of GTAs, CGPA SSN, or CDPA SSNs will be split in this procedure, continue the procedure with [Step 3](#) on page 784.
3. If the `rtrv-gta` output in [Step 2](#) on page 782 shows that the maximum number of global title addresses is 1,000,000, do not perform this step. Continue the procedure with [Step 4](#) on page 784 .

If the `rtrv-gta` output in [Step 2](#) on page 782 shows that the maximum number of global title addresses is either 269,999 or 400,000, and the number of global title addresses will not increase the number beyond the quantity shown in the `rtrv-gta` output in [Step 2](#) on page 782 when the range of GTAs, CGPA SSNs, or CDPA SSNs is split, do not perform this step. Continue the procedure with [Step 4](#) on page 784 .

If the `rtrv-gta` output in [Step 2](#) on page 782 shows that the maximum number of global title addresses is either 269,999 or 400,000, and the number of global title addresses will be more than the maximum number of global title addresses when the range of GTAs, CGPA SSNs, or CDPA SSNs is split, perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable the XGTT Table Expansion controlled feature for either 400,000 or 1,000,000 global title addresses as required. Then continue the procedure with [Step 4](#) on page 784 .

4. Remove the GTA information using the `dlt-gta` command.

The parameter combinations that can be used with the `dlt-gta` command are shown in these tables.

- [Table 81: DLT-GTA Parameter Combinations - EGTT Only](#) on page 778
- [Table 82: DLT-GTA Parameter Combinations - GTT Sets CDGTA, CGGTA, CGSSN, CGPC, OPC](#) on page 779
- [Table 83: DLT-GTA Parameter Combinations - GTT Sets CDSSN and OPCODE](#) on page 780

```
dlt-gta:gttsn=t800:gta=3365840000:egta=3365849999
```

When this command has successfully completed, this message appears.

```
rlghncxa03w 06-10-07 00:29:31 GMT EAGLE5 36.0.0
DLT-GTA: MASP A - COMPLTD
```

5. Verify the changes to the GTT set using the `rtrv-gta` command with the `gttsn` parameter value specified in [Step 4](#) on page 784 .

If the `num` parameter is specified with the `rtrv-gta` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gta` command. For this example, enter this command.

```
rtrv-gta:gttsn=t800
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  SETTYPE  NDGT
t800       ansi     CDGTA    10

GTA TABLE IS      1 % FULL  (17 of 269999)

START GTA  END GTA    XLAT  RI    PC
8005550000 8005551999 dpcssn ssn    001-254-255
      SSN=255 CCGT=no NTT=---
      FALLBACK=sysdfilt TESTMODE=off
      OPTSN=gttset1 CGSELID=----- CDSELID=----- OPCS=-----
```

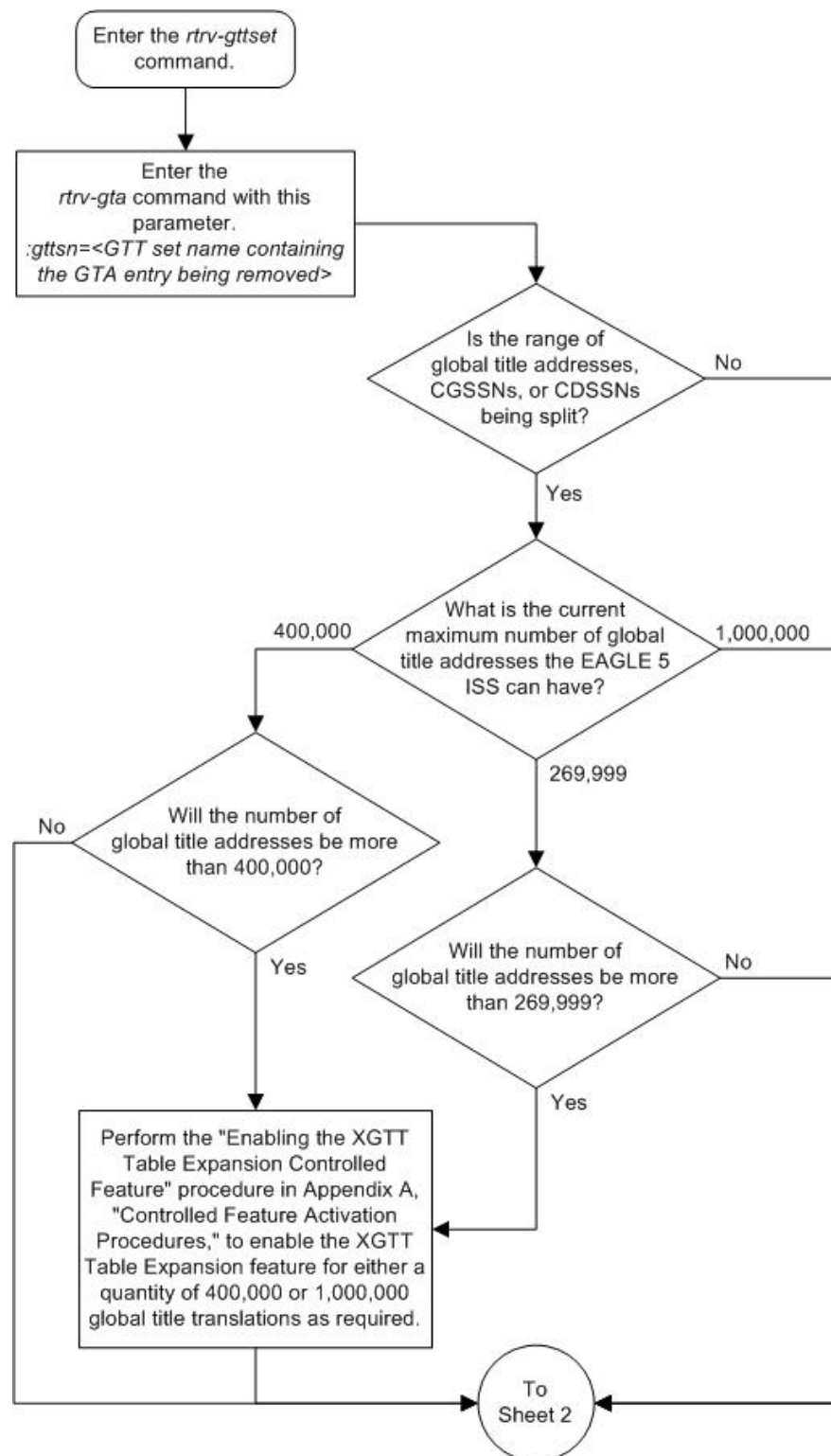
```
8005552000 8005553999 dpc gt 001-254-255
SSN=0 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
8005554000 8005555999 dpcngt gt 001-254-255
SSN=--- CCGT=no NTT=123
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=gttset3
8005556000 8005557999 dpcssn ssn 001-254-255
SSN=255 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
8005558000 8005559999 dpcssn ssn 001-254-255
SSN=255 CCGT=yes NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=gttset2 CGSELID=----- CDSELID=----- OPCSN=-----
9195551212 9195551212 dpcssn ssn 008-001-001
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9194600000 9194600000 dpc gt 001-255-252
SSN=0 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9194610000 9194680000 dpcssn ssn 001-255-252
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9762428487 9762428487 dpcssn ssn 001-254-255
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9766423277 9766423277 dpcssn ssn 001-254-255
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
9769388928 9769388928 dpcssn ssn 001-254-255
SSN=222 CCGT=no NTT=---
FALLBACK=sysdflt TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCSN=-----
Command Retrieved 11 Entries
```

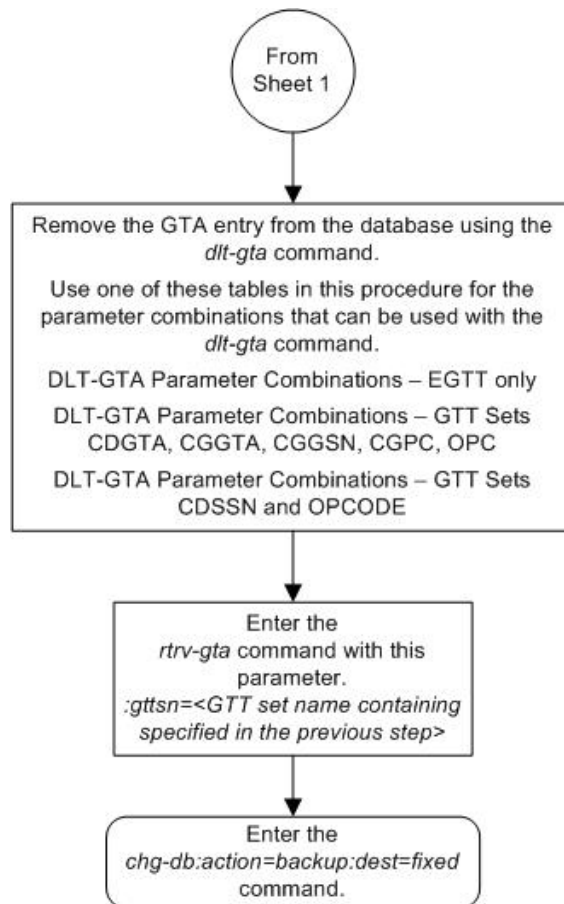
6. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 61: Removing GTA Information from the Database





Changing Global Title Address Information

This procedure is used to change existing global title address (GTA) information in the database using the *chg-gta* command.

The *chg-gta* command uses these parameters.

- :gttsn – The GTT set name.
- :gta – The start of global title address.
- :egta – The end of global title address.
- :pc/pca/pci/pcn/pcn24 – The translated point code.
- :ssn – The translated subsystem number.
- :ri – The routing indicator.
- :xlat – The translate indicator.
- :ntt – The new translation type.
- :ccgt – The cancel called global title indicator.

- : *force* – The check mated application override.
 - : *nnp* – The new numbering plan
 - : *nnai* – The new nature of address indicator
 - : *npdd* – The number of digits to be deleted from the beginning of the Global Title Address digits (the prefix digits).
 - : *npds* – The digits that are being substituted for the prefix digits.
 - : *nsdd* – The number of digits to be deleted from the end of the Global Title Address digits (the suffix digits)
 - : *nsds* – The digits that are being substituted for the suffix digits
 - : *rmgtt* - This parameter resets all GT Modification fields to their default values.
 - : *mrnset* – The MRN set ID, shown in the *rtrv-mrn* command. The *mrnset* parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled and the *ri* parameter value will be *ri=gt* when this procedure is completed, and the original global title translation being changed in this procedure did not have an MRN set ID assigned to it, the *mrnset* parameter must be specified with the *chg-gta* command. The MRN set ID assigned to the global title translation in this step must contain the point code value that will be assigned to the global title translation being changed in this step.
 - : *mapset* – The MRN set ID, shown in the *rtrv-mrn* command. The *mapset* parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled and the *ri* parameter value will be *ri=ssn* when this procedure is completed, and the original global title translation being changed in this procedure did not have a MAP set ID assigned to it, the *mapset* parameter must be specified with the *chg-gta* command. The MAP set ID assigned to the global title translation in this step must contain the point code and SSN values that will be assigned to the global title translation being changed in this step.
- The status of the Flexible GTT Load Sharing feature is shown in the *rtrv-ctrl-feat* output. To enable the Flexible GTT Load Sharing feature, perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881.
- : *optsn* – The optional GTT set name shown in the *rtrv-gttset* output. [Table 84: GTTSN and OPTSN Combinations](#) on page 788 shows the types of GTT sets that can be specified for the *optsn* parameter based on the type of GTT set that is specified for the *gttsn* parameter and the features that are enabled and turned on.

Table 84: GTTSN and OPTSN Combinations

GTTSN Set Type	OPTSN Set Type
Origin-Based SCCP Routing Feature Enabled Only	
CDGTA	CGGTA, CGPC The OPC GTT set type can be specified with a CDGTA GTT set, but the OPC GTT set is specified with the <i>opcsn</i> parameter.
CGGTA	CGSSN
CGPC	CGSSN

GTTSN Set Type	OPTSN Set Type
CGSSN	The optsn parameter cannot be specified.
OPC	CGSSN
Origin-Based SCCP Routing Enabled and Flexible Linkset Optional Based Routing Enabled and Turned On Only	
CDGTA	CGGTA, CGPC, CGSSN The OPC GTT set type can be specified with a CDGTA GTT set, but the OPC GTT set is specified with the opcsn parameter.
CGGTA	CDGTA, CGPC, CGSSN, OPC
CGPC	CDGTA, CGGTA, CGSSN, OPC
CGSSN	CDGTA, CGGTA, CGPC, OPC
OPC	CDGTA, CGGTA, CGPC, CGSSN
Flexible Linkset Optional Based Routing and TCAP Opcode Based Routing Feature Enabled and Turned On Only	
CDGTA	CDSSN, OPCODE
CDSSN	CDGTA, OPCODE
OPCODE	CDGTA, CDSSN
Origin-Based SCCP Routing Enabled , Flexible Linkset Optional Based Routing and TCAP Opcode Based Routing Feature Enabled and Turned On	
CDGTA	CGGTA, CGPC, CGSSN, CDSSN, OPCODE The OPC GTT set type can be specified with a CDGTA GTT set, but the OPC GTT set is specified with the opcsn parameter.
CGGTA	CDGTA, CGPC, CGSSN, CDSSN, OPCODE, OPC The opcsn parameter cannot be specified.
CGPC	CDGTA, CGGTA, CGSSN, CDSSN, OPCODE, OPC The opcsn parameter cannot be specified.
CGSSN	CDGTA, CGGTA, CGPC, CDSSN, OPCODE, OPC The opcsn parameter cannot be specified.

GTTSN Set Type	OPTSN Set Type
OPC	CDGTA, CGGTA, CGPC, CGSSN, CDSSN, OPCODE
CDSSN	CDGTA, CGGTA, CGPC, CGSSN, OPCODE The OPC GTT set type can be specified with a CDSSN GTT set, but the OPC GTT set is specified with the opcsn parameter.
OPCODE	CDGTA, CGGTA, CGPC, CGSSN, CDSSN The OPC GTT set type can be specified with an OPCODE GTT set, but the OPC GTT set is specified with the opcsn parameter.

:opcsn – The OPC GTT set name shown in the `rtrv-gttset` output.

:cgssn – The CGPA subsystem number or the beginning value of a range of CGPA subsystem numbers

:ecgssn – The end value of a range of CGPA subsystem numbers

:cgpc/cgpcac/cgpci/cgpcn/cgpcn24 – The CGPA point code

:opc/opca/opci/opcn/opcn24 – The originating point code

:cdssn – The CdPA subsystem number or the beginning value of a range of CdPA subsystem numbers

:ecdssn – The end value of a range of CdPA subsystem numbers

:cgselid – The CgPA selector ID

:cdselid – The CdPA selector ID

:fallback – The action to be taken when the final translation does not match while performing global title translation using a FLOBR-specific GTT mode.

:testmode – This parameter invokes a field-safe test tool to debug the rules used for the Flexible Linkset Optional Based Routing or TCAP Opcode Based Routing features.

:cgcnvsn – The CgPA conversion set name

:family – The ANSI TCAP family field in the incoming message

:opcode – The TCAP opcode field in the incoming message

:pkgtype – The TCAP package type. [Table 92: GTTSN = OPCODE GTT Set Parameter Combinations](#) on page 803 shows the ANSI and ITU TCAP package types.

:acn – The application context name (ACN) field in the ITU TCAP message

:loopset – The value of this parameter is the name of the loopset that is assigned to the GTA. This parameter can be specified only if the SCCP Loop Detection feature is enabled. Enter the `rtrv-loopset` command to verify that the SCCP Loop Detection feature is enabled. Perform [Activating the SCCP Loop Detection Feature](#) on page 929, if necessary.

:cggtmod - The calling party GT modification indicator. This parameter specifies whether or not calling party global title modification is required. The values for this parameter are *yes* (calling party global title modification is required) or *no* (calling party global title modification is not required). This parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled. Enter the *rtrv-ctrl-feat* command to verify that either the AMGTT or AMGTT CgPA Upgrade feature is enabled. If the AMGTT or AMGTT CgPA Upgrade feature is not enabled, perform [Activating the Advanced GT Modification Feature](#) on page 946 to enable the required feature.

:split - Split or change the range of global title addresses. If the *split=yes* parameter is specified, the existing range of global title addresses is split based on the values of the *gta* and *egta* parameters. New entries are created in the global title translation table for each new range created by the *split* parameter. The attributes of each new entry, other than the range of global title addresses, are the same as the original global title translation entry, if these values are not changed when the *chg-gta* command is executed. If other attributes are changed when the *chg-gta* command is executed, the changed values are in each new entry created by the *split* parameter.

If the *split=no* parameter is specified, the range of global title addresses is replaced with the new range of global title addresses specified by the *gta* and *egta* parameters.

The default value for the *split* parameter is *yes*.



CAUTION

CAUTION: Changes to the range of global title addresses occur only if the both the *gta* and *egta* parameters are specified and the values for either of these parameters, or both parameters are different from the original values in the global title translation. If the *gta* and *egta* parameters are specified for the global title translation being changed, and you do not wish to change either of these values, make sure the *gta* and *egta* values shown in the *rtrv-gta* output for the global title translation being changed are specified in the *chg-gta* command.

The following examples illustrate how the *split* parameter works and ranges of global title addresses can be changed.

A global title translation entry in the database contains this range of global title addresses, 5556000 - 5558000.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1       ansi    7
GTA TABLE IS      (17 of 269999)  1 % FULL
START GTA  END GTA  XLAT  RI      PC
5556000    5558000    dpcssn ssn    001-255-252
MAPSET=1      SSN=254 CCGT=no  NTT=---
```

The global title translation is changed with a new range of global title addresses, 5556800 - 5559000, and with the *split=no* parameter.

```
chg-gta:ttn=tst1:gta=5556800:egta=5559000:split=no
```

The range of global title addresses is changed to 5556800 - 5559000.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1       ansi    7
GTA TABLE IS      (17 of 269999)  1 % FULL
START GTA  END GTA  XLAT  RI      PC
```

```
5556800    5559000    dpcssn ssn    001-255-252
MAPSET=1    SSN=254 CCGT=no NTT=---
```

In this example, the range of global title addresses is made smaller by specifying the range of global title addresses 5556500 - 5557500, and with the `split=no` parameter.

```
chg-gta:ttn=tst1:gta=5556500:egta=5557500:split=no
```

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1       ansi    7
GTA TABLE IS 1 % FULL (17 of 269999)
START GTA  END GTA  XLAT  RI    PC
5556500    5557500    dpcssn ssn    001-255-252
MAPSET=1    SSN=254 CCGT=no NTT=---
```

In this next example, the range of global title addresses is split with the `gta=5556900` and `egta=5557000` defining where the splits occur.

```
chg-gta:ttn=tst1:gta=5556900:egta=5557000
```

Since the default value for the `split` parameter is `yes`, the `split=yes` parameter does not have to be specified to split the range of global title addresses. When the `chg-gta` command is entered, three new global title translation entries with the new global title address ranges are created, and the original global title translation entry is removed from the database. Since the `gta` and `egta` parameter values specified in this example are within the original range of global title addresses, the original range of global title addresses is split into three new ranges. The `START GTA` value of the first new range is the original `START GTA` value and the `END GTA` value is the `gta` parameter value minus one. The `START GTA` value of the second new range is the `gta` parameter value and the `END GTA` value is the `egta` parameter value. The `START GTA` value of the third new range is the `egta` parameter value plus 1 and the `END GTA` value is the original `END GTA` value.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1       ansi    7
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA  XLAT  RI    PC
5556000    5556899    dpcssn ssn    001-255-252
MAPSET=1    SSN=254 CCGT=no NTT=---
```

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1       ansi    7
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA  XLAT  RI    PC
5556900    5557000    dpcssn ssn    001-255-252
MAPSET=1    SSN=254 CCGT=no NTT=---
```

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1       ansi    7
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA  XLAT  RI    PC
```

```
5557001    5558000    dpcssn ssn    001-255-252
      MAPSET=1      SSN=254 CCGT=no NTT=---
```

In this next example, the global title translation containing the range of global title addresses 5557001 - 5558000 is split into two new ranges with the gta=5557501 and egta=5558000 defining where the split occurs.

```
chg-gta:ttt=tst1:gta=5557501:egta=5558000:split=yes
```

When the chg-gta command is entered, two new global title translation entries with the new global title address ranges are created, and the original global title translation entry is removed from the database. The START GTA value of the first new range is the original START GTA value and the END GTA value is the gta parameter value minus one. The START GTA value of the second new range is the gta parameter value and the END GTA value is the egta parameter value. In this example, the egta parameter is also the original END GTA value.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1      ansi    7
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI    PC
5557001    5557500    dpcssn ssn    001-255-252
      MAPSET=1      SSN=254 CCGT=no NTT=---
```

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
tst1      ansi    7
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI    PC
5557501    5558000    dpcssn ssn    001-255-252
      MAPSET=1      SSN=254 CCGT=no NTT=---
```

The range of global title addresses can be changed so long as the new range of global title addresses does not overlap an existing range of global title addresses.

For example, using the range of global title addresses from the previous examples, 5556000 - 5558000, you wish to extend the range of global title addresses to 5556000 - 5559000. The range of global title addresses can be extended to 5559000 by specifying the egta=5559000 and split=no parameters with the chg-gta command. However, if another range of global title addresses begins with the value 5558500, the egta=5559000 parameter cannot be specified with the chg-gta command as the new range created with the egta=5559000 parameter would overlap the range of global title addresses beginning with the value 5558500. In this situation, the maximum value for the egta parameter would be 5558499.

Note: The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the chg-gta command are too long to fit on the chg-gta command line, perform the chg-gta command as many times as necessary to complete the GTA entry.

The global title address cannot contain alphabetic characters

The GTT set name (gttsn) must be specified and match that of an existing GTT set name. Use the rtrv-gttset command to view the GTT set names. If the specified GTT set is an ANSI set, the pc or pca value must be a valid ANSI point code. If the specified GTT set is an ITU set, the pci, pcn, or pcn24 value must be a valid ITU point code. The point code (PC) must be a full point code and cannot be out of range. If the ANSI-ITU-China SCCP Conversion feature is enabled, the domain (ANSI or ITU) of the GTT set name and point code do not have to be the same.

Note: See Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

If the end of the global title address (EGTA) parameter is specified, GTA and EGTA must have the same number of digits, but EGTA must be larger than GTA. The range, as specified by the start and end global title addresses, must be in the database for the specified translation type. Each range may be contained completely within a previously defined range, in which case splitting is performed. However, if the ranges overlap, splitting cannot occur, and the `chg-gta` command is rejected with this message.

```
E2401 Cmd Rej:GTA range overlaps a current range
```

Along with error message 2401, a list of the overlapped global title addresses is displayed as shown in the following example.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
The following GTA ranges overlap the input GTA range

START GTA          END GTA
8005550000         8005551999
8005552000         8005553999
8005554000         8005555999

CHG-GTA: MASP A - Command Aborted
```

If a point code is the STP's True PC, then the value of the `XLAT` parameter must be set to `DPCSSN` and the value of the `RI` parameter must be set to `SSN`. If the `SSN` parameter is specified and a point code is the STP's True PC, then the subsystem number specified must exist in the `SS-APPL` table. This can be verified with the `rtrv-ss-appl` command. To execute the `rtrv-ss-appl` command, these features must be enabled, and turned on if necessary.

- LNP - shown by the entry `LNP TNS` with a quantity greater than zero in the `rtrv-ctrl-feat` command output
- ATINP - shown by the entry `ATINP` in the `rtrv-ctrl-feat` command output with the status set to on
- EIR - shown by the entry `EIR` in the `rtrv-ctrl-feat` command output as being permanently or temporarily enabled and with the status set to on.
- INP - shown by the entry `INP` in the `rtrv-ctrl-feat` command output with the status set to on.
- V-FLEX - shown by the entry `VFLEX` in the `rtrv-ctrl-feat` command output with the status set to on.
- ANSI-41 INP Query - shown by the entry `ANSI-41 INP Query` in the `rtrv-ctrl-feat` command output with the status set to on.

Note: The Local Number Portability (LNP), Equipment Identity Register (EIR), INAP Number Portability (INP), V-Flex, ATINP, or ANSI-41 INP Query features must be purchased before you can enable the LNP or ATINP features, or enable and turn on the EIR, V-Flex, INP, or ANSI-41 INP Query features. If you are not sure whether you have purchased the LNP, EIR, V-Flex, ATINP, or INP, or ANSI-41 INP Query feature, contact your Tekelec Sales Representative or Account Representative.

Once the LNP or ATINP feature is enabled with the `enable-ctrl-feat` command, or the EIR, INP, V-Flex, and ANSI-41 INP Query features are turned on with the `chg-ctrl-feat` command, they cannot be turned off or disabled.

A point code must exist as a destination in the route table or reside in a cluster that exists as a destination in the route table (for global title routing) unless the point code is the STP's True PC.

If a final GTT is specified (`ri=ssn`) with the `xlat=dpc` parameter, and the value of the `force` parameter is `no`, the point code must be in the Remote Point Code/Mated Application table. Verify this by entering the `rtrv-map` command. If this point code and subsystem number is not defined as a mated application, perform one of these procedures to add the point code and subsystem number to the database as a mated application:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

The point code and subsystem number do not have to be in the mated application table when the `chg-gta` command is executed when these parameters are specified with the `chg-gta` command.

- `ri=gt`
- `xlat=dpcssn` and `ri=ssn` (provided the point code value is not the STP's true point code)

If the point code and subsystem are not in the mated application table when either of these parameters are specified with the `chg-gta` command, the EAGLE 5 ISS creates a solitary mated application in the mated application table using the point code and subsystem values specified in the `chg-gta` command.

If the `xlat=udts` parameter is specified for a global title translation, messages containing the CdPA GTA or range of GTAs, the CgPA GTA or range of GTAs, the CgPA point code, CgPA subsystem number or range of CgPA subsystem numbers, OPC, CdPA subsystem number or range of CdPA subsystem numbers, or OPCODE is discarded. UIM 1192 "SCCP translation found: XLAT=UDTS" is generated, and a UDTS (or XUDTS for XUDT) with Return Cause = 1 "No translation for address" is also generated regardless of the Message Handling value in the MSU.

If the `xlat=disc` parameter is specified for a global title translation, messages containing the CdPA GTA or range of GTAs, the CgPA GTA or range of GTAs, the CgPA point code, CgPA subsystem number or range of CgPA subsystem numbers, OPC, CdPA subsystem number or range of CdPA subsystem numbers, or OPCODE will be discarded. UIM 1193 "SCCP translation found: XLAT=DISCARD" is generated.

For more information on these UIMs, see the *Unsolicited Alarm and Information Messages Manual*.

The following tables show the valid parameter combinations that can be used with the `xlat=udts` and `xlat=disc` parameters.

- [Table 85: GTA Parameter Combinations - No SETTYPE Column in RTRV-GTTSET Output](#) on page 796
- [Table 86: GTTSN = CDGTA GTT Set Parameter Combinations](#) on page 797
- [Table 87: GTTSN = CGGTA GTT Set Parameter Combinations](#) on page 798
- [Table 88: GTTSN = CGPC GTT Set Parameter Combinations](#) on page 799
- [Table 89: GTTSN = CGSSN GTT Set Parameter Combinations](#) on page 800
- [Table 90: GTTSN = OPC GTT Set Parameter Combinations](#) on page 801
- [Table 91: GTTSN = CDSSN GTT Set Parameter Combinations](#) on page 802
- [Table 92: GTTSN = OPCODE GTT Set Parameter Combinations](#) on page 803

The GTT table may not be full.

The `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, and `nsds` parameters are used by the Advanced GT Modification feature to modify the numbering plan, nature of address indicator, and the prefix or suffix digits in the called party address portion of outbound MSUs in addition to the translation type when the MSU requires further global title translation and the translation type is to be replaced.

Being able to change the numbering plan, nature of address indicator, and either the prefix or suffix digits in the called party address portion of outbound MSUs makes the MSU more compatible with the network that the MSU is being sent to and to ensure that the MSU is routed correctly. These changes are made after the global title translation process, but before the MSU is routed to its destination.

The values specified for the `gta`, `egta`, `npds`, and `nsds` parameters can be decimal digits (0-9) or hexadecimal digits (0-9, a-f, A-F). Hexadecimal digits can be specified only if the Hex Digit Support for GTT feature is enabled. Verify the status of the Hex Digit Support for GTT feature with the `rtrv-ctrl-feat` command. Refer to [Hex Digit Support for GTT](#) on page 42 for more information on this feature. If the Hex Digit Support for GTT feature is not enabled, perform [Activating the Hex Digit Support for GTT Feature](#) on page 902 to enable the Hex Digit Support for GTT feature.

Canceling the RTRV-GTA Command

Because the `rtrv-gta` command used in this procedure can output information for a long period of time, the `rtrv-gta` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-gta` command can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-gta` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-gta` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-gta` command was entered, from another terminal other than the terminal where the `rtrv-gta` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

Table 85: GTA Parameter Combinations - No SETTYPE Column in RTRV-GTTSET Output

Mandatory Parameters
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output and from the GTTSN column of the <code>rtrv-gta</code> output.
GTA – The GTA value assigned to the GTTSN value in the <code>rtrv-gta</code> output.
If only the EGTT feature is on, or only the Flexible Linkset Optional Based Routing feature is enabled and turned on, the SETTYPE column is not shown in the <code>rtrv-gttset</code> output.
Optional Parameters

There are other optional parameters that can be used with this entry. Refer to [Table 93: Optional GTA Parameters](#) on page 804 for these parameters. At least one optional parameter must be specified with the `chg-gta` command. Unless a default value is shown for a parameter in [Table 93: Optional GTA Parameters](#) on page 804, the value of any optional parameter that is not specified with the `chg-gta` command is not changed.

Table 86: GTTSN = CDGTA GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs (See the Note)
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CDGTA in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CDGTA in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.
GTA – The GTA value assigned to the GTTSN value in the <code>rtrv-gta</code> output.	GTA – The GTA value assigned to the GTTSN value in the <code>rtrv-gta</code> output.
Optional Parameters	
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output, or the value none. The value none removes the OPSN value from the GTA entry. Refer to Table 84: GTTSN and OPSN Combinations on page 788 for the valid GTT set types that can be specified.	EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = same as the GTA value. Hexadecimal digits (0-9, a-f, A-F) can be specified for the <code>egta</code> parameters only if the Hex Digit support for GTT feature is enabled. The length of the EGTA value must be the same as the GTA value. This is the only optional parameter that can be specified when the XLAT value is DISC or UDTs.
OPCSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column, or the value none. The value none removes the OPCS value from the GTA entry.	
There are other optional parameters that can be used with this entry. Refer to Table 93: Optional GTA Parameters on page 804 for these parameters. At least one optional parameter must be specified with the <code>chg-gta</code> command. Unless a default value is shown for a parameter in Table 93: Optional GTA Parameters on page 804, the value of any optional parameter that is not specified with the <code>chg-gta</code> command is not changed.	

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTS (See the Note)
Note: When the <code>xl</code> parameter value is changed from <code>dpcngt</code> , <code>dpcssn</code> , or <code>dpc</code> , to either <code>disc</code> or <code>udts</code> , all parameter values other than <code>gttsn</code> and <code>opcode</code> values are removed from the GTA entry.	

Table 87: GTTSN = CGGTA GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTS (See the Note)
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGGTA in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGGTA in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.
GTA – The GTA value assigned to the GTTSN value in the <code>rtrv-gta</code> output.	GTA – The GTA value assigned to the GTTSN value in the <code>rtrv-gta</code> output.
Optional Parameters	
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output, or the value none. The value none removes the OPSN value from the GTA entry. Refer to Table 84: GTTSN and OPSN Combinations on page 788 for the valid GTT set types that can be specified.	EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. Default = same as the GTA value. Hexadecimal digits (0-9, a-f, A-F) can be specified for the <code>egta</code> parameters only if the Hex Digit support for GTT feature is enabled. The length of the EGTA value must be the same as the GTA value. This is the only optional parameter that can be specified when the XLAT value is DISC or UDTS.
There are other optional parameters that can be used with this entry. Refer to Table 93: Optional GTA Parameters on page 804 for these parameters. At least one optional parameter must be specified with the <code>chg-gta</code> command. Unless a default value is shown for a parameter in Table 93: Optional GTA Parameters on page 804, the value of any optional parameter that is not specified with the <code>chg-gta</code> command is not changed.	
Note: When the <code>xl</code> parameter value is changed from <code>dpcngt</code> , <code>dpcssn</code> , or <code>dpc</code> , to either <code>disc</code> or <code>udts</code> , all parameter values other than <code>gttsn</code> and <code>opcode</code> values are removed from the GTA entry.	

Table 88: GTTSN = CGPC GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTS (See Note 2)
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGPC in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGPC in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.
CGPC/CGPCA/CGPCI/CGPCN/CGPCN24 – The CGPC value assigned to the GTTSN value in the <code>rtrv-gta</code> output. (See Note 1)	CGPC/CGPCA/CGPCI/CGPCN/CGPCN24 – The CGPC value assigned to the GTTSN value in the <code>rtrv-gta</code> output. (See Note 1)
Optional Parameters	
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output, or the value none. The value none removes the OPSN value from the GTA entry. Refer to Table 84: GTTSN and OPSN Combinations on page 788 for the valid GTT set types that can be specified.	No optional parameters can be specified when the XLAT value is DISC or UDTS.
<p>There are other optional parameters that can be used with this entry. Refer to Table 93: Optional GTA Parameters on page 804 for these parameters. At least one optional parameter must be specified with the <code>chg-gta</code> command. Unless a default value is shown for a parameter in Table 93: Optional GTA Parameters on page 804, the value of any optional parameter that is not specified with the <code>chg-gta</code> command is not changed.</p> <p>The <code>egta</code> and <code>split</code> parameters cannot be specified with this entry.</p>	
<p>Note:</p> <ol style="list-style-type: none"> The <code>cgpc/cgpca/cgpci/cgpcn/cgpcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the CGPC parameter values. <ul style="list-style-type: none"> <code>cgpc/cgpca</code> = ANSI point code <code>cgpci</code> = ITU-I or ITU-I spare point code <code>cgpcn</code> = 14-bit ITU-N or 14-bit ITU-N spare point code <code>cgpcn24</code> = 24-bit ITU-N point code. When the <code>xlat</code> parameter value is changed from <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>, to either <code>disc</code> or <code>udts</code>, all parameter values other than <code>gttsn</code> and <code>opcode</code> values are removed from the GTA entry. 	

Table 89: GTTSN = CGSSN GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTS (See the Note)
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGSSN in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CGSSN in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.
CGSSN – The CGSSN value assigned to the GTTSN value in the <code>rtrv-gta</code> output.	CGSSN – The CGSSN value assigned to the GTTSN value in the <code>rtrv-gta</code> output.
Optional Parameters	
ECGSSN – 0 - 255. The ECGSSN value must be greater than the CGSSN value.	ECGSSN – 0 - 255. Default value – no ECGSSN value is specified. The ECGSSN value must be greater than the CGSSN value. This is the only optional parameter that can be specified when the XLAT value is DISC or UDTS.
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output, or the value none. The value none removes the OPTSN value from the GTA entry. Refer to Table 84: GTTSN and OPTSN Combinations on page 788 for the valid GTT set types that can be specified.	
<p>There are other optional parameters that can be used with this entry. Refer to Table 93: Optional GTA Parameters on page 804 for these parameters. At least one optional parameter must be specified with the <code>chg-gta</code> command. Unless a default value is shown for a parameter in Table 93: Optional GTA Parameters on page 804, the value of any optional parameter that is not specified with the <code>chg-gta</code> command is not changed.</p> <p>The <code>egta</code> and <code>split</code> parameters cannot be specified with this entry.</p>	
<p>Note: When the <code>xlat</code> parameter value is changed from <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>, to either <code>disc</code> or <code>udts</code>, all parameter values other than <code>gttsn</code> and <code>opcode</code> values are removed from the GTA entry.</p>	

Table 90: GTTSN = OPC GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTs (See Note 2)
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.
OPC/OPCA/OPCI/OPCN/OPCN24 – The OPC value assigned to the GTTSN value in the <code>rtrv-gta</code> output. (See Note 1)	OPC/OPCA/OPCI/OPCN/OPCN24 – The OPC value assigned to the GTTSN value in the <code>rtrv-gta</code> output. (See Note 1)
Optional Parameters	
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output, or the value none. The value none removes the OPTSN value from the GTA entry. Refer to Table 84: GTTSN and OPTSN Combinations on page 788 for the valid GTT set types that can be specified.	No optional parameters can be specified when the XLAT value is DISC or UDTs.
<p>There are other optional parameters that can be used with this entry. Refer to Table 93: Optional GTA Parameters on page 804 for these parameters. At least one optional parameter must be specified with the <code>chg-gta</code> command. Unless a default value is shown for a parameter in Table 93: Optional GTA Parameters on page 804, the value of any optional parameter that is not specified with the <code>chg-gta</code> command is not changed.</p> <p>The <code>egta</code> and <code>split</code> parameters cannot be specified with this entry.</p>	
<p>Note:</p> <ol style="list-style-type: none"> The <code>opc/opca/opci/opcn/opcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes as the OPC parameter values. <ul style="list-style-type: none"> <code>opc/opca</code> = ANSI point code <code>opci</code> = ITU-I or ITU-I spare point code <code>opcn</code> = 14-bit ITU-N or 14-bit ITU-N spare point code <code>opcn24</code> = 24-bit ITU-N point code. When the <code>xlat</code> parameter value is changed from <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>, to either <code>disc</code> or <code>udts</code>, all parameter values other than <code>gttsn</code> and <code>opcode</code> values are removed from the GTA entry. 	

Table 91: GTTSN = CDSSN GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC or UDTS (See the Note)
Mandatory Parameters	
GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CDSSN in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.	GTTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value CDSSN in the SETTYPE column and from the GTTSN column of the <code>rtrv-gta</code> output.
CDSSN – The CDSSN value assigned to the GTTSN value in the <code>rtrv-gta</code> output.	CDSSN – The CDSSN value assigned to the GTTSN value in the <code>rtrv-gta</code> output.
Optional Parameters	
ECDSSN – 0 - 255. The ECDSSN value must be greater than the CDSSN value.	ECDSSN – 0 - 255. Default value – no ECDSSN value is specified. The ECDSSN value must be greater than the CDSSN value. This is the only optional parameter that can be specified when the XLAT value is DISC or UDTS.
OPTSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output, or the value none. The value none removes the OPTSN value from the GTA entry. Refer to Table 84: GTTSN and OPTSN Combinations on page 788 for the valid GTT set types that can be specified.	
OPCSN – The GTT set name from the GTTSN column of the <code>rtrv-gttset</code> output containing the value OPC in the SETTYPE column, or the value none. The value none removes the OPCS value from the GTA entry.	
<p>There are other optional parameters that can be used with this entry. Refer to Table 93: Optional GTA Parameters on page 804 for these parameters. At least one optional parameter must be specified with the <code>chg-gta</code> command. Unless a default value is shown for a parameter in Table 93: Optional GTA Parameters on page 804, the value of any optional parameter that is not specified with the <code>chg-gta</code> command is not changed.</p> <p>The <code>egta</code> and <code>split</code> parameters cannot be specified with this entry.</p>	
<p>Note: When the <code>xlatt</code> parameter value is changed from <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>, to either <code>disc</code> or <code>udts</code>, all parameter values other than <code>gttsn</code> and <code>opcode</code> values are removed from the GTA entry.</p>	

Table 92: GTTSN = OPCODE GTT Set Parameter Combinations

XLAT=DPCNGT, DPCSSN, or DPC		XLAT=DISC, or UDTS (See the Note)	
Mandatory Parameters			
GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPCODE in the SETTYPE column and from the GTTSN column of the rtrv-gta output.		GTTSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPCODE in the SETTYPE column and from the GTTSN column of the rtrv-gta output.	
OPCODE – The OPCODE value assigned to the GTTSN value in the rtrv-gta output. (See Note 4)		OPCODE – The OPCODE value assigned to the GTTSN value in the rtrv-gta output.	
ANSI TCAP Translation	ITU TCAP Translation	ANSI TCAP Translation	ITU TCAP Translation
FAMILY – The FAMILY value assigned to the GTTSN and OPCODE values in the rtrv-gta output.	ACN – The application context name assigned to the GTTSN and OPCODE values in the rtrv-gta output.	FAMILY – The FAMILY value assigned to the GTTSN and OPCODE values in the rtrv-gta output.	ACN – The application context name assigned to the GTTSN and OPCODE values in the rtrv-gta output.
PKGTYPE – The PKGTYPE context name assigned to the GTTSN, FAMILY, and OPCODE values in the rtrv-gta output.	PKGTYPE – PKGTYPE – The PKGTYPE context name assigned to the GTTSN, ACN, and OPCODE values in the rtrv-gta output.	PKGTYPE – The PKGTYPE context name assigned to the GTTSN, FAMILY, and OPCODE values in the rtrv-gta output.	PKGTYPE – PKGTYPE – The PKGTYPE context name assigned to the GTTSN, ACN, and OPCODE values in the rtrv-gta output.
Optional Parameters			
OPTSN – The GTT set name from the GTTSN column of the rtrv-gttset output, or the value none. The value none removes the OPTSN value from the GTA entry. Refer to Table 84: GTTSN and OPTSN Combinations on page 788 for the valid GTT set types that can be specified.		No optional parameters can be specified when the XLAT value is DISC or UDTS.	
OPCSN – The GTT set name from the GTTSN column of the rtrv-gttset output containing the value OPC in the SETTYPE column. Default value – no OPC GTT set is specified.			
There are other optional parameters that can be used with this entry. Refer to Table 93: Optional GTA Parameters on page 804 for these parameters. At least one optional parameter must be			

XLAT=DPCNGT, DPCSSN, or DPC	XLAT=DISC, or UDTs (See the Note)
<p>specified with the <code>chg-gta</code> command. Unless a default value is shown for a parameter in Table 93: Optional GTA Parameters on page 804, the value of any optional parameter that is not specified with the <code>chg-gta</code> command is not changed.</p> <p>The <code>egta</code> and <code>split</code> parameters cannot be specified with this entry.</p>	
<p>Note: When the <code>xlatt</code> parameter value is changed from <code>dpcngt</code>, <code>dpcssn</code>, or <code>dpc</code>, to either <code>disc</code> or <code>udts</code>, all parameter values other than <code>gttsn</code> and <code>opcode</code> values are removed from the GTA entry.</p>	

Table 93: Optional GTA Parameters

PC/PCA/PCI/PCN/PCN24 (See Notes 1, 2, and 3)
SSN – 0 - 255 (See Note 3)
NTT – 0 - 255 (See Note 5)
RI – GT, SSN (See Notes 3, 5, 9, 13)
EGTA – 1 - 21 digits or 1 - 21 hexadecimal digits. (See Notes 14 and 18)
NNP – 0 - 15. (See Notes 4, 6, and 7)
NNAI – 0 - 127. (See Notes 4, 6, and 7)
NPDD – 0 - 21. (See Notes 4 and 8)
NPDS – 1 - 21 digits or 1 - 21 hexadecimal digits. (See Notes 4, 8, and 14)
NSDD – 0 - 21. (See Notes 4 and 8)
NSDS – 1 - 21 digits or 1 - 21 hexadecimal digits. (See Notes 4, 8, and 14)
NGTI – 2, 4 (See Notes 4, 6, 7, and 11)
MRNSET – MRN set ID from the <code>rtrv-mrn</code> output or none (See Note 9)
LOOPSET – Loopset name from the <code>rtrv-loopset</code> output (See Note 15)
CGGTMOD – yes, no. Default = no (See Note 16)

CCGT – yes, no. (See Notes 10 and 11)
MAPSET – MAP set ID from the <code>rtrv-map</code> output or none (See Note 13)
FORCE – yes, no. Default = no (See Note 12)
SPLIT – yes, no. Default = yes (See Note 17)
RMGTT – yes, no. Default = no (See Note 4)
TESTMODE – on, off . Default = off. The Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter.
FALLBACK – <code>sysdflt</code> , yes, no. The Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter.
CGSELID – 0 - 65534 or none. The Origin-Based SCCP Routing feature must be enabled to use this parameter.
CDSELID – 0 - 65534 or none. The Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter
CGCNVSN – GTT set name shown in the <code>rtrv-gttset</code> output or none. The ANSI-ITU-China SCCP Conversion feature must be enabled, and the Flexible Linkset Optional Based Routing feature must be enabled and turned on to use this parameter. Specifying the <code>cgcnavsn=none</code> parameter removes the CGCNVSN value from the GTA entry.
<p>Notes:</p> <ol style="list-style-type: none">1. The <code>pc/pca/pci/pcn/pcn24</code> parameters are used to assign either ANSI, ITU-I, ITU-I spare, 14-bit ITU-N, 14-bit ITU-N spare, or 24-bit ITU-N point codes to the global title address (GTA).<ul style="list-style-type: none">• <code>pc/pca</code> = ANSI point code• <code>pci</code> = ITU-I or ITU-I spare point code• <code>pcn</code> = 14-bit ITU-N or 14-bit ITU-N spare point code• <code>pcn24</code> = 24-bit ITU-N point code.2. The domain (ANSI or ITU) of the point code and GTT set must be the same, unless the ANSI-ITU-China SCCP Conversion feature is enabled. If the ANSI-ITU-China SCCP Conversion feature is enabled, a GTA may contain an ANSI point code and an ITU GTT set, or an ITU point code and an ANSI GTT set. The CROSS GTT set, a GTT set containing the <code>NETDOM</code> value CROSS, can be specified with either ANSI or ITU point codes.3. If the point code is the EAGLE 5 ISS's point code, then the <code>xlat</code> parameter value must be <code>dpcssn</code> and the <code>ri</code> parameter value must be <code>ssn</code>. The <code>ssn</code> parameter can be specified only if the <code>xlat</code> parameter is <code>dpcssn</code>. If the <code>xlat</code> parameter value is being changed to <code>dpcssn</code>, the <code>ssn</code> parameter must be specified. The <code>ssn</code> parameter can also be specified with the <code>xlat=dpc</code> parameter.

4. The `nnp`, `nnai`, `npdd`, `npds`, `nsdd`, `nsds`, and `rmgtt` parameters can be specified only if the Advanced GT Modification feature is enabled. The `ngti` parameter can be specified only if the Advanced GT Modification feature is enabled and if the ANSI-ITU-China SCCP Conversion feature is enabled. The `ngti` parameter can be specified only if the domain (ANSI or ITU) of the translation type and point code of the global title translation are not the same (the translation type is ANSI and the point code is ITU or the translation type is ITU and the point code is ANSI), or if the domain of the translation type and point code is ITU.
5. The `ntt` parameter can be specified only with the `ri=gt` parameter and either the `xlat=dpcngt` or `xlat=dpc` parameters. The `ntt` parameter can be specified with the `xlat=dpc` parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.
6. The `ngti=2` parameter can be specified only with an ANSI point code, and not with the `nnp` and `nnai` parameters.
7. The `ngti=4` parameter can be specified only with an ITU point code, and the `nnp` and `nnai` parameters must also be specified for the GTA.
8. The prefix parameters (`npdd` and `npds`) and the suffix parameters (`nsdd` and `nsds`) cannot be specified in the `chg-gta` command at the same time. If you wish to specify these parameters, you must specify either the `npdd` and `npds` or the `nsdd` and `nsds` parameters.
9. The `mrnset` parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled. The `mrnset` parameter can be specified only if the `ri` parameter value is `gt`. Specifying the `mrnset=none` parameter removes the MRN set ID assignment from the GTA entry.
10. If the point code is the EAGLE 5 ISS's point code, then the value of the `ccgt` parameter must be set to `no`.
11. Either `ccgt` or `ngti` parameters can be specified with the `chg-gta` command, but both parameters cannot be specified together with the `chg-gta` command.
12. If the `pc/pca/pci/pcn/pcn24` parameter value is not shown in the `rtrv-map` output, and the resulting `xlat` parameter value is `dpc`, and the resulting `ri` parameter value is `ssn`, the `force=yes` parameter must be specified with the `chg-gta` command.
13. The `mapset` parameter can be specified only, and must be specified, if the Flexible GTT Load Sharing feature is enabled. The `mapset` parameter can be specified only if the `ri` parameter value is `ssn`. Specifying the `mapset=none` parameter removes the MAP set ID assignment from the GTA entry.
14. Hexadecimal digits (0-9, a-f, A-F) can be specified for the `gta`, `egta`, `npds`, or `nsds` parameters only if the Hex Digit support for GTT feature is enabled.
15. The `loopset` parameter can be specified only if the SCCP Loop Detection feature is enabled.
16. The `cgtmod` parameter can be specified only if the AMGTT or AMGTT CgPA Upgrade feature is enabled.
17. The range of global title addresses assigned to a global title translation can be extended, reduced, or split to create a new range of global title addresses. See the `split` parameter description section in this procedure for information on changing the range of global title addresses.
18. The length of the `egta` parameter value must be the same as the length of the `gta` parameter value.

1. Display the GTT sets in the database using the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
```


GTTSN	NETDOM	SETTYPE	NDGT
abcd1234	itu	CGGTA	12
gttset3	ansi	CGGTA	10
gttset6	ansi	OPC	-
gttset7	ansi	CGPC	-
gttset12	ansi	OPC	-
imsi	itu	CDGTA	15
lidx	ansi	CDGTA	10
t800	ansi	CDGTA	10
s1000	itu	CDGTA	15
s2000	itu	CGPC	-

2. Display the global title address (GTA) information for the GTT set that contains the global title address entry that is being changed. Use the `rtrv-gta` command with the `gttsn` parameter value shown in the output of [Step 1](#) on page 806. If the `num` parameter is specified with the `rtrv-gta` command, and the value of the `num` parameter is greater than 1000, the `force=yes` parameter must be specified with the `rtrv-gta` command. For this example, enter this command.

```
rtrv-gta:gttsn=lidx
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
lidx       ansi    CDGTA    10
GTA TABLE IS 1 % FULL (17 of 269999)

START GTA  END GTA    XLAT  RI    PC
9195554321 9195554321 DPCNGT GT    001-255-253
      SSN=--- CCGT=no NTT=68
      FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=----- CGSELID=----- CDSELID=----- OPCS=-----
```

Command Retrieved 1 Entries

If the `OPTSN`, `OPCSN`, or `CGCNVSN` fields are not shown in the `rtrv-gta` output, continue the procedure with [Step 3](#) on page 807.

If the `OPTSN`, `OPCSN`, or `CGCNVSN` fields are shown in the `rtrv-gta` output, continue the procedure by performing one of these steps.

- If the `OPTSN`, `OPCSN`, or `CGCNVSN` values are not being changed, continue the procedure with [Step 3](#) on page 807.
- If the `OPTSN`, `OPCSN`, or `CGCNVSN` values are being changed, and the desired GTT set is not shown in the `rtrv-gttset` output in [Step 1](#) on page 806, perform [Adding a GTT Set](#) on page 660 to add the new GTT set. After the GTT set has been added, continue the procedure with [Step 3](#) on page 807.
- If the `OPTSN`, `OPCSN`, or `CGCNVSN` values are being changed, and the desired GTT set is shown in the `rtrv-gttset` output in [Step 1](#) on page 806, continue the procedure with [Step 3](#) on page 807.

3. Display the features that are enabled by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
XGTT Table Expansion	893006101	on	400000
SCCP Loop Detection	893016501	on	----
SCCP Conversion	893012001	off	----
HC-MIM SLK Capacity	893012707	on	64
Origin Based SCCP Routing	893014301	on	----
TCAP Opcode Based Routing	893027801	on	----
Flex Lset Optnl Based Rtg	893027701	on	----
VGTT with 16 GTT lengths	893024801	on	----
TOBR Opcode Quantity	893027907	on	1000000

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

Continue the procedure by performing one of the steps.

- If the GTA entry does contains a range of global title addresses, CgPA subsystem numbers, or CdPA subsystem numbers, and this range will be split, continue the procedure with [Step 4](#) on page 808.
 - If the GTA entry does contains a range of global title addresses, CgPA subsystem numbers, or CdPA subsystem numbers, and this range will not be split, or if the GTA entry does not contain a range of global title addresses, CgPA subsystem numbers, or CdPA subsystem numbers, continue the procedure with [Step 5](#) on page 808.
4. Splitting a range of global title addresses, CgPA subsystem numbers, or CdPA subsystem numbers creates a new GTA entry. This new entry cannot be created if the database contains the maximum number of GTA entries.

If the current number of global title translations that can be provisioned is 400,000, and the new GTA entry that will be created increases the number beyond 400,000 (the current number of global title translations that are provisioned is shown in the `rtrv-gta` output in [Step 2](#) on page 807), perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable XGTT Table Expansion feature for 1,000,000 global title translations.

If the current number of global title translations that can be provisioned is 269,999, and the new GTA entry that will be created increases the number beyond 269,999 (the current number of global title translations that are provisioned is shown in the `rtrv-gta` output in [Step 2](#) on page 807), perform [Enabling the XGTT Table Expansion Feature](#) on page 859 to enable XGTT Table Expansion feature for 400,000 global title translations.

If the maximum number of global title is either 269,999 or 400,000, and the new GTA entry that will be created will not increase the number beyond the maximum number of global title translations (shown in the `rtrv-gta` output in [Step 2](#) on page 807), the maximum number of global title translations does not need to be increased. If the maximum number of global title translations is 1,000,000, the maximum number of global title translations cannot be increased.

5. Some parameters of the `chg-gta` command can be specified only when certain features are enabled, and turned on if necessary. [Table 94: Feature Requirements for CHG-GTA Parameters](#) on page 809 shows the feature requirements for these parameters.

Table 94: Feature Requirements for CHG-GTA Parameters

Required Feature	Parameters or Values
Origin-Based SCCP Routing Enabled	GTTSN - specifying CGGTA, CGPC, CGSSN, or OPC GTT sets
	OPTSN - specifying CGGTA, CGPC, or CGSSN GTT sets
	OPCSN
	CGPC
	CGSSN
	ECGSSN
	OPC
	CGSELID
	XLAT=DISC
	XLAT=UDTS
Flexible GTT Load Sharing Enabled	MAPSET
	MRNSET
Flexible Linkset Optional Based Routing Enabled and Turned On	FALLBACK
	TESTMODE
	CDSELID
ANSI-ITU-China SCCP Conversion Enabled and Flexible Linkset Optional Based Routing Enabled and Turned On	CGCNVSN
TCAP Opcode Based Routing Enabled and Turned On	GTTSN - specifying CDSSN or OPCODE GTT sets
	OPTSN - specifying CDSSN or OPCODE GTT sets
	CDSSN
	EDSSN
TOBR Quantity Enabled	ACN
	FAMILY
	OPCODE
	PKGTYPE
SCCP Loop Detection Enabled	LOOPSET
Advanced GT Modification or AMGTT CgPA Upgrade Enabled	CGGTMOD

Required Feature	Parameters or Values
	NNP
	NNAI
	NPDD
	NPDS
	NSDD
	NSDS
	RMGTT
Advanced GT Modification or AMGTT CgPA Upgrade Enabled and ANSI-ITU-China SCCP Conversion Enabled	NGTI
ANSI-ITU-China SCCP Conversion Enabled	The domain (ANSI or ITU) of the point code and the GTT set that will be assigned to the GTA entry will be different.
Hex Digit Support for GTT Enabled	Hexadecimal digits will be specified for the gta, egta, npds, nsds parameter values.
<p>To enable, and turn on if necessary, any of these features, perform these procedures.</p> <ul style="list-style-type: none"> • Origin-Based SCCP Routing - Activating the Origin-Based SCCP Routing Feature on page 892 • Flexible GTT Load Sharing - Activating the Flexible GTT Load Sharing Feature on page 881. After the Flexible GTT Load Sharing feature has been enabled, perform one of these procedures. <ul style="list-style-type: none"> • If the mrnset and ri=gt parameters will be specified for the GTA entry, perform Provisioning MRN Entries on page 367 to add the required MRNSET. • If the mapset and ri=ssn parameters will be specified for the GTA entry, perform one of these procedures to add the required MAPSET. <ul style="list-style-type: none"> • Provisioning a Solitary Mated Application on page 133 • Provisioning a Dominant Mated Application on page 165 • Provisioning a Load Shared Mated Application on page 217 • Provisioning a Combined Dominant/Load Shared Mated Application on page 262 • Flexible Linkset Optional Based Routing - Activating the Flexible Linkset Optional Based Routing Feature on page 976 • TCAP Opcode Based Routing - Activating the TCAP Opcode Based Routing Feature on page 985 • TOBR Opcode Quantity - Enabling a TOBR Opcode Quantity on page 990 • SCCP Loop Detection - Activating the SCCP Loop Detection Feature on page 929. After the SCCP Loop Detection feature is enabled, perform Adding a Loopset on page 510 to add the required loopset. • Advanced GT Modification or AMGTT CgPA Upgrade - Activating the Advanced GT Modification Feature on page 946 	

Required Feature	Parameters or Values
<ul style="list-style-type: none"> ANSI-ITU-China SCCP Conversion - Activating the ANSI-ITU-China SCCP Conversion Feature on page 874 Hex Digit Support for GTT Enabled - Activating the Hex Digit Support for GTT Feature on page 902 <p>If the required feature is enabled, and turned on if required, shown in the If the <code>rtrv-ctrl-feat</code> output in Step 3 on page 807 the procedure for that feature does not need to be performed.</p>	

After this step has been performed, continue the procedure by performing one of three steps.

- If the `xlat` parameter value will be `disc` or `udts`, continue the procedure with [Step 18](#) on page 819.
- If the `xlat` parameter value will be `dpcngt`, `dpcssn`, or `dpc`, continue the procedure by performing one of these steps.
 - If the `loopset` parameter will be specified for the GTA entry, and the `LOOPSET` field is shown in the `rtrv-gta` output, continue the procedure with [Step 6](#) on page 811.
 - If the `loopset` parameter will not be specified for the GTA entry, or the SCCP LOOP Detection feature was enabled in this step, continue the procedure with [Step 7](#) on page 812.

6. Display all the loopsets in the database by entering this
command.`rtrv-loopset:num=1000:force=yes`

This is an example of the possible output.

LoopSet	Mode	Point Codes		
=====				
cary2	notify	005-015-005	007-007-007	(ANSI)
		033-004-003	033-007-003	
		005-027-005	007-004-007	
cary4	notify	005-012-005	007-026-007	(ANSI)
		003-049-003	033-002-003	
		005-008-055	007-014-007	
apex3	discard	005-017-008	007-017-009	(ANSI)
		033-005-043	005-014-005	
		005-017-005	007-014-007	
		033-002-043	005-038-005	
		007-009-027	033-003-043	
apex4	discard	005-012-005	007-002-027	(ANSI)
		005-007-008	027-007-009	
		033-005-003	005-004-055	
		027-001-007	033-008-003	
		033-007-003	005-003-055	
ral5	notify	027-008-007		(ANSI)
		005-005-005	007-007-007	
		003-004-003	003-001-003	
		005-007-005	007-004-007	
		003-002-003	005-008-005	
		007-009-007	003-003-003	
		005-002-005	007-002-007	

```

ral6      notify      005-007-008      007-007-009      (ANSI)
                  003-005-003      003-007-003
                  005-007-005

dunn1     discard     005-002-055      007-051-007      (ANSI)
                  003-008-033

rtp9      discard     005-002-005      007-001-007      (ANSI)
                  003-008-003      003-007-003
                  005-003-005      007-008-007
                  005-004-005

rtp5      discard     005-007-008      007-007-009      (ANSI)
                  003-005-003

rtp1      discard     005-005-005      007-007-007      (ANSI)
                  003-004-003      003-007-003
                  005-007-005      007-004-007
                  005-004-005

rtp2      notify      005-007-008      007-007-009      (ANSI)
                  003-005-003

rlghncxa03w 07-03-07 08:50:15 GMT Rel 35.6.0
LOOPSET table is (11 of 1000)          1% full
RTRV-LOOPSET: MASP A - COMPLTD

```

Note: If the `rtrv-loopset` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-loopset` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 1000 loopsets in the database, to display all the loopsets in the database, the `force=yes` and `num=1000` parameters must be specified with the `rtrv-loopset` command.

If the required loopset is shown in the `rtrv-loopset` output, continue the procedure with [Step 7](#) on page 812. If the required loopset is not shown in the `rtrv-loopset` output, perform [Adding a Loopset](#) on page 510 to add the required loopset. After the loopset has been added, continue the procedure by performing one of these steps.

- If the routing indicator (RI) value is `ssn` and will not be changed, or if the RI value will be changed to `ssn`, continue the procedure with [Step 8](#) on page 813.
- If the routing indicator (RI) value is `gt` and will not be changed, or if the RI value will be changed to `gt`, continue the procedure by performing one of these steps.
 - If the point code value will be changed, continue the procedure with [Step 7](#) on page 812.
 - If the point code value will not be changed, continue the procedure with [Step 10](#) on page 814.

7. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```

rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

DPCA      CLLI      BEI  ELEI      ALIASI      ALIASN/N24      DMN
001-207-000 ----- no  --- -----
001-001-001 ----- no  --- -----
001-001-002 ----- no  --- -----
001-005-000 ----- no  --- -----
001-007-000 ----- no  --- -----

```

008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7
DPCI	CLLI	BEI	ELEI	ALIASA	ALIASN/N24	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7

Destination table is (14 of 2000) 1% full

Alias table is (0 of 12000) 0% full

PPC table is (1 of 20) 5% full

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 10](#) on page 814.

If the required point code is shown in the `rtrv-dstn` output, continue the procedure with [Step 8](#) on page 813.

- Display the point code that will be assigned to the mated application by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dpca=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
010-020-005	-----	no	---	-----	-----	SS7
PPCA	NCAI	PRX	RCAUSE	NPRST	SPLITIAM	
009-002-003	----	no	50	on	20	

Destination table is (14 of 2000) 1% full

Alias table is (0 of 12000) 0% full

PPC table is (1 of 20) 5% full

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 10](#) on page 814.

If the point code displayed in this step does not contain a proxy point code, continue the procedure with [Step 9](#) on page 813.

- The point code specified with the `chg-gta` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code.

Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `chg-gta` command to verify whether or not the point code is the DPC of a route. For this example, enter this command.

```
rtrv-rte:dpc=001-255-252
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
  DPCA          ALIASI          ALIASN/N24  LSN      RC      APCA
  001-255-252  -----          -----    ls07      10      001-255-252
                                   ls08      30      025-025-150
                                   lsa5      50      066-030-100
                                   RTX:No  CLLI=ls07c1li
```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

If the point code is shown in the `rtrv-rte` output, and a new route was added, continue the procedure with [Step 10](#) on page 814.

10. To use either the `mrnset` parameter (if the routing indicator value for the global title translation is GT when this procedure is completed) or `mapset` parameter (if the routing indicator value for the global title translation is SSN when this procedure is completed), the Flexible GTT Load Sharing feature must be enabled.

If the Flexible GTT Load Sharing feature is enabled, either the `mrnset` or `mapset` parameters, depending on the routing indicator value for the global title translation when this procedure is completed, must be specified with the `chg-gta` command.

If the routing indicator for the global title translation will be GT when this procedure is completed, there are two actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the `mrnset` parameter with the `chg-gta` command, continue the procedure with [Step 18](#) on page 819.
- If the Flexible GTT Load Sharing feature is enabled, continue the procedure with [Step 11](#) on page 815.

If the routing indicator for the global title translation will be SSN when this procedure is completed, there are two actions that can be taken:

- If the Flexible GTT Load Sharing feature is not enabled, and you do not wish to specify the `mapset` parameter for the global title translation, continue the procedure with one of these steps.
 - If the point code value is being changed to the EAGLE 5 ISS's point code, continue the procedure with [Step 16](#) on page 819.
 - If the point code value is being changed to a point code other than the EAGLE 5 ISS's point code, and the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpc` when this procedure is completed, continue the procedure with [Step 15](#) on page 818.
 - If the point code value is being changed to a point code other than the EAGLE 5 ISS's point code, and the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpcssn` when this procedure is completed, continue the procedure with [Step 12](#) on page 816.

- If the point code value is not being changed, continue the procedure with [Step 18](#) on page 819.
 - If the Flexible GTT Load Sharing feature is enabled, perform one of these steps:
 - If the point code value is being changed to the EAGLE 5 ISS's point code, continue the procedure with [Step 16](#) on page 819.
 - If the point code value is being changed to a point code other than the EAGLE 5 ISS's point code, the mapset parameter value is being changed, or the xlat parameter value is being changed to dpc, continue the procedure with [Step 15](#) on page 818.
 - If the point code and the mapset parameter values are not being changed, continue the procedure with [Step 18](#) on page 819.
11. The point code and MRN set ID specified with the chg-gta command must be shown in the rtrv-mrn command output. The point code must be assigned to the MRN set that will be specified with the chg-gta command.

Enter the rtrv-mrn command to verify that the required MRN set is configured in the database, and that the required point code is assigned to the MRN set. The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
```

MRNSET	PC	RC
DFLT	001-001-001	10
	001-001-002	20
	001-001-003	30
	001-254-255	40
MRNSET	PC	RC
110	001-001-001	10
	001-001-005	20
	001-001-006	30
	001-001-003	40
	001-001-008	50
MRNSET	PC	RC
111	001-001-001	30
	001-001-005	30
	001-001-006	30
	001-001-003	30
	001-001-008	30
MRNSET	PC	RC
112	001-003-001	10
	001-003-002	10
	001-003-003	30
	001-003-004	30
	001-003-006	60
	001-003-007	60
	001-003-008	80
	001-003-009	80
MRNSET	PCN	RC
113	s-1-1-1-0123-aa	1
	s-1-1-1-0235-aa	2
	s-1-1-1-0235-aa	3

Note: If the Weighted GTT Load Sharing feature is enabled, the WT, %WT, and THR columns are shown in the rtrv-map output.

If the required MRN set is not shown in the `rtrv-mrn` output, or if the required point code is not assigned to the required MRN set, provision the required MRN set by performing [Provisioning MRN Entries](#) on page 367. After provisioning the required MRN set, continue the procedure with [Step 18](#) on page 819.

If the required MRN set is shown in the `rtrv-mrn` output, or if the required point code is assigned to the required MRN set, continue the procedure with [Step 18](#) on page 819.

12. Display the destination point codes in the database by entering the `rtrv-dstn` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
001-207-000	-----	no	---	-----	-----	SS7
001-001-001	-----	no	---	-----	-----	SS7
001-001-002	-----	no	---	-----	-----	SS7
001-005-000	-----	no	---	-----	-----	SS7
001-007-000	-----	no	---	-----	-----	SS7
008-012-003	-----	no	---	-----	-----	SS7
003-002-004	-----	no	---	-----	-----	SS7
009-002-003	-----	no	---	-----	-----	SS7
010-020-005	-----	no	---	-----	-----	SS7

DPCI	CLLI	BEI	ELEI	ALIASA	ALIASN/N24	DMN
1-207-0	-----	no	---	-----	-----	SS7
0-015-0	-----	no	---	-----	-----	SS7
0-017-0	-----	no	---	-----	-----	SS7
1-011-1	-----	no	---	-----	-----	SS7
1-011-2	-----	no	---	-----	-----	SS7

```
Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

If the required point code is not shown in the `rtrv-dstn` output, perform the "Adding a Destination Point Code" procedure in the *Database Administration Manual - SS7* to add the required point code. A proxy point code cannot be assigned to the point code.

After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* to add the required route to the database. After the route has been added, continue the procedure with [Step 14](#) on page 817.

If the required point code is shown in the `rtrv-dstn` output, continue the procedure with [Step 13](#) on page 816.

13. Display the point code that will be assigned to the mated application by using the `rtrv-dstn` command and specifying the point code. For this example, enter this command.

```
rtrv-dstn:dPCA=010-020-005
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
```

DPCA	CLLI	BEI	ELEI	ALIASI	ALIASN/N24	DMN
010-020-005	-----	no	---	-----	-----	SS7

PPCA	NCAI	PRX	RCAUSE	NPRST	SPLITIAM
009-002-003	----	no	50	on	20

```
Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
PPC table is (1 of 20) 5% full
```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code. If a proxy point code is shown in this step, choose another point code from the `rtrv-dstn` output in the previous step and repeat this step.

After the new point code has been added, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database. After the route has been added, continue the procedure with [Step 15](#) on page 818.

If the point code displayed in this step does not contain a proxy point code, continue the procedure with [Step 14](#) on page 817.

14. The point code specified with the `chg-gta` command must be the DPC of a route, unless the point code is the EAGLE 5 ISS's point code.

Enter the `rtrv-rte` command with the `dpc` parameter specifying the point code to be used with the `chg-gta` command to verify whether or not the point code is the DPC of a route. For this example, enter this command.

```
rtrv-rte:dpc=001-255-252
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 11:43:04 GMT EAGLE5 41.0.0
  DPCA          ALIASI          ALIASN/N24    LSN      RC      APCA
  001-255-252  -----          -----    ls07     10     001-255-252
                                   ls08     30     025-025-150
                                   lsa5     50     066-030-100
                                   RTX:No  CLLI=ls07c1li
```

If the point code is not shown in the `rtrv-rte` output, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* and add the required route to the database.

If the point code is shown in the `rtrv-rte` output, and a new route was added, continue the procedure by performing one of these steps.

- If the Flexible GTT Load Sharing feature is not enabled, and the `ri` parameter value will be `ssn`, the `xlat` parameter value will be `dpcssn`, the point code value will not be the EAGLE 5 ISS's point code, and the `ssn` parameter value will not be the EAGLE 5 ISS's subsystem number when this procedure is completed, continue the procedure with [Step 18](#) on page 819.
- Continue the procedure with [Step 15](#) on page 818 if any of these conditions will apply to the GTA entry.
 - The Flexible GTT Load Sharing feature is enabled.
 - The Flexible GTT Load Sharing feature is not enabled, the `ri` parameter value will be `ssn`, the `xlat` parameter value will be `dpcssn`, the point code value will be the EAGLE 5 ISS's point code, and the `ssn` parameter value will be the EAGLE 5 ISS's subsystem number when this procedure is completed.
 - The Flexible GTT Load Sharing feature is not enabled, the `ri` parameter value will be `ssn`, the `xlat` parameter value will be `dpc` when this procedure is completed.

15. Enter the `rtrv-map` command with the `pc` parameter specifying the required point code to verify that the required data is in the mated application table. For this example enter this command.

Note: If the Flexible GTT Load Sharing feature is enabled, a MAP set ID must be specified for the final global title translation. The point code and SSN specified for the final global title translation being changed in this procedure must be assigned to the MAP set ID that will be assigned to the final global title translation. Perform this step to verify that the required MAP set is configured in the database.

```
rtrv-map:pca=001-255-252
```

If the Flexible GTT Load Sharing feature is enabled, this is an example of the possible output.

```
rlghncxa03w 09-05-25 09:42:31 GMT EAGLE5 41.0.0
MAP TABLE IS      (12 of 36000)    1 % FULL

PCA      Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
MAPSET ID=DFLT
001-255-252
          001-001-002    15 15  DOM YES YES  ----- OFF
          001-001-003    25 20  DOM YES YES  ----- ON
          001-001-002    40 35  DOM YES YES  ----- OFF
MAPSET ID=1
001-255-252
          001-001-002    254 5  DOM YES YES  ----- OFF
          001-001-003    10 15  DOM YES YES  ----- ON
          001-001-003    20 20  DOM YES YES  ----- ON
          001-001-002    40 35  DOM YES YES  ----- OFF
MAPSET ID=2
001-255-252
          5 10  SOL --- ---  ----- OFF
```

Note: If the Weighted GTT Load Sharing feature is enabled, the `WT`, `%WT`, and `THR` columns are shown in the `rtrv-map` output.

If the parameter values for the `ri` and `xlat` parameters will be `ri=ssn` and `xlat=dpc` when this procedure is completed, the point code value must be in the mated application table. If the point code is not in the mated application table when the `chg-gta` command is executed, the `force=yes` parameter must be specified with the `chg-gta` command.

If the parameter values for the `ri` and `xlat` parameters will be `ri=ssn` and `xlat=dpcssn`, and the point code and subsystem number values will be the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number when this procedure is completed, the EAGLE 5 ISS's true point code and the EAGLE 5 ISS's subsystem number must be in the mated application table.

If the required point code, subsystem number, or MAP set ID is not shown in the `rtrv-map` output, perform one of these procedures to add the required information to the mated application table:

- [Provisioning a Solitary Mated Application](#) on page 133
- [Provisioning a Dominant Mated Application](#) on page 165
- [Provisioning a Load Shared Mated Application](#) on page 217
- [Provisioning a Combined Dominant/Load Shared Mated Application](#) on page 262

If the point code value is being changed in this procedure to the EAGLE 5 ISS's point code, continue the procedure with [Step 16](#) on page 819.

If the `ri` parameter value will be `ssn`, and the `xlat` parameter value will be `dpc` when this procedure is completed, or the point code value is not being changed in this procedure to the EAGLE 5 ISS's point code, continue the procedure with [Step 18](#) on page 819.

16. If the `ri=ssn` and `xlat=dpcssn` parameters are specified with the `chg-gta` command, and you wish to use the EAGLE 5 ISS's point code for the value of the `pc` parameter of the `chg-gta` command, the point code value must be in the EAGLE 5 ISS's self ID table. Display the EAGLE 5 ISS self-identification, using the `rtrv-sid` command. This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0
PCA          PCI          PCN          CLLI          PCTYPE
010-020-030  1-023-1      12-0-14-1      rlghncxa03w   OTHER
              s-1-023-1    s-12-0-14-1

CPCA
002-002-002    002-002-003    002-002-004    002-002-005
002-002-006    002-002-007    002-002-008    002-002-009
004-002-001    004-003-003    050-060-070

CPCI
1-001-1        1-001-2        1-001-3        1-001-4
1-002-1        1-002-2        1-002-3        1-002-4
2-001-1        7-222-7

CPCN
2-0-10-3       2-0-11-0       2-0-11-2       2-0-12-1
2-2-3-3       2-2-4-0       10-14-10-1
```

17. Enter the `rtrv-ss-appl` command to verify that either the LNP, EIR, V-Flex, ATINPQ, or INP subsystem number (depending on which feature is on) is in the subsystem application table.

This is an example of the possible output.

```
rlghncxa03w 08-09-28 14:42:38 GMT EAGLE5 41.0.0
APPL      SSN      STAT
LNP       254      ONLINE

SS-APPL table is 20% FULL (1 of 5)
```

If the subsystem number is shown in the `rtrv-ss-appl` output, continue the procedure with [Step 18](#) on page 819.

If no subsystem number is shown in the `rtrv-ss-appl` output, or if the `rtrv-ss-appl` command is rejected, go to one of these manuals, depending on the type of subsystem you wish to use, to enable and turn on the feature as necessary, and add the subsystem to the subsystem application table.

- EIR subsystem – go to the *Feature Manual - EIR*.
- INP subsystem – go to the *Feature Manual - INP/AINPQ*.
- LNP subsystem – go to the *LNP Feature Activation Guide*.
- V-Flex subsystem – go to the *Feature Manual - V-Flex*.
- ATINPQ subsystem – go to the *Feature Manual - ATINP*.

18. Change the global title address for GTT set LIDB using the `chg-gta` command. Use these tables as a guide for the parameters that can be used with the `chg-gta` command.

- [Table 85: GTA Parameter Combinations - No SETTYPE Column in RTRV-GTTSET Output](#) on page 796
- [Table 86: GTTSN = CDGTA GTT Set Parameter Combinations](#) on page 797
- [Table 87: GTTSN = CGGTA GTT Set Parameter Combinations](#) on page 798
- [Table 88: GTTSN = CGPC GTT Set Parameter Combinations](#) on page 799
- [Table 89: GTTSN = CGSSN GTT Set Parameter Combinations](#) on page 800
- [Table 90: GTTSN = OPC GTT Set Parameter Combinations](#) on page 801
- [Table 91: GTTSN = CDSSN GTT Set Parameter Combinations](#) on page 802
- [Table 92: GTTSN = OPCODE GTT Set Parameter Combinations](#) on page 803

For this example, enter this command:

```
chg-gta:gttsn=lidb:gta=9195554321:xlat=dpccsn:ri=ssn:pc=001-255-252:ssn=254  
:mapset=1:opcsn=gttset12:loopset=rtp2
```

When the command has successfully completed, this message appears.

```
rlghncxa03w 09-05-07 00:27:31 GMT EAGLE5 41.0.0  
CHG-GTA: MASP A - COMPLTD
```

If the Prefix values (npdd, npds) or Suffix values (nsds, nsdd) are being removed, do not specify the nnp, nnai, npdd, npds, nsds, and nsdd parameters, but specify the rmgtt=yes parameter.

If the Prefix or Suffix values are being changed from one type to another (Prefix to Suffix, or Suffix to Prefix), after this step is performed with the rmgtt=yes parameter, repeat this step with the new values for the nnp, nnai, npdd, npds, nsds, and nsdd parameters.

The command line on the terminal can contain up to 150 characters. If the parameters and values specified with the chg-gta command are too long to fit on the chg-gta command line, perform the chg-gta command as many times as required to complete changing the GTA entry.

19. Verify the changes to the GTT set using the rtrv-gta command with the gttsn parameter value and one of the following parameters and values specified in [Step 18](#) on page 819, depending on what type of GTT set was specified in [Step 18](#) on page 819.
 - The gta parameter and value – if the GTT set was a CDGTA or CGGTA GTT set, or if the GTT set had no SETTYPE value.
 - The cgssn parameter and value – if the GTT set was a CGSSN GTT set.
 - The cgpc/cgpca/cgpci/cgpcn/cgpcn24 parameter and value – if the GTT set was a CGPC GTT set.
 - The opc/opca/opci/opcn/opcn24 parameter and value – if the GTT set was an OPC GTT set.
 - The cdssn parameter and value – if the GTT set was a CDSSN GTT set.
 - The opcode parameter and value – if the GTT set was an OPCODE GTT set.

If the num parameter is specified with the rtrv-gta command, and the value of the num parameter is greater than 1000, the force=yes parameter must be specified with the rtrv-gta command. For this example, enter this command.

```
rtrv-gta:gttsn=lidb:gta=9195554321
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:28:31 GMT EAGLE5 41.0.0
GTTSN      NETDOM  NDGT
lidx       ansi    10
GTA TABLE IS 1 % FULL (17 of 269999)

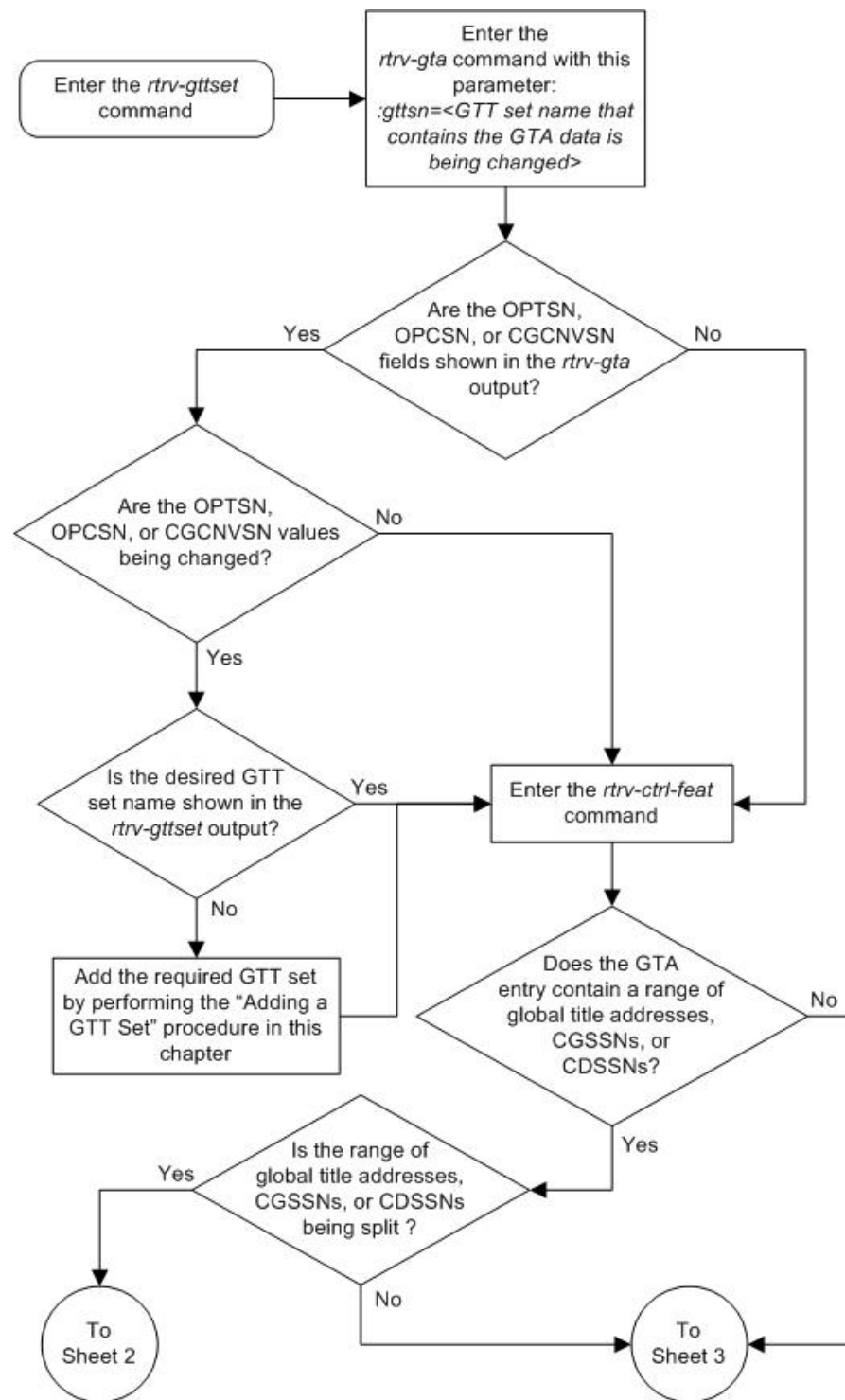
START GTA  END GTA    XLAT  RI    PC
9195554321 9195554321 dpcssn ssn    001-255-252
      MAPSET=1      SSN=254 CCGT=no NTT=---
      LOOPSET = rtp2  FALLBACK=sysdflt TESTMODE=off CGCNVSN=--
      OPTSN=gttset3 CGSELID=----- CDSELID=----- OPCSN=gttset12

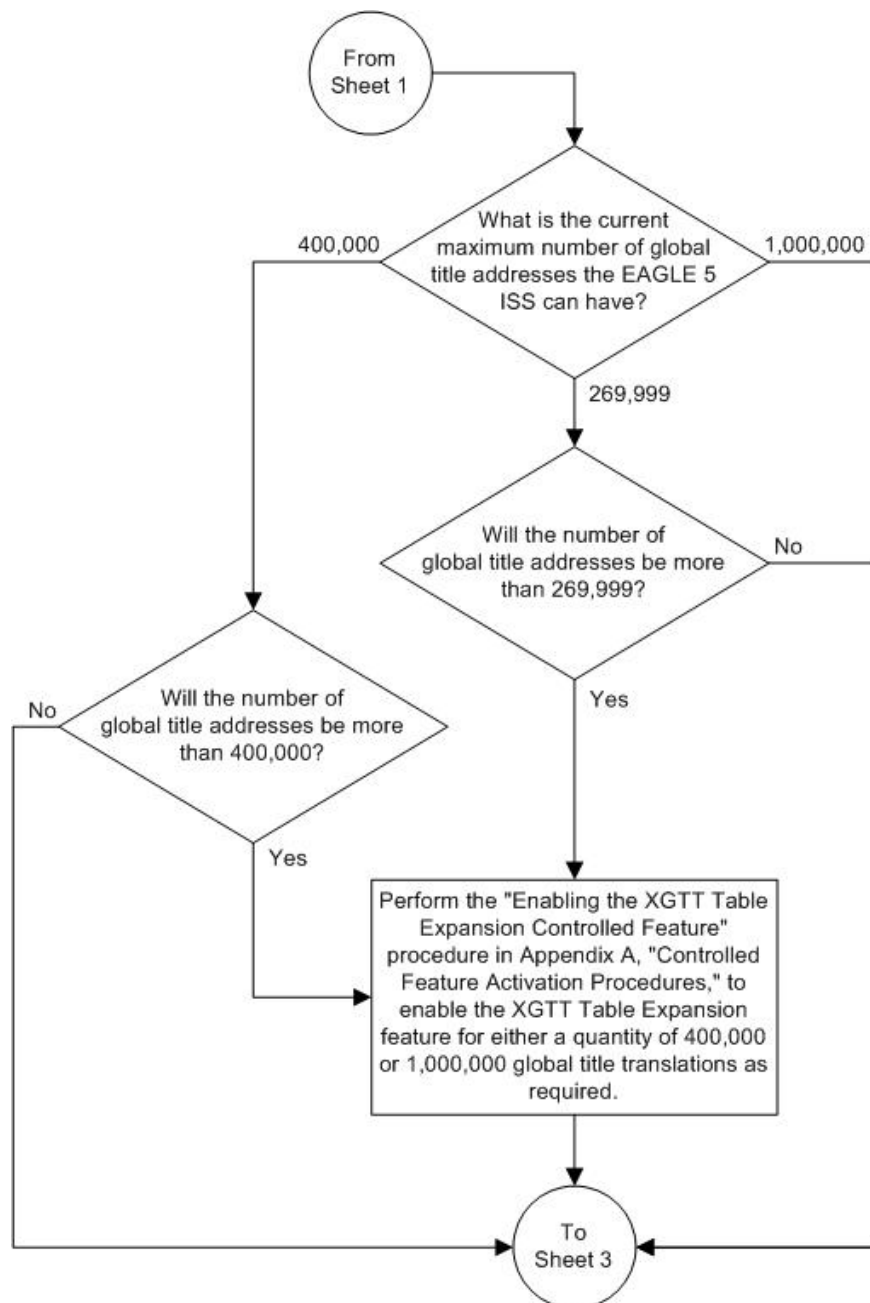
Command Retrieved 1 Entries
```

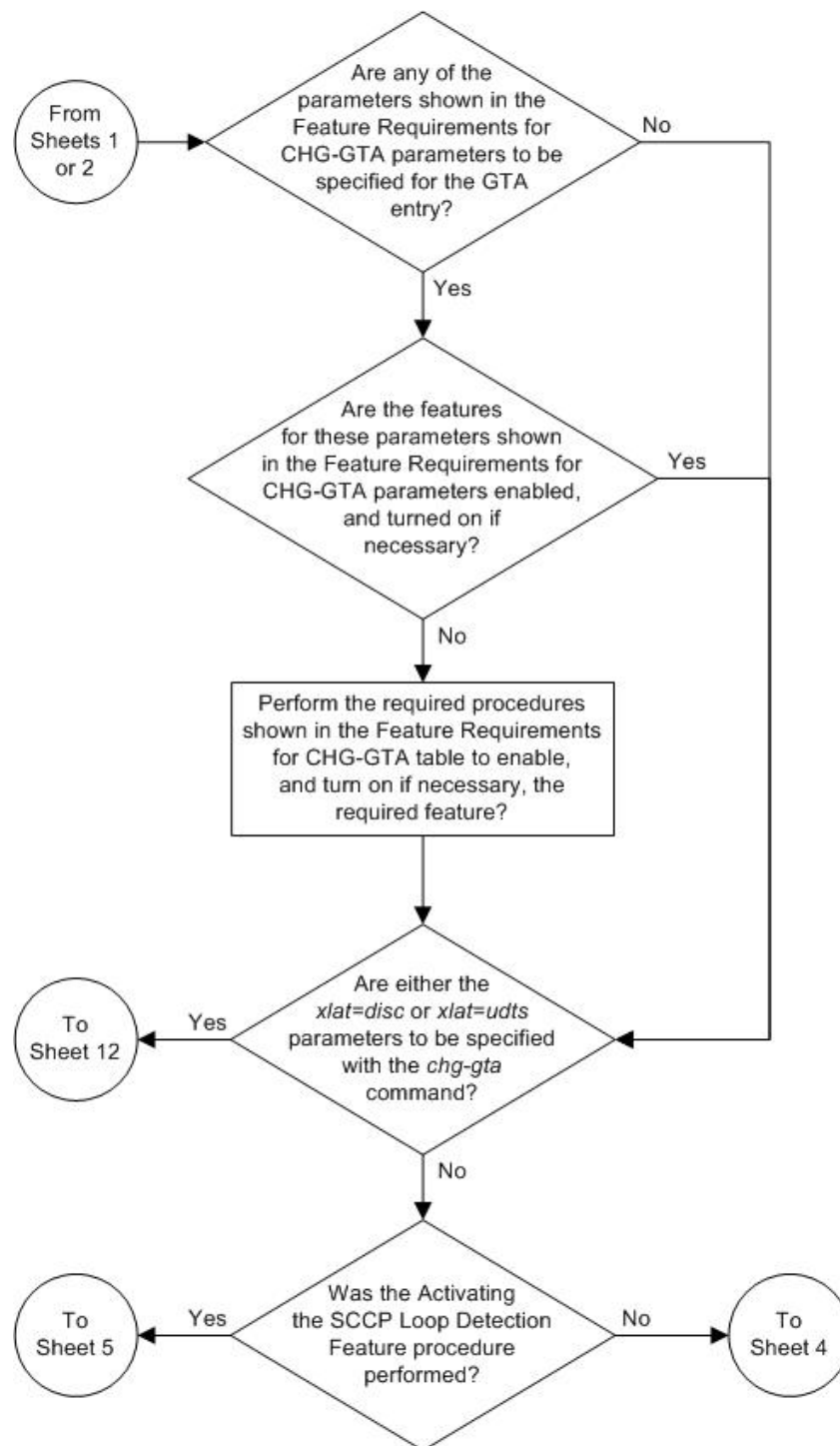
20. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

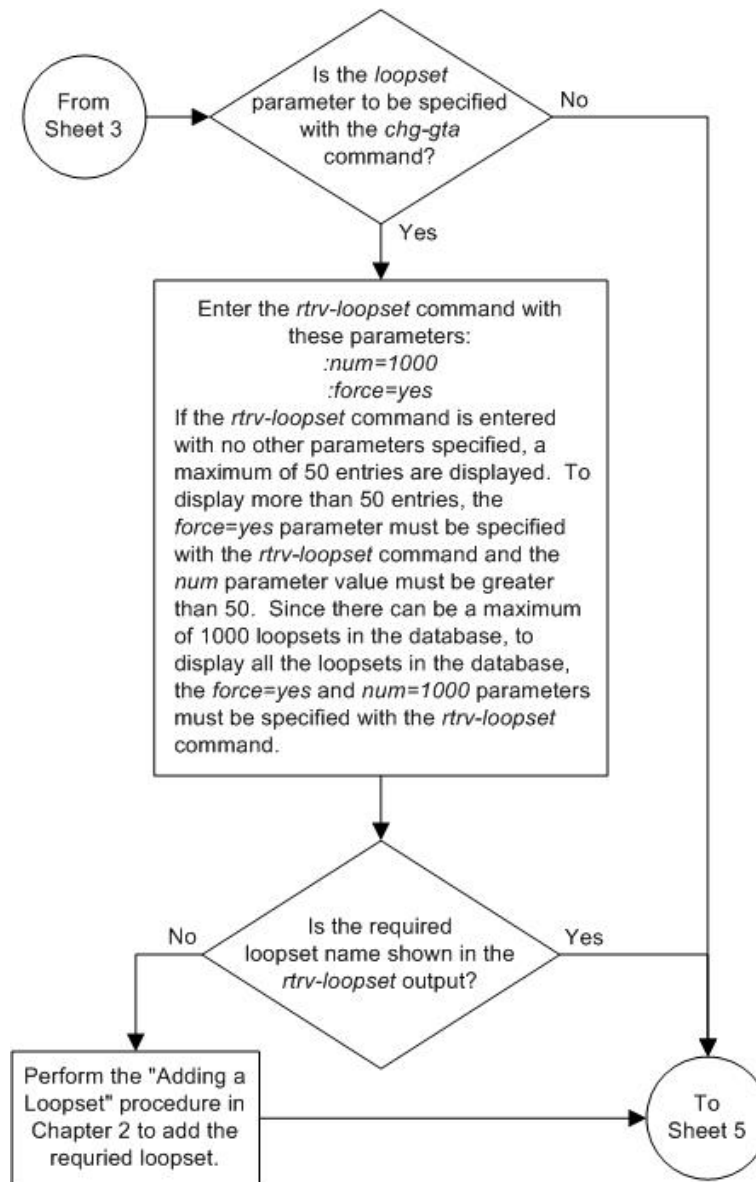
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

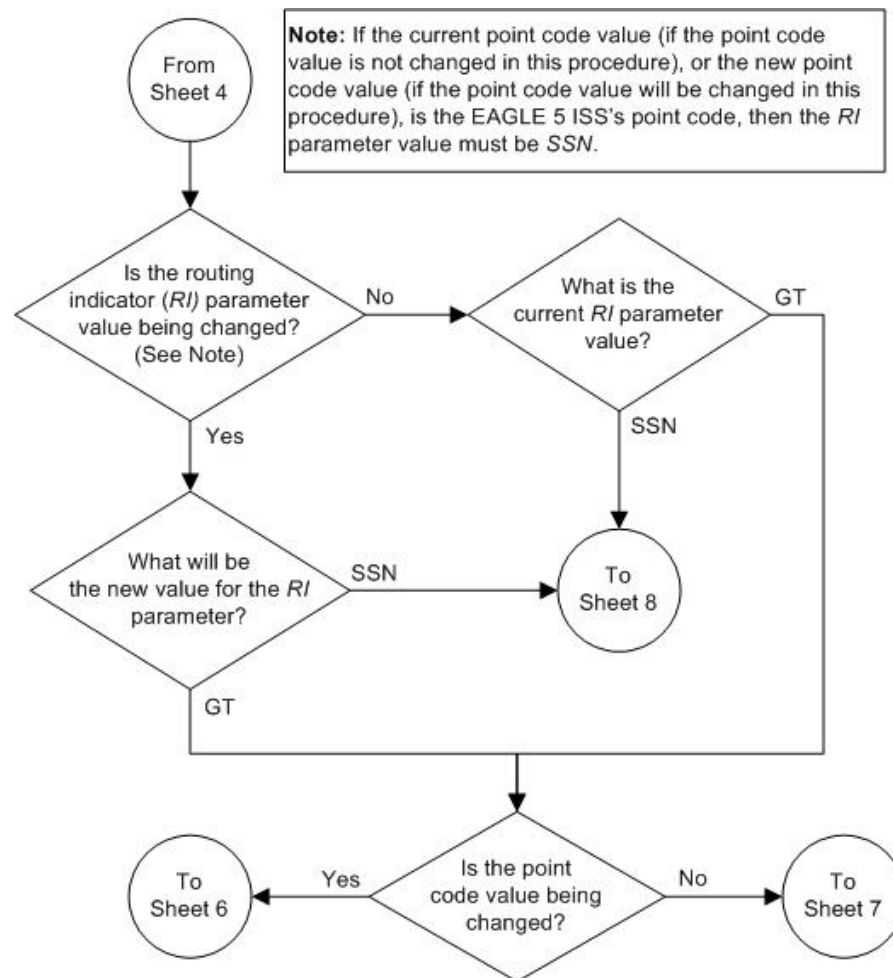
Figure 62: Changing Global Title Address Information

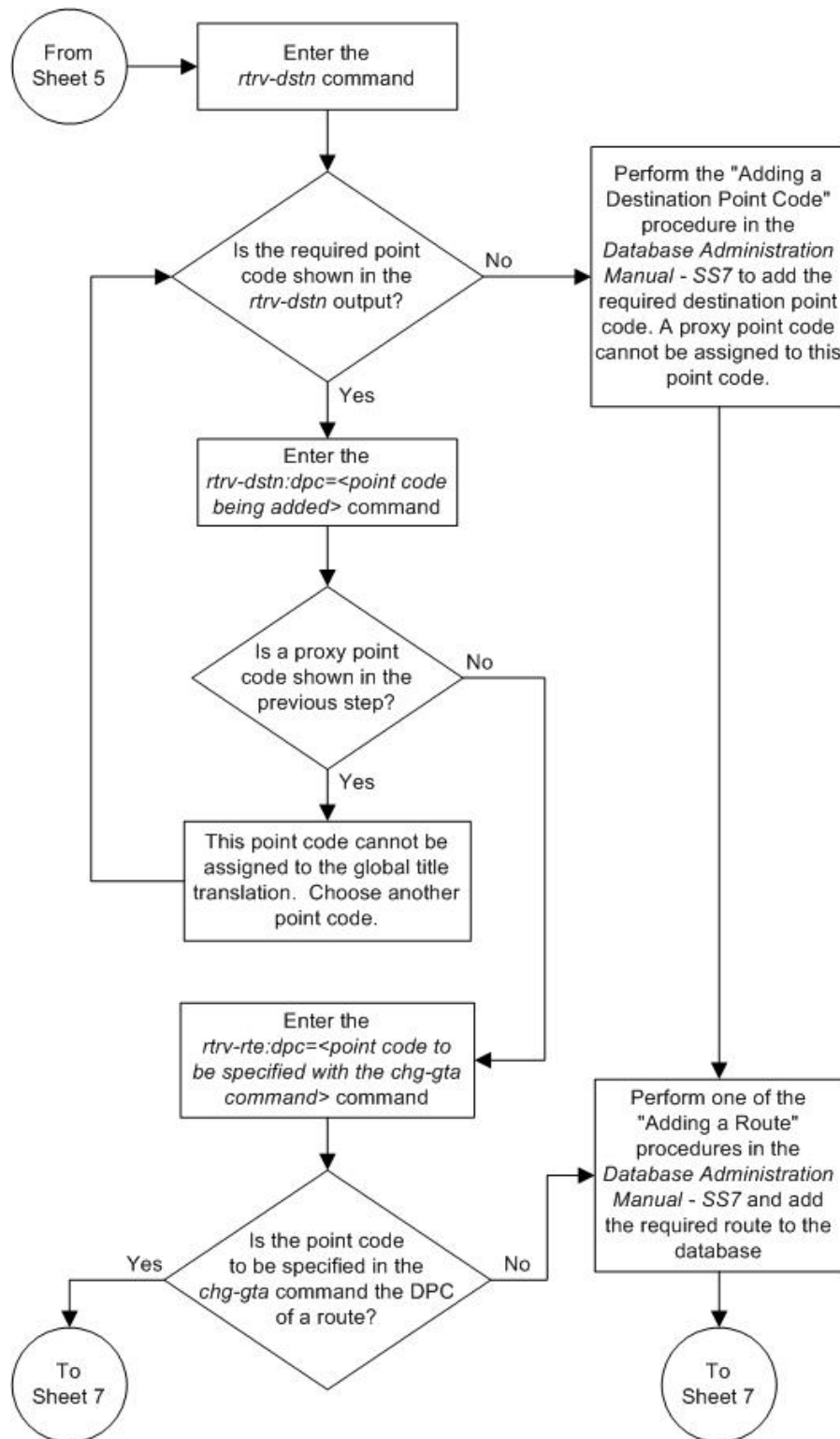


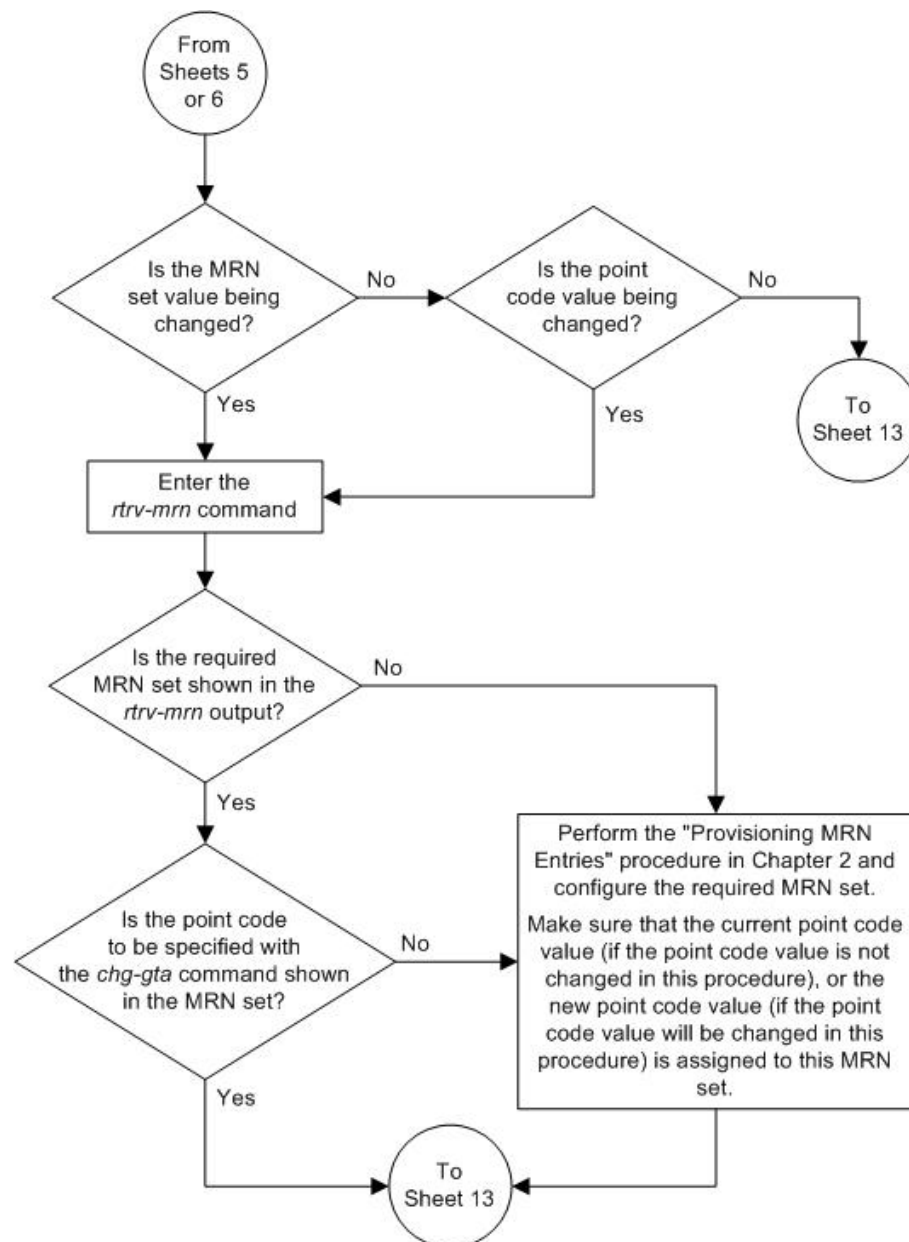


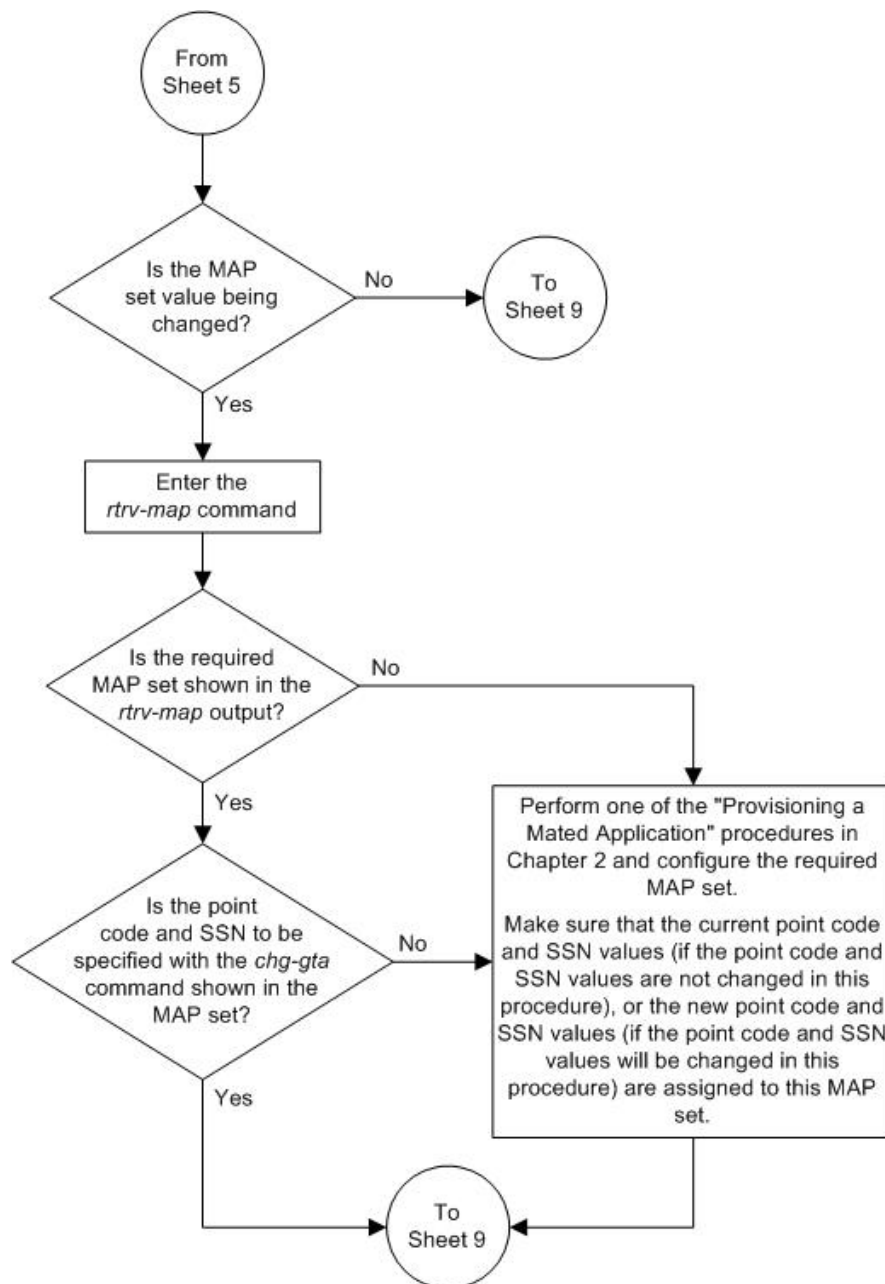


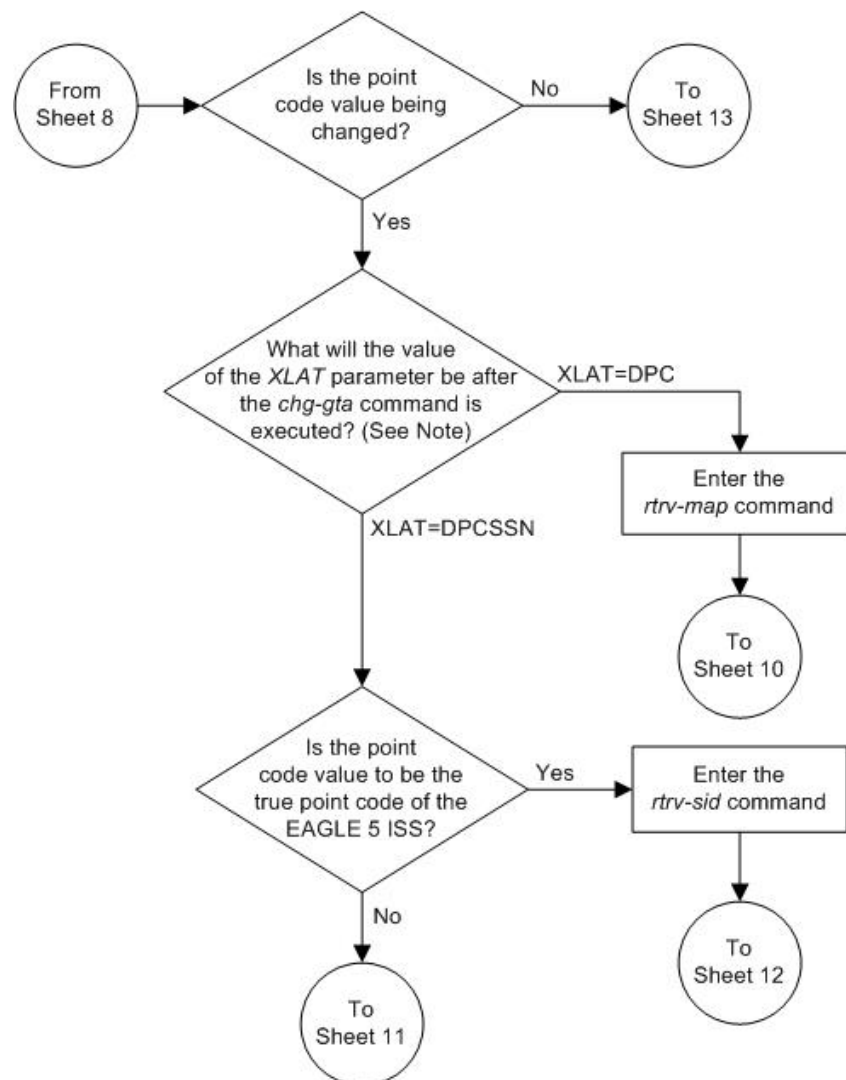




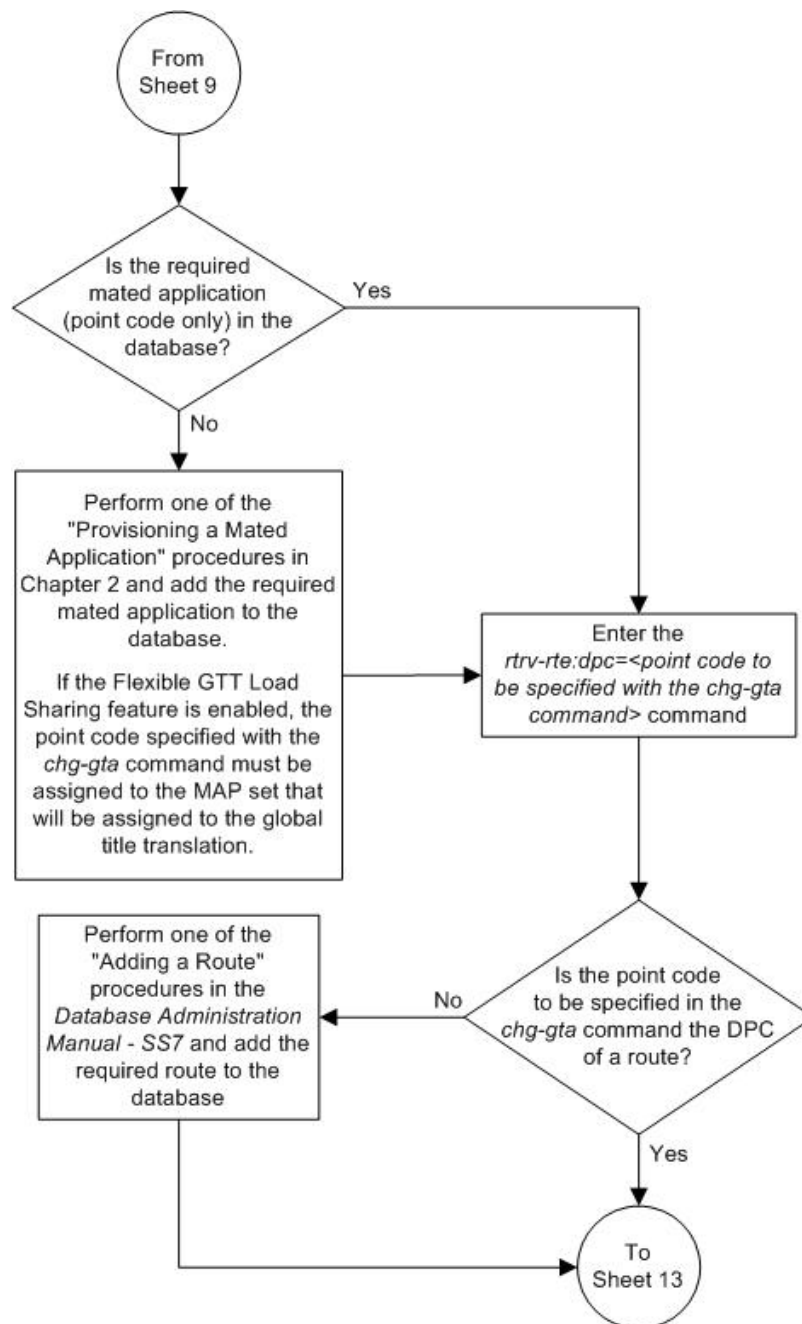


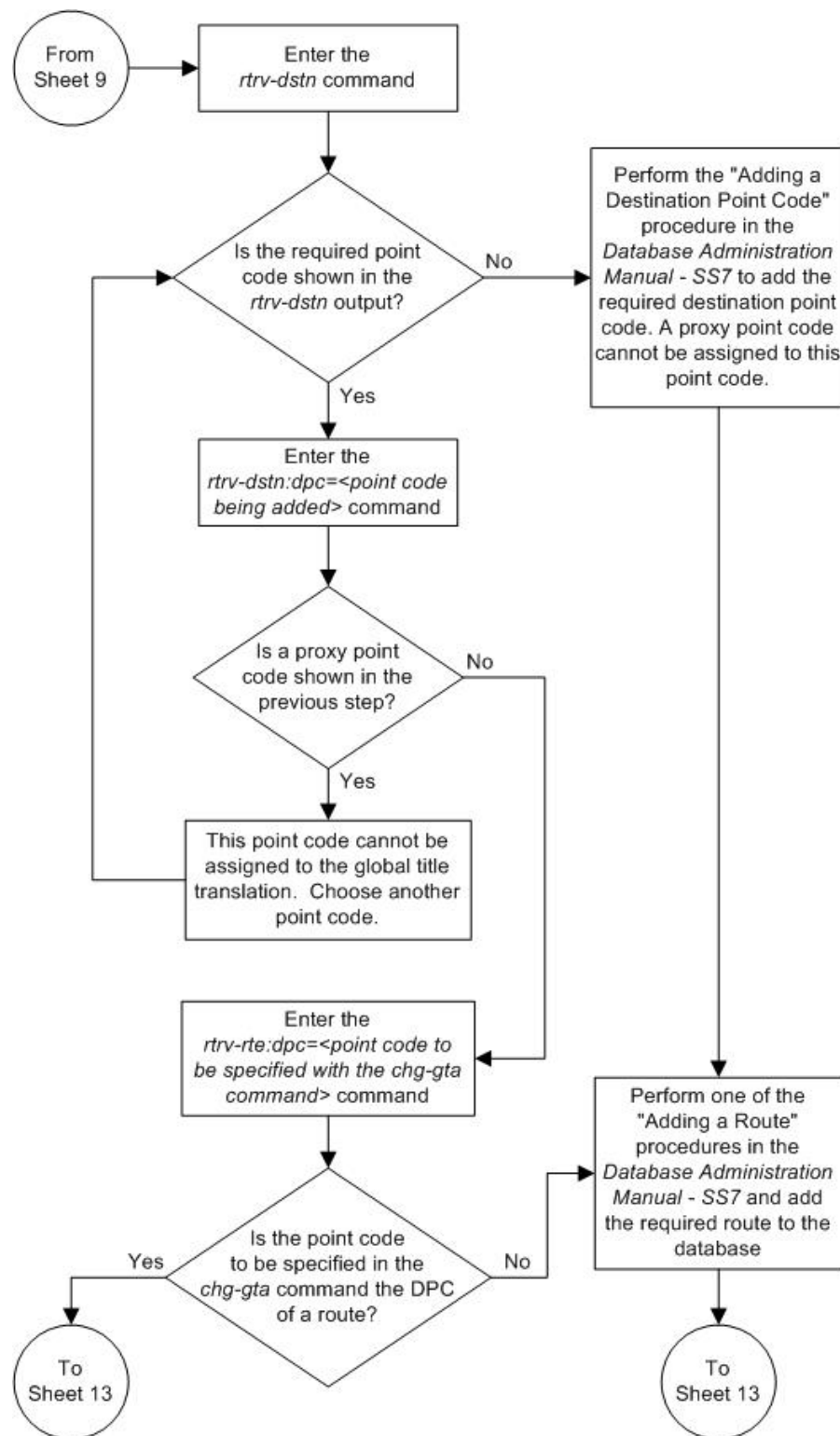


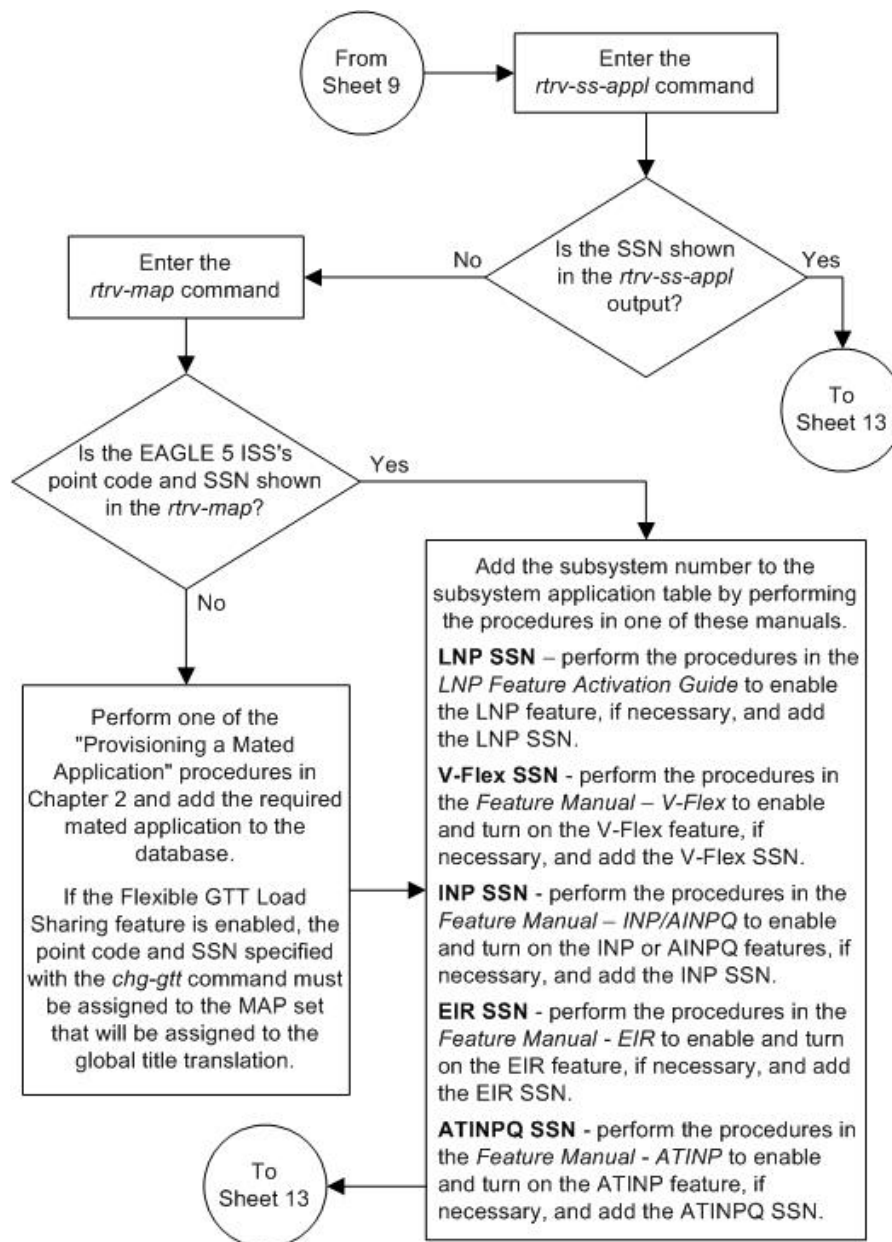


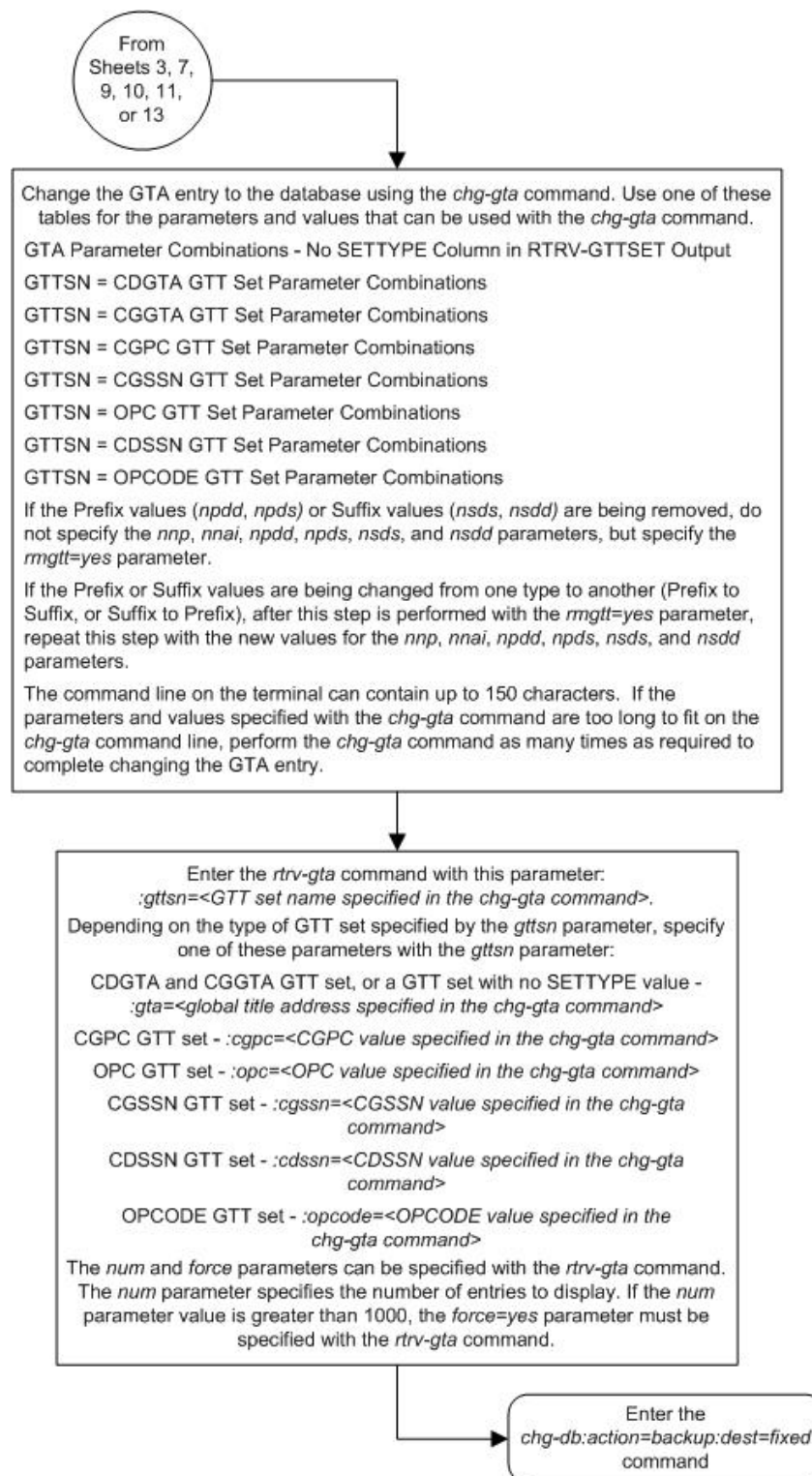


Note: If the current point code value (if the point code value is not changed in this procedure), or the new point code value (if the point code value will be changed in this procedure), is the EAGLE 5 ISS's point code, then the *XLAT* parameter value must be *DPCSSN*.









Changing the Default GTT Mode Options

This procedure is used to change the default GTT mode options using the `chg-sccpopts` command with these parameters:

`:dfltggtmode` – the system default of the GTT mode hierarchy for the EAGLE 5 ISS to follow when performing global title translation. The values for this parameter are shown in [Table 95: Default GTT Mode Option Parameter Combinations](#) on page 837

`:dfltcgpcasn` – the default ANSI CGPC GTT set name or the value none. This parameter determines the ANSI CGPC GTT set name to be used when GTI value is 0.

`:dfltcgpcisn` – the default ITU CGPC GTT set name or the value none. This parameter determines the ITU CGPC GTT set name to be used when GTI value is 0.

This procedure can be performed only if the Origin-Based SCCP Routing feature is enabled or if the Flexible Linkset Optional Based Routing feature is enabled and turned on.

If a CGPC GTT set name is assigned to either the `dfltcgpcasn` or `dfltcgpcisn` parameters, this value can be removed by specifying the value none for the `dfltcgpcasn` or `dfltcgpcisn` parameters.

The CGPC GTT set name specified for the `dfltcgpcasn` or `dfltcgpcisn` parameters must be shown in the `rtrv-gttset` output with the value CGPC in the SETTYPE column.

For more information about the default GTT mode options, refer to [Origin-Based SCCP Routing](#) on page 37 or [Flexible Linkset Optional Based Routing](#) on page 58 .

1. Display the existing default GTT mode values by entering the `rtrv-sccpopts` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-17 16:02:05 GMT EAGLE5 41.0.0

SCCP OPTIONS
-----
DFLTGTTMODE             CdPA
DFLTCGPCASN             -----
DFLTCGPCISN             -----
DFLT FALLBACK           yes
```

The `rtrv-sccpopts` output contains other fields that are not used in this procedure. If you wish to see these fields, refer to the `rtrv-sccpopts` command description in the *Commands Manual*.

If the DFLT FALLBACK field is shown in the `rtrv-sccpopts` output, the Flexible Linkset Optional Based Routing feature is enabled and turned on. Continue the procedure by performing one of these steps.

- If the DFLTCGPCASN or DFLTCGPCISN values are being changed to another CGPC GTT set name, continue the procedure with [Step 3](#) on page 837.
- If the DFLTCGPCASN or DFLTCGPCISN values are not being changed to another CGPC GTT set name, continue the procedure with [Step 4](#) on page 837.

If the DFLTFALLBACK field is not shown in the `rtrv-sccpopts` output, the Flexible Linkset Optional Based Routing feature is not enabled or turned on. Continue the procedure by performing one of these steps.

- If the DFLTFALLBACK value will be changed, or the DFLTGTMODE value will be changed to `fed`, `fecg`, `fedfecg`, or `fecgfed`, perform [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976 to enable and turn on the Flexible Linkset Optional Based Routing feature. After the Flexible Linkset Optional Based Routing feature has been enabled and turned on, continue the procedure by performing one of these steps.
 - If the DFLTCGPCASN or DFLTCGPCISN values are being changed to another CGPC GTT set name, continue the procedure with [Step 3](#) on page 837.
 - If the DFLTCGPCASN or DFLTCGPCISN values are not being changed to another CGPC GTT set name, continue the procedure with [Step 4](#) on page 837.
- If the DFLTFALLBACK value will not be changed, or the DFLTGTMODE value will not be changed to `fed`, `fecg`, `fedfecg`, or `fecgfed`, continue the procedure by performing one of these steps.
 - If the DFLTGTMODE value is a value other than `CdPA`, or the DFLTCGPCASN or DFLTCGPCISN fields contain the name of a GTT set, the Origin-Based SCCP Routing feature is enabled. Continue the procedure by performing one of these steps.
 - If the DFLTCGPCASN or DFLTCGPCISN values are being changed to another CGPC GTT set name, continue the procedure with [Step 3](#) on page 837.
 - If the DFLTCGPCASN or DFLTCGPCISN values are not being changed to another CGPC GTT set name, continue the procedure with [Step 4](#) on page 837.
 - If the DFLTGTMODE value is `CdPA`, and the DFLTCGPCASN or DFLTCGPCISN fields contain dashes, continue the procedure with [Step 2](#) on page 836 to verify if the Origin-Based SCCP Routing feature is enabled.

2. Display the status of the Origin-Based SCCP Routing feature by entering this command.

```
rtrv-ctrl-feat:partnum=893-14301
```

This is an example of the possible output.

```
rlghncxa03w 09-05-07 00:29:31 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Origin Based SCCP Routing	893014301	on	----

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the Origin-Based SCCP Routing feature is not enabled, perform [Activating the Origin-Based SCCP Routing Feature](#) on page 892 to enable the Origin-Based SCCP Routing feature.

After the Origin-Based SCCP Routing feature has been enabled, or if the `rtrv-ctrl-feat` output shows that the Origin-Based SCCP Routing feature is enabled, continue the procedure by performing one of these steps.

- If the `DFLTCGPCASN` or `DFLTCGPCISN` values are being changed to another CGPC GTT set name, continue the procedure with [Step 3](#) on page 837.
- If the `DFLTCGPCASN` or `DFLTCGPCISN` values are not being changed to another CGPC GTT set name, continue the procedure with [Step 4](#) on page 837.

3. Display the GTT sets in the database using the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-07 00:29:31 GMT EAGLE5 36.0.0

GTTSN      NETDOM  SETTYPE  NDGT
abcd1234   itu     CGGTA    12
gttset3    ansi    CGGTA    10
gttset6    ansi    OPC      -
gttset7    ansi    CGPC     -
gttset12   ansi    OPC      -
imsi       itu     CDGTA    15
lidx       ansi    CDGTA    10
t800       ansi    CDGTA    10
s1000      itu     CDGTA    15
s2000      itu     CGPC     -
```

The `SETTYPE` value of the GTT set name specified for the `dfltcgpcasn` or `dfltcgpcisn` parameters must be CGPC. If the `dfltcgpcasn` parameter is specified, the `NETDOM` value of the CGPC GTT set must be ANSI. If the `dfltcgpcisn` parameter is specified, the `NETDOM` value of the CGPC GTT set must be ITU. .

If the required GTT set name is not shown in the `rtrv-gttset` output, perform [Adding a GTT Set](#) on page 660 to add the required CGPC GTT set.

After the new GTT set has been added to the database, or if the required CGPC GTT set is shown in the `rtrv-gttset` output, continue the procedure with [Step 4](#) on page 837.

4. Change the default GTT mode values using the `chg-sccopts` command and with at least one of the parameters and values shown in [Table 95: Default GTT Mode Option Parameter Combinations](#) on page 837 .

Table 95: Default GTT Mode Option Parameter Combinations

Origin-Based SCCP Routing Feature Enabled	Flexible Linkset Optional Based Routing Feature (FLOBR) Enabled and Turned On
<code>:dfltggtmode=</code> one of these values cd - CdPA GTT only cg - CgPA GTT only acdcd - Advanced CdPA GTT, CdPA GTT acdgcg - Advanced CdPA GTT, CgPA GTT, CdPA GTT acdcdcg - Advanced CdPA GTT, CdPA GTT, CgPA GTT	<code>:dfltggtmode=</code> one of these values cd - CdPA GTT only cg - CgPA GTT only acdcd - Advanced CdPA GTT, CdPA GTT acdgcg - Advanced CdPA GTT, CgPA GTT, CdPA GTT acdcdcg - Advanced CdPA GTT, CdPA GTT, CgPA GTT

Origin-Based SCCP Routing Feature Enabled	Flexible Linkset Optional Based Routing Feature (FLOBR) Enabled and Turned On
cgacdcd - CgPA GTT, Advanced CdPA GTT. CdPA GTT cgcd - CgPA GTT, CdPA GTT cdcg - CdPA GTT, CgPA GTT	cgacdcd - CgPA GTT, Advanced CdPA GTT. CdPA GTT cgcd - CgPA GTT, CdPA GTT cdcg - CdPA GTT, CgPA GTT fcd - FLOBR CdPA fcg - FLOBR CgPA fcdcg - FLOBR CdPA, FLOBR CgPA fcgfd - FLOBR CgPA, FLOBR CdPA
:dfltcgpcasn=<the new ANSI CGPC GTT set name>	:dfltcgpcasn=<the new ANSI CGPC GTT set name>
:dfltcgpcisn=<the new ITU CGPC GTT set name>	:dfltcgpcisn=<the new ITU CGPC GTT set name>
	:dfltallback=<yes, no>

For this example, enter this command.

```
chg-sccpopts:dfltgttmode=acdcd:dfltcgpcasn=gttset7:dfltcgpcisn=s2000
```

When the chg-sccpopts command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 00:22:57 GMT EAGLE5 36.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

5. Verify the changes using the rtrv-sccpopts command. This is an example of the possible output.

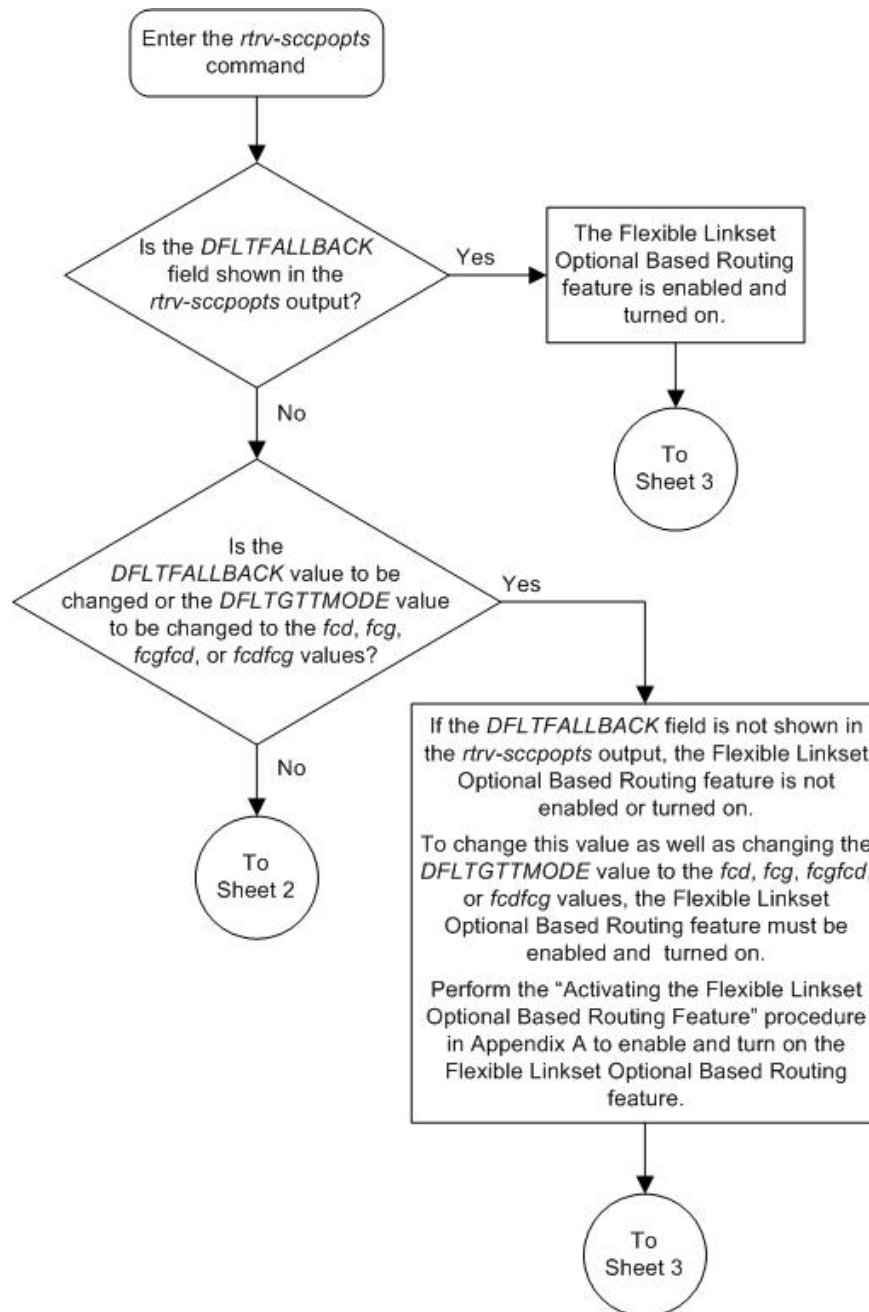
```
rlghncxa03w 09-05-17 16:02:05 GMT EAGLE5 41.0.0

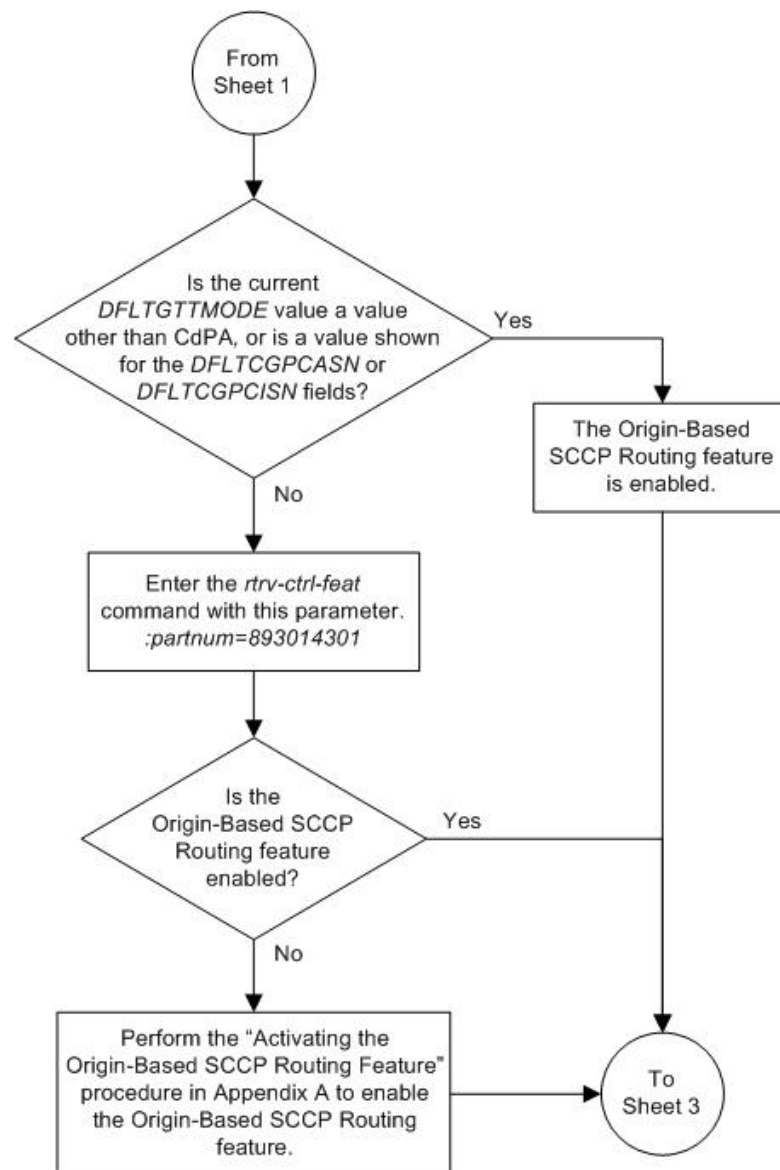
SCCP OPTIONS
-----
DFLTGTMODE           AdvCdPA,CdPA
DFLTCGPCASN          gttset7
DFLTCGPCISN          s2000
DFLTfallback         yes
```

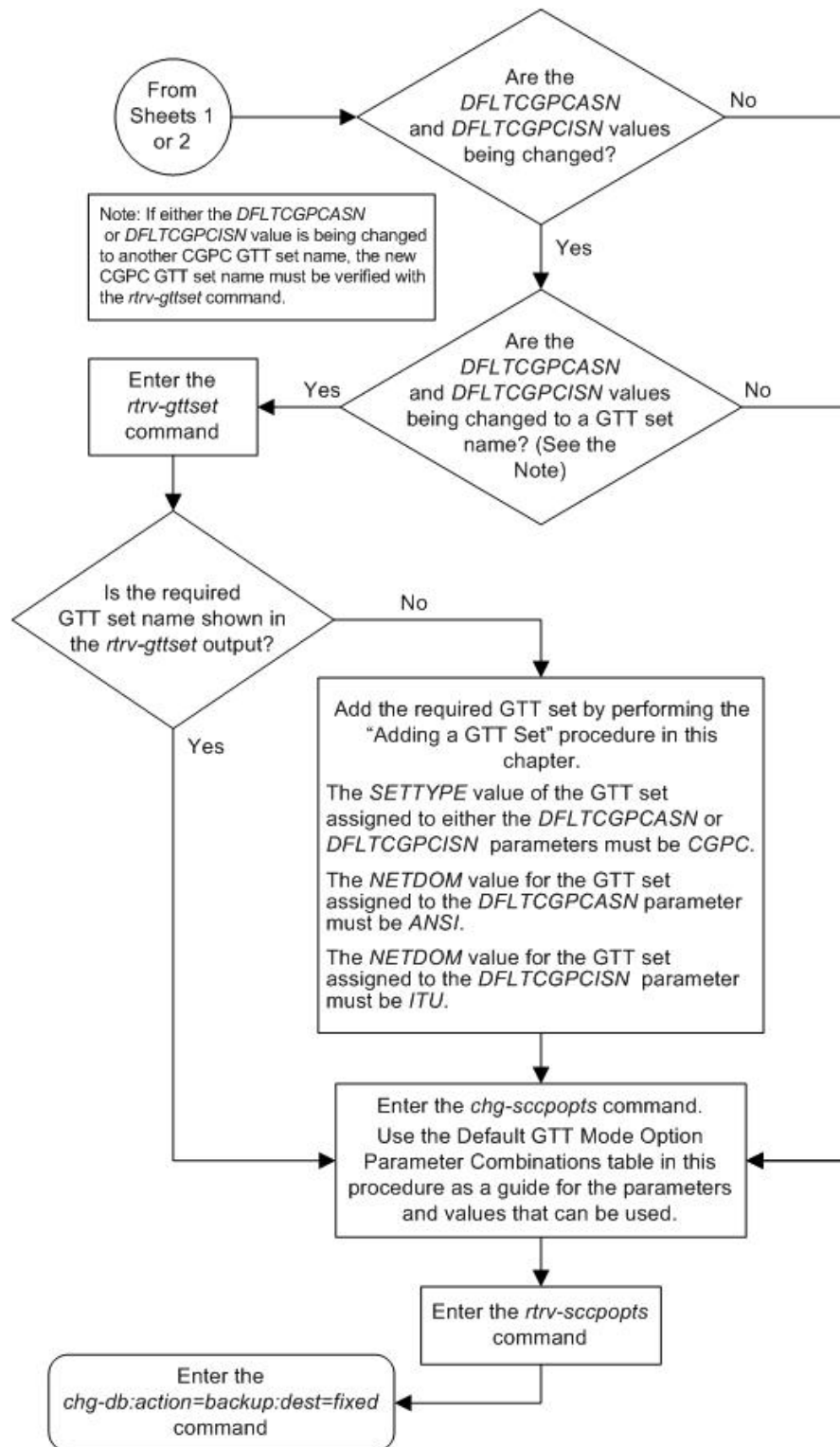
6. Back up the new changes using the chg-db:action=backup:dest=fixed command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 63: Changing the Default GTT Mode Options







Appendix

A

Controlled Feature Activation Procedures

Topics:

- [*Introduction.....845*](#)
- [*Activating the IGTTLS feature.....845*](#)
- [*Clearing a Temporary FAK Alarm.....853*](#)
- [*Turning the IGTTLS Feature Off.....855*](#)
- [*Enabling the XGTT Table Expansion Feature.....859*](#)
- [*Enabling the XMAP Table Expansion Feature.....867*](#)
- [*Activating the ANSI-ITU-China SCCP Conversion Feature.....874*](#)
- [*Activating the Flexible GTT Load Sharing Feature.....881*](#)
- [*Turning the Flexible GTT Load Sharing Feature Off.....890*](#)
- [*Activating the Origin-Based SCCP Routing Feature.....892*](#)
- [*Activating the Hex Digit Support for GTT Feature.....902*](#)
- [*Activating the Weighted GTT Load Sharing Feature.....910*](#)
- [*Activating the Transaction-Based GTT Load Sharing Feature.....919*](#)
- [*Activating the SCCP Loop Detection Feature.....929*](#)
- [*Activating the E5-SM4G Throughput Capacity Feature.....939*](#)
- [*Activating the Advanced GT Modification Feature.....946*](#)
- [*Activating the GTT Load Sharing with Alternate Routing Indicator Feature.....954*](#)
- [*Turning the GTT Load Sharing with Alternate Routing Indicator Feature Off.....963*](#)
- [*Activating the Support for 16 GTT Lengths in VGTT Feature.....966*](#)

Appendix A, Controlled Feature Activation Procedures, describes the procedures necessary to activate and deactivate features (features that require a feature access key to be activated) contained in this manual.

- *Activating the Flexible Linkset Optional Based Routing Feature.....976*
- *Activating the TCAP Opcode Based Routing Feature.....985*
- *Enabling a TOBR Opcode Quantity.....990*

Introduction

Controlled features are features that are activated using a feature access key. These features can either be on or off, or features that operate at a particular performance level. Only the controlled features that are used in this manual are covered in this appendix.

The feature access key allows the user to enable and activate a controlled feature in the EAGLE 5 ISS by entering either a permanent feature access key or a temporary feature access key. By requiring a feature access key to enable and activate a controlled feature, unauthorized enabling and activation of a controlled feature can be prevented. The feature access key is supplied by Tekelec.

Features enabled with a permanent feature access key remain enabled for as long as the EAGLE 5 ISS remains in service. Once features are permanently enabled, they cannot be disabled.

Features enabled with a temporary feature access key are enabled for only 30 days. On the twenty-third day, seven days before the temporary key expires, a major alarm (UAM 0367) is generated to inform the user that the one or more temporary feature access keys will expire soon.

```
0367.0181  ** SYSTEM      Temp Key(s) expiring soon.
```

If a temporary feature access key expires, the controlled feature is disabled and a critical alarm (UAM 0368) is generated.

```
0368.0181  *C SYSTEM      Temp Key(s) have expired.
```

Any attempts to enable the controlled feature with the temporary feature access key are rejected. The controlled feature can be enabled only by entering the permanent feature access key for the controlled feature.

To clear the critical alarm (UAM 0368), the user can either enter the `chg-ctrl-feat` command with the `alarm=clear` parameter, or permanently enable the controlled feature by entering the permanent feature access key for the controlled feature.

If the critical alarm is cleared with the `chg-ctrl-feat` command, the controlled feature is disabled and cannot be enabled with the temporary feature access key. The feature can be enabled only by entering the permanent feature access key for the controlled feature.

Activating the IGTTLs feature

This procedure is used to enable and activate the Intermediate GTT Load Sharing feature.

The feature access key is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the Intermediate GTT Load Sharing feature by inputting the feature's access key and the feature's part number with these parameters:

: fak – The feature access key generated by the feature access key generator. The feature access key contains 13 alphanumeric characters and is not case sensitive.

:partnum – The Tekelec-issued part number of the Intermediate GTT Load Sharing feature, 893006901.

If the feature is being enabled with a temporary feature access key, the feature must not be in the *in-use*, *expired*, or *unavailable* state.

The enable-ctrl-feat command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the rtrv-serial-num command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the ent-serial-num command. The ent-serial-num command uses these parameters.

:serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:lock – Specifies whether or not the serial number is locked. This parameter has only one value, yes, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the ent-serial-num command must be entered twice, once to add the correct serial number to the database with the serial parameter, then again with the serial and the lock=yes parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

Once the feature has been enabled, the feature must be activated with the chg-ctrl-feat command. The chg-ctrl-feat command uses these parameters:

:partnum – The Tekelec-issued part number of the Intermediate GTT Load Sharing feature, 893006901.

:status=on – used to activate the features that customer has purchased and enabled.

The status of the controlled features in the EAGLE 5 ISS is shown with the rtrv-ctrl-feat command.

The examples in this procedure are used to enable and activate the Intermediate GTT Load Sharing feature.

1. Display the status of the Intermediate GTT Load Sharing feature by entering the rtrv-ctrl-feat command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	off	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007710	on	3000
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the `rtrv-ctrl-feat` output shows that the feature is permanently enabled, and its status is on, no further action is necessary.

If the feature is permanently enabled, and its status is off, skip steps 2 through 6, and go to step 7.

If the feature is temporarily enabled, and you wish to permanently enable this feature, or the temporary feature access key for that feature has expired, skip steps 2 through 5, and go to step 6.

If the feature is to remain temporarily enabled, and its status is off, skip steps 2 through 6, and go to step 7. If the feature's status is on, no further action is necessary.

If the feature is to remain temporarily enabled, and its status is on, no further action is necessary.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 2 through 5, and go to step 6. If the `rtrv-ctrl-feat` output shows the HC-MIMSLK Capacity feature with a quantity of 64, steps 2 through 5 must be performed.

2. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, skip steps 3, 4, and 5, and go to step 6. If the serial number is correct but not locked, skip steps 3 and 4, and go to step 5. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

3. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

4. Verify that the serial number entered into step 3 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231
```

```
System serial number is not locked.
```

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

If the serial number was not entered correctly, repeat steps 3 and 4 and re-enter the correct serial number.

5. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 2, if the serial number shown in step 2 is correct, or with the serial number shown in step 4, if the serial number was changed in step 3, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>;lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. Enable the Intermediate GTT Load Sharing feature with either a permanent key or temporary key by entering the `enable-ctrl-feat` command. For this example, enter this command.

```
enable-ctrl-feat:partnum=893006901:fak=<IGTTLS feature access key>
```

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the Intermediate GTT Load Sharing feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

Note: If a temporarily enabled feature was permanently enabled in step 6, and the status of the temporarily enabled feature was on, skip step 7 and go to step 8.

7. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. The IGTTLS features requires that service modules are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
```

CARD	TYPE	APPL	LSET NAME	PORT	SLC	LSET NAME	PORT	SLC
1102	TSM	GLS						
1113	GPSM	OAM						
1114	TDM-A							
1115	GPSM	OAM						
1116	TDM-B							
1117	MDAL							
1201	LIMDS0	SS7ANSI	sp2	A	0	sp1	B	0
1203	LIMDS0	SS7ANSI	sp3	A	0			
1204	LIMDS0	SS7ANSI	sp3	A	1			
1206	LIMDS0	SS7ANSI	nsp3	A	1	nsp4	B	1
1216	DCM	STPLAN						
1308	LIMDS0	SS7ANSI	sp6	A	1	sp7	B	0

1314	LIMDS0	SS7ANSI	sp7	A	1	sp5	B	1
1317	DCM	STPLAN						

Service modules are shown by the entries SCCP or VSCCP in APPL column. If the `rtrv-card` output shows no service modules, or that the type of service modules required to support the IGTTLS feature is not in the database, go to the [Adding a Service Module](#) on page 94 procedure and make sure that the proper hardware is in place to support the IGTTLS feature.

- The Intermediate GTT Load Sharing feature enabled in step 6 must be turned on using the `chg-ctrl-feat` command, specifying the Intermediate GTT Load Sharing feature part number used in step 6 and the `status=on` parameter. For this example, enter this command.

```
chg-ctrl-feat:partnum=893006901:status=on
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

- Verify the changes by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007710	on	3000
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

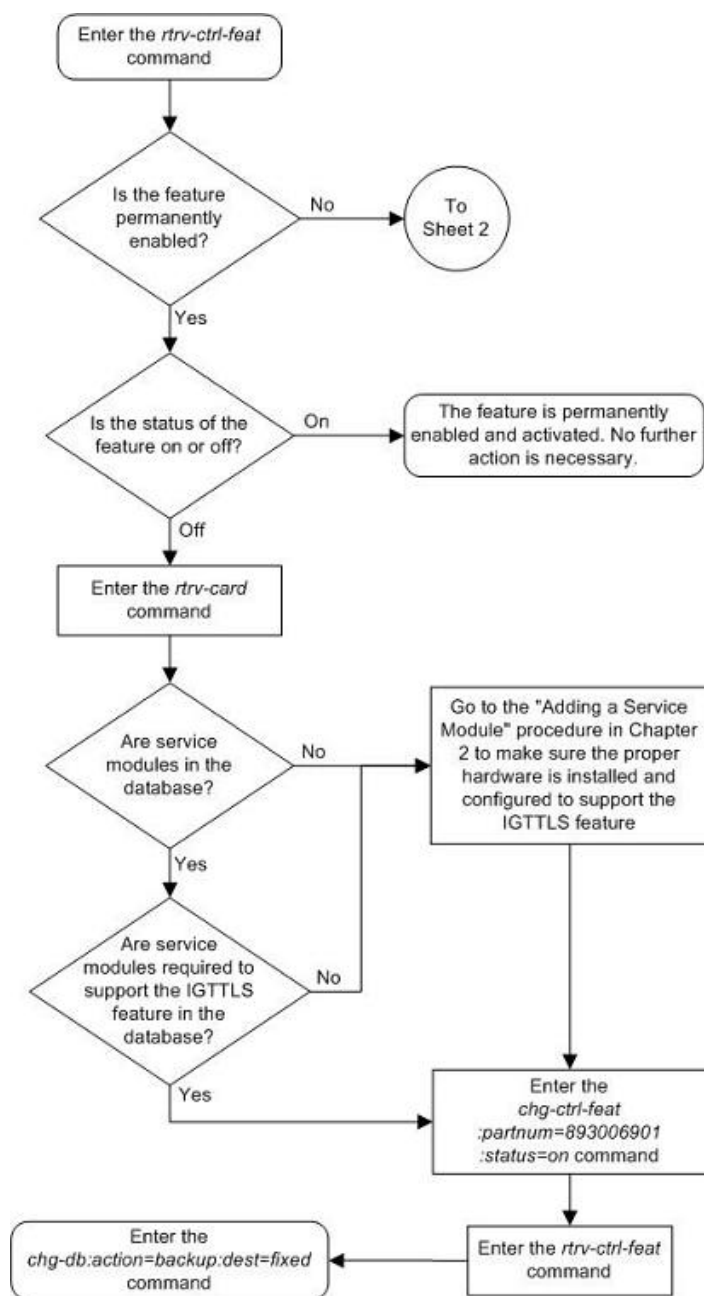
Feature Name	Partnum
Zero entries found.	

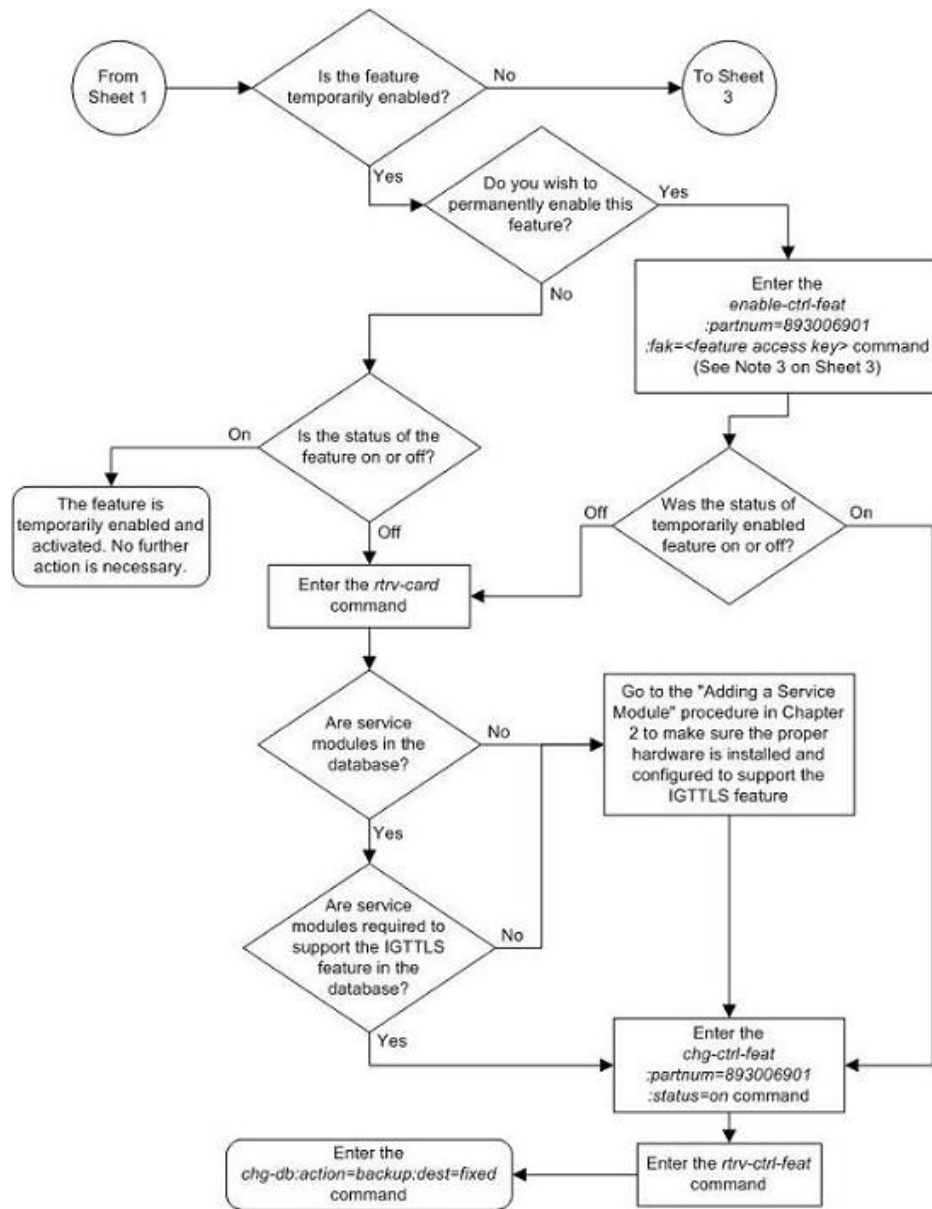
- Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

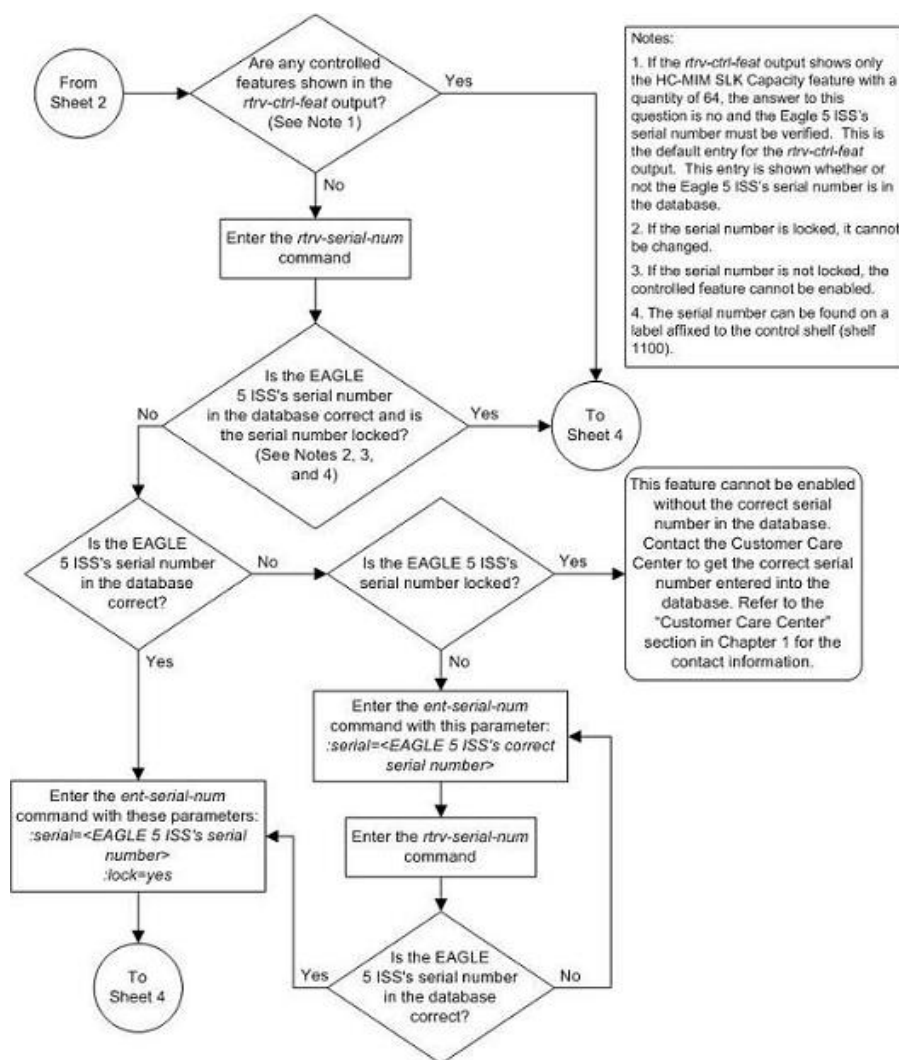
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

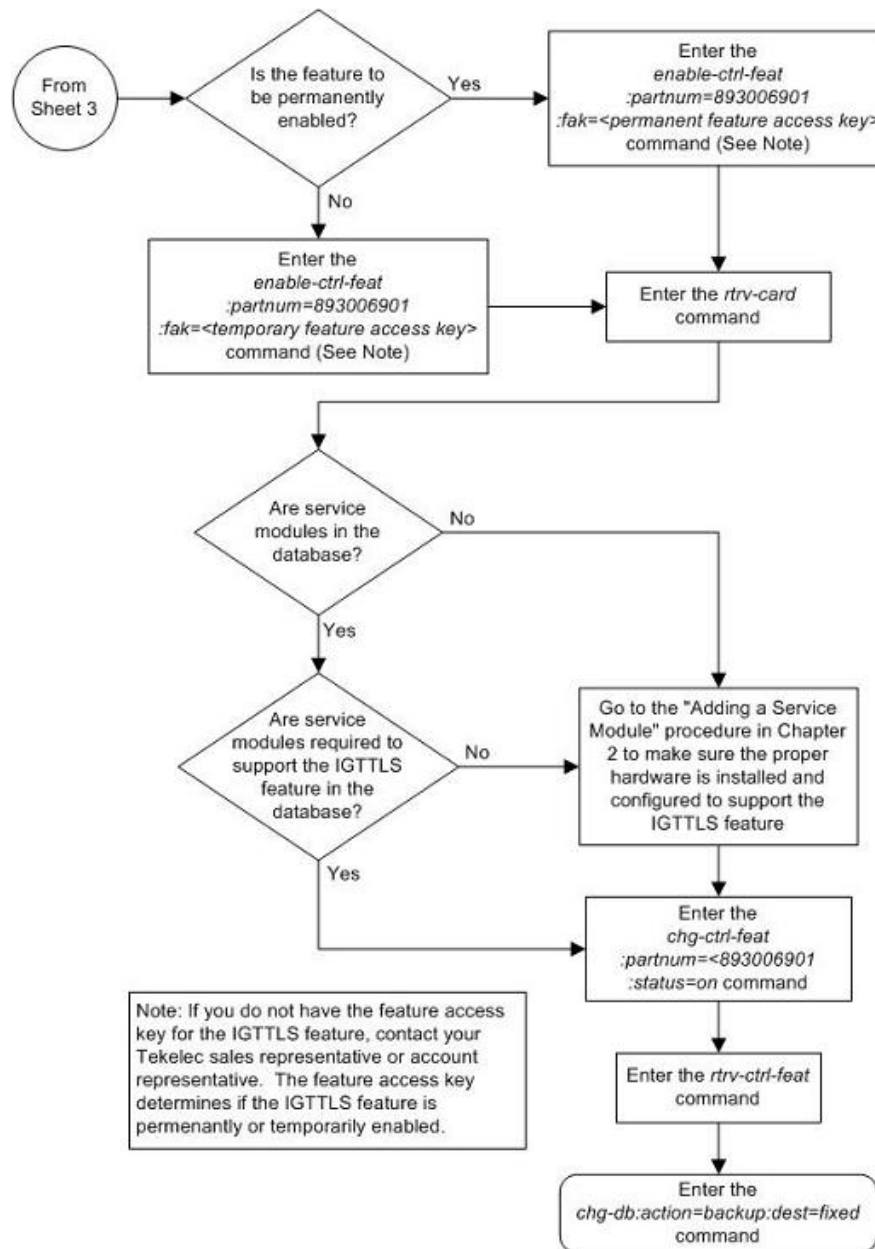
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 64: Activating the IGTTLS feature









Clearing a Temporary FAK Alarm

This procedure is used to clear the critical alarm, UAM 0368, generated when a temporary feature access key has expired, using the `chg-ctrl-feat` command.

The `chg-ctrl-feat` command uses the following parameters:

`:partnum` - The part number of the controlled feature that was temporarily enabled and is causing the alarm.

:alarm=clear - Clears UAM 0368, Temp Key(s) have expired.

The controlled feature must have been temporarily enabled and is now in danger of expiration or in an *expired* state.

1. Display the controlled feature that has the expired feature access key by entering the `rtrv-ctrl-feat:expired=yes` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:17:37 GMT EAGLE5 36.0.0
The following features have expired temporary keys:
Feature Name          Part Num
Intermed GTT Load Sharing 893006901
```

2. Clear the EAGLE 5 ISS alarm in the database by entering the `chg-ctrl-feat` command.

For example, enter this command.

```
chg-ctrl-feat:partnum=893006901:alarm=clear
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:16:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the alarm has cleared in the database by using the `rtrv-ctrl-feat:expired=yes` command.

The following is an example of the possible output.

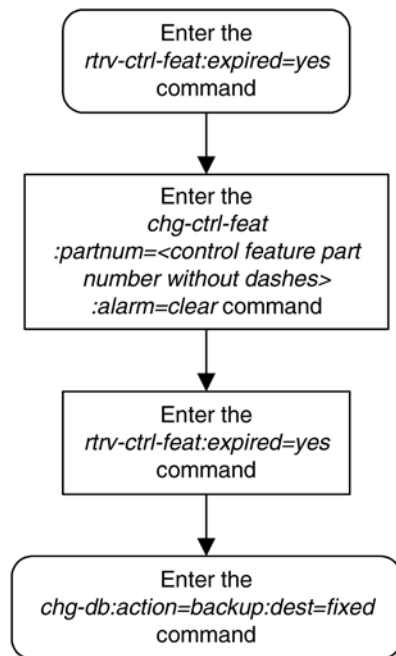
```
rlghncxa03w 06-10-28 21:16:37 GMT EAGLE5 36.0.0
0367.0181 * SYSTEM Temp Key(s) expiration alarm cleared.
```

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 65: Clearing a Temporary FAK Alarm



Turning the IGTTLS Feature Off

This procedure is used to turn off the IGTTLS feature, using the `chg-ctrl-feat` command.

The `chg-ctrl-feat` command uses the following parameters:

`:partnum` - The part number of the IGTTLS feature, 893006901.

`:status=off` - used to deactivate the IGTTLS feature.

The status of the IGTTLS controlled feature must be on and is shown with the `rtrv-ctrl-feat` command.

The GTT Load Sharing with Alternate Routing Indicator feature must be turned off before the IGTTLS feature can be turned off.



CAUTION

CAUTION: If the IGTTLS feature is deactivated, the `ent-mrn` and `chg-mrn` commands cannot be executed, and mated relay node groups and point codes cannot be configured in the database. The mated relay node groups and point codes can be displayed with the `rtrv-mrn` command and removed from the database with the `dlr-mrn` command if the IGTTLS feature is deactivated.

1. Display the status of the IGTTLS feature by entering the `rtrv-ctrl-feat:partnum=893006901` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

```
Feature Name      Partnum    Status  Quantity
Intermed Gtt Load Sharing 893006901  on      ----
```

The following features have been temporarily enabled:

```
Feature Name      Partnum    Status  Quantity    Trial Period Left
Zero entries found.
```

The following features have expired temporary keys:

```
Feature Name      Partnum
Zero entries found.
```

If the status of the IGTTLS feature is off, or if the IGTTLS feature is not enabled, this procedure cannot be performed.

2. Before the IGTTLS feature can be turned off, the GTT Load Sharing with Alternate Routing Indicator feature must be turned off.

Verify the status of the GTT Load Sharing with Alternate Routing Indicator feature by entering the `rtrv-ctrl-feat:partnum=893027401` command.

The following is an example of the possible output.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
The following features have been permanently enabled:
```

```
Feature Name      Partnum    Status  Quantity
GTT LS ARI        893027401  on      ----
```

The following features have been temporarily enabled:

```
Feature Name      Partnum    Status  Quantity    Trial Period Left
Zero entries found.
```

The following features have expired temporary keys:

```
Feature Name      Partnum
Zero entries found.
```

If the GTT Load Sharing with Alternate Routing Indicator feature is not enabled and turned on, continue the procedure with [Step 3](#) on page 856.

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled and turned on, perform [Turning the GTT Load Sharing with Alternate Routing Indicator Feature Off](#) on page 963 to turn the GTT Load Sharing with Alternate Routing Indicator feature off. After the GTT Load Sharing with Alternate Routing Indicator feature has been turned off, continue the procedure with [Step 3](#) on page 856.

3. Turn off the IGTTLS feature by entering the `chg-ctrl-feat` command with the `status=off` parameter.

For example, enter this command.

```
chg-ctrl-feat:partnum=893006901:status=off
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:16:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

4. Verify that the IGTTLs feature has been turned off by using the `rtrv-ctrl-feat:partnum=893006901` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
Intermed Gtt Load Sharing 893006901  off      ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status  Quantity    Trial Period Left
Zero entries found.

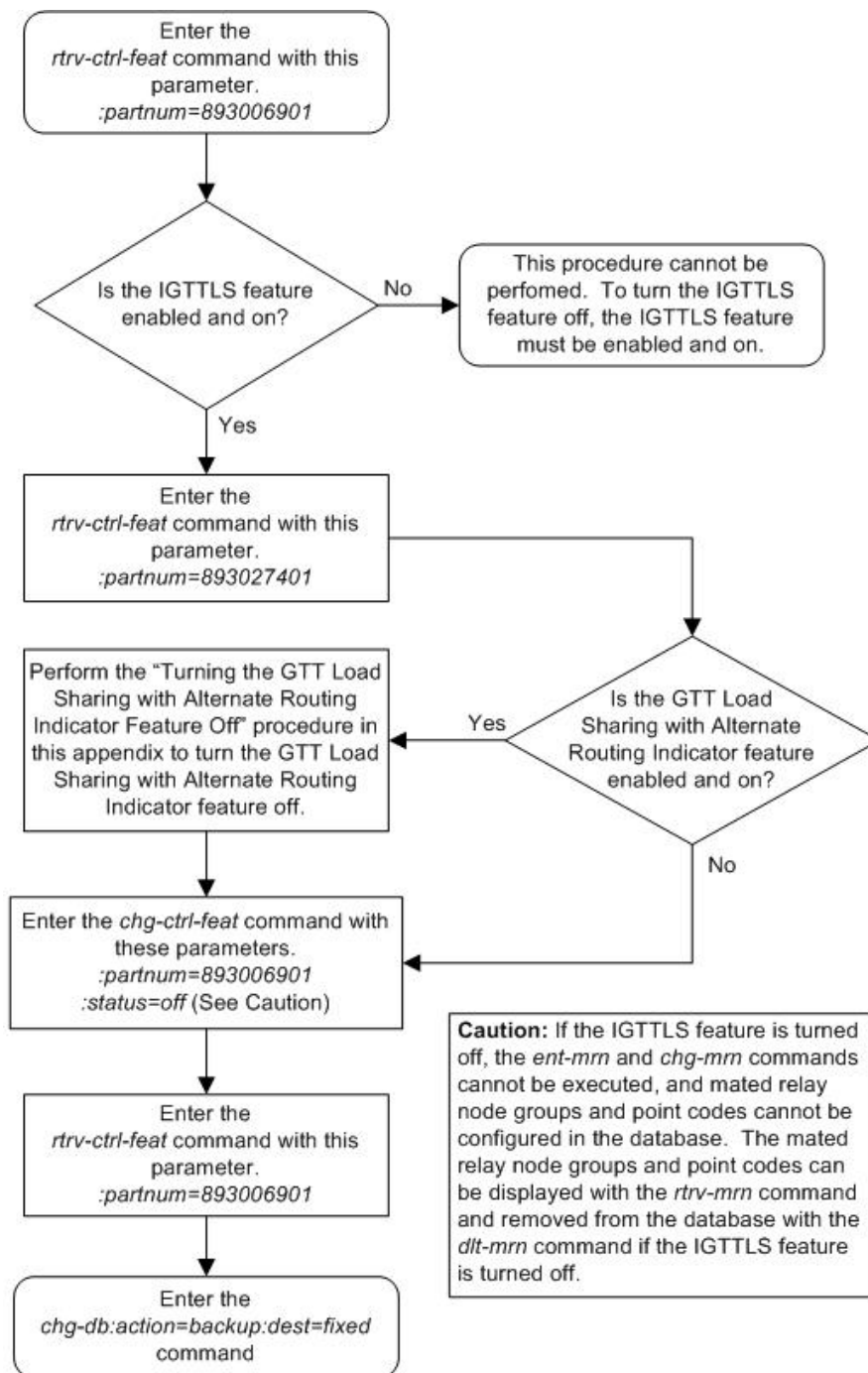
The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 66: Turning the IGTTLs Feature Off



Enabling the XGTT Table Expansion Feature

This procedure is used to enable the XGTT Table Expansion feature using the feature's part number and a feature access key.

The feature access key for the XGTT Table Expansion feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

This feature allows the user to increase the maximum number of entries in the global title translation table from 269,999 entries to either 400,000 or 1,000,000 entries. Each level of increase has its own part number.

- Increase to 400,000 entries – part number 893006101
- Increase to 1,000,000 entries – part number 893006110

This feature requires that the following hardware is installed:

- GPSM-II or E5-MCAP cards are installed in card locations 1113 and 1115.



CAUTION

CAUTION: Never install or initialize MCAP cards in card locations 1113 and 1115 after GPSM-II cards have been installed and features that require GPSM-II cards have been provisioned. Attempting to initialize MCAP cards with features requiring GPSM-II cards will cause an EAGLE 5 ISS outage. Before replacing an existing GPSM-II card in card locations 1113 or 1115, contact the Customer Care Center. Refer to [Customer Care Center](#) on page 4 for the contact information.

- For a maximum of 400,000 entries, all service modules in the EAGLE 5 ISS can be either DSMs or E5-SM4G cards.
- For a maximum of 1,000,000 entries, all service modules in the EAGLE 5 ISS must be DSMs or E5-SM4G cards.

The service module requirements are dependent on any other GTT-related features that are enabled. Go to the [Adding a Service Module](#) on page 94 procedure and make sure that the proper hardware is in place to support the XGTT Table Expansion feature.

The XGTT Table Expansion feature requires that the Global Title Translation (GTT) feature is enabled with the `chg-feat` command using the `gtt=on` parameters.

Note: Once the Global Title Translation feature is turned on with the `chg-feat` command, it cannot be turned off.

The Global Title Translation feature must be purchased before it can be turned on. If you are not sure whether you have purchased the Global Title Translation feature, contact your Tekelec Sales Representative or Account Representative.

The `enable-ctrl-feat` command enables the XGTT Table Expansion feature by inputting the feature's access key and the feature's part number with these parameters:

`: fak` – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`: partnum` – The Tekelec-issued part number of the XGTT Table Expansion feature, for 400,000 entries – 893006101, for 1,000,000 entries – 893006110

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

:`serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:`lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled with the `enable-ctrl-feat` command (for either 400,000 or 1,000,000 entries), the feature is also activated. This feature cannot be disabled with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command cannot be used with this procedure.

1. Display the status of the XGTT Table Expansion feature by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007710	on	3000
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the `rtrv-ctrl-feat` output shows that the feature is permanently enabled for the desired quantity or for a quantity that is greater than the desired quantity, no further action is necessary. This procedure does not need to be performed.

If the quantity shown for the XGTT Table Expansion feature is less than the desired quantity, skip steps 2 through 5, and go to step 6.

2. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command.

The XGTT Table Expansion feature requires that service modules are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC  LSET NAME      PORT SLC
1102   TSM        GLS
1113   GPSPM      OAM
1114   TDM-A
1115   GPSPM      OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI  sp2            A      0      sp1            B      0
1203   LIMDS0    SS7ANSI  sp3            A      0
1204   LIMDS0    SS7ANSI  sp3            A      1
1206   LIMDS0    SS7ANSI  nsp3           A      1      nsp4           B      1
1216   DCM        STPLAN
1308   LIMDS0    SS7ANSI  sp6            A      1      sp7            B      0
1314   LIMDS0    SS7ANSI  sp7            A      1      sp5            B      1
1317   DCM        STPLAN
```

Service modules are shown by the entries SCCP or VSCCP in APPL column. If the `rtrv-card` output shows no service modules, go to the [Adding a Service Module](#) on page 94 procedure and add the necessary service modules.

If the `rtrv-card` output shows that the type of service module required to support the XGTT Table Expansion feature is not in the database, go to the [Adding a Service Module](#) on page 94 procedure and make sure that the proper service modules are in place to support the XGTT Table Expansion feature.

3. Display the serial number in the database with the `rtrv-serial-num` command.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, or if the XGTT Table Expansion feature is enabled for a quantity that is less than the desired quantity, skip steps 3 through 6, and go to step 7. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, steps 3 through 6 must be performed.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

4. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

Note: If the serial number is correct and locked, skip steps 4, 5, and 6, and go to step 7. If the serial number is correct but not locked, skip steps 4 and 5, and go to step 6. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

5. Verify that the serial number entered into step 4 was entered correctly using the `rtrv-serial-num` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
System serial number = nt00001231  
  
System serial number is not locked.  
  
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
Command Completed
```

If the serial number was not entered correctly, repeat steps 4 and 5 and re-enter the correct serial number.

6. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 3, if the serial number shown in step 3 is correct, or with the serial number shown in step 5, if the serial number was changed in step 4, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

7. Enable the XGTT Table Expansion feature for the desired quantity with the `enable-ctrl-feat` command specifying the part number corresponding to the new quantity of entries for the GTT table and the feature access key.

For this example, enter one of these commands.

To increase the number of entries in the GTT table to 400,000, enter this command.

```
enable-ctrl-feat:partnum=893006101:fak=<XGTT Table Expansion feature  
access key>
```

To increase the number of entries in the GTT table to 1,000,000, enter this command.

```
enable-ctrl-feat:partnum=893006110:fak=<XGTT Table Expansion feature  
access key>
```

Note: A temporary feature access key cannot be specified to enable this feature.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the XGTT Table Expansion feature, contact your Tekelec Sales Representative or Account Representative.

When the enable-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

8. Verify the changes by entering the rtrv-ctrl-feat command with the part number specified in step 7.

Enter one of these commands.

```
rtrv-ctrl-feat:partnum=893006101
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
XGTT Table Expansion  893006101  on      400000

The following features have been temporarily enabled:

Feature Name          Partnum    Status  Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.

rtrv-ctrl-feat:partnum=893006110
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
XGTT Table Expansion  893006110  on      1000000

The following features have been temporarily enabled:

Feature Name          Partnum    Status  Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

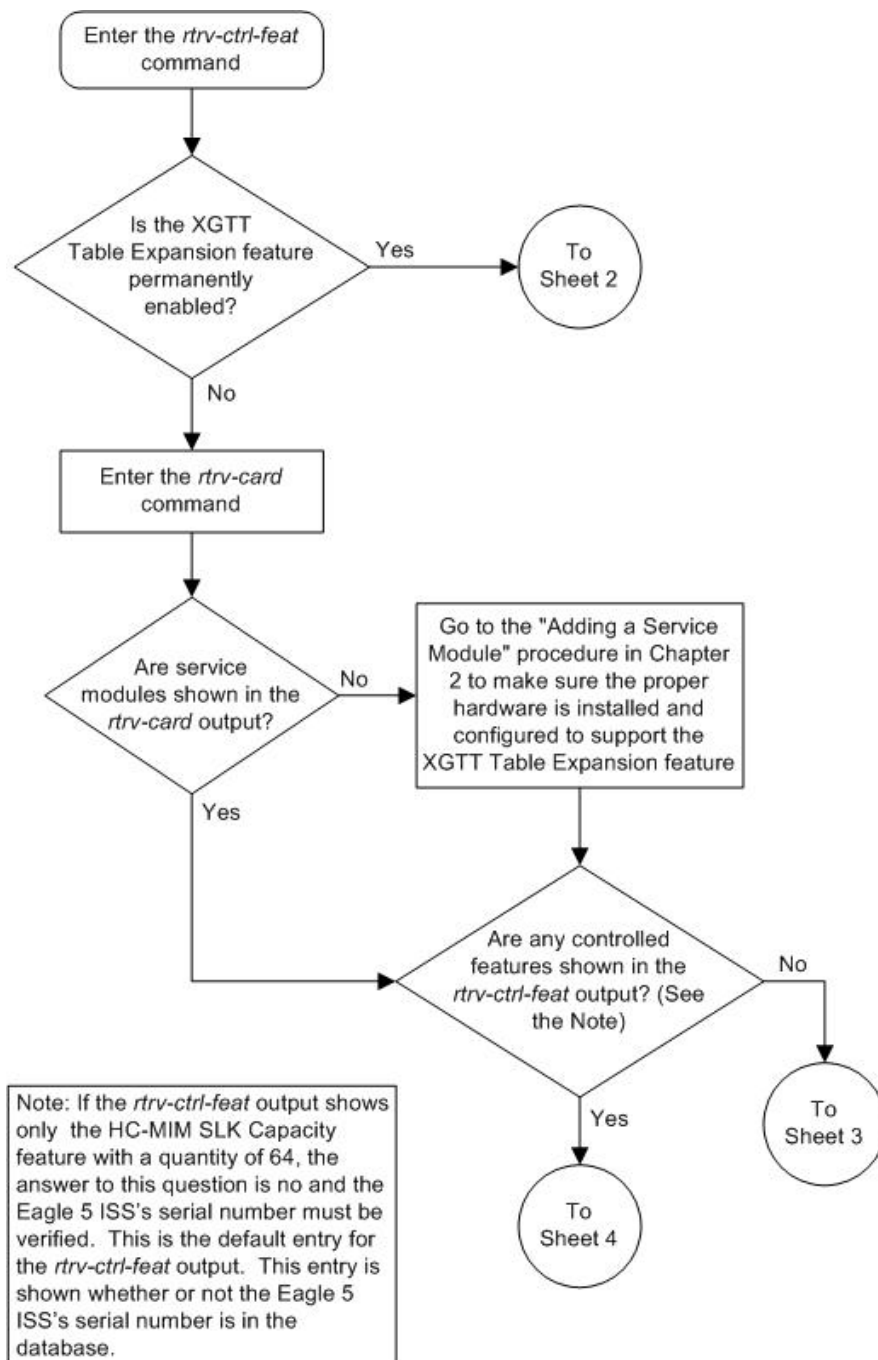
9. Backup the new changes using the chg-db:action=backup:dest=fixed command.

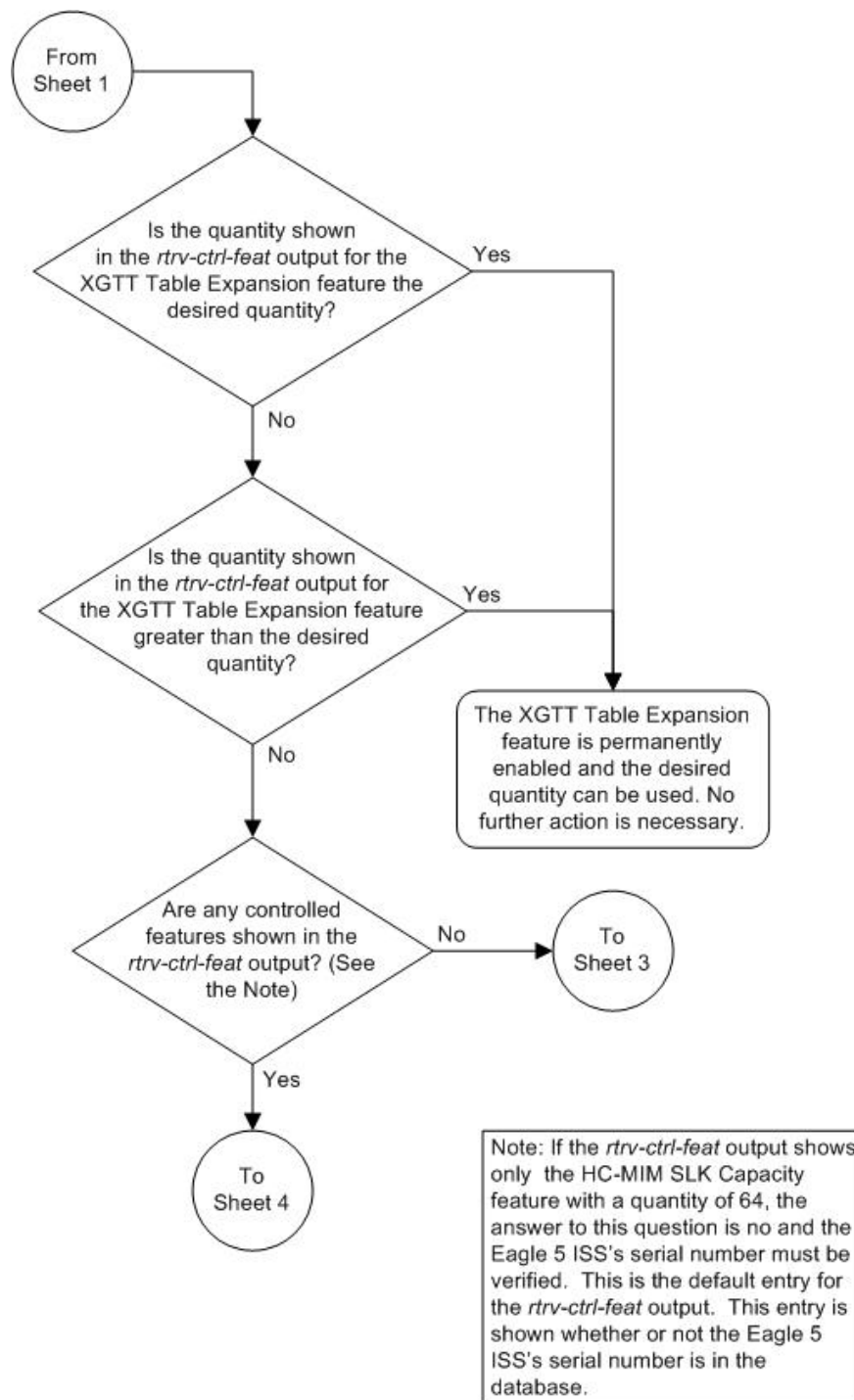
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

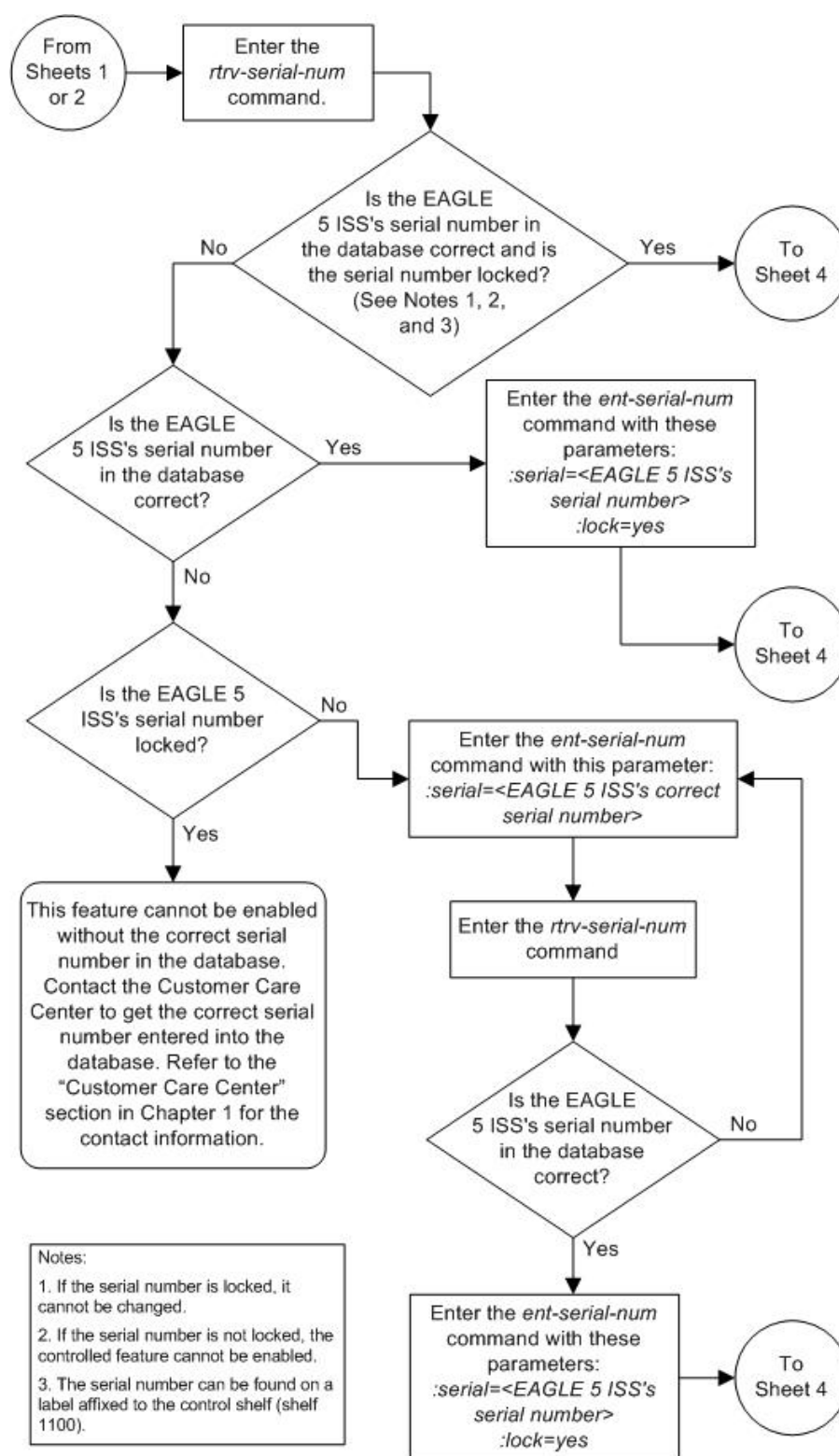
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
```

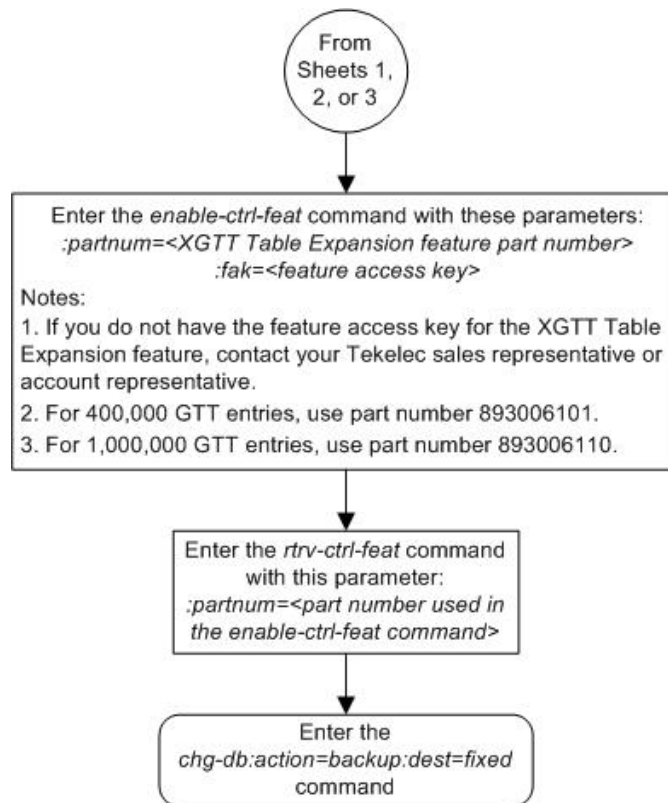
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
 BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

Figure 67: Enabling the XGTT Table Expansion Feature









Enabling the XMAP Table Expansion Feature

This procedure is used to enable the XMAP Table Expansion feature using the feature's part number and a feature access key.

The feature access key for the XMAP Table Expansion feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

This feature allows the user to increase the maximum number of entries in the mated application table from 1024 entries to either 2000 or 3000 entries. Each level of increase has its own part number.

- Increase to 2000 entries – part number 893007701
- Increase to 3000 entries – part number 893007710

This feature requires that the following hardware is installed:

- GPSM-II or E5-MCAP cards are installed in card locations 1113 and 1115.



CAUTION

CAUTION: Never install or initialize MCAP cards in card locations 1113 and 1115 after GPSM-II cards have been installed and features that require GPSM-II cards have been provisioned. Attempting to initialize MCAP cards with features requiring GPSM-II cards will cause an EAGLE 5 ISS outage. Before replacing an existing GPSM-II card in card locations 1113 or 1115, contact the Customer Care Center. Refer to [Customer Care Center](#) on page 4 for the contact information.

- For a maximum of 2000 or 3000 entries, all service modules in the EAGLE 5 ISS can be either DSMs or E5-SM4G cards.

The service module requirements are dependent on any other GTT-related features that are enabled. Go to the [Adding a Service Module](#) on page 94 procedure and make sure that the proper hardware is in place to support the XMAP Table Expansion feature.

The XMAP Table Expansion feature requires that the Global Title Translation (GTT) feature is enabled with the `chg-feat` command using the `gtt=on` parameters.

Note: Once the Global Title Translation feature is turned on with the `chg-feat` command, it cannot be turned off.

The Global Title Translation feature must be purchased before it can be turned on. If you are not sure whether you have purchased the Global Title Translation feature, contact your Tekelec Sales Representative or Account Representative.

The `enable-ctrl-feat` command enables the controlled feature by inputting the feature's access key and the feature's part number with these parameters:

:fak – The feature access key generated by the feature access key generator. The feature access key contains 13 alphanumeric characters and is not case sensitive.

:partnum – The Tekelec-issued part number of the XMAP Table Expansion feature, for 2,000 entries – 893007701, for 3,000 entries – 893007710

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

:serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:lock – Specifies whether or not the serial number is locked. This parameter has only one value, yes, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled with the `enable-ctrl-feat` command (for either 2000 or 3000 entries), the feature is also activated. This feature cannot be disabled with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command cannot be used with this procedure.

1. Display the status of the XMAP Table Expansion feature by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
Feature Name          Partnum      Status      Quantity
```

```
Command Class Management 893005801 on ----
LNP Short Message Service 893006601 on ----
Intermed GTT Load Sharing 893006901 on ----
XGTT Table Expansion      893006101 on 400000
XMAP Table Expansion       893007710 off ----
Large System # Links      893005910 on 2000
Routesets                 893006401 on 6000
HC-MIM SLK Capacity       893012707 on 64
```

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the `rtrv-ctrl-feat` output shows that the feature is permanently enabled for the desired quantity or for a quantity that is greater than the desired quantity, no further action is necessary. This procedure does not need to be performed.

If the quantity shown for the XMAP Table Expansion feature is less than the desired quantity, skip steps 2 through 7, and go to step 8.

2. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command.

The XMAP Table Expansion feature requires that service modules are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC LSET NAME      PORT SLC
1102  TSM        GLS
1113  GPSM        OAM
1114  TDM-A
1115  GPSM        OAM
1116  TDM-B
1117  MDAL
1201  LIMDS0      SS7ANSI  sp2            A    0    sp1            B    0
1203  LIMDS0      SS7ANSI  sp3            A    0
1204  LIMDS0      SS7ANSI  sp3            A    1
1206  LIMDS0      SS7ANSI  nsp3           A    1    nsp4           B    1
1216  DCM          STPLAN
1308  LIMDS0      SS7ANSI  sp6            A    1    sp7            B    0
1314  LIMDS0      SS7ANSI  sp7            A    1    sp5            B    1
1317  DCM          STPLAN
```

Service modules are shown by the entries SCCP or VSCCP in APPL column. If the `rtrv-card` output shows no service modules, go to the [Adding a Service Module](#) on page 94 procedure and add the necessary service modules.

3. Display the serial number in the database with the `rtrv-serial-num` command.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 868 shows any controlled features, continue the procedure with [Step 7](#) on page 870. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 3](#) on page 869 through [Step 6](#) on page 870 must be performed.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
```

```
System serial number = nt00001231
System serial number is not locked.
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

4. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

Note: If the serial number is correct and locked, continue the procedure with [Step 7](#) on page 870. If the serial number is correct but not locked, continue the procedure with [Step 6](#) on page 870. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

5. Verify that the serial number entered into step 4 was entered correctly using the `rtrv-serial-num` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231
System serial number is not locked.
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

If the serial number was not entered correctly, repeat steps 4 and 5 and re-enter the correct serial number.

6. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 3, if the serial number shown in step 3 is correct, or with the serial number shown in step 5, if the serial number was changed in step 4, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

7. Enable the XMAP Table Expansion feature for the desired quantity with the `enable-ctrl-feat` command specifying the part number corresponding to the new quantity of entries for the mated application table and the feature access key.

For this example, enter one of these commands.

To increase the number of entries in the mated application table to 2000, enter this command.

```
enable-ctrl-feat:partnum=893007701:fak=<XMAP Table Expansion feature
access key>
```

To increase the number of entries in the mated application table to 3000, enter this command.

```
enable-ctrl-feat:partnum=893007710:fak=<XMAP Table Expansion feature
access key>
```

Note: A temporary feature access key cannot be specified to enable this feature.

Note: The values for the feature access key (the fak parameter) are provided by Tekelec. If you do not have the feature access key for the XMAP Table Expansion feature, contact your Tekelec Sales Representative or Account Representative.

When the enable-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

8. Verify the changes by entering the rtrv-ctrl-feat command with the part number used in step 7.

Enter one of these commands.

```
rtrv-ctrl-feat:partnum=893007701
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
XMAP Table Expansion  893007701  on        2000

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

```
rtrv-ctrl-feat:partnum=893007710
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
XMAP Table Expansion  893007710  on        3000

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.
```

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

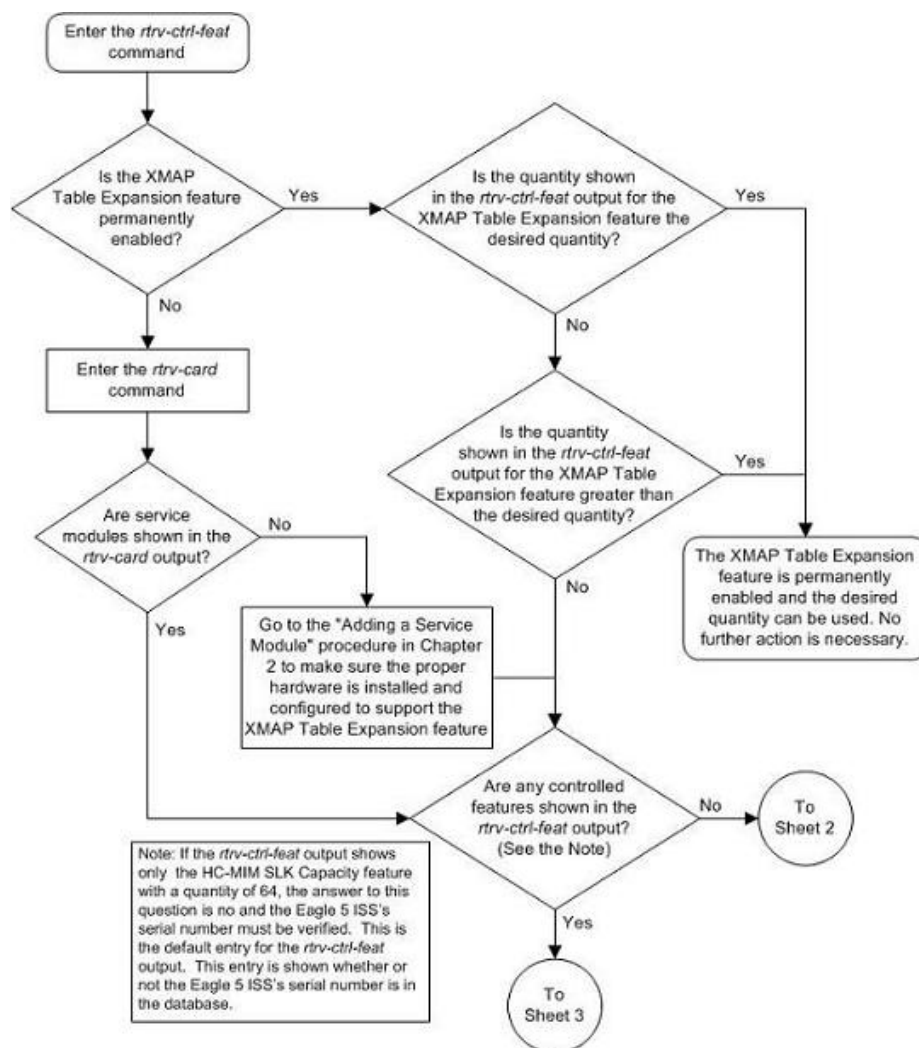
- Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

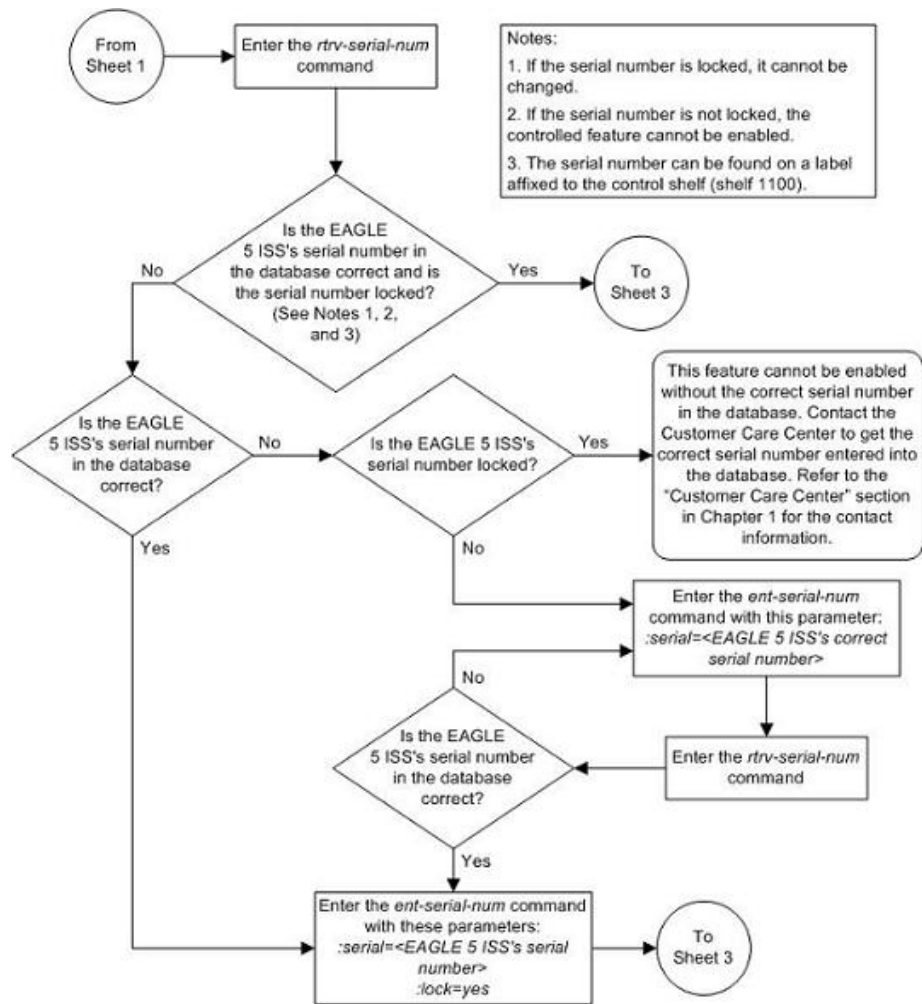
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

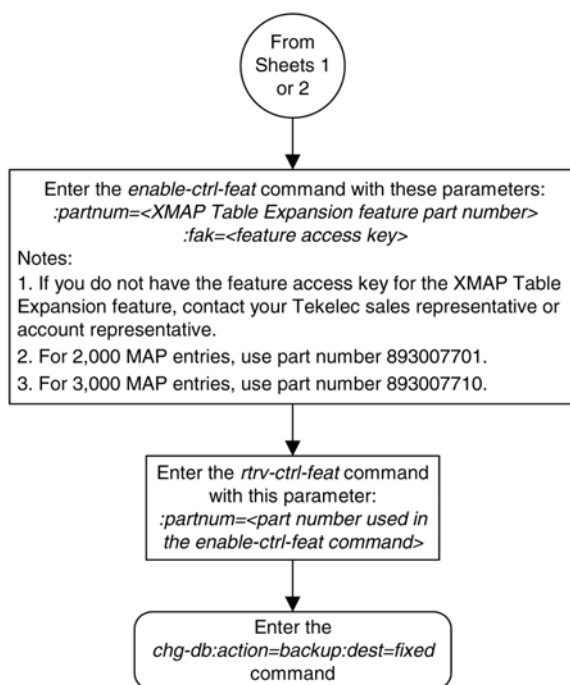
```

BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
  
```

Figure 68: Enabling the XMAP Table Expansion Feature







Activating the ANSI-ITU-China SCCP Conversion Feature

This procedure is used to enable and turn on the ANSI-ITU-China SCCP Conversion feature using the feature's part number and a feature access key.

The feature access key for the ANSI-ITU-China SCCP Conversion feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The *enable-ctrl-feat* command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

:fak – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

:partnum – The Tekelec-issued part number of the ANSI-ITU-China SCCP Conversion feature, 893012001.

The *enable-ctrl-feat* command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the *rtv-serial-num* command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the *ent-serial-num* command. The *ent-serial-num* command uses these parameters.

:serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:lock – Specifies whether or not the serial number is locked. This parameter has only one value, yes, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature has been enabled, the feature must be activated with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number of the ANSI-ITU-China SCCP Conversion feature, 893012001.

`:status=on` – used to turn the ANSI-ITU-China SCCP Conversion feature on.

Note: Once this feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The ANSI-ITU-China SCCP Conversion feature requires that the Global Title Translation (GTT) feature is turned on with the `chg-feat` command using the `gtt=on` parameters.

Note: Once the Global Title Translation feature is turned on with the `chg-feat` command, it cannot be turned off.

The Global Title Translation feature must be purchased before it can be turned on. If you are not sure whether you have purchased the Global Title Translation feature, contact your Tekelec Sales Representative or Account Representative.

The ANSI-ITU-China SCCP Conversion feature requires that service modules are installed and provisioned in the EAGLE 5 ISS. Service modules can be DSMs or E5-SM4G cards. DSMs and E5-SM4G cards are shown by the entry DSM in the TYPE column and VSCCP in the APPL column of the `rtrv-card` output.

The ANSI-ITU-China SCCP Conversion feature cannot be enabled if either the SCCPCNV or TCAPCNV features are on. This can be verified by entering the `rtrv-feat` command. If the SCCPCNV feature is on, the SCCPCNV field is set to on. If the TCAPCNV feature is on, the TCAPCNV field is set to on. If either the SCCPCNV or TCAPCNV features are on, the ANSI-ITU-China SCCP Conversion feature cannot be enabled and this procedure cannot be performed. If either of these features are on and you wish to enable the ANSI-ITU-China SCCP Conversion feature, contact the Customer Care Center. Refer to [Customer Care Center](#) on page 4 for the contact information.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	on	400000
XMAP Table Expansion	893007710	off	----
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the ANSI-ITU-China SCCP Conversion feature (shown in the `rtrv-ctrl-feat` output as SCCP Conversion) is enabled and on, no further action is necessary. This procedure does not need to be performed.

If the ANSI-ITU-China SCCP Conversion feature is enabled and but not on, skip steps 2 through 8 and go to step 9.

2. Verify whether or not the SCCPCNV or TCAPCNV features are on by entering the `rtrv-feat` command.

If the SCCPCNV feature is on, the SCCPCNV field is set to on. If the TCAPCNV feature is on, the TCAPCNV field is set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

Note: If either the SCCPCNV or TCAPCNV features are on, the ANSI-ITU-China SCCP Conversion feature cannot be enabled and this procedure cannot be performed. If either of these features are on and you wish to enable the ANSI-ITU-China SCCP Conversion feature, contact the Customer Care Center. Refer to [Customer Care Center](#) on page 4 for the contact information.

Note: If the `rtrv-ctrl-feat` output in step 1 or the `rtrv-feat` output in step 2 shows that any of the features shown in [Table 20: Service Module and Feature Combinations](#) on page 94 are enabled or turned on, skip step 3 and go to step 4.

Note: If the `rtrv-feat` output in step 2 shows that the GTT feature is not on, perform the [Adding a Service Module](#) on page 94 procedure to turn the GTT feature on and to add the appropriate service modules, according to [Table 20: Service Module and Feature Combinations](#) on page 94, to support the GTT and ANSI-ITU-China SCCP Conversion features. Skip step 3 and go to step 4.

3. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command.

The ANSI-ITU-China SCCP Conversion feature requires that service modules are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC LSET NAME      PORT SLC
1102  TSM          GLS
1113  GPSPM        OAM
1114  TDM-A
1115  GPSPM        OAM
1116  TDM-B
1117  MDAL
1201  LIMDS0       SS7ANSI    sp2            A      0      sp1            B      0
1203  LIMDS0       SS7ANSI    sp3            A      0
1204  LIMDS0       SS7ANSI    sp3            A      1
1206  LIMDS0       SS7ANSI    nsp3           A      1      nsp4           B      1
1216  DCM          STPLAN
```

1308	LIMDS0	SS7ANSI	sp6	A	1	sp7	B	0
1314	LIMDS0	SS7ANSI	sp7	A	1	sp5	B	1
1317	DCM	STPLAN						

DSMs and E5-SM4G cards are shown by the entry DSM in the TYPE column and VSCCP in the APPL column of the `rtrv-card` output

If the appropriate service modules are in the EAGLE 5 ISS (see [Table 20: Service Module and Feature Combinations](#) on page 94), go to step 4.

4. Display the serial number in the database with the `rtrv-serial-num` command.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 4 through 7, and go to step 8. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, steps 4 through 7 must be performed.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

Note: If the serial number is correct and locked, skip steps 5, 6, and 7, and go to step 8. If the serial number is correct but not locked, skip steps 5 and 6, and go to step 7. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. Verify that the serial number entered into step 5 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

If the serial number was not entered correctly, repeat steps 4 and 5 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 4, if the serial number shown in step 4 is correct, or with the serial number shown in step 6, if the serial number was changed in step 5, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

8. Enable the ANSI-ITU-China SCCP Conversion feature with the `enable-ctrl-feat` command specifying the part number for the ANSI-ITU-China SCCP Conversion and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893012001:fak=<ANSI-ITU-China SCCP Conversion
feature access key>
```

Note: The ANSI-ITU-China SCCP Conversion feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the ANSI-ITU-China SCCP Conversion feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

9. Turn the ANSI-ITU-China SCCP Conversion feature on with the `chg-ctrl-feat` command specifying the part number for the ANSI-ITU-China SCCP Conversion and the `status=on` parameter. Enter this command.

```
chg-ctrl-feat:partnum=893012001:status=on
```

Note: Once the ANSI-ITU-China SCCP Conversion feature is turned on, it cannot be turned off.

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the `rtrv-ctrl-feat` command with the ANSI-ITU-China SCCP Conversion feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893012001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
SCCP Conversion	893012001	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

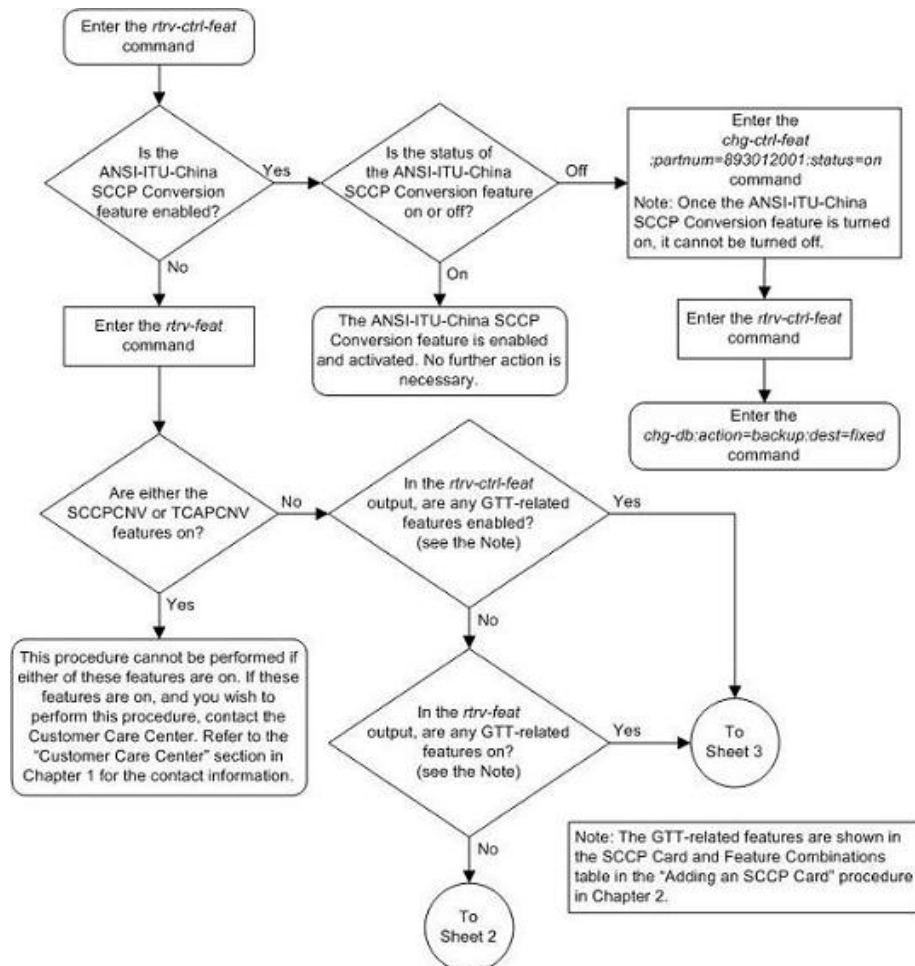
The following features have expired temporary keys:

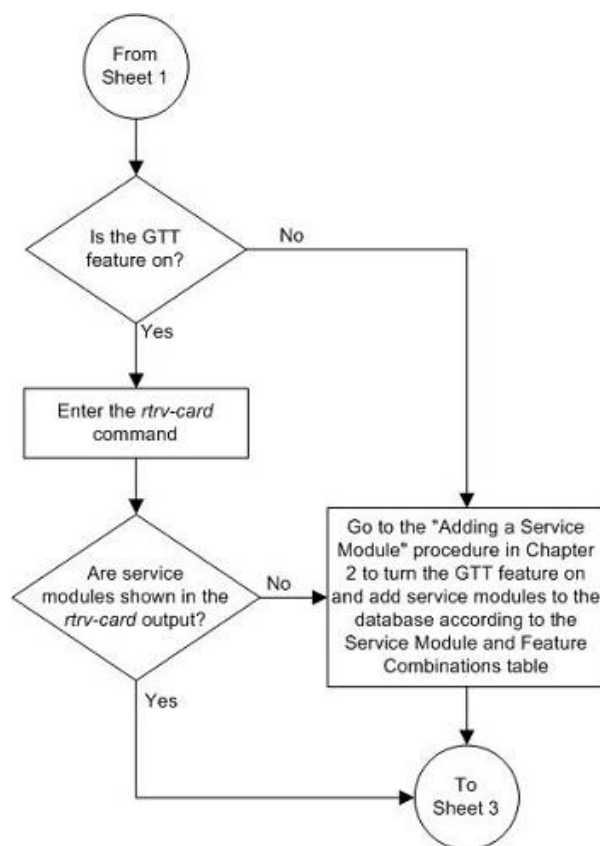
Feature Name	Partnum
Zero entries found.	

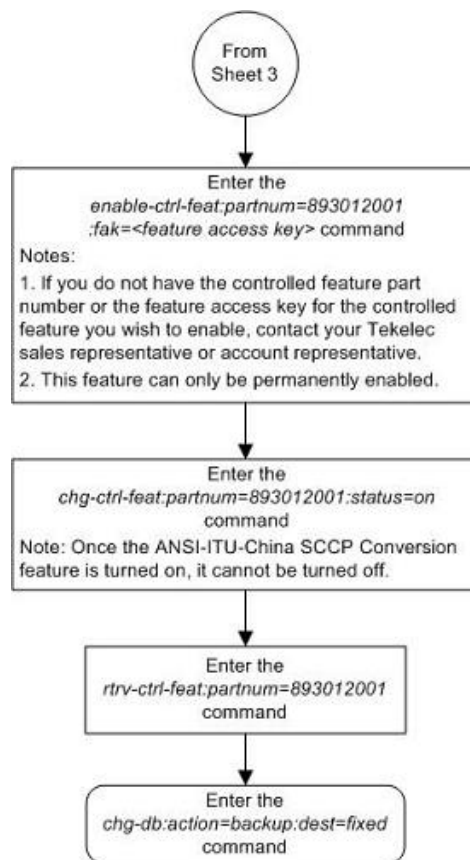
- Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 69: Activating the ANSI-ITU-China SCCP Conversion Feature







Activating the Flexible GTT Load Sharing Feature

This procedure is used to enable and turn on the Flexible GTT Load Sharing feature using the feature's part number and a feature access key.

The feature access key for the Flexible GTT Load Sharing feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The *enable-ctrl-feat* command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

:fak – The feature access key generated by the feature access key generator. The feature access key contains 13 alphanumeric characters and is not case sensitive.

:partnum – The Tekelec-issued part number of the Flexible GTT Load Sharing feature, 893015401.

The *enable-ctrl-feat* command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the *rtrv-serial-num* command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the *ent-serial-num* command. The *ent-serial-num* command uses these parameters.

:serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:lock – Specifies whether or not the serial number is locked. This parameter has only one value, yes, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the ent-serial-num command must be entered twice, once to add the correct serial number to the database with the serial parameter, then again with the serial and the lock=yes parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, provisioning for this feature can be performed, but the feature will not work until the feature is turned on with the chg-ctrl-feat command.

Once this feature has been enabled, the feature must be turned on with the chg-ctrl-feat command. The chg-ctrl-feat command uses these parameters:

:partnum – The Tekelec-issued part number of the Flexible GTT Load Sharing feature, 893015401.

:status=on – used to turn the Flexible GTT Load Sharing feature on.

Once the Flexible GTT Load Sharing feature has been turned on, it can be turned off. For more information on turning the Flexible GTT Load Sharing feature off, go to the [Turning the Flexible GTT Load Sharing Feature Off](#) on page 890 procedure.

The status of the features in the EAGLE 5 ISS is shown with the rtrv-ctrl-feat command.

The Flexible GTT Load Sharing feature requires that DSMs or E5-SM4G cards are installed and provisioned in the EAGLE 5 ISS. DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column of the rtrv-card output.

1. Display the status of the controlled features by entering the rtrv-ctrl-feat command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	on	400000
XMAP Table Expansion	893007710	off	----
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the Flexible GTTLoad Sharing feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the Flexible GTTLoad Sharing feature is enabled and but not turned on, skip steps 2 through 8 and go to step 9.

If the Flexible GTTLoad Sharing feature is not enabled, go to step 2.

2. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command.

The Flexible GTT Load Sharing feature requires that DSMs or E5-SM4G cards running the VSCCP application are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET  NAME      PORT SLC  LSET  NAME      PORT  SLC
1102   TSM        GLS
1113   GPSPM      OAM
1114   TDM-A
1115   GPSPM      OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2      A      0      sp1      B      0
1203   LIMDS0    SS7ANSI   sp3      A      0
1204   LIMDS0    SS7ANSI   sp3      A      1
1206   LIMDS0    SS7ANSI   nsp3     A      1      nsp4     B      1
1216   DCM        STPLAN
1301   DSM        VSCCP
1303   DSM        VSCCP
1305   DSM        VSCCP
1308   LIMDS0    SS7ANSI   sp6      A      1      sp7      B      0
1314   LIMDS0    SS7ANSI   sp7      A      1      sp5      B      1
1317   DCM        STPLAN
```

There are two types of service modules, DSMs or E5-SM4G cards running the VSCCP application.

DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column.

If no service modules are shown in the `rtrv-card` output, perform the [Adding a Service Module](#) on page 94 procedure to add DSMs or E5-SM4G cards to the EAGLE 5 ISS.

If DSMs or E5-SM4G cards running the VSCCP application are in the EAGLE 5 ISS, go to step 4.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 3 through 6, and go to step 7. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 3 through 6 must be performed.

3. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, skip steps 4, 5, and 6, and go to step 7. If the serial number is correct but not locked, skip steps 4 and 5, and go to step 6. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial

number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

4. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

5. Verify that the serial number entered into step 4 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
System serial number = nt00001231  
  
System serial number is not locked.  
  
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
Command Completed
```

If the serial number was not entered correctly, repeat steps 4 and 5 and re-enter the correct serial number.

6. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 3, if the serial number shown in step 3 is correct, or with the serial number shown in step 5, if the serial number was changed in step 4, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

Note: If the `ri=gt` parameter will not be used for GTT (with the `ent-/chg-gtt` commands) or GTA (with the `ent-/chg-gta` commands) provisioning, or if the `rtrv-ctrl-feat` output in step 1 shows the Intermediate GTT Load Sharing feature is enabled and turned on, skip this step and go to step 8.

7. To use the `ri=gt` parameter with the GTT or GTA provisioning when the Flexible GTT Load Sharing feature is enabled, the Intermediate GTT Load Sharing feature must be enabled and turned on.

Perform the [Activating the IGTTLS feature](#) on page 845 procedure to enable and turn on the Intermediate GTT Load Sharing feature.

8. Enable the Flexible GTT Load Sharing feature with the `enable-ctrl-feat` command specifying the part number for the Flexible GTT Load Sharing feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893015401:fak=<Flexible GTT Load Sharing
feature access key>
```

Note: The Flexible GTT Load Sharing feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the fak parameter) are provided by Tekelec. If you do not have the feature access key for the Flexible GTT Load Sharing feature, contact your Tekelec Sales Representative or Account Representative.

When the enable-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```



CAUTION

CAUTION: Once the Flexible GTTLoad Sharing feature is enabled, provisioning for Flexible Intermediate GTTLoad Sharing, using the ent-mrn, dlt-mrn, chg-mrn, and rtrv-mrn commands, can be performed, but the EAGLE 5 ISS will not perform Flexible Intermediate GTTLoad Sharing on GTT traffic requiring intermediate global title translation until the Flexible GTTLoad Sharing is turned on in step 9.



CAUTION

CAUTION: Once the Flexible GTTLoad Sharing feature is enabled, provisioning for Flexible Final GTTLoad Sharing, using the ent-map, dlt-map, chg-map, and rtrv-map commands, can be performed, but the EAGLE 5 ISS will not perform Flexible Final GTTLoad Sharing on GTT traffic requiring final global title translation until the Flexible GTTLoad Sharing is turned on in step 9.

9. Turn the Flexible GTT Load Sharing feature on with the chg-ctrl-feat command specifying the part number for the Flexible GTT Load Sharing feature and the status=on parameter. Enter this command.

```
chg-ctrl-feat:partnum=893015401:status=on
```

When the chg-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the rtrv-ctrl-feat command with the Flexible GTT Load Sharing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893015401
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Flexible GTT Load Sharing	893015401	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

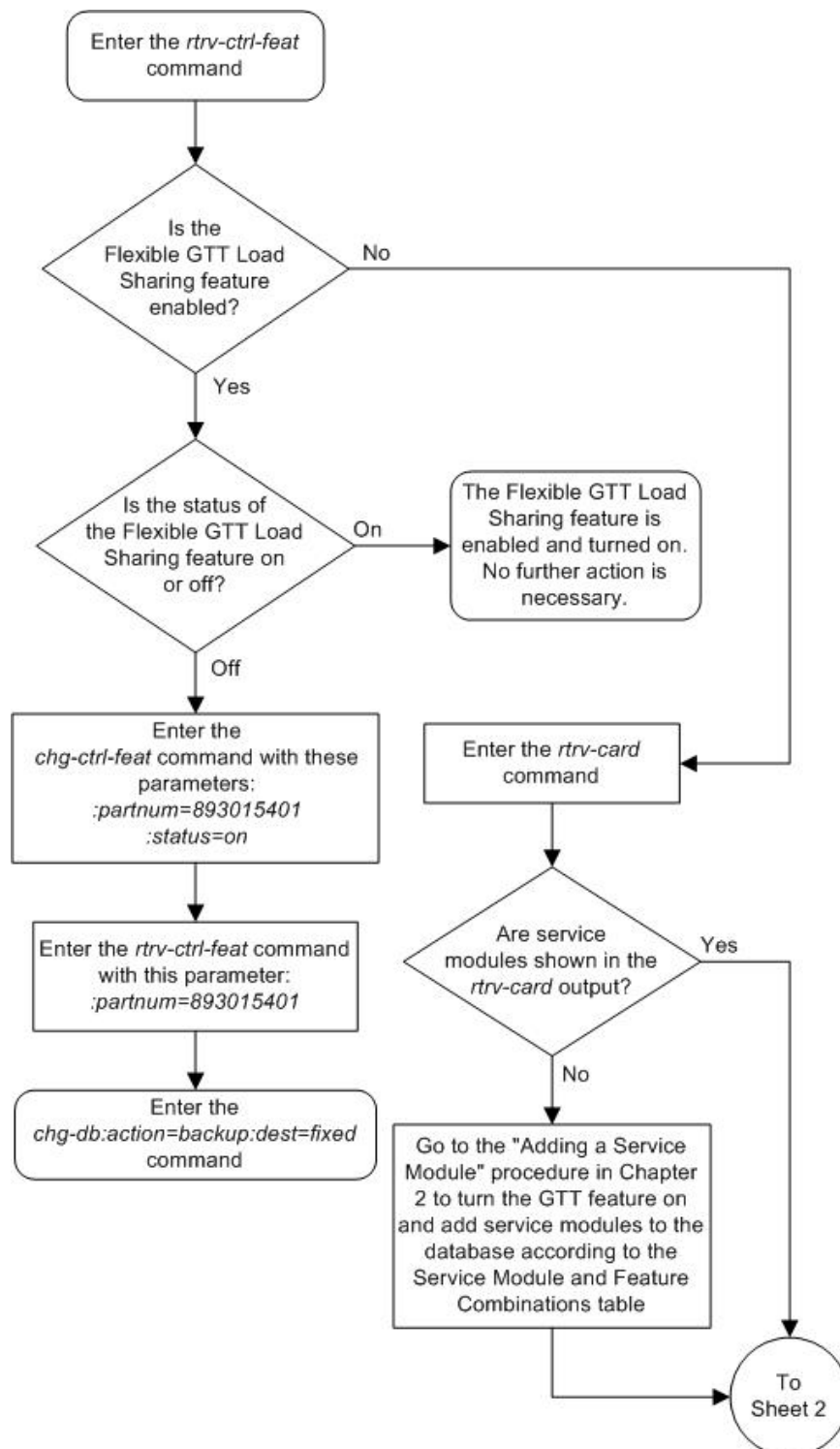
The following features have expired temporary keys:

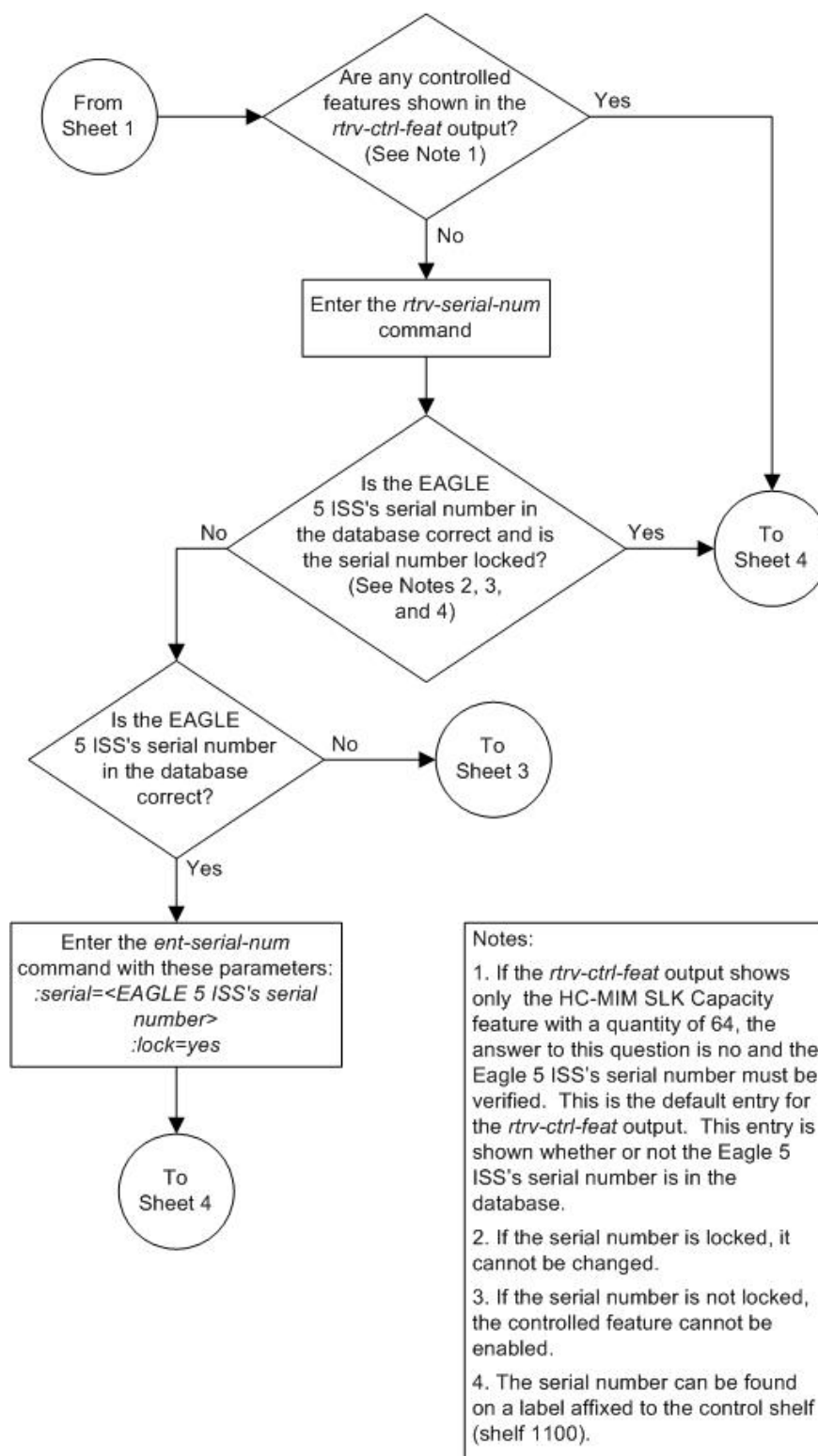
Feature Name	Partnum
Zero entries found.	

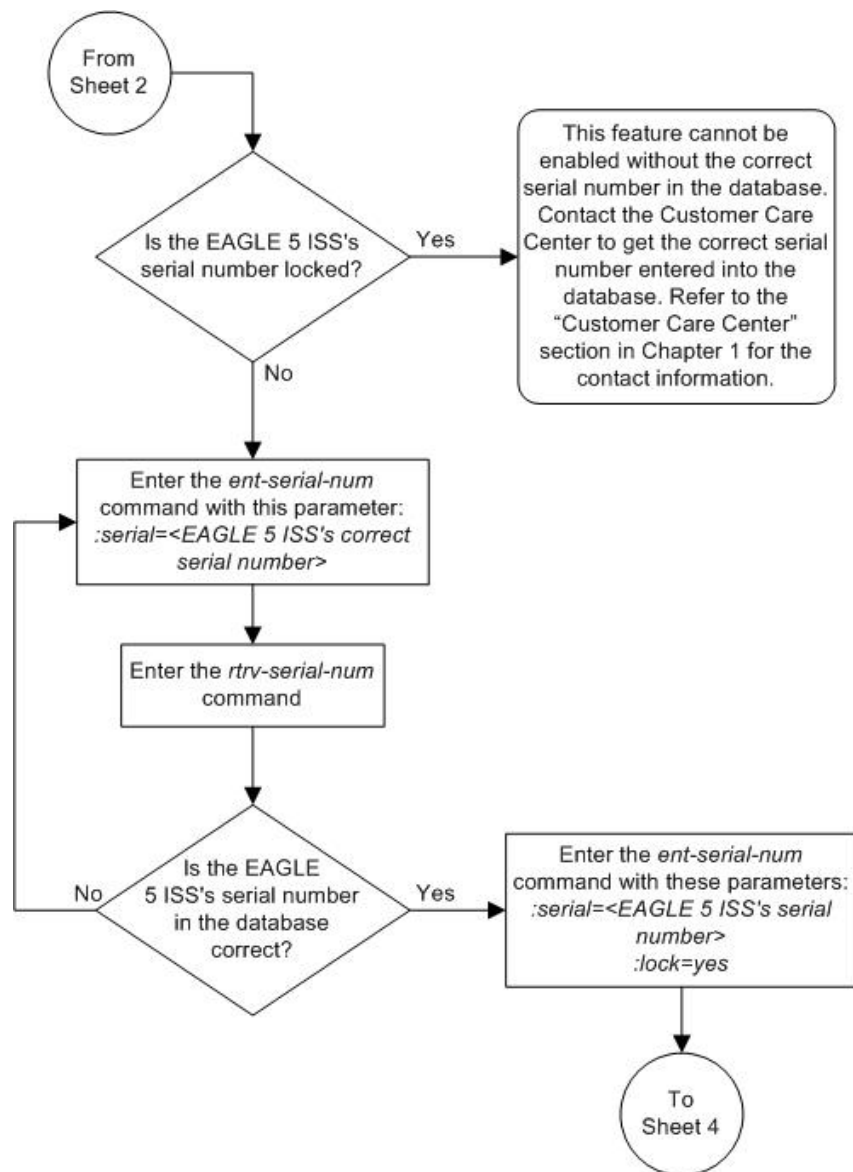
11. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

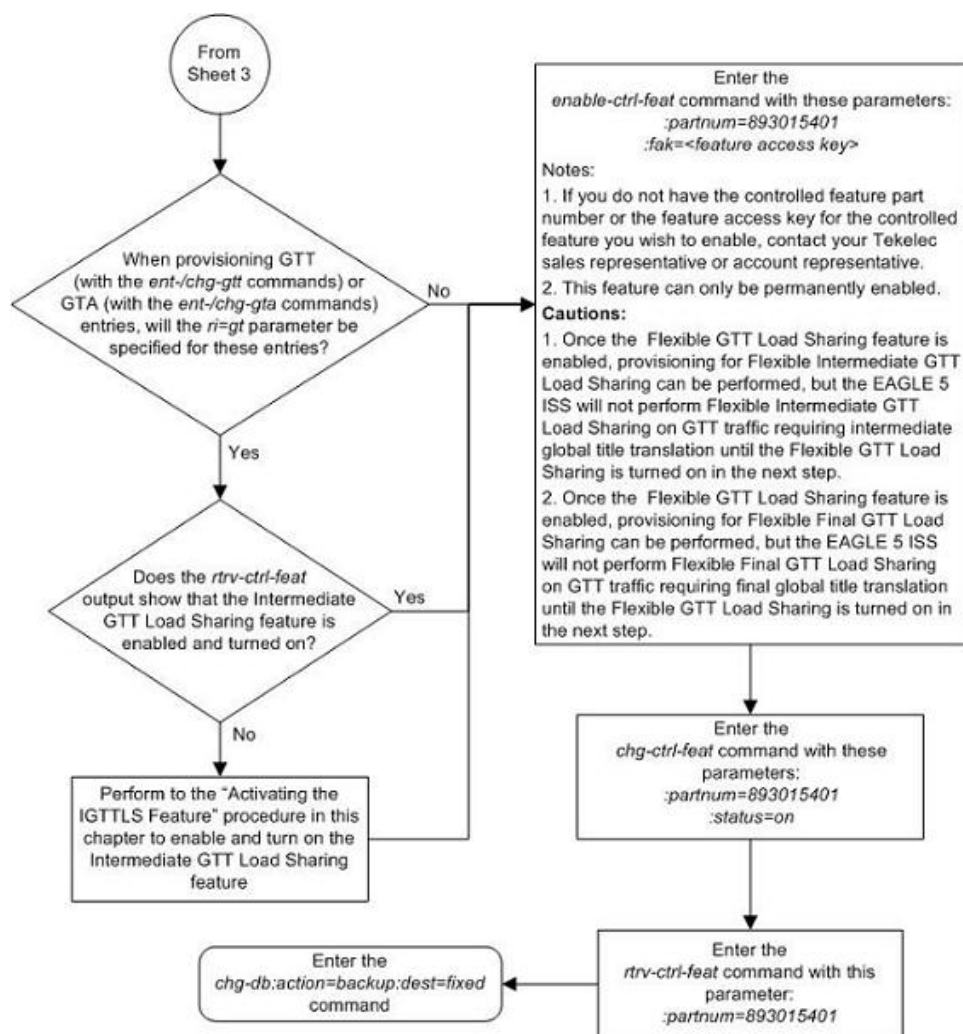
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 70: Activating the Flexible GTT Load Sharing Feature









Turning the Flexible GTT Load Sharing Feature Off

This procedure is used to turn off the Flexible GTT Load Sharing feature, using the *chg-ctrl-feat* command.

The *chg-ctrl-feat* command uses the following parameters:

:partnum - The part number of the Flexible GTT Load Sharing feature, 893015401.

:status=off - used to turn off the Flexible GTT Load Sharing feature.

The status of the Flexible GTT Load Sharing controlled feature must be on and is shown with the *rtrv-ctrl-feat* command.



CAUTION: If the Prepaid SMS Intercept Phase 1 feature is turned off, the screening of incoming messages from an MSC by the EAGLE 5 ISS will not be performed.



CAUTION

CAUTION: If the Flexible GTT Load Sharing feature is turned off, provisioning for Flexible Final GTT Load Sharing can be performed with the `ent-map`, `dlt-map`, `chg-map`, and `rtrv-map` commands. The EAGLE 5 ISS will not perform Flexible Final GTT Load Sharing on GTT traffic requiring final global title translation.

1. Display the status of the Flexible GTT Load Sharing feature by entering the `rtrv-ctrl-feat:partnum=893015401` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status   Quantity
Flexible GTT Load Sharing 893015401  on      ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status   Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the status of the Flexible GTT Load Sharing feature is off, or if the Flexible GTT Load Sharing feature is not enabled, this procedure cannot be performed.

2. Turn off the Flexible GTT Load Sharing feature by entering the `chg-ctrl-feat` command with the `status=off` parameter.

For example, enter this command.

```
chg-ctrl-feat:partnum=893015401:status=off
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:16:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the Flexible GTT Load Sharing feature has been turned off by using the `rtrv-ctrl-feat:partnum=893015401` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status   Quantity
Flexible GTT Load Sharing 893015401  off      ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status   Quantity    Trial Period Left
Zero entries found.

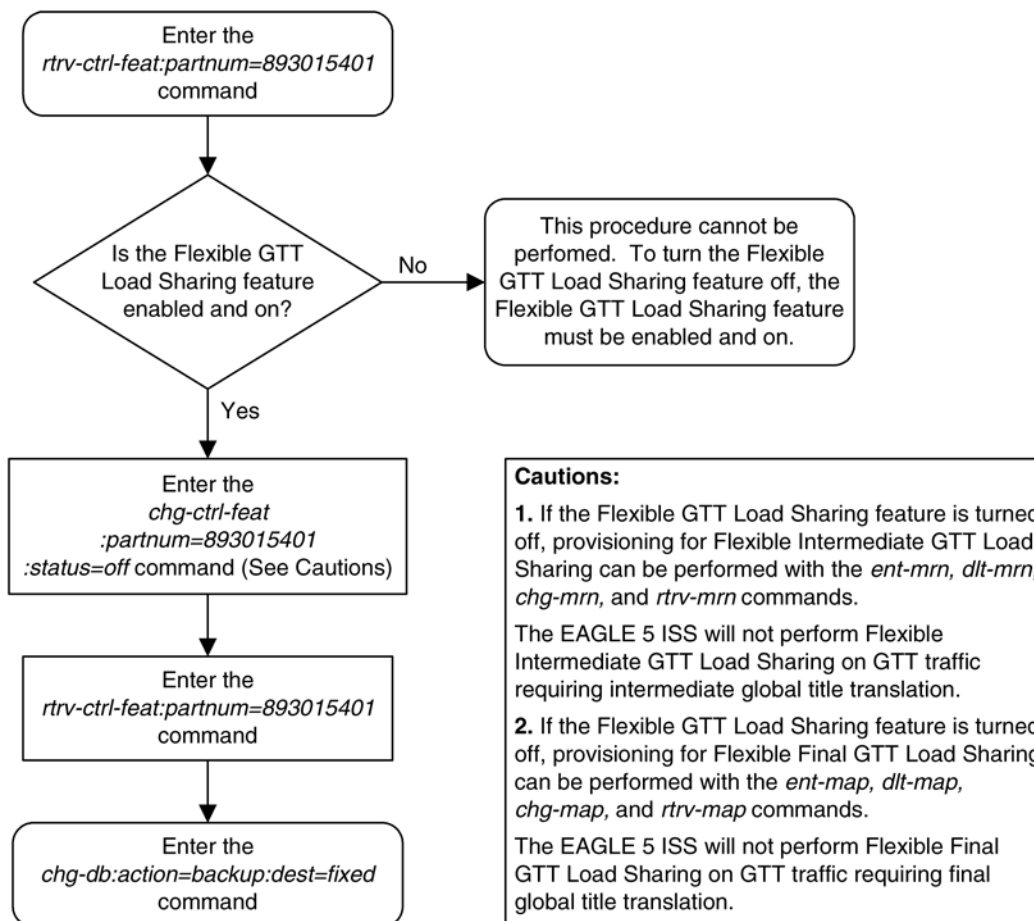
The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 71: Turning the Flexible GTT Load Sharing Feature Off



Activating the Origin-Based SCCP Routing Feature

This procedure is used to enable and turn on the Origin-Based SCCP Routing feature using the feature's part number and a feature access key.

The feature access key for the Origin-Based SCCP Routing feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

:fak – The feature access key generated by the feature access key generator. The feature access key contains 13 alphanumeric characters and is not case sensitive.

:partnum – The Tekelec-issued part number of the Origin-Based SCCP Routing feature, 893014301.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

:serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:lock – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, provisioning for this feature can be performed, but the feature will not work until the feature is turned on with the `chg-ctrl-feat` command.

Once this feature has been enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

:partnum – The Tekelec-issued part number of the Origin-Based SCCP Routing feature, 893014301.

:status=on – used to turn the Origin-Based SCCP Routing feature on.

Once the Origin-Based SCCP Routing feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The Origin-Based SCCP Routing feature requires that DSMs or E5-SM4G cards are installed and provisioned in the EAGLE 5 ISS. DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column of the `rtrv-card` output.

Before the Origin-Based SCCP Routing feature can be enabled, the EGTT feature must be turned on. The state of the EGTT feature can be verified using the `rtrv-feat` command.

1. Display the status of the Origin-Based SCCP Routing feature by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name           Partnum    Status    Quantity
Command Class Management 893005801  on        ----
LNP Short Message Service 893006601  on        ----
Intermed GTT Load Sharing 893006901  on        ----
HC-MIM SLK Capacity      893012707  on         64
```

```

The following features have been temporarily enabled:
Feature Name      Partnum      Status      Quantity      Trial Period Left
Zero entries found.

```

The following features have expired temporary keys:

```

Feature Name      Partnum
Zero entries found.

```

If the Origin-Based SCCP Routing feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the Origin-Based SCCP Routing feature is enabled and but not turned on, skip steps 2 through 9 and go to step 10.

If the Origin-Based SCCP Routing feature is not enabled, go to step 2.

2. Verify that the EGTT feature is on, by entering the `rtrv-feat` command. If the EGTT feature is on, the EGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

Note: If the EGTT feature is on, shown by the entry `EGTT = on` in the `rtrv-feat` command output in step 2, skip step 3 and go to step 4.

3. Turn the enhanced global title translation feature on by entering this command.

```
chg-feat:egtt=on
```

If the GTT feature is not on, turn the GTT feature on by specifying the `gtt=on` parameter with the `egtt=on` parameter.

Note: Once the Enhanced Global Title Translation (EGTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The EGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` has successfully completed, this message should appear.

```

rlghncxa03w 06-10-25 09:57:41 GMT EAGLE5 36.0.0
CHG-FEAT: MASP A - COMPLTD

```

4. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. The Origin-Based SCCP Routing feature requires that DSMs or E5-SM4G cards running the VSCCP application are in the database. This is an example of the possible output.

```

rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC LSET NAME      PORT SLC
1102  TSM          GLS
1113  GPSM          OAM
1114  TDM-A
1115  GPSM          OAM
1116  TDM-B
1117  MDAL
1201  LIMDS0        SS7ANSI  sp2            A      0      sp1            B      0
1203  LIMDS0        SS7ANSI  sp3            A      0
1204  LIMDS0        SS7ANSI  sp3            A      1

```


1206	LIMDS0	SS7ANSI	nsp3	A	1	nsp4	B	1
1216	DCM	STPLAN						
1301	DSM	VSCCP						
1303	DSM	VSCCP						
1305	DSM	VSCCP						
1308	LIMDS0	SS7ANSI	sp6	A	1	sp7	B	0
1314	LIMDS0	SS7ANSI	sp7	A	1	sp5	B	1
1317	DCM	STPLAN						

There are two types of service modules, DSMs or E5-SM4G cards running the VSCCP application.

DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column.

If no service modules are shown in the `rtrv-card` output, perform the [Adding a Service Module](#) on page 94 procedure to add DSMs or E5-SM4G cards to the EAGLE 5 ISS.

If DSMs or E5-SM4G cards running the VSCCP application are in the EAGLE 5 ISS, go to step 5.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 5 through 8, and go to step 9. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 5 through 8 must be performed.

5. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, skip steps 6, 7, and 8, and go to step 9. If the serial number is correct but not locked, skip steps 5 and 7, and go to step 8. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

6. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

7. Verify that the serial number entered into step 6 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231
```

```
System serial number is not locked.
```

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

If the serial number was not entered correctly, repeat steps 6 and 7 and re-enter the correct serial number.

8. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 5, if the serial number shown in step 5 is correct, or with the serial number shown in step 7, if the serial number was changed in step 6, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

9. Enable the Origin-Based SCCP Routing feature with the `enable-ctrl-feat` command specifying the part number for the Origin-Based SCCP Routing feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893014301:fak=<Origin-Based SCCP Routing
feature access key>
```

Note: The Origin-Based SCCP Routing feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the Origin-Based SCCP Routing feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```



CAUTION

CAUTION: Once the Origin-Based SCCP Routing feature is enabled, provisioning for Origin-Based SCCP Routing can be performed, but the EAGLE 5 ISS will not perform Origin-Based SCCP Routing on GTT traffic until the Origin-Based SCCP Routing is turned on in step 10.

10. Turn the Origin-Based SCCP Routing feature on with the `chg-ctrl-feat` command specifying the part number for the Origin-Based SCCP Routing feature and the `status=on` parameter. Enter this command.

```
chg-ctrl-feat:partnum=893014301:status=on
```

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

11. Verify the changes by entering the `rtrv-ctrl-feat` command with the Origin-Based SCCP Routing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893014301
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
Origin Based SCCP Routing 893014301 on      ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status  Quantity    Trial Period Left
Zero entries found.

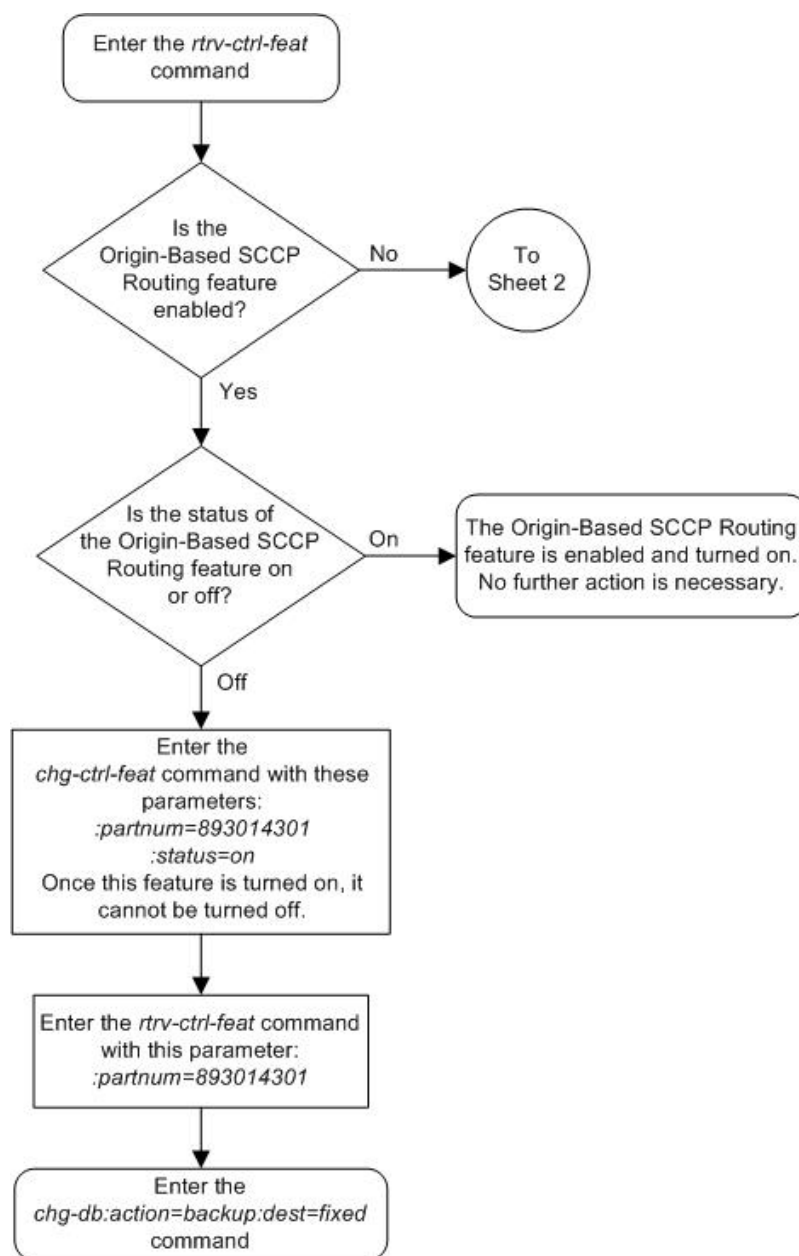
The following features have expired temporary keys:

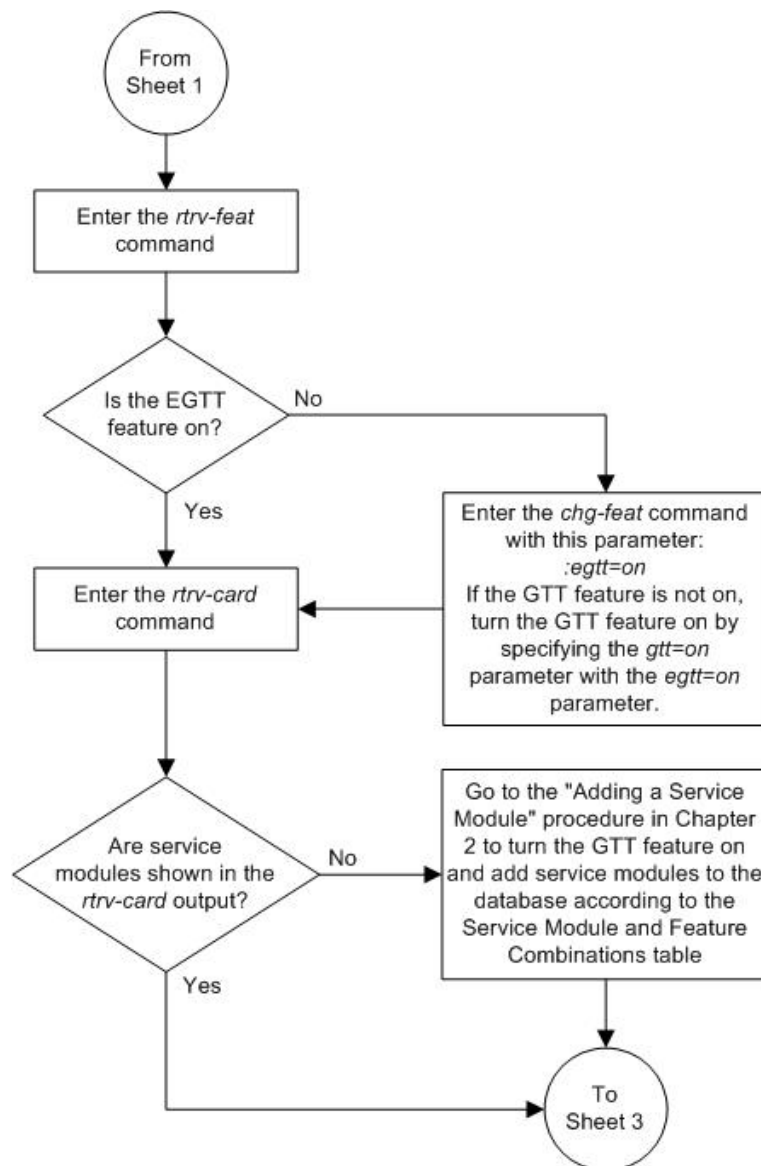
Feature Name          Partnum
Zero entries found.
```

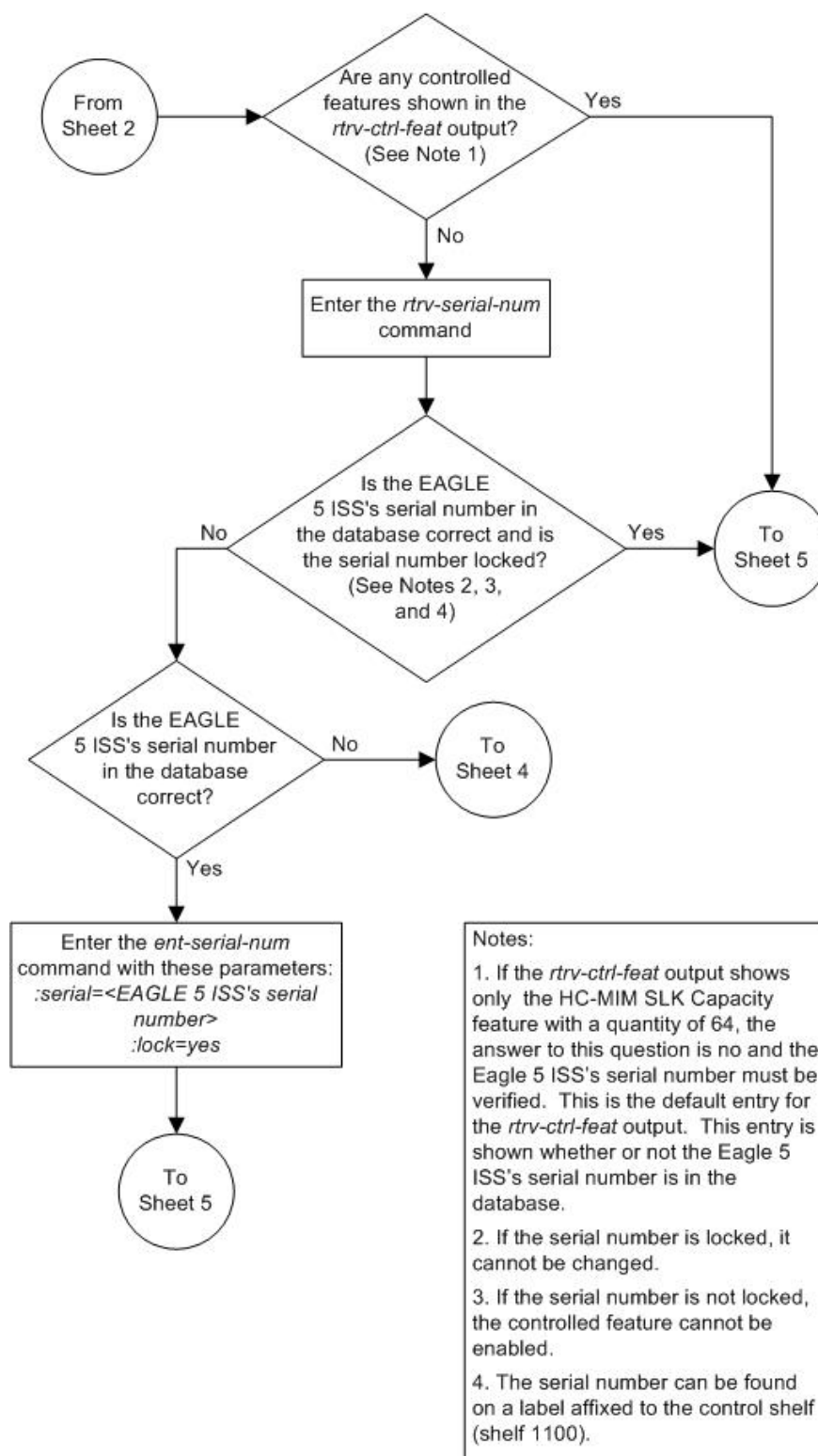
12. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

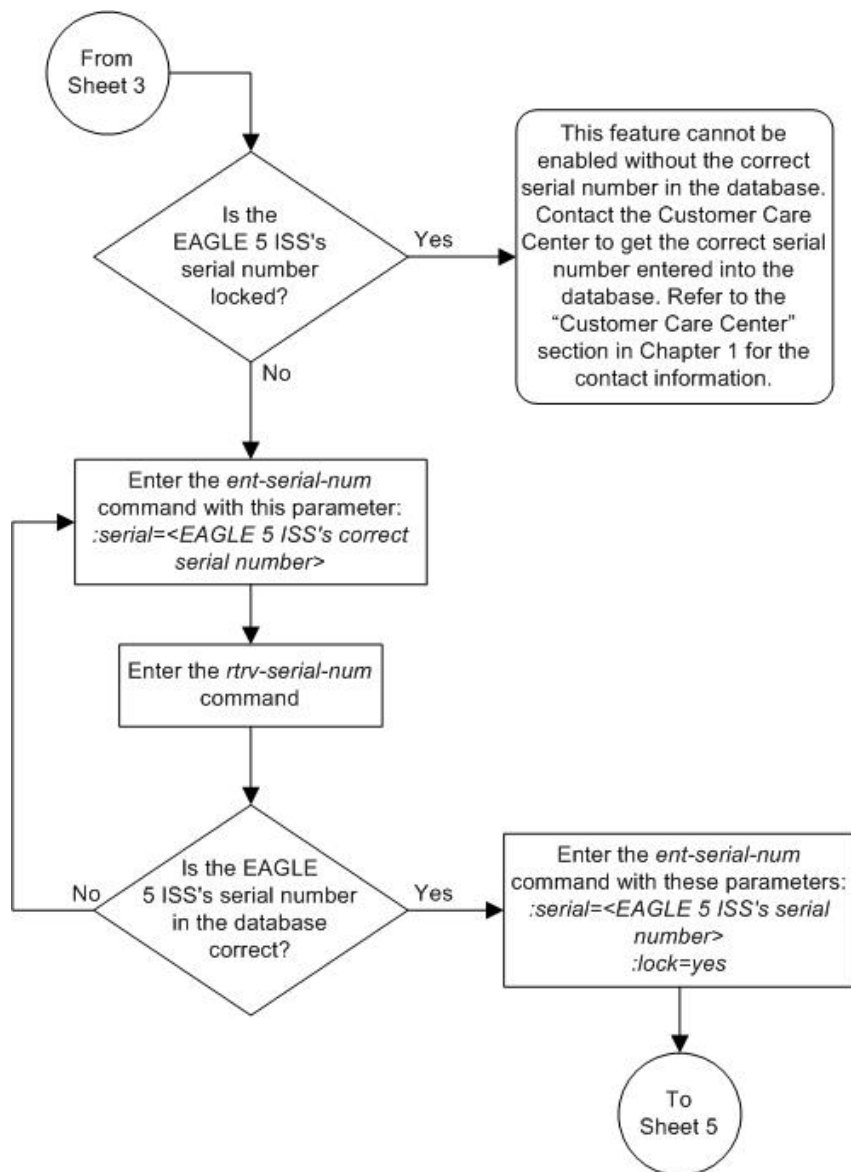
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

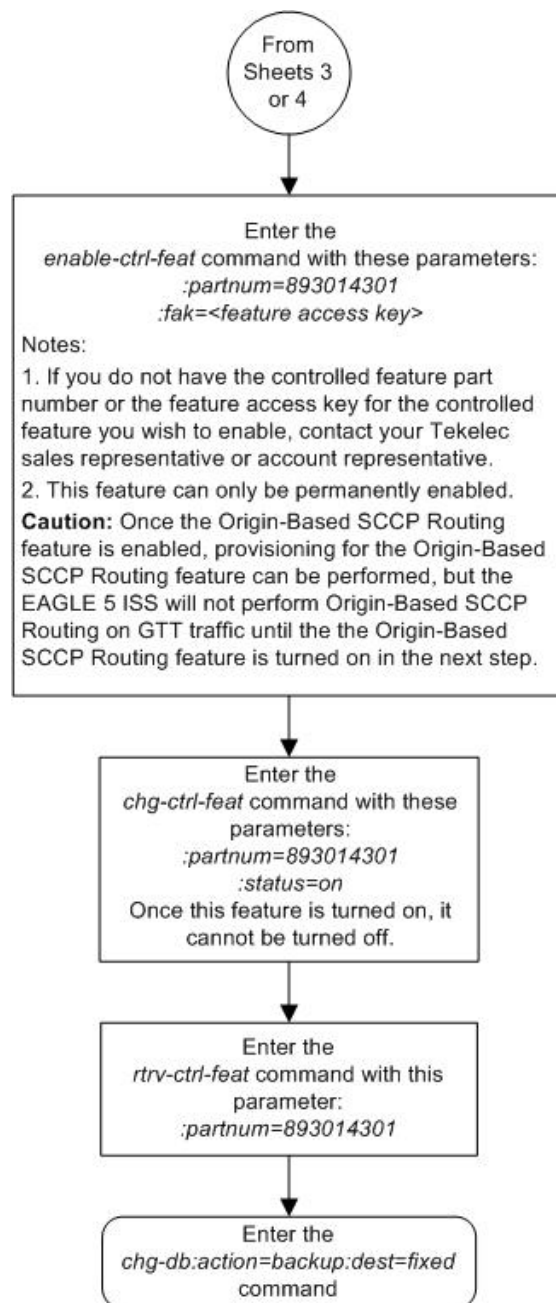
Figure 72: Activating the Origin-Based SCCP Routing Feature











Activating the Hex Digit Support for GTT Feature

This procedure is used to enable and turn on the Hex Digit Support for GTT feature using the feature's part number and a feature access key.

The feature access key for the Hex Digit Support for GTT feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

:fak – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

:partnum – The Tekelec-issued part number of the Hex Digit Support for GTT feature, 893018501.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

:serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:lock – Specifies whether or not the serial number is locked. This parameter has only one value, yes, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, the feature is also activated. The `chg-ctrl-feat` command cannot be used to turn this feature on. Once this feature is enabled, the feature cannot be turned off.

The status of the feature in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The Hex Digit Support for GTT feature requires that DSMs or E5-SM4Gs are installed and provisioned in the EAGLE 5 ISS. DSMs and E5-SM4Gs are shown by the entries DSM in the TYPE column and VSCCP in the APPL column of the `rtrv-card` output.

Before the Hex Digit Support for GTT feature can be enabled, the GTT feature must be turned on. The state of the GTT feature can be verified using the `rtrv-feat` command.

1. Display the status of the Hex Digit Support for GTT feature by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
HC-MIM SLK Capacity	893012707	on	64

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the Hex Digit Support for GTT feature is enabled, the entry Hex Digit Support for GTT is shown in the `rtrv-ctrl-feat` output. No further action is necessary. This procedure does not need to be performed.

If the Hex Digit Support for GTT feature is not enabled, continue the procedure with [Step 2](#) on page 904.

2. Verify that the GTT feature is on, by entering the `rtrv-feat` command. If the GTT feature is on, the GTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the GTT feature is not on, perform the [Adding a Service Module](#) on page 94 procedure to turn the GTT feature on and add DSMsor E5-SM4G cards to the EAGLE 5 ISS. After the GTT feature is turned on and the DSMsor E5-SM4G cards have been added, continue the procedure with [Step 4](#) on page 904.

If the GTT feature is on, continue the procedure with [Step 3](#) on page 904.

3. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. The Hex Digit Support for GTT feature requires that DSMsor E5-SM4G cards running the VSCCP application are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC  LSET NAME      PORT SLC
1102  TSM          GLS
1113  GPSM          OAM
1114  TDM-A
1115  GPSM          OAM
1116  TDM-B
1117  MDAL
1201  LIMDS0        SS7ANSI    sp2           A      0      sp1           B      0
1203  LIMDS0        SS7ANSI    sp3           A      0
1204  LIMDS0        SS7ANSI    sp3           A      1
1206  LIMDS0        SS7ANSI    nsp3          A      1      nsp4          B      1
1216  DCM           STPLAN
1308  LIMDS0        SS7ANSI    sp6           A      1      sp7           B      0
1314  LIMDS0        SS7ANSI    sp7           A      1      sp5           B      1
1317  DCM           STPLAN
```

There are two types of service modules, DSMs or E5-SM4Gs running the VSCCP application.

DSMs and E5-SM4Gs are shown by the entries DSM in the TYPE column and VSCCP in the APPL column.

If no service modules are shown in the `rtrv-card` output, perform the [Adding a Service Module](#) on page 94 procedure to add DSMs or E5-SM4Gs to the EAGLE 5 ISS. After the DSMs or E5-SM4Gs have been added, continue the procedure with [Step 4](#) on page 904.

If DSMs or E5-SM4Gs running the VSCCP application are in the EAGLE 5 ISS, continue the procedure with [Step 4](#) on page 904.

4. Display the serial number in the database with the `rtrv-serial-num` command.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 903 shows any controlled features, continue the procedure with [Step 8](#) on page 906. If the `rtrv-ctrl-feat` output shows only

the HC-MIM SLK Capacity feature with a quantity of 64, [Step 4](#) on page 904 through [Step 7](#) on page 905 must be performed.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

Note: If the serial number is correct and locked, continue the procedure with [Step 8](#) on page 906. If the serial number is correct but not locked, continue the procedure with [Step 7](#) on page 905. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. Verify that the serial number entered in [Step 5](#) on page 905 was entered correctly using the `rtrv-serial-num` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

If the serial number was not entered correctly, repeat [Step 5](#) on page 905 and [Step 6](#) on page 905 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 4](#) on page 904, if the serial number shown in [Step 4](#) on page 904 is correct, or with the serial number shown in [Step 6](#) on page 905, if the serial number was changed in [Step 5](#) on page 905, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

8. Enable the Hex Digit Support for GTT feature with the `enable-ctrl-feat` command specifying the part number for the Hex Digit Support for GTT feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893018501:fak=<Hex Digit Support for GTT
feature access key>
```

Note: The Hex Digit Support for GTT feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the Hex Digit Support for GTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

9. Verify the changes by entering the `rtrv-ctrl-feat` command with the part number used in [Step 8](#) on page 906.

```
rtrv-ctrl-feat:partnum=893018501
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
Hex Digit Support for GTT 893018501  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

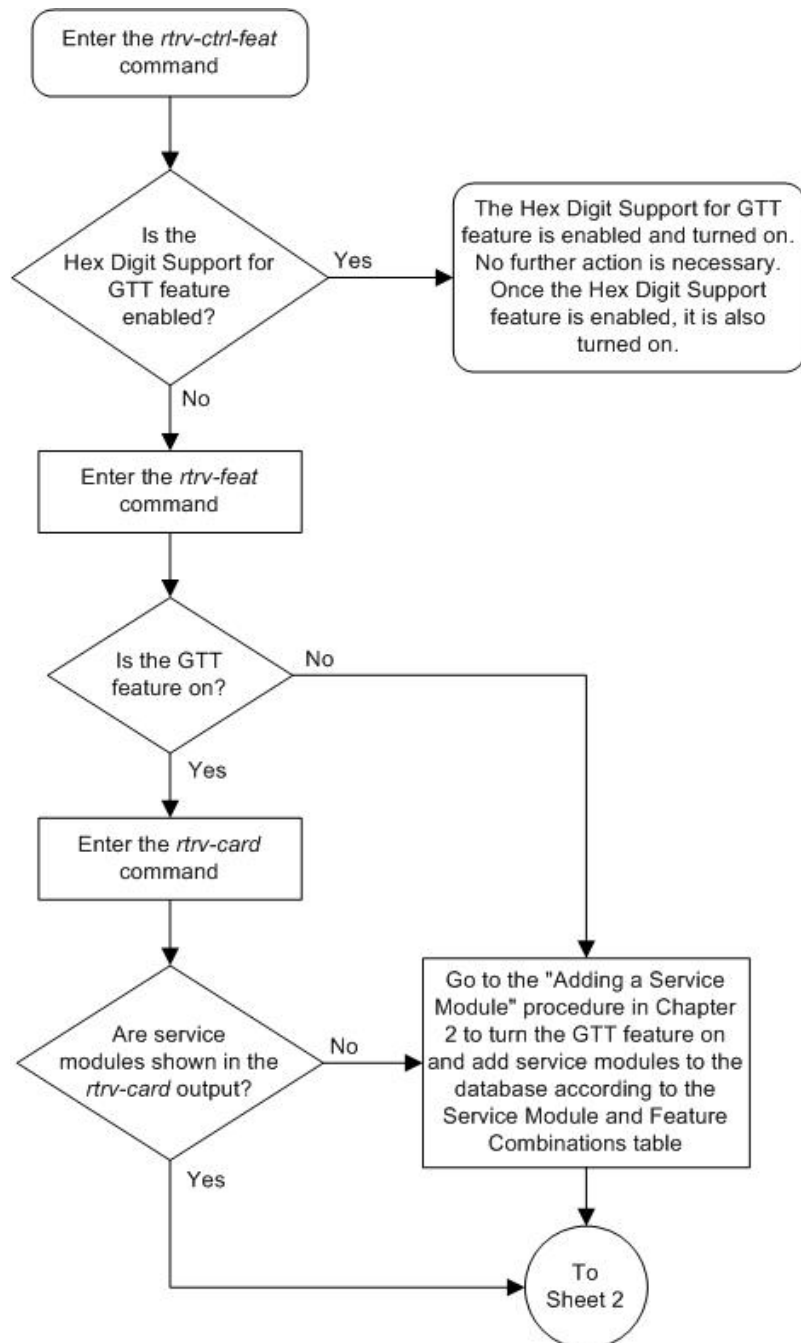
Feature Name          Partnum
Zero entries found.
```

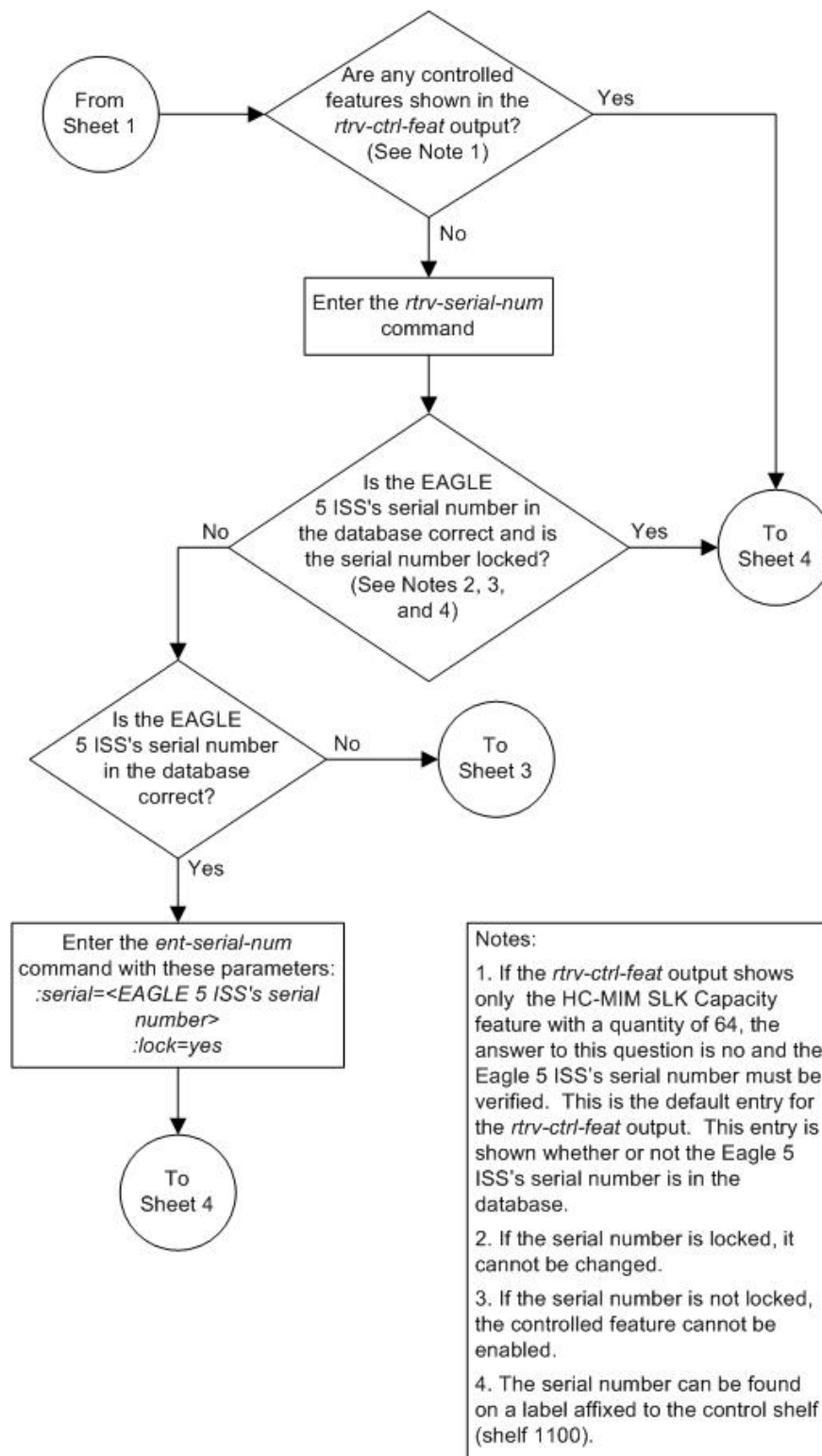
10. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

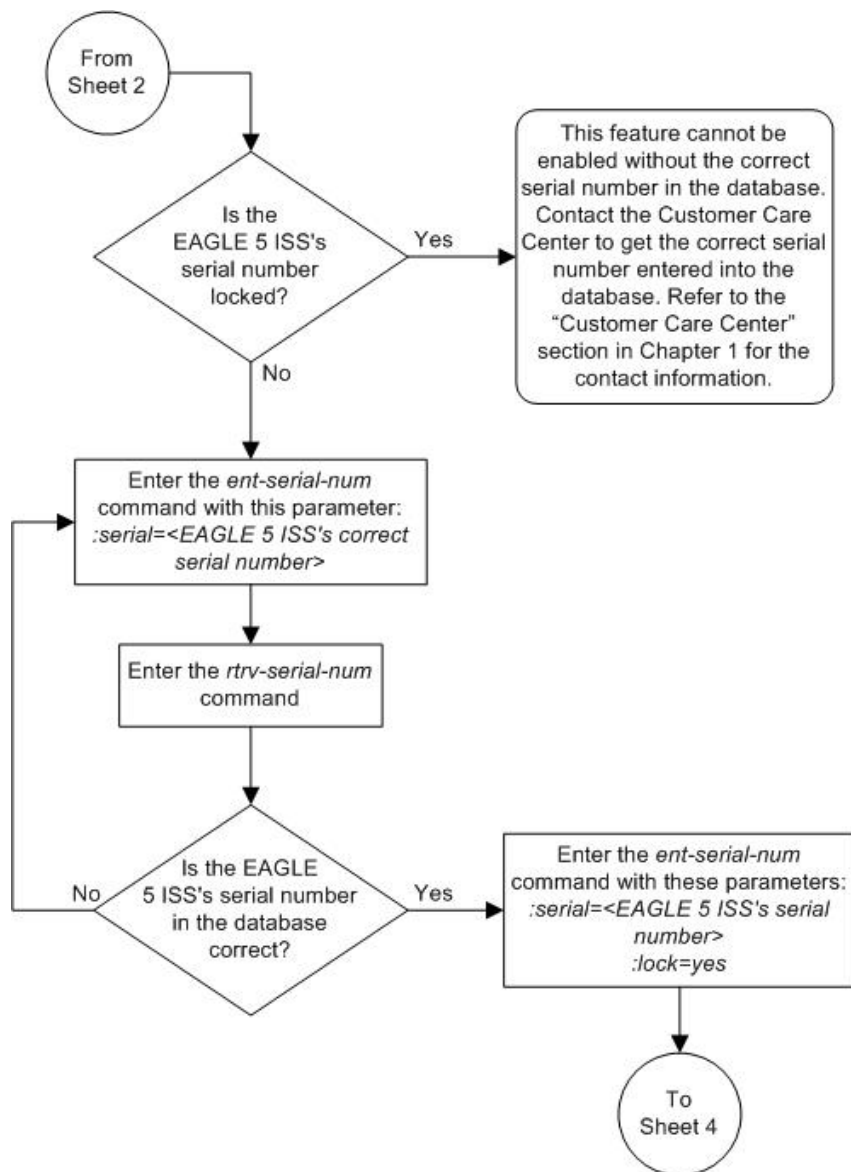
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

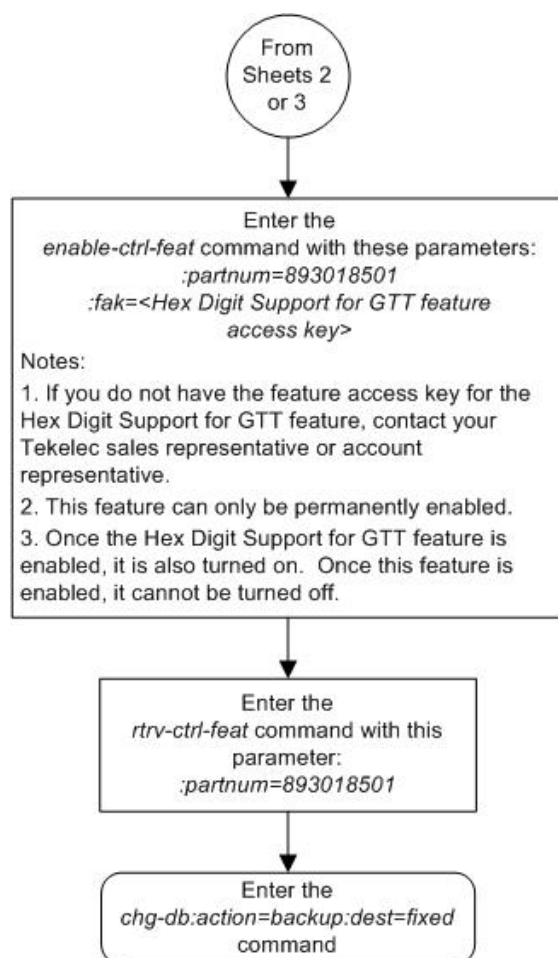
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 73: Activating the Hex Digit Support for GTT Feature









Activating the Weighted GTT Load Sharing Feature

This procedure is used to enable and turn on the Weighted GTT Load Sharing feature using the feature's part number and a feature access key.

The feature access key for the Weighted GTT Load Sharing feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The *enable-ctrl-feat* command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

:fak – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

:partnum – The Tekelec-issued part number of the Weighted GTT Load Sharing feature, 893017001.

The *enable-ctrl-feat* command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the *rtrv-serial-num* command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked

once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`:serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`:lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature has been enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number of the Weighted GTT Load Sharing feature, 893017001.

`:status=on` – used to turn the Weighted GTT Load Sharing feature on.

Once the Weighted GTT Load Sharing feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The Weighted GTT Load Sharing feature requires that DSMs or E5-SM4G cards are installed and provisioned in the EAGLE 5 ISS. DSMs and E5-SM4G cards are shown by the entries `DSM` in the `TYPE` column and `VSCCP` in the `APPL` column of the `rtrv-card` output.

Before the Weighted GTT Load Sharing feature can be enabled, the GTT feature must be turned on. The state of the GTT feature can be verified using the `rtrv-feat` command.

1. Display the status of the Weighted GTT Load Sharing feature by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
Command Class Management 893005801  on       ----
LNP Short Message Service 893006601  on       ----
Intermed GTT Load Sharing 893006901  on       ----
HC-MIM SLK Capacity     893012707  on        64

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the Weighted GTT Load Sharing feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the Weighted GTT Load Sharing feature is enabled and but not turned on, skip steps 2 through 8 and go to step 9.

If the Weighted GTT Load Sharing feature is not enabled, go to step 2.

2. Verify that the GTT feature is on, by entering the `rtrv-feat` command. If the GTT feature is on, the GTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the GTT feature is on, shown by the entry `GTT = on` in the `rtrv-feat` command output in step 2, go to step 3.

If the GTT feature is off, perform the [Adding a Service Module](#) on page 94 procedure to turn the GTT feature on and add the required number of DSMs or E5-SM4G cards. After the [Adding a Service Module](#) on page 94 procedure is performed, skip step 3 and go to step 4.

3. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. The Weighted GTT Load Sharing feature requires that DSMs or E5-SM4G cards running the VSCCP application are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC  LSET NAME      PORT SLC
1102   TSM        GLS
1113   GPSP       OAM
1114   TDM-A
1115   GPSP       OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0     SS7ANSI   sp2           A      0      sp1           B      0
1203   LIMDS0     SS7ANSI   sp3           A      0
1204   LIMDS0     SS7ANSI   sp3           A      1
1206   LIMDS0     SS7ANSI   nsp3         A      1      nsp4           B      1
1216   DCM        STPLAN
1301   DSM        VSCCP
1303   DSM        VSCCP
1305   DSM        VSCCP
1308   LIMDS0     SS7ANSI   sp6           A      1      sp7           B      0
1314   LIMDS0     SS7ANSI   sp7           A      1      sp5           B      1
1317   DCM        STPLAN
```

There are two types of service modules, DSMs or E5-SM4G cards running the VSCCP application.

DSMs and E5-SM4G cards are shown by the entries `DSM` in the `TYPE` column and `VSCCP` in the `APPL` column.

If DSMs or E5-SM4G cards running the VSCCP application are in the EAGLE 5 ISS, go to step 4.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 4 through 7, and go to step 8. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 4 through 7 must be performed.

4. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.
```

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
Command Completed
```

Note: If the serial number is correct and locked, skip steps 5, 6, and 7, and go to step 8. If the serial number is correct but not locked, skip steps 5 and 6, and go to step 7. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. Verify that the serial number entered into step 5 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
System serial number = nt00001231  
  
System serial number is not locked.  
  
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
Command Completed
```

If the serial number was not entered correctly, repeat steps 5 and 6 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 4, if the serial number shown in step 4 is correct, or with the serial number shown in step 6, if the serial number was changed in step 5, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

8. Enable the Weighted GTT Load Sharing feature with the `enable-ctrl-feat` command specifying the part number for the Weighted GTT Load Sharing feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893017001:fak=<Weighted GTT Load Sharing  
feature access key>
```

Note: The Weighted GTT Load Sharing feature cannot be enabled with a temporary feature access key.

Note: The feature access key (the fak parameter) is provided by Tekelec. If you do not have the feature access key for the Weighted GTT Load Sharing feature, contact your Tekelec Sales Representative or Account Representative.

When the enable-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

9. Turn the Weighted GTT Load Sharing feature on with the chg-ctrl-feat command specifying the part number for the Weighted GTT Load Sharing feature and the status=on parameter. Enter this command.

```
chg-ctrl-feat:partnum=893017001:status=on
```

Note: Once this feature is turned on, it cannot be turned off.

When the chg-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the rtrv-ctrl-feat command with the Weighted GTT Load Sharing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893017001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
Weighted GTT Load-Sharing 893017001 on      ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status  Quantity    Trial Period Left
Zero entries found.

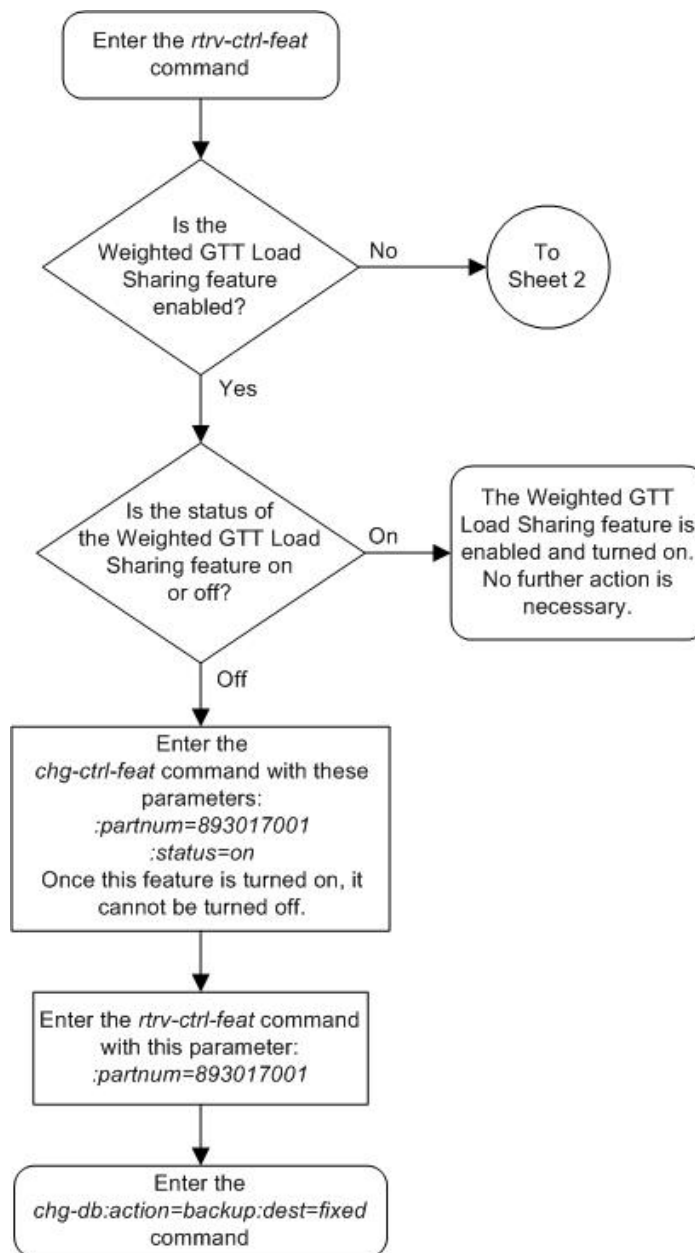
The following features have expired temporary keys:

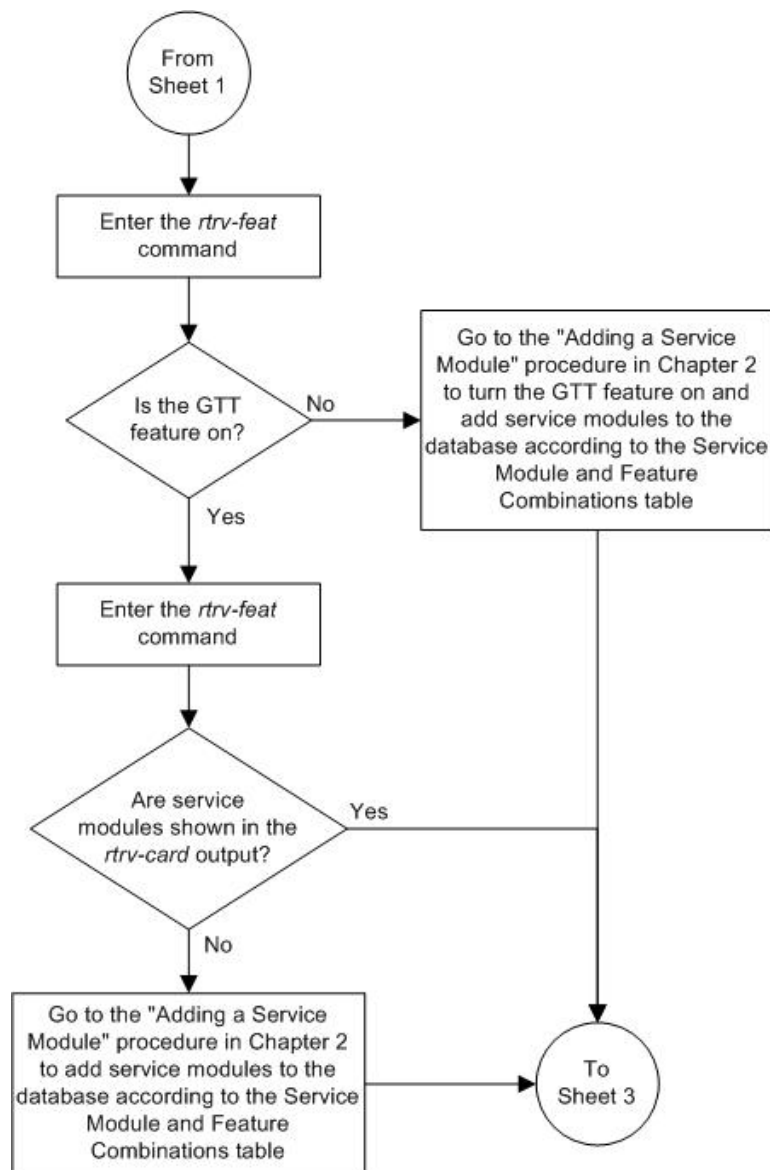
Feature Name          Partnum
Zero entries found.
```

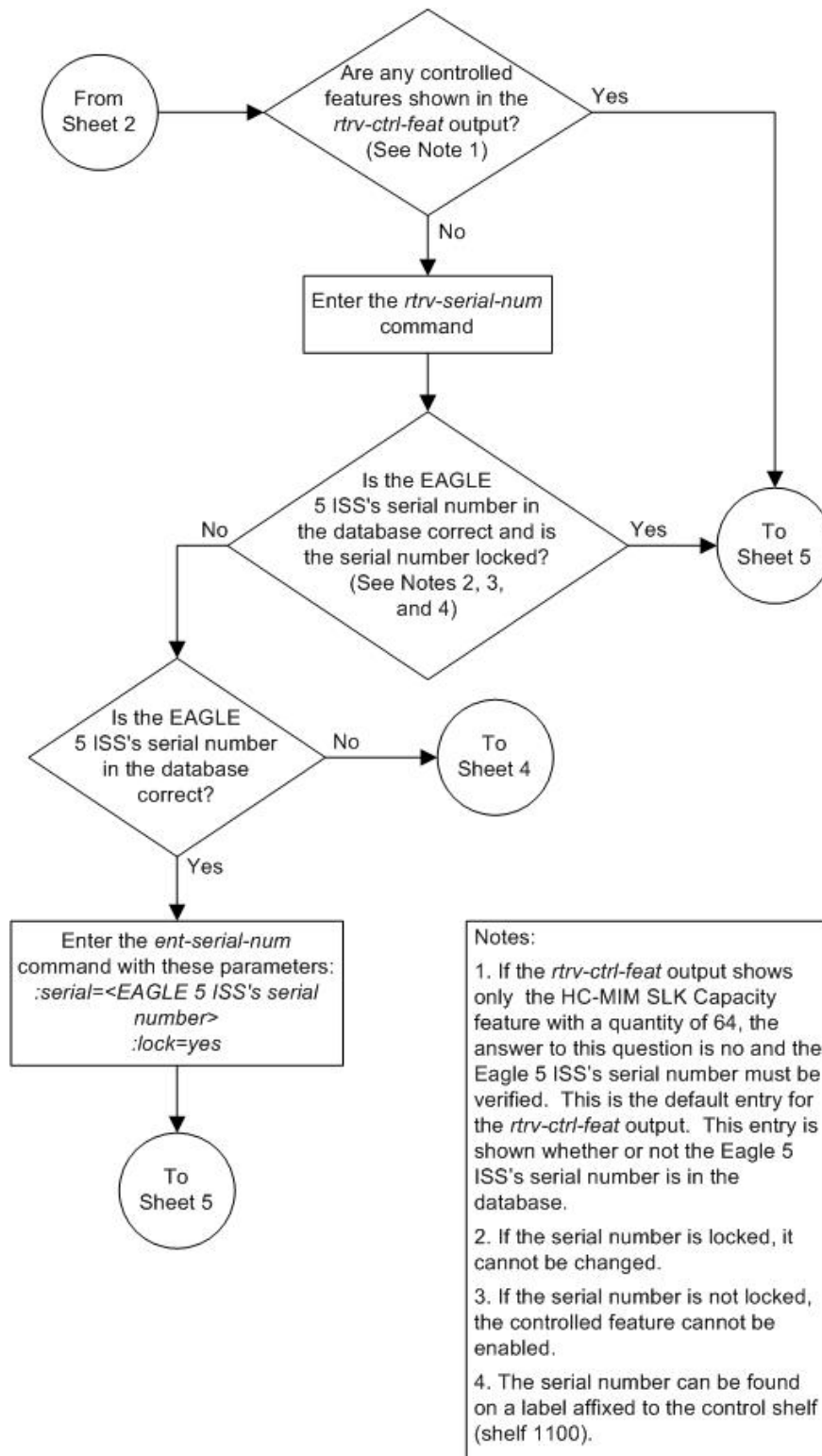
11. Backup the new changes using the chg-db:action=backup:dest=fixed command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

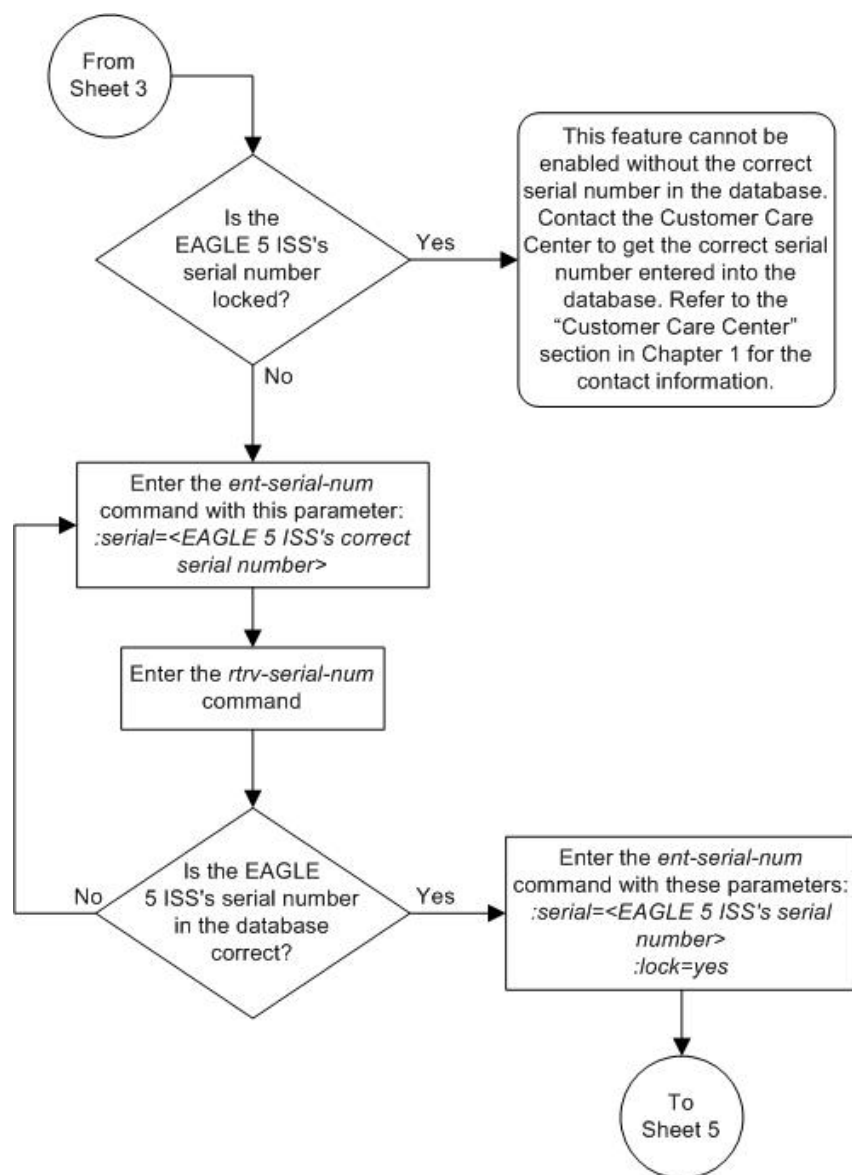
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

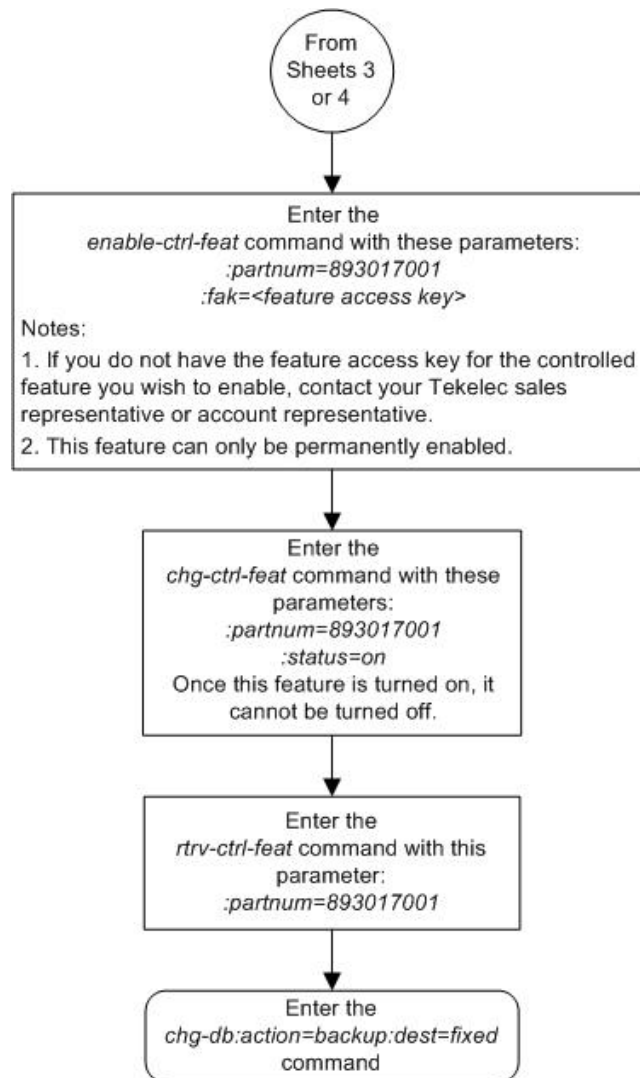
Figure 74: Activating the Weighted GTT Load Sharing Feature











Activating the Transaction-Based GTT Load Sharing Feature

This procedure is used to enable and turn on the Transaction-Based GTT Load Sharing feature using the feature's part number and a feature access key.

The feature access key for the Transaction-Based GTT Load Sharing feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Tekelec-issued part number of the Transaction-Based GTT Load Sharing feature, 893017101.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

:`serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

:`lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, provisioning for this feature can be performed, but the feature will not work until the feature is turned on with the `chg-ctrl-feat` command.

Once this feature has been enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

:`partnum` – The Tekelec-issued part number of the Transaction-Based GTT Load Sharing feature, 893017101.

:`status=on` – used to turn the Transaction-Based GTT Load Sharing feature on.

Once the Transaction-Based GTT Load Sharing feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The Transaction-Based GTT Load Sharing feature requires that DSMs or E5-SM4G cards are installed and provisioned in the EAGLE 5 ISS. DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column of the `rtrv-card` output.

1. Display the status of the Transaction-Based GTT Load Sharing feature by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
Command Class Management 893005801  on       ----
LNP Short Message Service 893006601  on       ----
Intermed GTT Load Sharing 893006901  on       ----
HC-MIM SLK Capacity      893012707  on        64

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the Transaction-Based GTT Load Sharing feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the Transaction-Based GTT Load Sharing feature is enabled and but not turned on, skip steps 2 through 7 and go to step 8.

If the Transaction-Based GTT Load Sharing feature is not enabled, go to step 2.

2. Verify that the GTT feature is on, by entering the `rtrv-feat` command. If the GTT feature is on, the GTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the GTT feature is on, shown by the entry `GTT = on` in the `rtrv-feat` command output in step 2, go to step 3.

If the GTT feature is off, perform the [Adding a Service Module](#) on page 94 procedure to turn the GTT feature on and add the required number of DSMs or E5-SM4G cards. After the [Adding a Service Module](#) on page 94 procedure is performed, skip step 3 and go to step 4.

3. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. The Transaction-Based GTT Load Sharing feature requires that DSMs or E5-SM4G cards running the VSCCP application are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC  LSET NAME      PORT SLC
1102   TSM        GLS
1113   GPSM        OAM
1114   TDM-A
1115   GPSM        OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0     SS7ANSI  sp2            A      0      sp1            B      0
1203   LIMDS0     SS7ANSI  sp3            A      0
1204   LIMDS0     SS7ANSI  sp3            A      1
1216   DCM         STPLAN
1301   DSM         VSCCP
1303   DSM         VSCCP
1305   DSM         VSCCP
1308   LIMDS0     SS7ANSI  sp6            A      1      sp7            B      0
1314   LIMDS0     SS7ANSI  sp7            A      1      sp5            B      1
1317   DCM         STPLAN
```

There are two types of service modules, DSMs or E5-SM4G cards running the VSCCP application.

DSMs and E5-SM4G cards are shown by the entries `DSM` in the `TYPE` column and `VSCCP` in the `APPL` column.

If DSMs or E5-SM4G cards running the VSCCP application are in the EAGLE 5 ISS, go to step 4.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 4 through 7, and go to step 8. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 4 through 7 must be performed.

4. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, skip steps 5, 6, and 7, and go to step 8. If the serial number is correct but not locked, skip steps 5 and 6, and go to step 7. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

6. Verify that the serial number entered into step 5 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

If the serial number was not entered correctly, repeat steps 5 and 6 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 4, if the serial number shown in step 4 is correct, or with the serial number shown in step 6, if the serial number was changed in step 5, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

8. Enable the Transaction-Based GTT Load Sharing feature with the `enable-ctrl-feat` command specifying the part number for the Transaction-Based GTT Load Sharing feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893017101:fak=<Transaction-Based GTT Load
Sharing feature access key>
```

Note: The Transaction-Based GTT Load Sharing feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the Transaction-Based GTT Load Sharing feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```



CAUTION: Once the Transaction-Based GTTLoad Sharing feature is enabled, provisioning for Transaction-Based GTTLoad Sharing can be performed, but the EAGLE 5 ISS will not perform Transaction-Based GTTLoad Sharing on GTT traffic until the Transaction-Based GTTLoad Sharing is turned on in step 8.

Note: If you do not wish to turn the Transaction-Based GTTLoad Sharing feature on, skip step 9 and go to step 10.

9. Turn the Transaction-Based GTT Load Sharing feature on with the `chg-ctrl-feat` command specifying the part number for the Transaction-Based GTT Load Sharing feature and the `status=on` parameter.

Enter this command.

```
chg-ctrl-feat:partnum=893017101:status=on
```

Note: Once this feature is turned on, it cannot be turned off.

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the `rtrv-ctrl-feat` command with the Transaction-Based GTT Load Sharing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893017101
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Transaction Based GTT LS	893017101	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

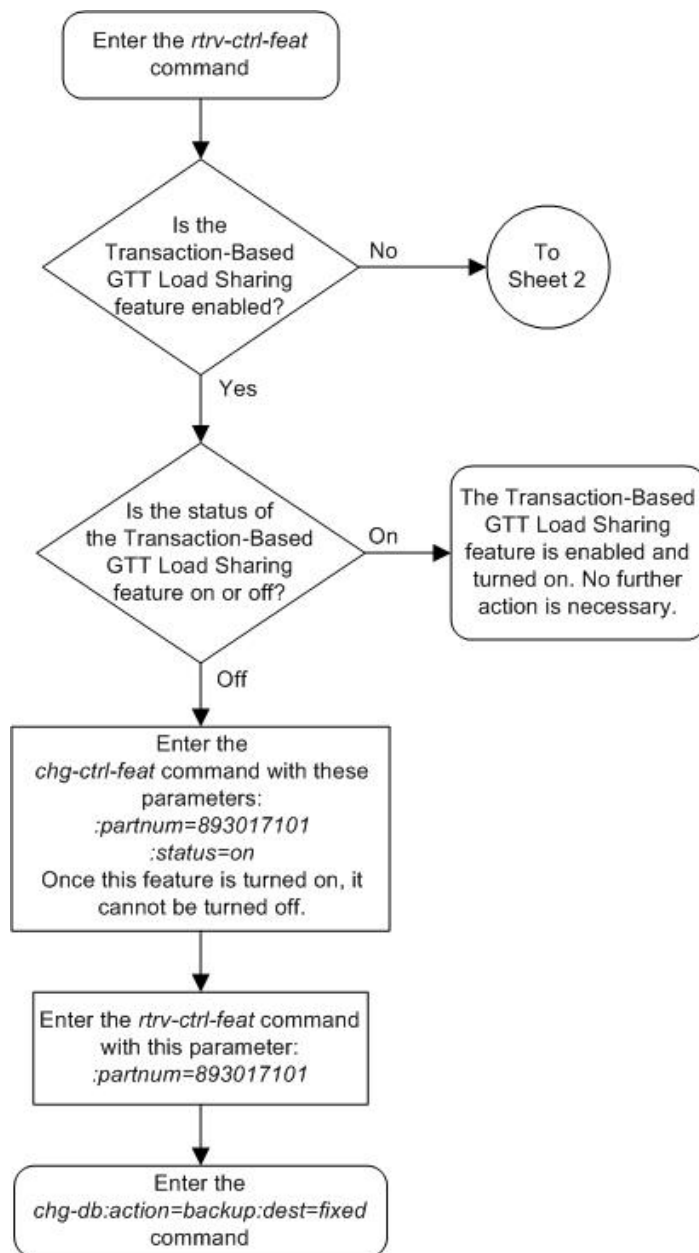
The following features have expired temporary keys:

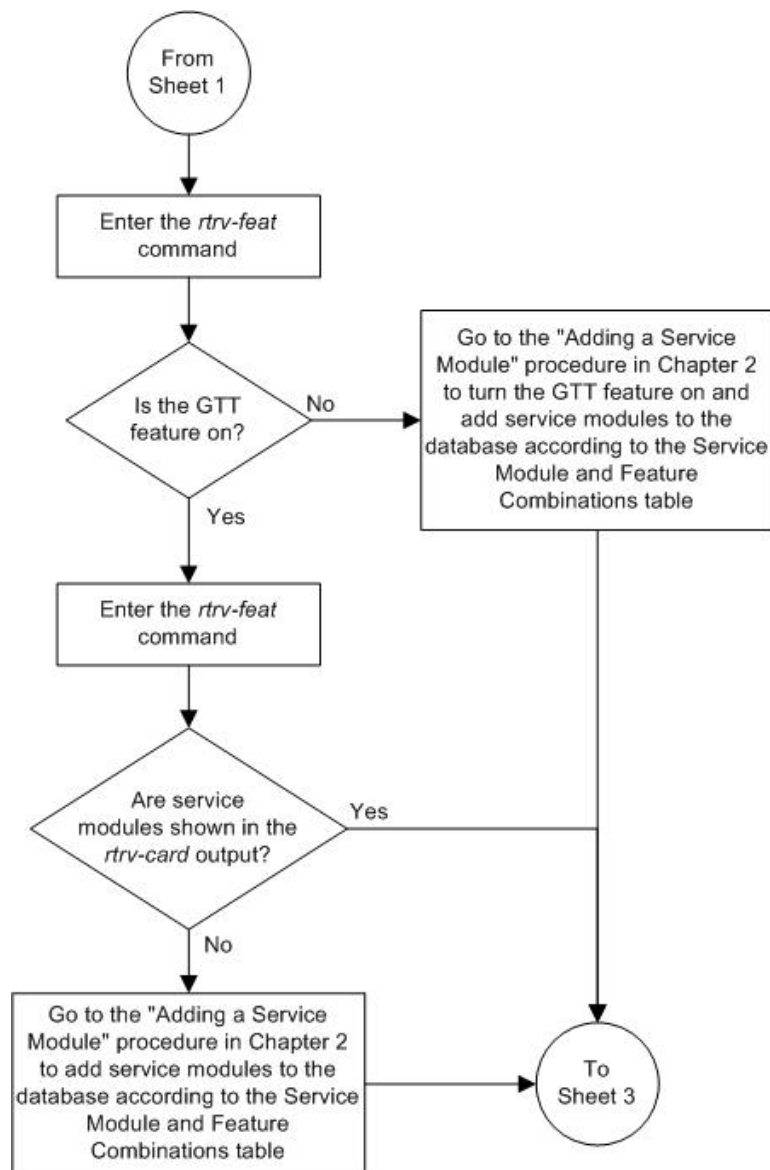
Feature Name	Partnum
Zero entries found.	

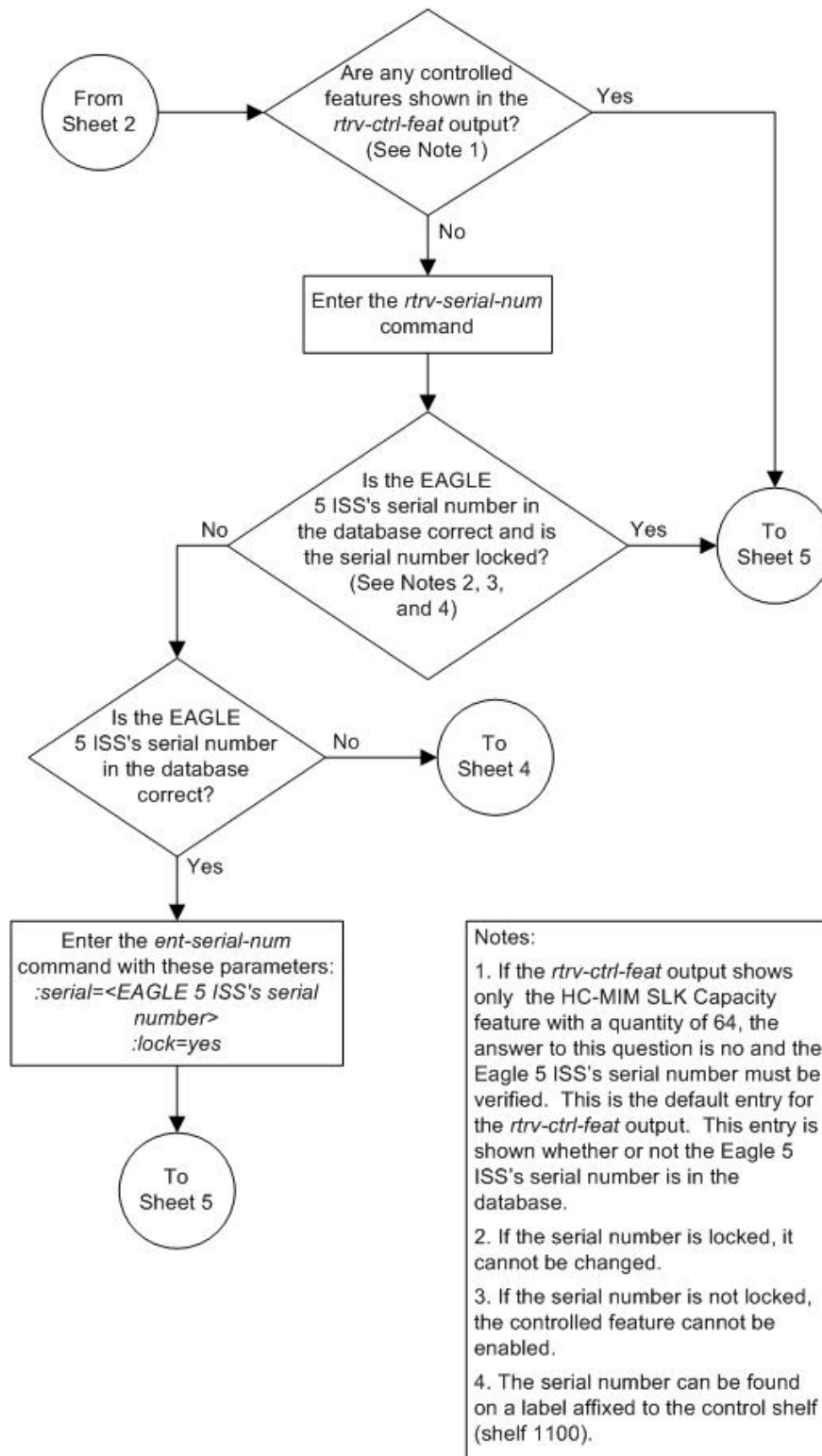
11. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

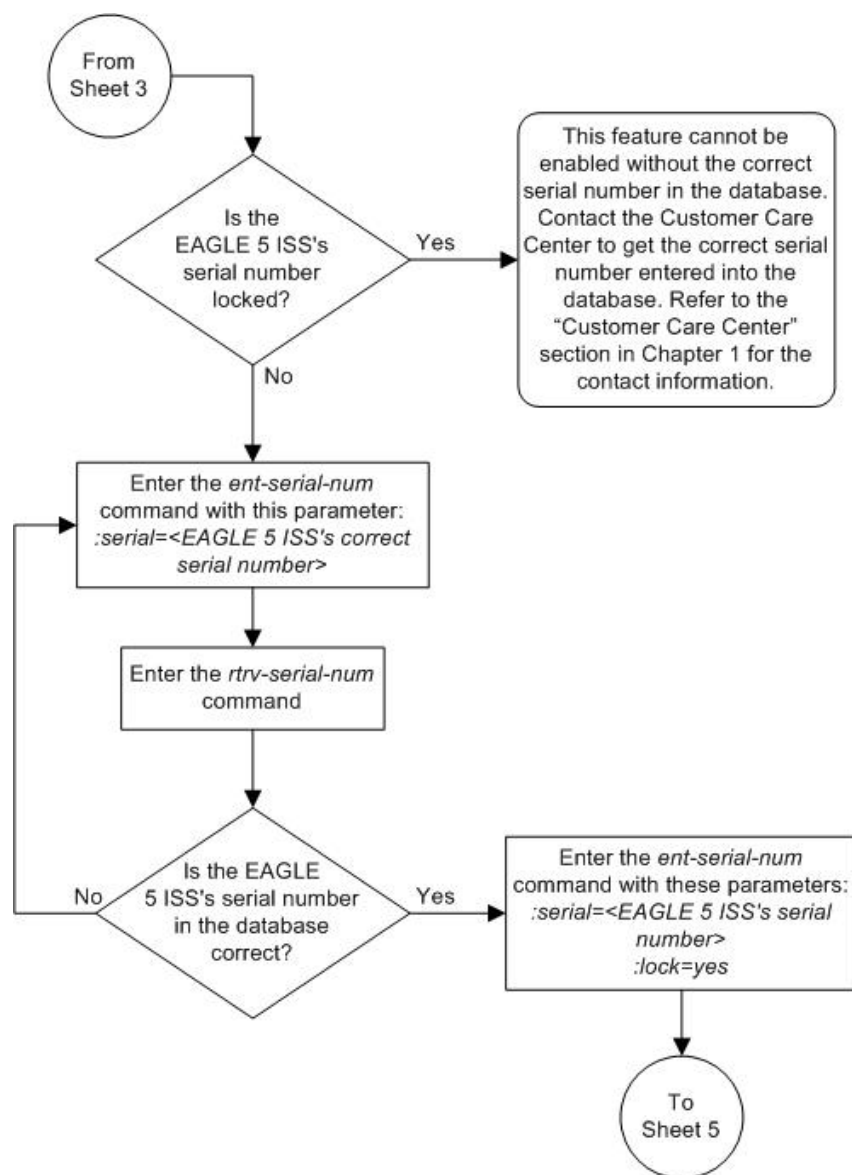
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

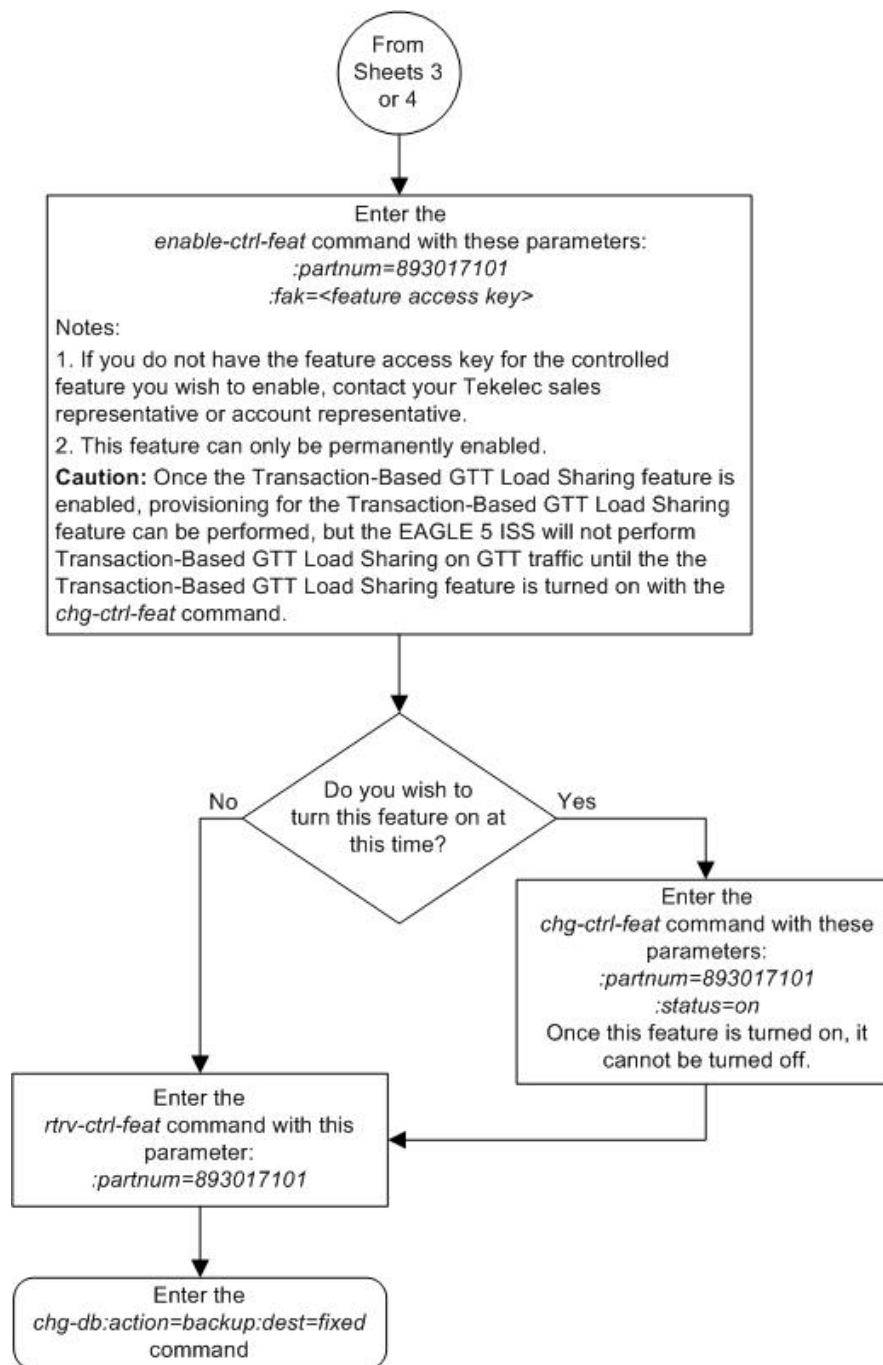
Figure 75: Activating the Transaction-Based GTT Load Sharing Feature











Activating the SCCP Loop Detection Feature

This procedure is used to enable and turn on the SCCP Loop Detection feature using the feature's part number and a feature access key.

The feature access key for the SCCP Loop Detection feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

: fak – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

: partnum – The Tekelec-issued part number of the SCCP Loop Detection feature, 893016501.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

: serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

: lock – Specifies whether or not the serial number is locked. This parameter has only one value, yes, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, provisioning for this feature can be performed, but the feature will not work until the feature is turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

: partnum – The Tekelec-issued part number of the SCCP Loop Detection feature, 893016501.

: status=on – used to turn the SCCP Loop Detection feature on.

Once the SCCP Loop Detection feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

Once the SCCP Loop Detection feature is turned on, SCCP Loop Detection is performed on MSUs requiring global title translation. For more information on the SCCP Loop Detection feature, refer to the [SCCP Loop Detection](#) on page 57 section.

1. Display the status of the SCCP Loop Detection feature by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
HC-MIM SLK Capacity	893012707	on	64
Intermed GTT Load Sharing	893006901	on	----
G-Port Circ Route Prevent	893007001	on	----
Network Security Enhance	893009101	off	----
EAGLE OA&M IP Security	893400001	off	----
Flexible GTT Load-Sharing	893015401	on	----
Origin Based SCCP Routing	893014301	on	----

```

SCCP Loop Detection      893016501  on      ----
The following features have been temporarily enabled:

Feature Name              Partnum      Status  Quantity      Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.

```

If the SCCP Loop Detection feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the SCCP Loop Detection feature is enabled and but not turned on, skip steps 2 through 9 and go to step 10.

If the SCCP Loop Detection feature is not enabled, go to step 2.

2. Verify that the GTT feature is on, by entering the `rtrv-feat` command. If the GTT feature is on, the GTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the GTT feature is on, shown by the entry `GTT = on` in the `rtrv-feat` command output in skip step 3 and go to step 4.

If the GTT feature is off, perform step 3 to turn the GTT feature on.

3. Turn the global title translation feature on by entering this command.

```
chg-feat:gtt=on
```

NOTE: Once the Global Title Translation (GTT) feature is turned on with the `chg-feat` command, it cannot be turned off. The GTT feature must be purchased before turning it on. If you are not sure whether you have purchased the GTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` command has successfully completed, this message should appear.

```

rlghncxa03w 07-03-25 09:57:41 GMT EAGLE5 35.6.0
CHG-FEAT: MASP A - COMPLTD

```

4. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. The SCCP Loop Detection feature requires that DSMs or E5-SM4G cards running the VSCCP application are in the database. This is an example of the possible output.

```

rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME      PORT SLC  LSET NAME      PORT SLC
1102   TSM        GLS
1113   GPSM        OAM
1114   TDM-A
1115   GPSM        OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0      SS7ANSI    sp2            A      0      sp1            B      0
1203   LIMDS0      SS7ANSI    sp3            A      0
1204   LIMDS0      SS7ANSI    sp3            A      1
1206   LIMDS0      SS7ANSI    nsp3           A      1      nsp4           B      1
1216   DCM          STPLAN

```

1301	DSM	VSCCP							
1303	DSM	VSCCP							
1305	DSM	VSCCP							
1308	LIMDS0	SS7ANSI	sp6	A	1	sp7	B	0	
1314	LIMDS0	SS7ANSI	sp7	A	1	sp5	B	1	
1317	DCM	STPLAN							

There are two types of service modules, DSMs or E5-SM4G cards running the VSCCP application. DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column.

If no service modules are shown in the `rtrv-card` output, perform the [Adding a Service Module](#) on page 94 procedure to add DSMs or E5-SM4G cards to the EAGLE 5 ISS.

If DSMs or E5-SM4G cards running the VSCCP application are in the EAGLE 5 ISS, go to step 5.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 5 through 8, and go to step 9. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 5 through 8 must be performed.

5. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with [Step 9](#) on page 933. If the serial number is correct but not locked, continue the procedure with [Step 8](#) on page 933. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

6. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

7. Verify that the serial number entered into [Step 6](#) on page 932 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.
```

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

If the serial number was not entered correctly, repeat steps 6 and 7 and re-enter the correct serial number.

8. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 5](#) on page 932, if the serial number shown in [Step 5](#) on page 932 is correct, or with the serial number shown in [Step 7](#) on page 932, if the serial number was changed in [Step 6](#) on page 932, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>;lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

9. Enable the SCCP Loop Detection feature with the `enable-ctrl-feat` command specifying the part number for the SCCP Loop Detection feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893016501:fak=<SCCP Loop Detection feature
access key>
```

Note: The SCCP Loop Detection feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the SCCP Loop Detection feature, contact your Tekelec Sales Representative or Account Representative.



CAUTION: Once the SCCP Loop Detection feature is enabled, provisioning for SCCP Loop Detection can be performed, but the EAGLE 5 ISS will not perform SCCP Loop Detection on GTT traffic until the Origin-Based SCCP Routing is turned on in step 10.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

10. Turn the SCCP Loop Detection feature on with the `chg-ctrl-feat` command specifying the part number for the SCCP Loop Detection feature and the `status=on` parameter.

Enter this command.

```
chg-ctrl-feat:partnum=893016501:status=on
```

Note: Once this feature is turned on, it cannot be turned off.

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

11. Verify the changes by entering the `rtrv-ctrl-feat` command with the SCCP Loop Detection feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893016501
```

The following is an example of the possible output.

```
rlghncxa03w 07-03-28 21:15:37 GMT EAGLE5 35.6.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
SCCP Loop Detection	8930165101	on	----

```

The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```

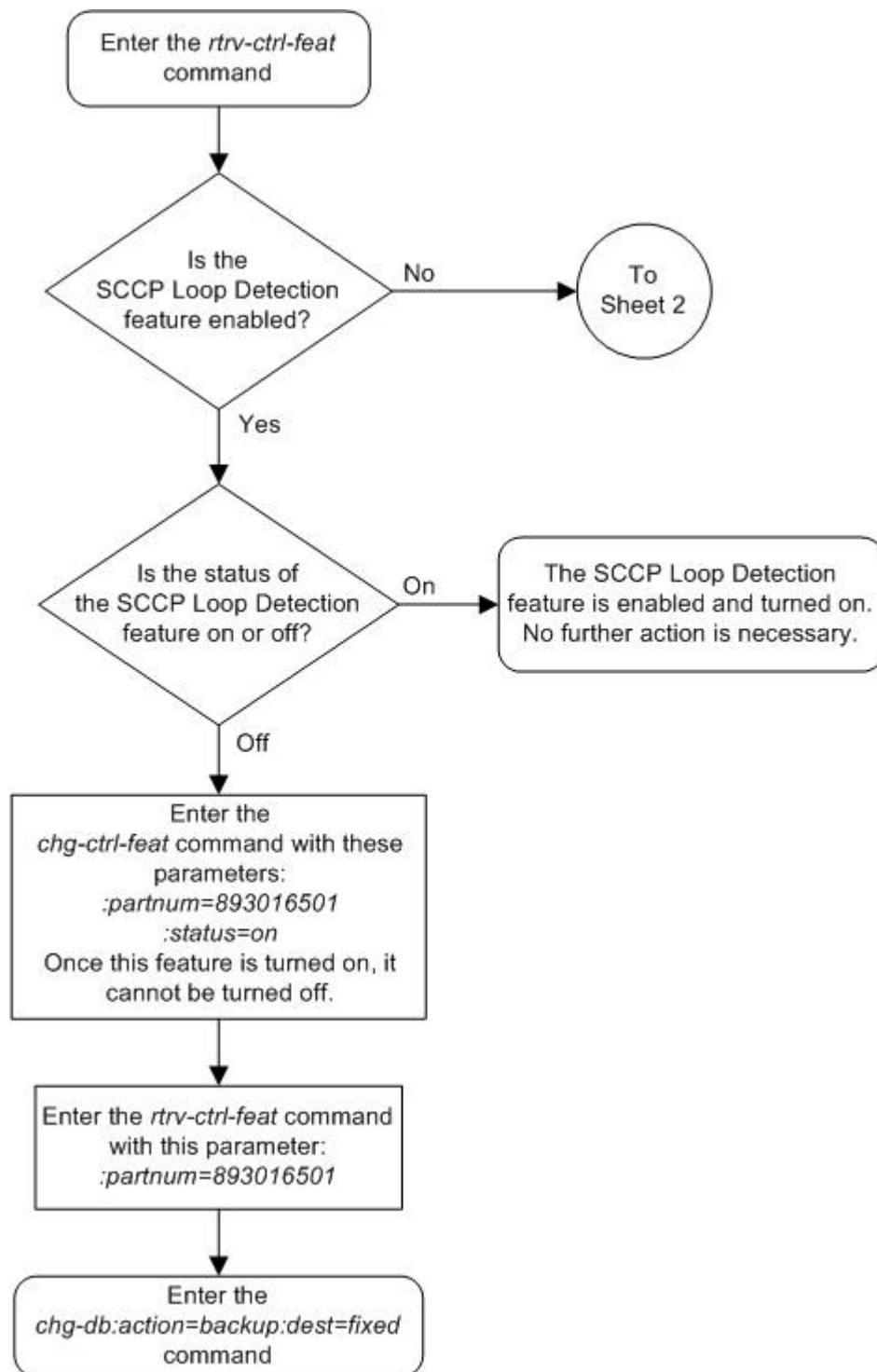
The following features have expired temporary keys:
```

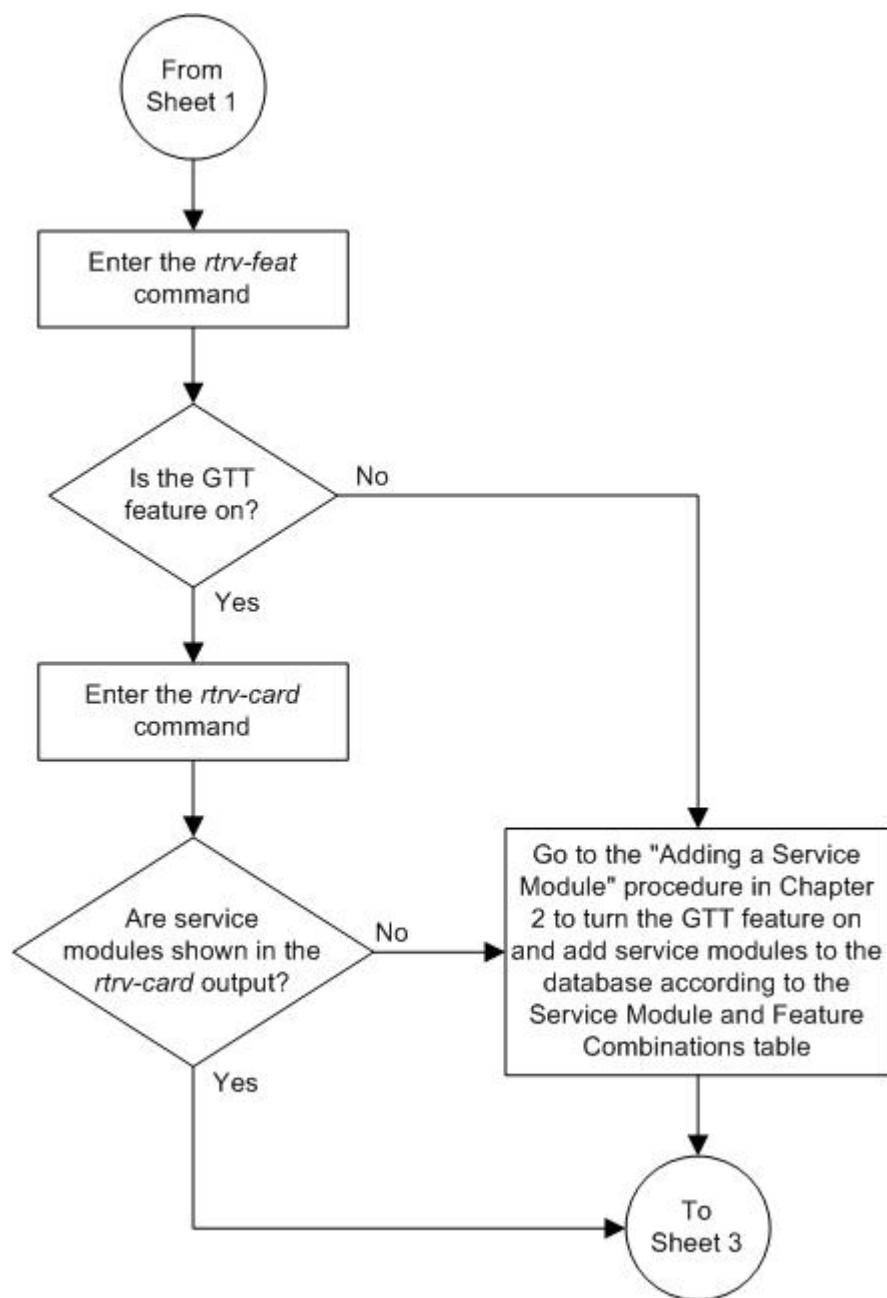
Feature Name	Partnum
Zero entries found.	

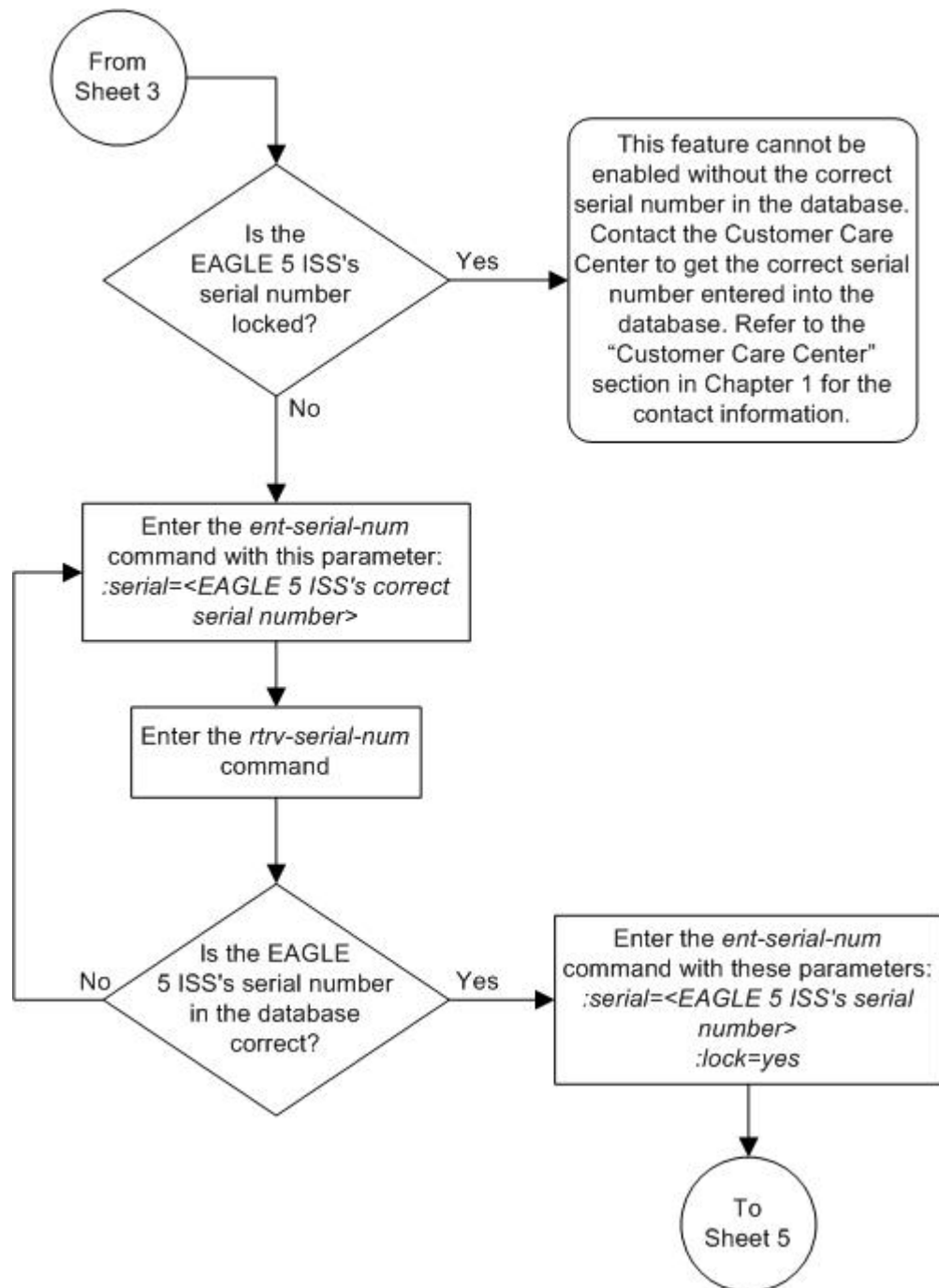
12. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

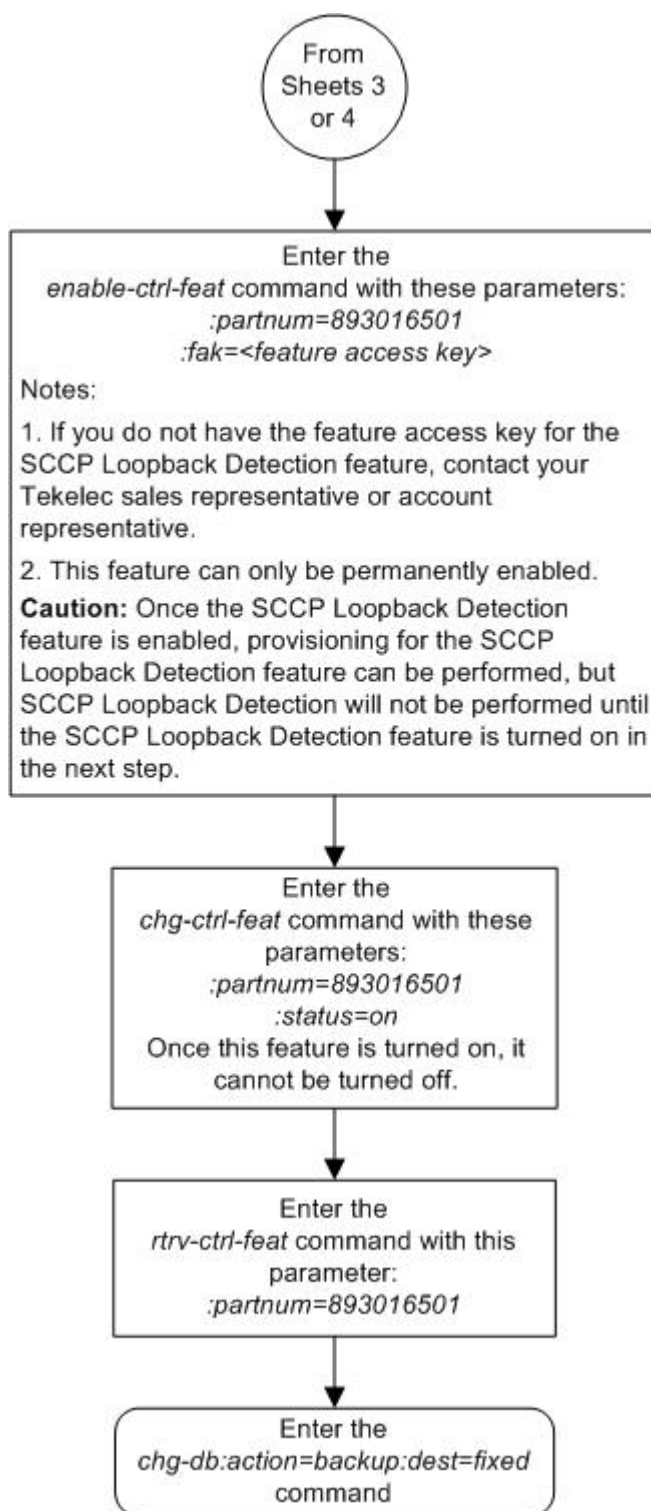
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 76: Activating the SCCP Loop Detection Feature









Activating the E5-SM4G Throughput Capacity Feature

This procedure is used to enable and turn on the E5-SM4G Throughput Capacity feature using the feature's part number and a feature access key.

The feature access key is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the E5-SM4G Throughput Capacity feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Tekelec-issued part number of the E5-SM4G Throughput Capacity feature, 893019101.

This feature cannot be enabled with a temporary feature access key.

The E5-SM4G Throughput Capacity feature cannot be enabled if the GTT feature is not turned on.

The status of the GTT feature is shown in the `rtrv-feat` command output.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`:serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`:lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

Once the E5-SM4G Throughput Capacity feature has been enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number of the E5-SM4G Throughput Capacity feature, 893019101.

`:status=on` – used to turn the E5-SM4G Throughput Capacity feature on.

Once the E5-SM4G Throughput Capacity feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

This feature increases the processing capacity of SCCP traffic for an EAGLE 5 ISS processing only GTT traffic (no ELAP- or EPAP-based traffic) from 52,700 transactions per second to 150,000 transactions per second. To achieve this increase in SCCP processing capacity, a maximum of 32

E5-SM4G cards must be provisioned and installed in the EAGLE 5 ISS. If the EAGLE 5 ISS is processing EPAP-based traffic and this feature is enabled and turned on, the processing capacity is increased to 75,000 transactions per second. To achieve this increase in SCCP processing capacity for EPAP-based traffic, a maximum of 25 E5-SM4G cards must be provisioned and installed in the EAGLE 5 ISS.

1. Display the status of the E5-SM4G Throughput Capacity feature by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.5.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
Intermed GTT Load Sharing	893006901	off	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007710	on	3000
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

```

The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```

The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the E5-SM4G Throughput Capacity feature is enabled and turned on, shown by the entry E5-SM4G Throughput Cap, and its status is on, no further action is necessary.

If the feature is enabled and its status is off, continue the procedure with [Step 9](#) on page 942.

If the E5-SM4G Throughput Capacity feature is not enabled, continue the procedure with [Step 2](#) on page 940 .

2. To enable the E5-SM4G Throughput Capacity feature, the GTT feature must be turned on. The GTT feature is shown by the entry GTT in the `rtrv-feat` output.

Enter the `rtrv-feat` command to verify whether or not the GTT feature is on.

If the GTT feature is turned on, continue the procedure with [Step 3](#) on page 940.

If the GTT feature is turned off, perform the [Adding a Service Module](#) on page 94 procedure to turn the GTT feature on and to add the required number of E5-SM4G cards to the database. After the [Adding a Service Module](#) on page 94 procedure has been performed, continue the procedure with [Step 4](#) on page 941 .

3. Verify the number of E5-SM4G cards that are provisioned in the database using the `rept-stat-gpl:gpl=sccphc` command. This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:40:26 GMT EAGLE5 37.5.0
GPL      CARD      RUNNING      APPROVED      TRIAL
SCCPHC   1201      126-002-000  126-002-000  126-003-000
SCCPHC   1203      126-002-000  126-002-000  126-003-000
SCCPHC   1207      126-002-000  126-002-000  126-003-000
SCCPHC   1213      126-002-000  126-002-000  126-003-000
SCCPHC   1215      126-002-000  126-002-000  126-003-000
SCCPHC   1305      126-002-000  126-002-000  126-003-000
SCCPHC   1313      126-002-000  126-002-000  126-003-000
```

```
SCCPHC 2103 126-002-000 126-002-000 126-003-000
Command Completed
```

If the required number of E5-SM4G cards are provisioned in the database, continue the procedure with [Step 4](#) on page 941 .

If the required number of E5-SM4G cards are not provisioned in the database, perform the [Adding a Service Module](#) on page 94 procedure to add the required number of E5-SM4G cards to the database. After the [Adding a Service Module](#) on page 94 procedure has been performed, continue the procedure with [Step 4](#) on page 941 .

4. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 940 shows any controlled features, continue the procedure with [Step 8](#) on page 942. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 4](#) on page 941 through [Step 7](#) on page 942 must be performed.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with [Step 8](#) on page 942. If the serial number is correct but not locked, continue the procedure with [Step 7](#) on page 942. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. Verify that the serial number entered into [Step 5](#) on page 941 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.
```

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
Command Completed
```

If the serial number was not entered correctly, repeat [Step 5](#) on page 941 and [Step 6](#) on page 941 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 4](#) on page 941, if the serial number shown in [Step 4](#) on page 941 is correct, or with the serial number shown in [Step 6](#) on page 941, if the serial number was changed in [Step 5](#) on page 941, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

8. Enable the E5-SM4G Throughput Capacity feature with the permanent key by entering the `enable-ctrl-feat` command. For this example, enter this command.

```
enable-ctrl-feat:partnum=893019101:fak=<E5-SM4G Throughput Capacity  
feature access key>
```

Note: The E5-SM4G Throughput Capacity feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the E5-SM4G Throughput Capacity feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

Note: If you do not wish to turn the E5-SM4G Throughput Capacity feature on, continue the procedure with [Step 10](#) on page 942.

9. Turn the E5-SM4G Throughput Capacity feature on with the `chg-ctrl-feat` command, specifying the E5-SM4G Throughput Capacity feature part number used in [Step 8](#) on page 942 and the `status=on` parameter. For this example, enter this command.

```
chg-ctrl-feat:partnum=893019101:status=on
```

Note: Once this feature is turned on, it cannot be turned off.

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 36.0.0  
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the `rtrv-ctrl-feat` command with the E5-SM4G Throughput Capacity feature part number specified in [Step 8](#) on page 942 or [Step 9](#) on page 942.

```
rtrv-ctrl-feat:partnum=893019101
```


The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.5.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
E5-SM4G Throughput Cap	893019101	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

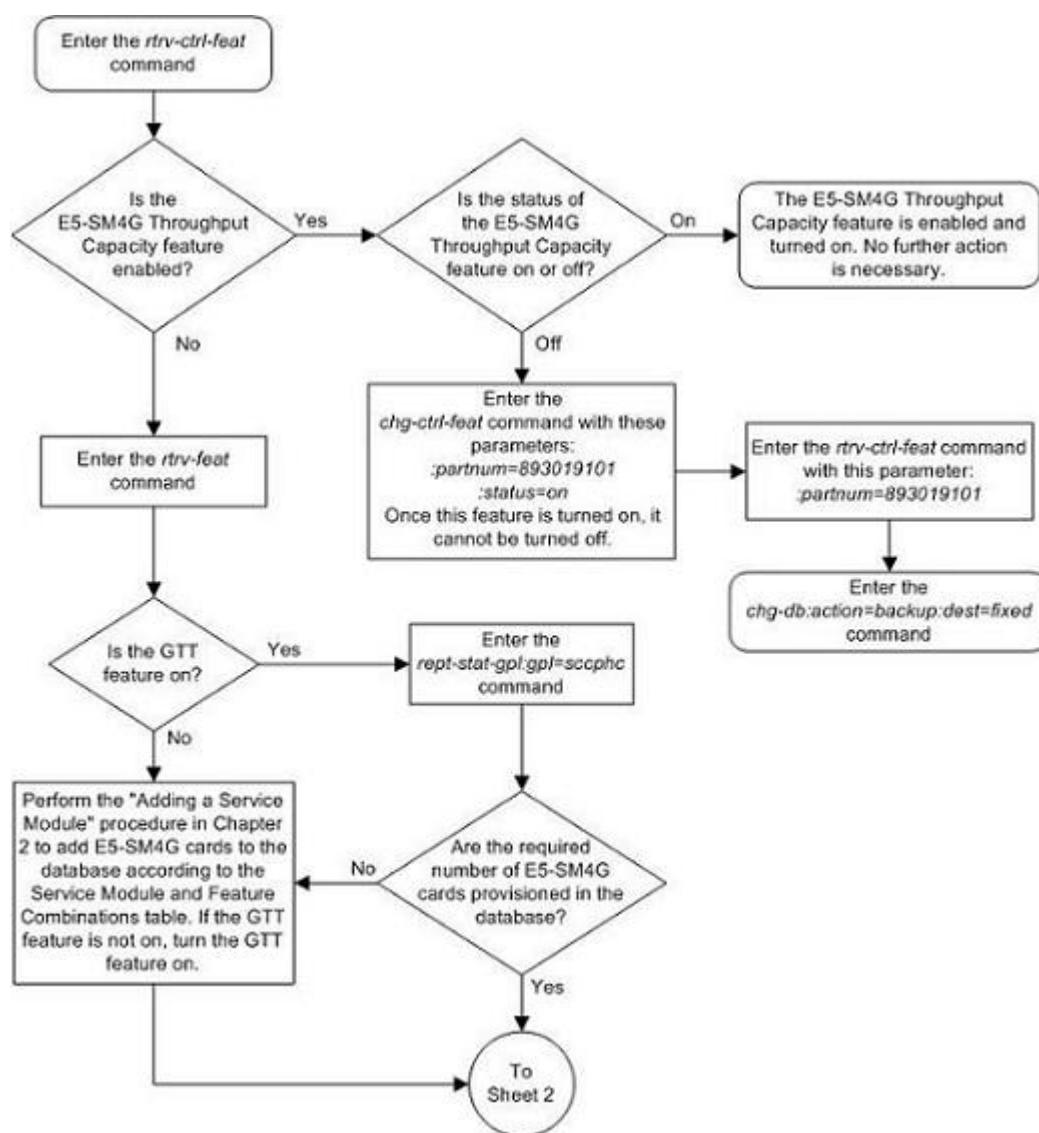
The following features have expired temporary keys:

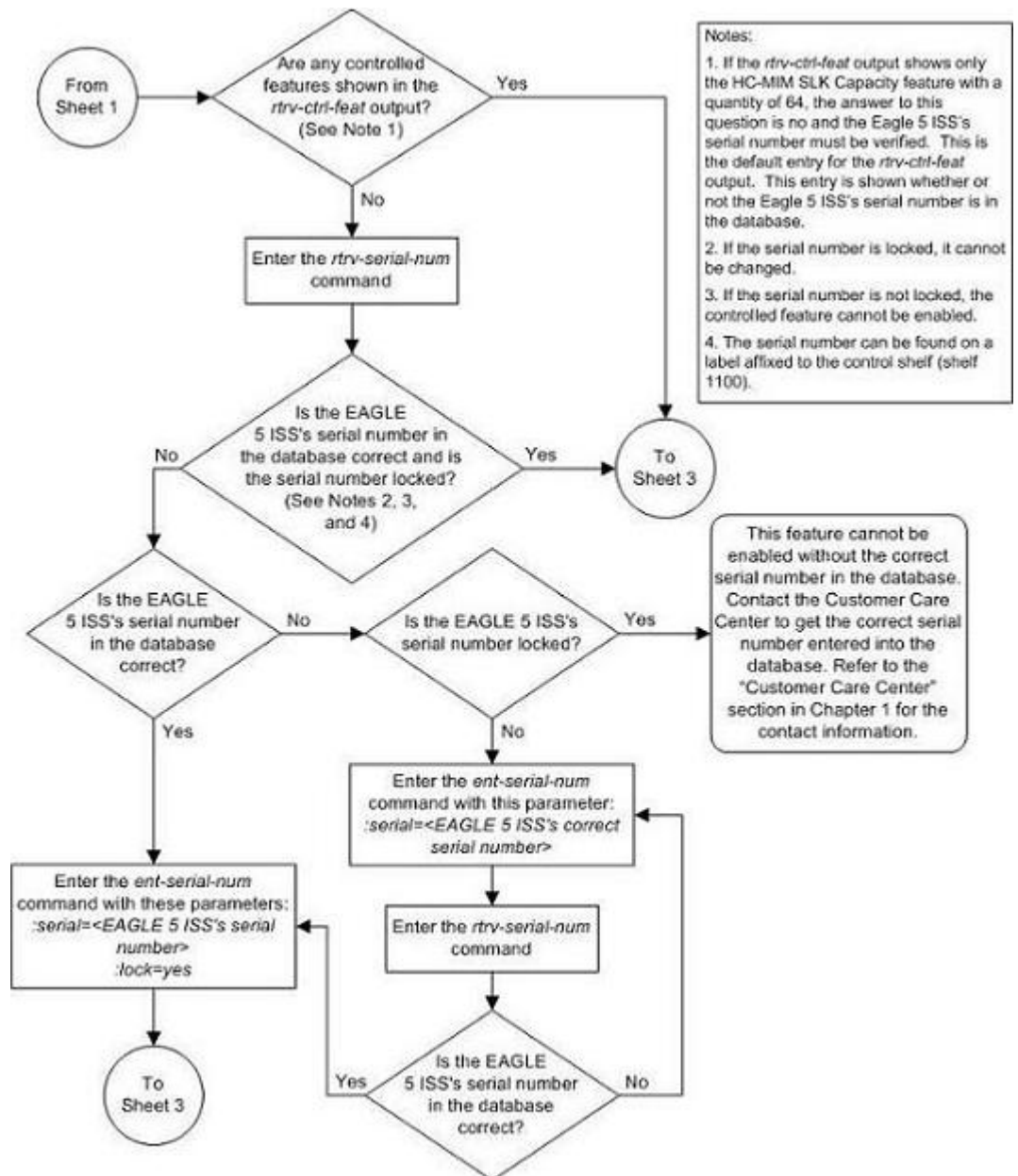
Feature Name	Partnum
Zero entries found.	

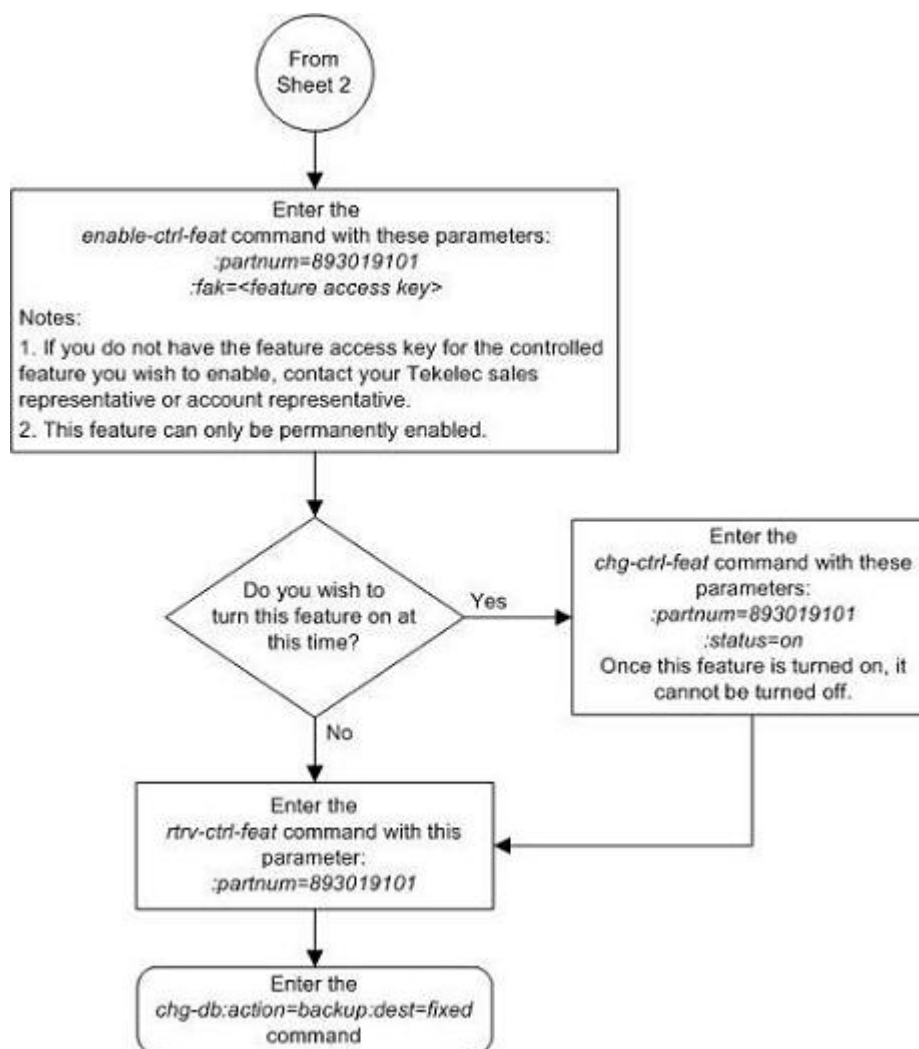
11. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 77: Activating the E5-SM4G Throughput Capacity Feature







Activating the Advanced GT Modification Feature

This procedure is used to enable and turn on the Advanced GT Modification feature using the feature's part number and a feature access key.

The feature access key for the Advanced GT Modification feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Tekelec-issued part number of the Advanced GT Modification feature. There are three part numbers associated with the Advanced GT Modification feature.

- 893021801 - AMGTT - provides GT modification to both the called party address and the calling party address of SCCP messages. This part number can be specified only if no Advanced GT Modification feature is currently enabled.
- 893021802 - AMGTT CdPA Only - provides GT modification to the called party address of SCCP messages only. This feature and its part number is shown in the `rtrv-ctrl-feat` output only if the MGTT feature from previous releases was turned on when the Eagle 5 ISS was upgraded to the release containing the Advanced GT Modification feature. This part number cannot be specified with the `enable-ctrl-feat` command.
- 893021803 - AMGTT CgPA Upgrade - provides GT modification to the calling party address and called party address of SCCP messages. This part number can be specified only if the AMGTT CdPA Only feature (part number 893021802) is enabled.

For more information on the Advanced GT Modification feature, refer to the [Advanced GT Modification Feature](#) on page 26 section.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`:serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`:lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

These features cannot be temporarily enabled (with the temporary feature access key).

Once any of these features are enabled, they are also activated. The `chg-ctrl-feat` command cannot be used to turn these features on. Once any of these features are enabled, they cannot be turned off.

The status of the Advanced GT Modification features is shown in the `rtrv-ctrl-feat` command output.

Before the Advanced GT Modification feature can be enabled, the GTT feature must be turned on. The state of the GTT feature can be verified using the `rtrv-feat` command.

1. Display the status of the Advanced GT Modification feature by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
The following features have been permanently enabled:

Feature Name           Partnum    Status    Quantity
Command Class Management 893005801  on       ----
LNP Short Message Service 893006601  on       ----
Intermed GTT Load Sharing 893006901  on       ----
HC-MIM SLK Capacity      893012707  on        64
```

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the AMGTT or AMGTT CgPA Upgrade feature is enabled, no further action is necessary. This procedure does not need to be performed.

If the AMGTT CdPA Only feature is enabled, and you do not wish to enable the AMGTT CgPA Upgrade feature, no further action is necessary.

If the AMGTT CdPA Only feature is enabled, and you wish to enable the AMGTT CgPA Upgrade feature, continue the procedure with [Step 8](#) on page 950.

If none of the Advanced GT Modification features are enabled, continue the procedure with [Step 2](#) on page 948.

2. Verify that the GTT feature is on, by entering the `rtrv-feat` command. If the GTT feature is on, the GTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the GTT feature is not on, perform the [Adding a Service Module](#) on page 94 procedure to turn the GTT feature on and add the appropriate service modules to the EAGLE 5 ISS. After the GTT feature is turned on and the service modules have been added, continue the procedure with [Step 4](#) on page 949.

If the GTT feature is on, continue the procedure with [Step 3](#) on page 948.

3. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command. The Advanced GT Modification feature requires that service modules are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC  LSET NAME      PORT SLC
1102   TSM        GLS
1113   GPSM        OAM
1114   TDM-A
1115   GPSM        OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0     SS7ANSI   sp2            A      0      sp1            B      0
1203   LIMDS0     SS7ANSI   sp3            A      0
1204   LIMDS0     SS7ANSI   sp3            A      1
1206   LIMDS0     SS7ANSI   nsp3           A      1      nsp4           B      1
1216   DCM        STPLAN
1308   LIMDS0     SS7ANSI   sp6            A      1      sp7            B      0
1314   LIMDS0     SS7ANSI   sp7            A      1      sp5            B      1
1317   DCM        STPLAN
```

There are two types of service modules, DSMs or E5-SM4Gs running the VSCCP application.

DSMs and E5-SM4Gs are shown by the entries DSM in the TYPE column and VSCCP in the APPL column.

If no service modules are shown in the `rtrv-card` output, perform the [Adding a Service Module](#) on page 94 procedure to add the appropriate service modules to the EAGLE 5 ISS. After the service modules have been added, continue the procedure with [Step 4](#) on page 949.

If service modules are in the EAGLE 5 ISS, continue the procedure with [Step 4](#) on page 949.

4. Display the serial number in the database with the `rtrv-serial-num` command.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 947 shows any controlled features, continue the procedure with [Step 8](#) on page 950. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 4](#) on page 949 through [Step 7](#) on page 950 must be performed.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
Command Completed
```

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

Note: If the serial number is correct and locked, continue the procedure with [Step 8](#) on page 950. If the serial number is correct but not locked, continue the procedure with [Step 7](#) on page 950. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

6. Verify that the serial number entered in [Step 5](#) on page 949 was entered correctly using the `rtrv-serial-num` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
Command Completed
```

If the serial number was not entered correctly, repeat [Step 5](#) on page 949 and [Step 6](#) on page 949 and re-enter the correct serial number.

- Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 4](#) on page 949, if the serial number shown in [Step 4](#) on page 949 is correct, or with the serial number shown in [Step 6](#) on page 949, if the serial number was changed in [Step 5](#) on page 949, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

- Enable the Advanced GT Modification feature with the `enable-ctrl-feat` command specifying the part number for the Advanced GT Modification feature and the feature access key.

If the AMGTT feature is being enabled, enter this command.

```
enable-ctrl-feat:partnum=893021801:fak=<AMGTT feature access key>
```

If the AMGTT CgPA Upgrade feature is being enabled, enter this command.

```
enable-ctrl-feat:partnum=893021803:fak=<AMGTT CgPA Upgrade feature
access key>
```

Note: Neither the AMGTT nor the AMGTT CgPA Upgrade feature can be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the AMGTT or the AMGTT CgPA Upgrade feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

- Verify the changes by entering the `rtrv-ctrl-feat` command with the part number used in [Step 8](#) on page 950.

If the AMGTT feature was enabled in [Step 8](#) on page 950, enter this command.

```
rtrv-ctrl-feat:partnum=893021801
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
The following features have been permanently enabled:

Feature Name      Partnum    Status    Quantity
AMGTT             893021801  on       ----

The following features have been temporarily enabled:

Feature Name      Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:
```



```
Feature Name          Partnum
Zero entries found.
```

If the AMGTT CgPA Upgrade feature was enabled in [Step 8](#) on page 950, enter this command.

```
rtrv-ctrl-feat:partnum=893021803
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-28 21:15:37 GMT EAGLE5 38.0.0
The following features have been permanently enabled:

Feature Name          Partnum      Status  Quantity
AMGTT CgPA Upgrade    893021803  on      ----

The following features have been temporarily enabled:

Feature Name          Partnum      Status  Quantity      Trial Period Left
Zero entries found.

The following features have expired temporary keys:

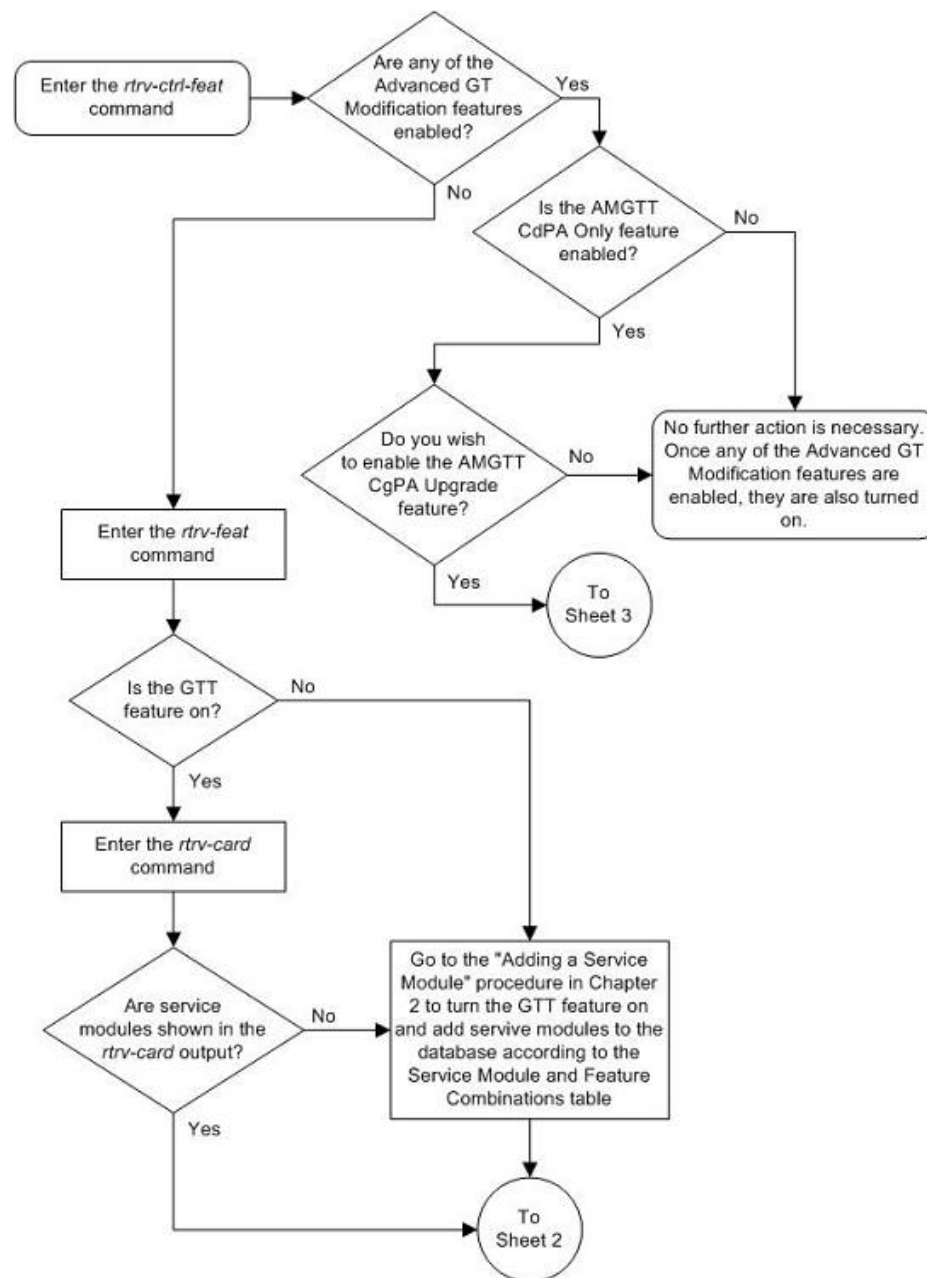
Feature Name          Partnum
Zero entries found.
```

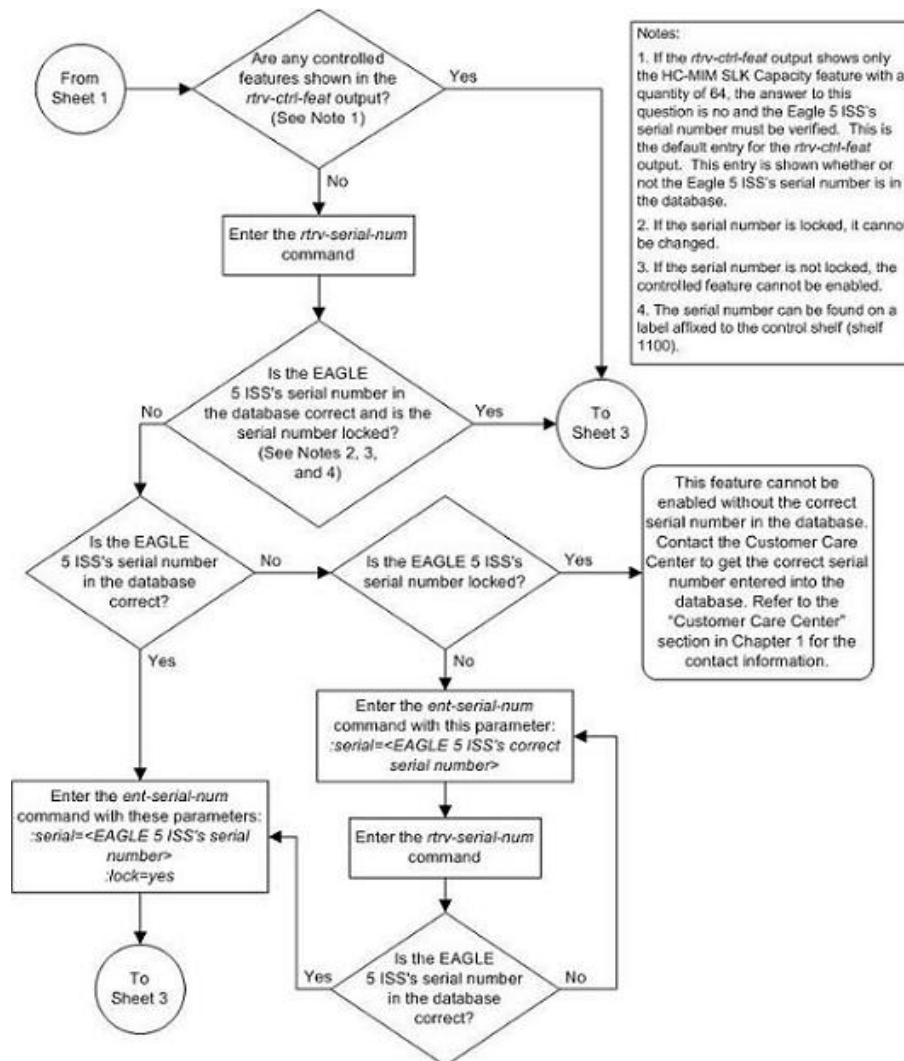
10. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

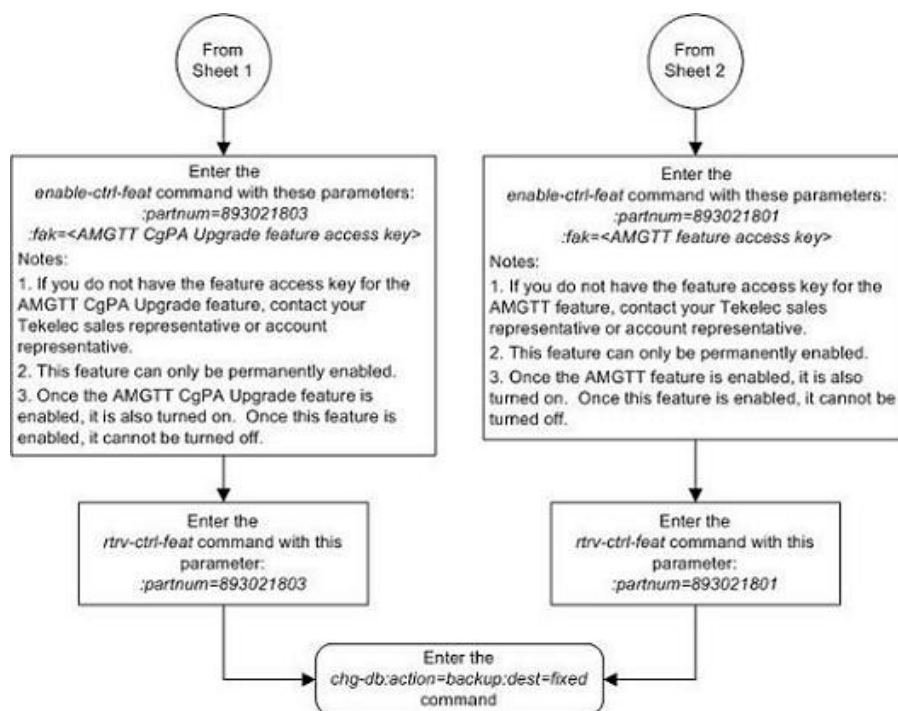
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 78: Activating the Advanced GT Modification Feature







Activating the GTT Load Sharing with Alternate Routing Indicator Feature

This procedure is used to enable and turn on the GTT Load Sharing with Alternate Routing Indicator feature using the feature's part number and a feature access key.

The feature access key for the GTT Load Sharing with Alternate Routing Indicator feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key generated by the feature access key generator. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Tekelec-issued part number of the GTT Load Sharing with Alternate Routing Indicator feature, 893027401.

To enable the GTT Load Sharing with Alternate Routing Indicator feature, the IGTTLS feature must be enabled and turned on, and the Flexible GTT Load Sharing feature must be enabled. Perform [Activating the IGTTLS feature](#) on page 845 to enable and turn on the IGTTLS feature. Perform [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database,

but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`:serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`:lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, provisioning for this feature can be performed, but the feature will not work until the feature is turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters.

`:partnum` – The Tekelec-issued part number of the GTT Load Sharing with Alternate Routing Indicator feature, 893027401.

`:status=on` – used to turn the GTT Load Sharing with Alternate Routing Indicator feature on.

Once the GTT Load Sharing with Alternate Routing Indicator feature has been turned on, it can be turned off. For more information on turning the GTT Load Sharing with Alternate Routing Indicator feature off, perform [Turning the GTT Load Sharing with Alternate Routing Indicator Feature Off](#) on page 963.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

When the GTT Load Sharing with Alternate Routing Indicator feature is turned on, loadsharing between MAP sets and MRN sets can be performed. This is done by allowing MRN sets to be provisioned in MAP sets, and MAP sets to be provisioned in MRN sets. When the search in the current set (MAP or MRN) is successful but all the destinations in that set are unavailable/prohibited, the extended search is performed in the other set (MRN or MAP) that is assigned to the current set. The extended search from the MAP set to the MRN set, or from the MRN set to the MAP set, is performed only once to prevent the endless searching of a loadsharing node.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	on	400000
XMAP Table Expansion	893007710	off	----
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

```
The following features have been temporarily enabled:
```

```
Feature Name      Partnum    Status  Quantity    Trial Period Left
Zero entries found.
```

The following features have expired temporary keys:

```
Feature Name      Partnum
Zero entries found.
```

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the GTT Load Sharing with Alternate Routing Indicator feature is enabled and but not turned on, continue the procedure with [Step 8](#) on page 958.

If the GTT Load Sharing with Alternate Routing Indicator feature is not enabled, continue the procedure by performing one of these steps.

- If the `rtrv-ctrl-feat` output shows the HC-MIMSLK Capacity feature with a quantity of 64 and other features, continue the procedure with [Step 6](#) on page 957.
 - If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, continue the procedure with [Step 2](#) on page 956.
2. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
System serial number = nt00001231
```

System serial number is not locked.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with [Step 6](#) on page 957. If the serial number is correct but not locked, continue the procedure with [Step 5](#) on page 957. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

3. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

4. Verify that the serial number entered into [Step 3](#) on page 956 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
System serial number = nt00001231
```

```
System serial number is not locked.  
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0  
Command Completed
```

If the serial number was not entered correctly, repeat [Step 3](#) on page 956 and [Step 4](#) on page 956 and re-enter the correct serial number.

5. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 2](#) on page 956, if the serial number shown in [Step 2](#) on page 956 is correct, or with the serial number shown in [Step 4](#) on page 956, if the serial number was changed in [Step 3](#) on page 956, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. To enable the GTT Load Sharing with Alternate Routing Indicator feature, the IGTTLS feature must be enabled and turned on, and the Flexible GTT Load Sharing feature must be enabled.

If the `rtrv-ctrl-feat` output in [Step 1](#) on page 955 that the IGTTLS is enabled and turned on (shown by the entry `Intermed GTT Load Sharing`), and the Flexible GTT Load Sharing feature is enabled (shown by the entry `Flexible GTT Load Sharing`), continue the procedure with [Step 7](#) on page 957.

If the IGTTLS feature is not enabled and turned on, perform [Activating the IGTTLS feature](#) on page 845 to enable and turn on the IGTTLS feature.

If the Flexible GTT Load Sharing feature is not enabled, perform the [Activating the Flexible GTT Load Sharing Feature](#) on page 881 to enable the Flexible GTT Load Sharing feature.

After the IGTTLS has been enabled and turned on, and the Flexible GTT Load Sharing feature has been enabled, continue the procedure with [Step 7](#) on page 957.

7. Enable the GTT Load Sharing with Alternate Routing Indicator feature with the `enable-ctrl-feat` command specifying the part number for the GTT Load Sharing with Alternate Routing Indicator feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893027401:fak=<GTT Load Sharing with Alternate  
Routing Indicator feature access key>
```

The GTT Load Sharing with Alternate Routing Indicator feature cannot be enabled with a temporary feature access key.

The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the GTT Load Sharing with Alternate Routing Indicator feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

**CAUTION**

CAUTION: Once the GTT Load Sharing with Alternate Routing Indicator feature is enabled, provisioning for GTT Load Sharing with Alternate Routing Indicator feature can be performed, but load sharing using alternate routing indicators will not be performed, until the GTT Load Sharing with Alternate Routing Indicator is turned on in [Step 8](#) on page 958.

8. Turn the GTT Load Sharing with Alternate Routing Indicator feature on with the `chg-ctrl-feat` command specifying the part number for the GTT Load Sharing with Alternate Routing Indicator feature and the `status=on` parameter. Enter this command.

```
chg-ctrl-feat:partnum=893027401:status=on
```

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

9. Verify the changes by entering the `rtrv-ctrl-feat` command with the GTT Load Sharing with Alternate Routing Indicator feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893027401
```

The following is an example of the possible output.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
GTT LS ARI            893027401  on        ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

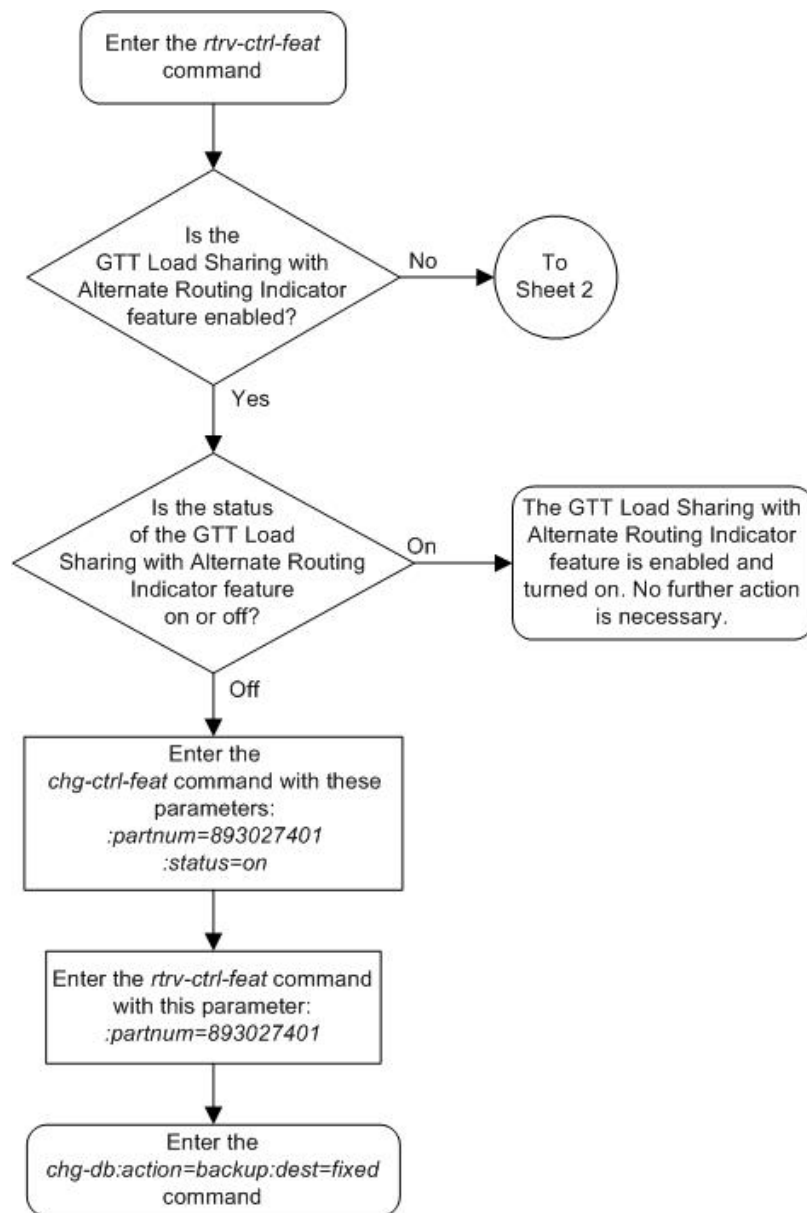
The following features have expired temporary keys:

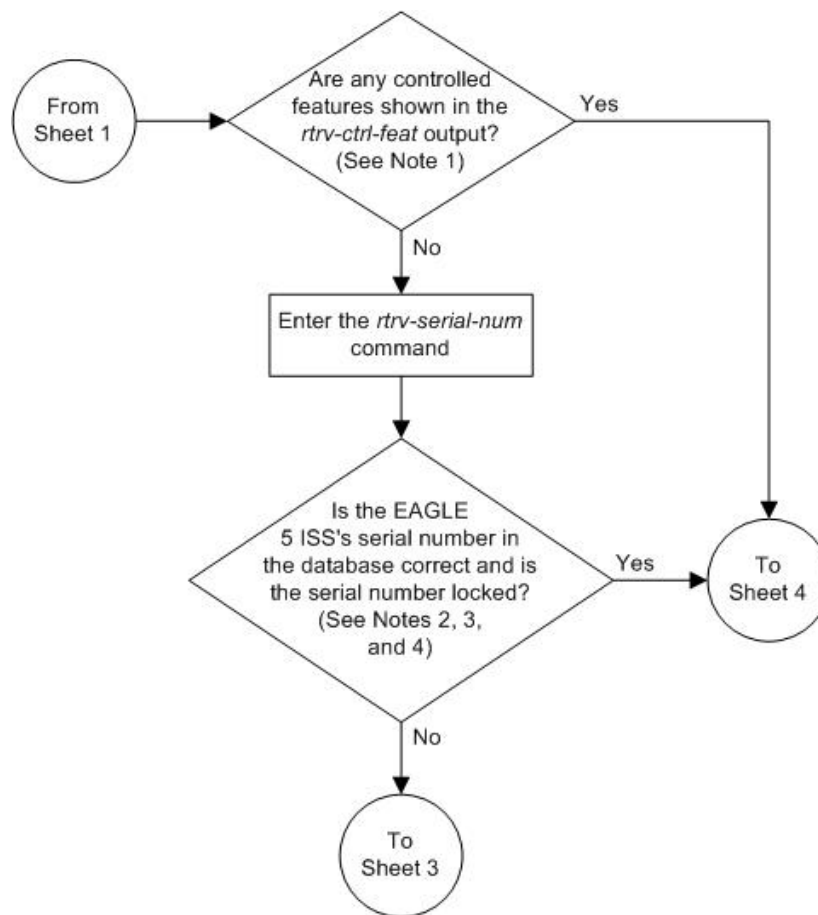
Feature Name          Partnum
Zero entries found.
```

10. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

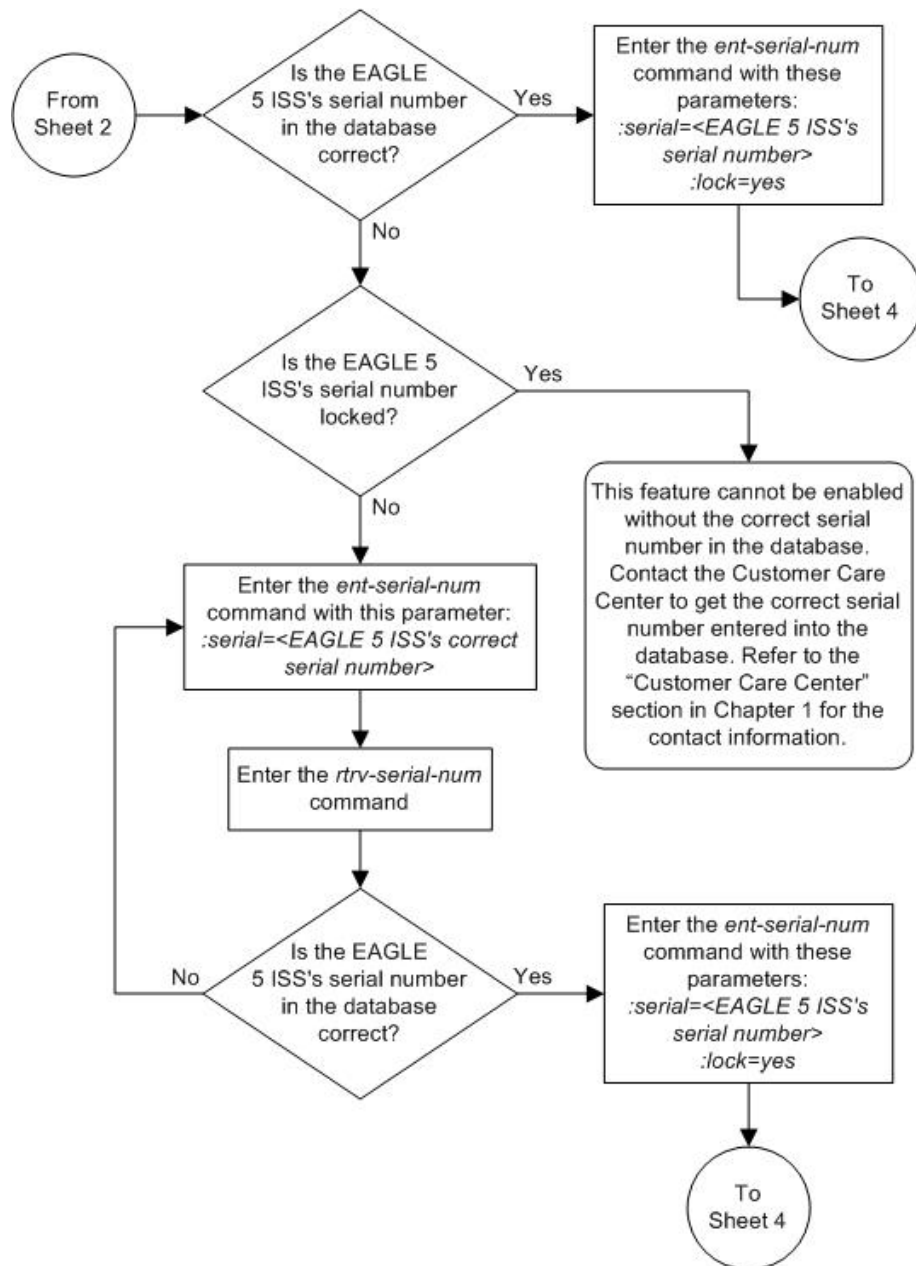
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

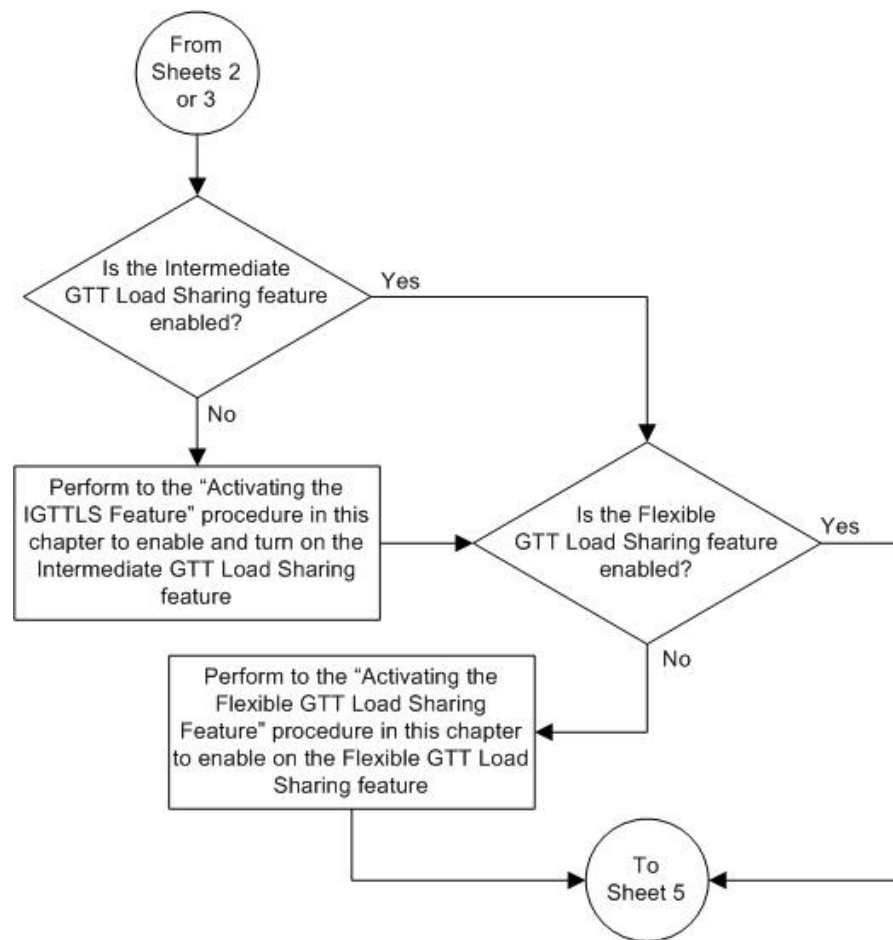
Figure 79: Activating the GTT Load Sharing with Alternate Routing Indicator Feature

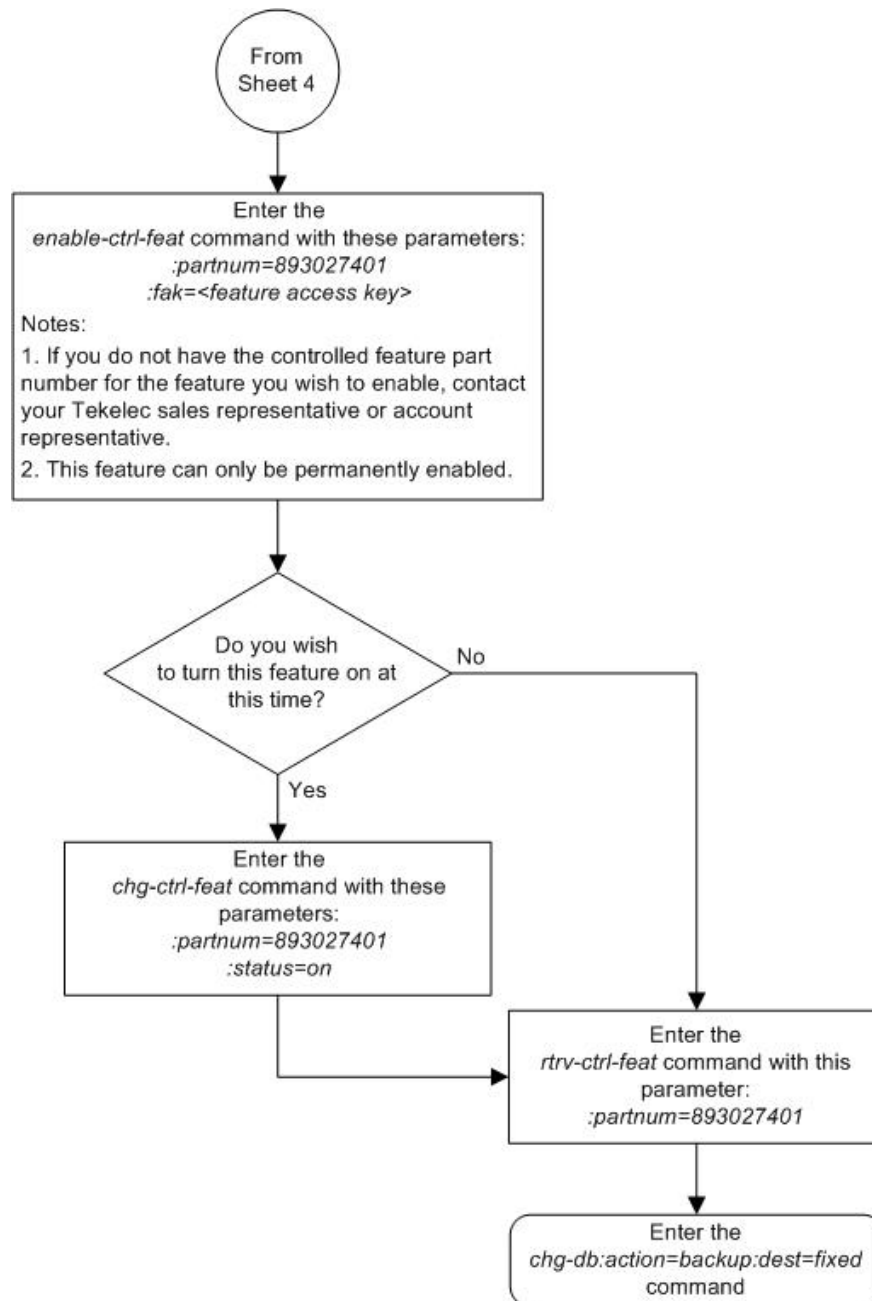


**Notes:**

1. If the *rtrv-ctrl-feat* output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the Eagle 5 ISS's serial number must be verified. This is the default entry for the *rtrv-ctrl-feat* output. This entry is shown whether or not the Eagle 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).







Turning the GTT Load Sharing with Alternate Routing Indicator Feature Off

This procedure is used to turn off the GTT Load Sharing with Alternate Routing Indicator feature, using the `chg-ctrl-feat` command.

The `chg-ctrl-feat` command uses the following parameters:

:partnum - The part number of the GTT Load Sharing with Alternate Routing Indicator feature, 893027401.

:status=off - used to turn off the GTT Load Sharing with Alternate Routing Indicator feature.

The status of the GTT Load Sharing with Alternate Routing Indicator feature must be on and is shown with the `rtrv-ctrl-feat` command.

**CAUTION**

CAUTION: If the GTT Load Sharing with Alternate Routing Indicator feature is turned off, provisioning for the GTT Load Sharing with Alternate Routing Indicator feature can be performed, but load sharing using alternate routing indicators will not be performed.

1. Display the status of the GTT Load Sharing with Alternate Routing Indicator feature by entering the `rtrv-ctrl-feat:partnum=893027401` command.

The following is an example of the possible output.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
GTT LS ARI            893027401  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the status of the GTT Load Sharing with Alternate Routing Indicator feature is off, or if the GTT Load Sharing with Alternate Routing Indicator feature is not enabled, this procedure cannot be performed.

2. Turn off the GTT Load Sharing with Alternate Routing Indicator feature by entering the `chg-ctrl-feat` command with the `status=off` parameter.

For example, enter this command.

```
chg-ctrl-feat:partnum=893027401:status=off
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 09-02-28 21:16:37 GMT EAGLE5 40.1.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the GTT Load Sharing with Alternate Routing Indicator feature has been turned off by using the `rtrv-ctrl-feat:partnum=893027401` command. The following is an example of the possible output.

```
rlghncxa03w 09-02-28 21:15:37 GMT EAGLE5 40.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
GTT LS ARI            893027401  off       ----
```

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

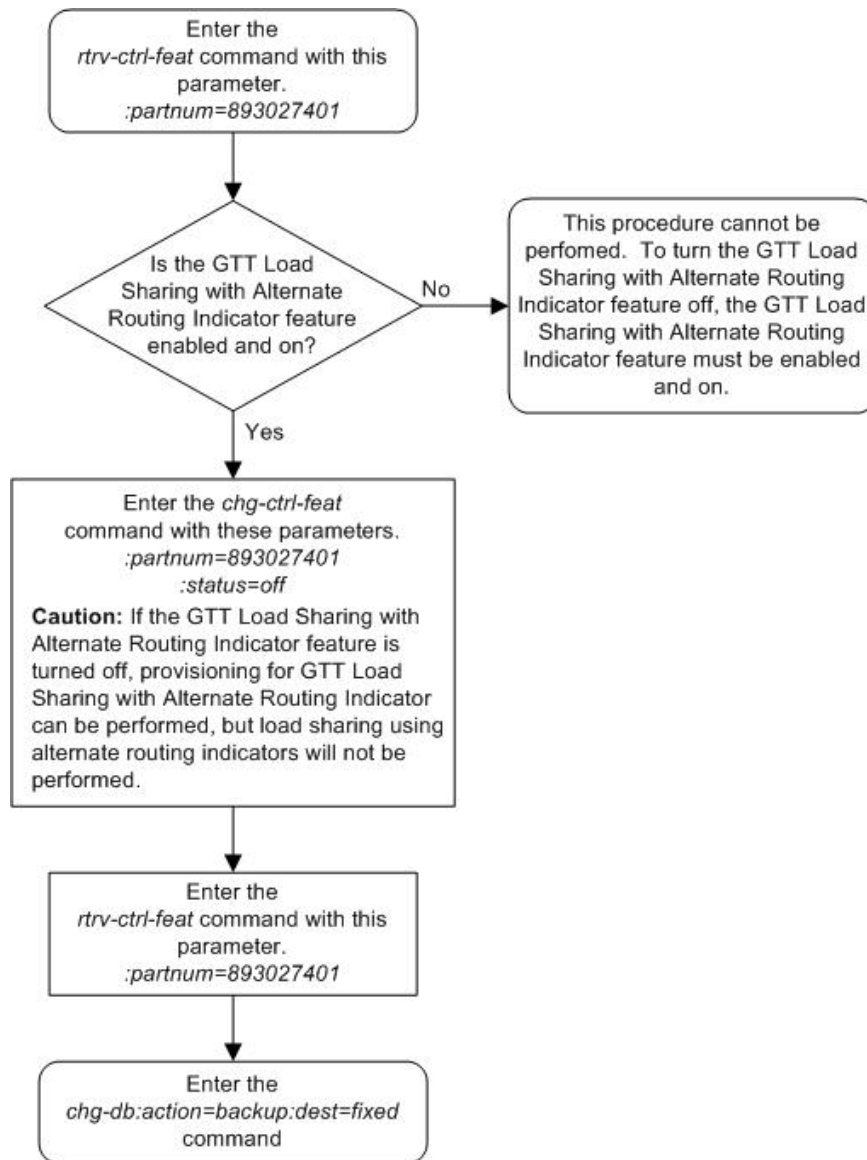
Feature Name	Partnum
Zero entries found.	

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 80: Turning the GTT Load Sharing with Alternate Routing Indicator Feature Off



Activating the Support for 16 GTT Lengths in VGTT Feature

This procedure is used to enable and turn on the Support for 16 GTT Lengths in VGTT feature using the feature's part number and a feature access key.

This feature allows the translation type or GTT set to contain 11 to 16 global title addresses of different lengths.

The feature access key for the Support for 16 GTT Lengths in VGTT feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The *enable-ctrl-feat* command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

: fak – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

: partnum – The Tekelec-issued part number of the Support for 16 GTT Lengths in VGTT feature, 893024801.

The enable-ctrl-feat command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the rtrv-serial-num command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the ent-serial-num command. The ent-serial-num command uses these parameters.

: serial – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

: lock – Specifies whether or not the serial number is locked. This parameter has only one value, yes, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the ent-serial-num command must be entered twice, once to add the correct serial number to the database with the serial parameter, then again with the serial and the lock=yes parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature has been enabled, the feature must be turned on with the chg-ctrl-feat command. The chg-ctrl-feat command uses these parameters:

: partnum – The Tekelec-issued part number of the Support for 16 GTT Lengths in VGTT feature, 893024801.

: status=on – used to turn the Support for 16 GTT Lengths in VGTT feature on.

Once the Support for 16 GTT Lengths in VGTT feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the rtrv-ctrl-feat command.

Before the Support for 16 GTT Lengths in VGTT feature can be enabled, the VGTT feature must be turned on. The state of the VGTT feature can be verified using the rtrv-feat command.

1. Display the features that are enabled by entering the rtrv-ctrl-feat command. The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status   Quantity
Command Class Management 893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
HC-MIM SLK Capacity      893012707  on      64

The following features have been temporarily enabled:
Feature Name          Partnum    Status   Quantity   Trial Period Left
Zero entries found.

The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the Support for 16 GTT Lengths in VGTT feature is enabled and turned on, shown by the entry VGTT with 16 GTT lengths in the `rtrv-ctrl-feat` output, no further action is necessary. This procedure does not need to be performed.

If the Support for 16 GTT Lengths in VGTT feature is enabled and but not turned on, continue the procedure with [Step 9](#) on page 970.

If the Support for 16 GTT Lengths in VGTT feature is not enabled, continue the procedure with [Step 2](#) on page 968.

2. Verify that the VGTT feature is on, by entering the `rtrv-feat` command. If the VGTT feature is on, the VGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the VGTT feature is on, continue the procedure with [Step 4](#) on page 968.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 967 shows any controlled features, continue the procedure with [Step 8](#) on page 969. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 4](#) on page 968 through [Step 7](#) on page 969 must be performed.

If the VGTT feature is off, continue the procedure with [Step 3](#) on page 968.

3. Turn the VGTT feature on by entering this command.

```
chg-feat:vgtt=on
```

If the GTT feature is not on, turn the GTT feature on by specifying the `gtt=on` parameter with the `vgtt=on` parameter.

Note: Once the VGTT feature is turned on with the `chg-feat` command, it cannot be turned off.

The VGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` has successfully completed, this message should appear.

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0
CHG-FEAT: MASP A - COMPLTD
```

If the `rtrv-ctrl-feat` output in [Step 1](#) on page 967 shows any controlled features, continue the procedure with [Step 8](#) on page 969. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 4](#) on page 968 through [Step 7](#) on page 969 must be performed.

4. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
System serial number = nt00001231

System serial number is not locked.
```

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with [Step 8](#) on page 969. If the serial number is correct but not locked, continue the procedure with [Step 7](#) on page 969. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. Verify that the serial number entered into [Step 5](#) on page 969 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
Command Completed
```

If the serial number was not entered correctly, repeat [Step 5](#) on page 969 and [Step 6](#) on page 969 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 4](#) on page 968, if the serial number shown in [Step 4](#) on page 968 is correct, or with the serial number shown in [Step 6](#) on page 969, if the serial number was changed in [Step 5](#) on page 969, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

8. Enable the Support for 16 GTT Lengths in VGTT feature with the `enable-ctrl-feat` command specifying the part number for the Support for 16 GTT Lengths in VGTT feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893024801:fak=<Support for 16 GTT Lengths in
VGTT feature access key>
```

Note: The Support for 16 GTT Lengths in VGTT feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the fak parameter) are provided by Tekelec. If you do not have the feature access key for the Support for 16 GTT Lengths in VGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the enable-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

If you wish to turn the Support for 16 GTT Lengths in VGTT feature on at this time, continue the procedure with [Step 9](#) on page 970.

If you do not wish to turn the Support for 16 GTT Lengths in VGTT feature on at this time, continue the procedure with [Step 10](#) on page 970.



CAUTION

CAUTION: If the Support for 16 GTT Lengths in VGTT feature is not turned on, provisioning for VGTT with 16 GTT Lengths cannot be performed.

9. Turn the Support for 16 GTT Lengths in VGTT feature on with the chg-ctrl-feat command specifying the part number for the Support for 16 GTT Lengths in VGTT feature and the status=on parameter.

Enter this command.

```
chg-ctrl-feat:partnum=893024801:status=on
```

Note: Once the Support for 16 GTT Lengths in VGTT feature is turned on, it cannot be turned off.

When the chg-ctrl-feat command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the rtrv-ctrl-feat command with the Support for 16 GTT Lengths in VGTT feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893024801
```

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
VGTT with 16 GTT lengths	893024801	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

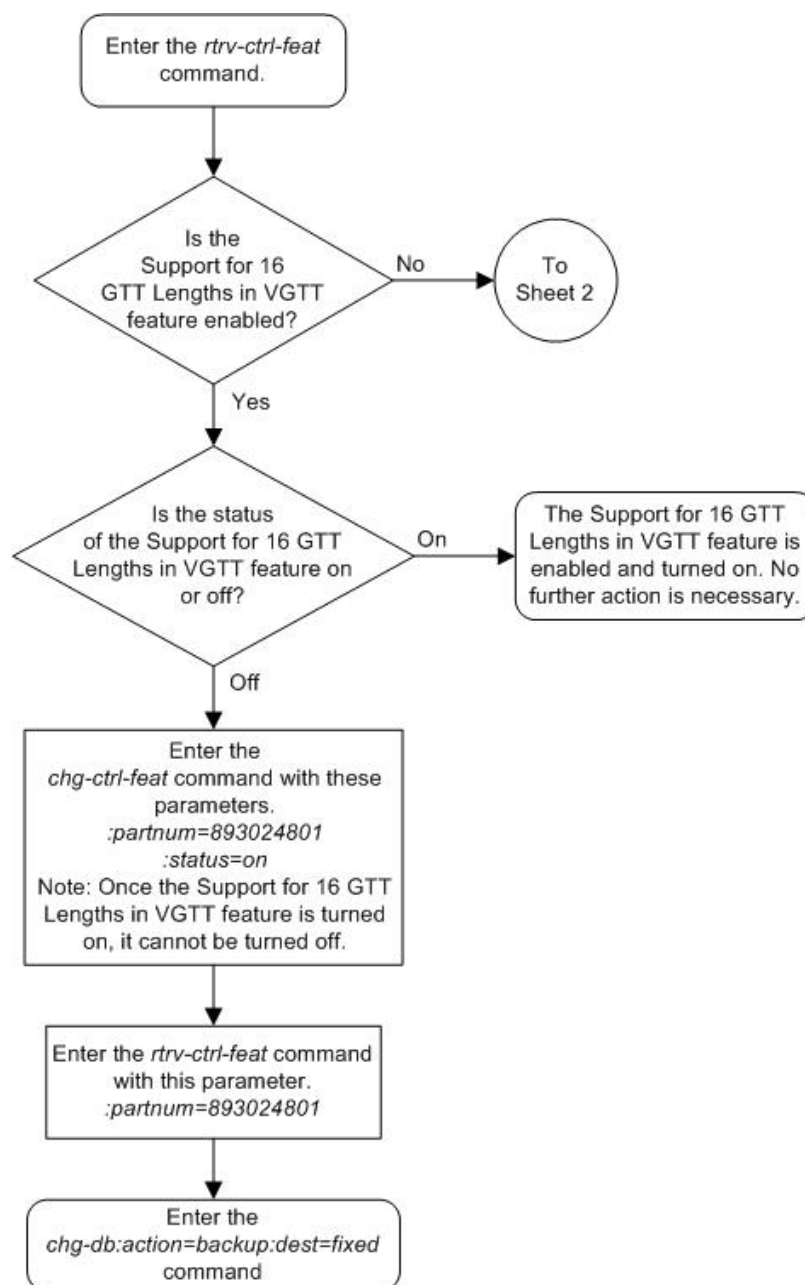
The following features have expired temporary keys:

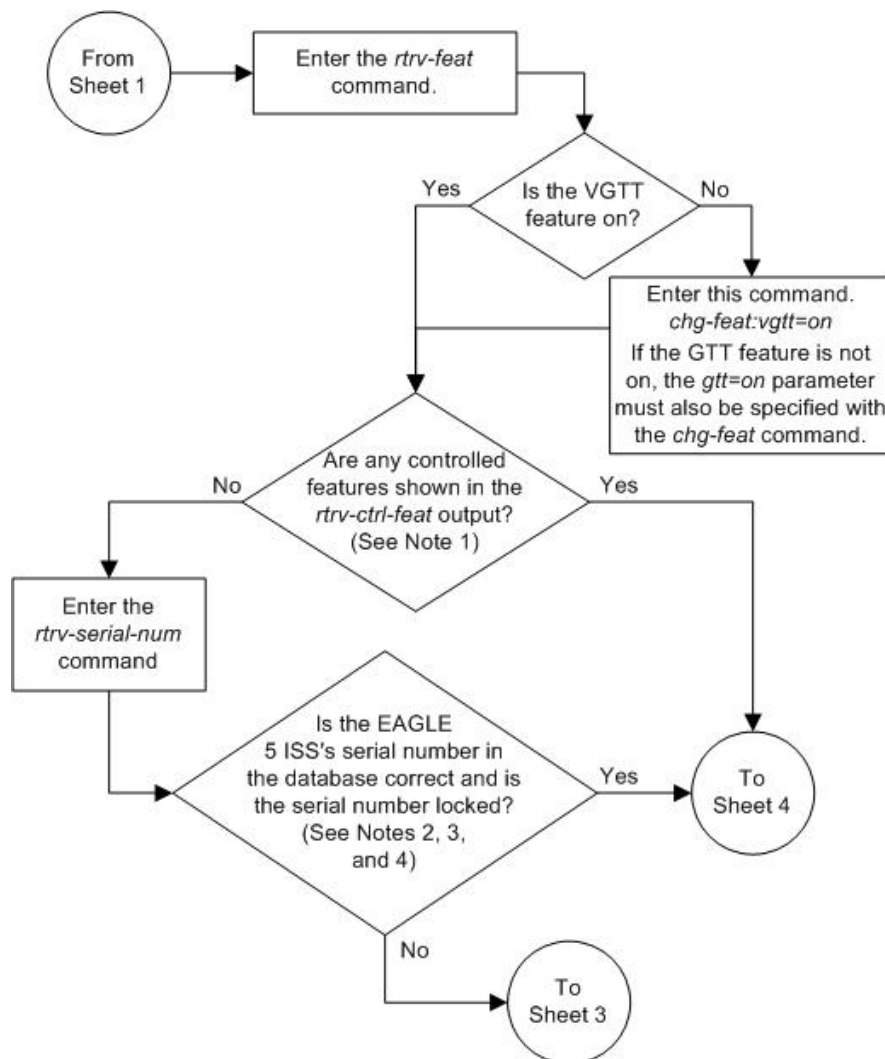
Feature Name	Partnum
Zero entries found.	

11. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

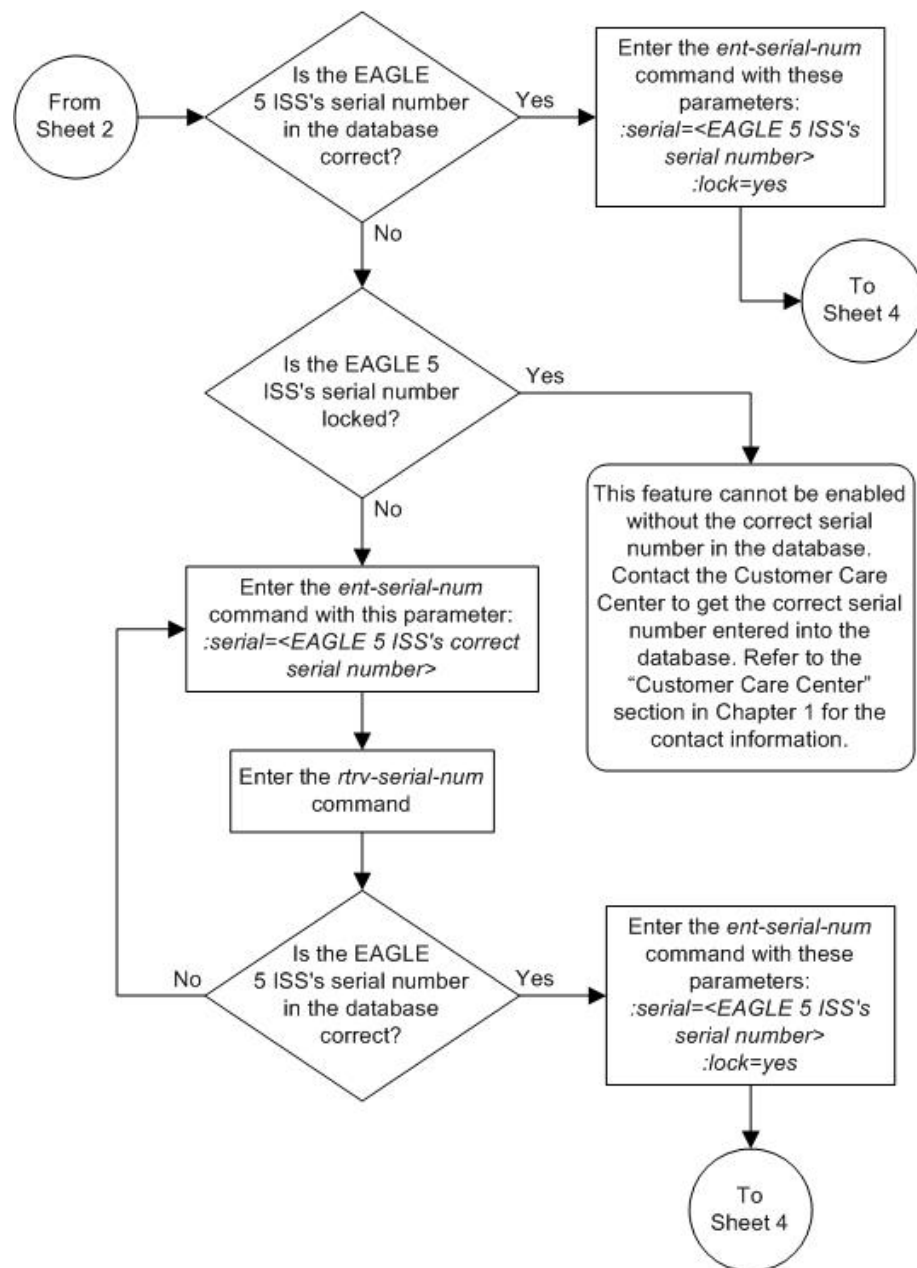
Figure 81: Activating the Support for 16 GTT Lengths in VGTT feature

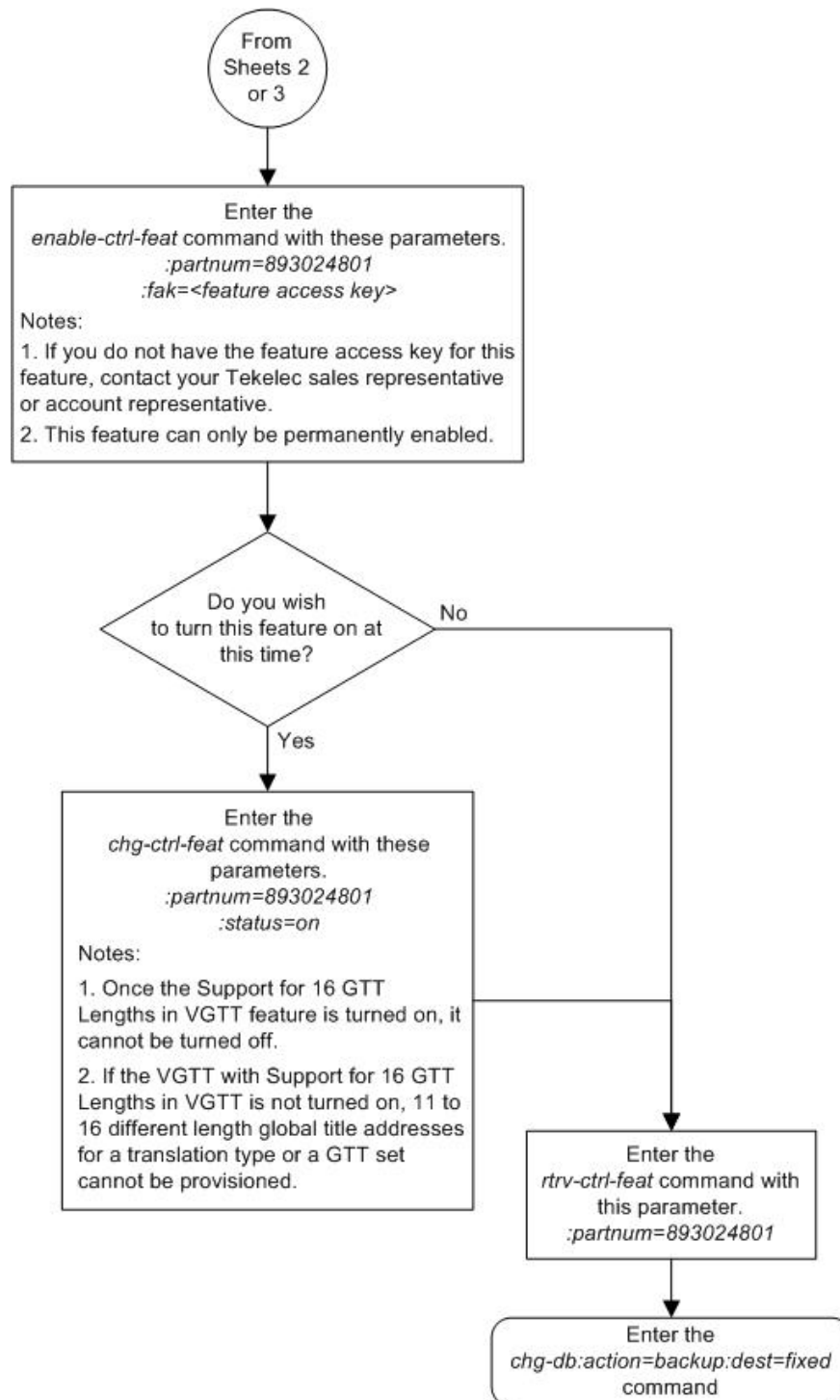




Notes:

1. If the *rtv-ctrl-feat* output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the Eagle 5 ISS's serial number must be verified. This is the default entry for the *rtv-ctrl-feat* output. This entry is shown whether or not the Eagle 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).





Activating the Flexible Linkset Optional Based Routing Feature

This procedure is used to enable and turn on the Flexible Linkset Optional Based Routing feature using the feature's part number and a feature access key.

The feature access key for the Flexible Linkset Optional Based Routing feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Tekelec-issued part number of the Flexible Linkset Optional Based Routing feature, 893027701.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`:serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`:lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature has been enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number of the Flexible Linkset Optional Based Routing feature, 893027701.

`:status=on` – used to turn the Flexible Linkset Optional Based Routing feature on.

Once the Flexible Linkset Optional Based Routing feature has been turned on, it cannot be turned off.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

Before the Flexible Linkset Optional Based Routing feature can be enabled, the EGT feature must be turned on. The state of the EGT feature can be verified using the `rtrv-feat` command.

1. Display the features that are enabled by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
Command Class Management 893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
HC-MIM SLK Capacity      893012707  on      64

The following features have been temporarily enabled:
Feature Name          Partnum    Status  Quantity  Trial Period Left
Zero entries found.

The following features have expired temporary keys:
Feature Name          Partnum
Zero entries found.
```

If the Flexible Linkset Optional Based Routing feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the Flexible Linkset Optional Based Routing feature is enabled and but not turned on, continue the procedure with [Step 9](#) on page 979.

If the Flexible Linkset Optional Based Routing feature is not enabled, continue the procedure with [Step 2](#) on page 977.

2. Verify that the EGTT feature is on, by entering the `rtrv-feat` command. If the EGTT feature is on, the EGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the EGTT feature is on, shown by the entry `EGTT = on`, continue the procedure with [Step 4](#) on page 978.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 977 shows any controlled features, continue the procedure with [Step 8](#) on page 979. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 4](#) on page 978 through [Step 7](#) on page 978 must be performed.

If the EGTT feature is off, continue the procedure with [Step 3](#) on page 977.

3. Turn the enhanced global title translation feature on by entering this command.

```
chg-feat:egtt=on
```

If the GTT feature is not on, turn the GTT feature on by specifying the `gtt=on` parameter with the `egtt=on` parameter.

Note: Once the Enhanced Global Title Translation (EGTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The EGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` has successfully completed, this message should appear.

```
rlghncxa03w 09-05-25 09:57:41 GMT EAGLE5 41.0.0  
CHG-FEAT: MASP A - COMPLTD
```

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 977 shows any controlled features, continue the procedure with [Step 8](#) on page 979. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 4](#) on page 978 through [Step 7](#) on page 978 must be performed.

4. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0  
System serial number = nt00001231  
  
System serial number is not locked.  
  
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0  
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with [Step 8](#) on page 979. If the serial number is correct but not locked, continue the procedure with [Step 7](#) on page 978. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0  
ENT-SERIAL-NUM: MASP A - COMPLTD
```

6. Verify that the serial number entered into [Step 5](#) on page 978 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0  
System serial number = nt00001231  
  
System serial number is not locked.  
  
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0  
Command Completed
```

If the serial number was not entered correctly, repeat [Step 5](#) on page 978 and [Step 6](#) on page 978 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 4](#) on page 978, if the serial number shown in [Step 4](#) on page 978 is

correct, or with the serial number shown in [Step 6](#) on page 978, if the serial number was changed in [Step 5](#) on page 978, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

8. Enable the Flexible Linkset Optional Based Routing feature with the `enable-ctrl-feat` command specifying the part number for the Flexible Linkset Optional Based Routing feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893027701:fak=<Flexible Linkset Optional
Based Routing feature access key>
```

Note: The Flexible Linkset Optional Based Routing feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the Flexible Linkset Optional Based Routing feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

If you wish to turn the Flexible Linkset Optional Based Routing feature on at this time, continue the procedure with [Step 9](#) on page 979.

If you do not wish to turn the Flexible Linkset Optional Based Routing feature on at this time, continue the procedure with [Step 10](#) on page 979.



CAUTION

CAUTION: If the Flexible Linkset Optional Based Routing feature is not turned on, provisioning for Flexible Linkset Optional Based Routing cannot be performed.

9. Turn the Flexible Linkset Optional Based Routing feature on with the `chg-ctrl-feat` command specifying the part number for the Flexible Linkset Optional Based Routing feature and the `status=on` parameter.

Enter this command.

```
chg-ctrl-feat:partnum=893027701:status=on
```

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the `rtrv-ctrl-feat` command with the Flexible Linkset Optional Based Routing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893027701
```

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
Flex Lset Optnl Based Rtg 893027701 on      ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status  Quantity    Trial Period Left
Zero entries found.

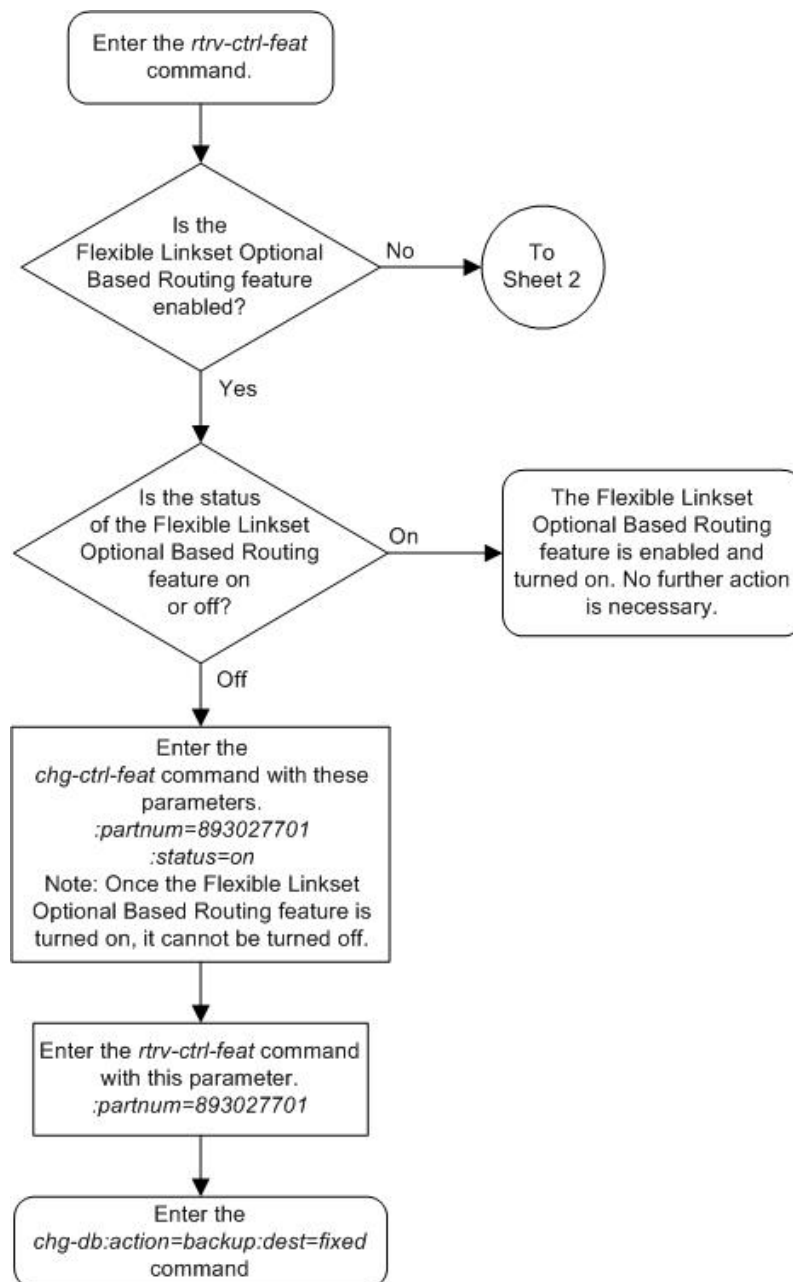
The following features have expired temporary keys:

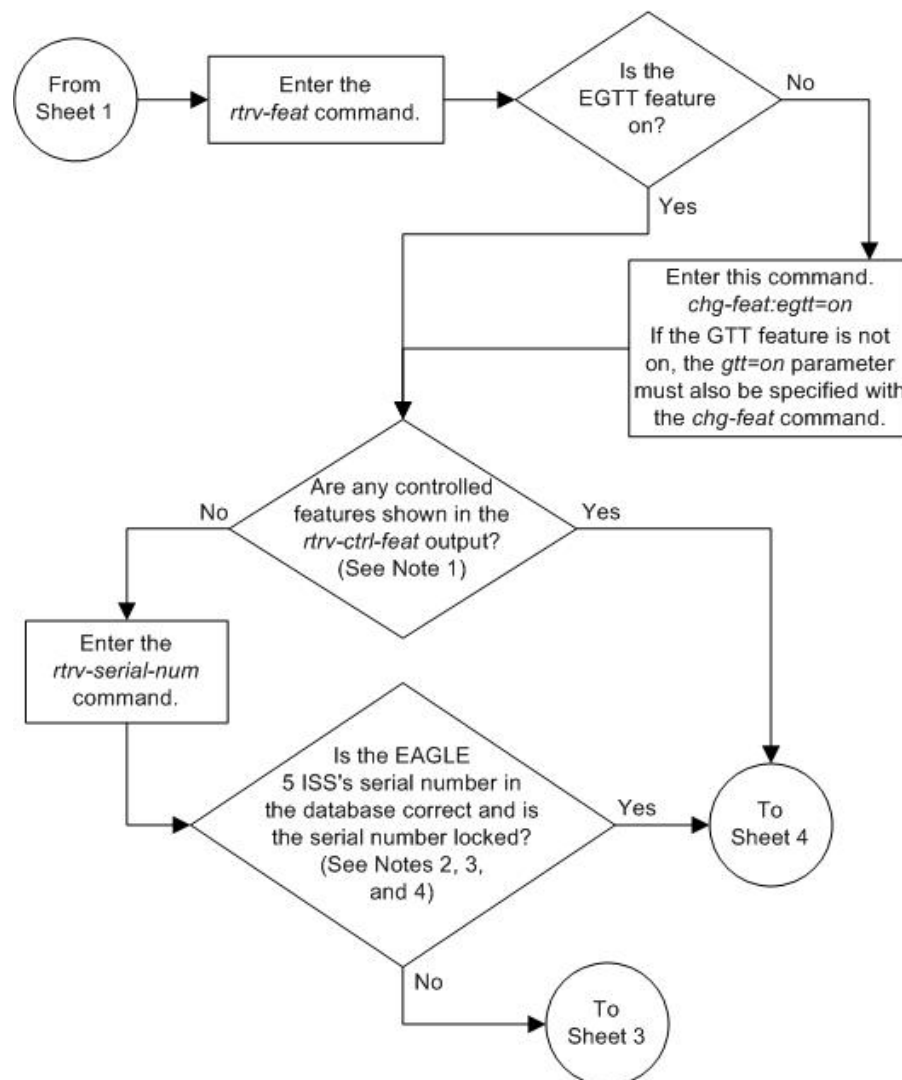
Feature Name          Partnum
Zero entries found.
```

11. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

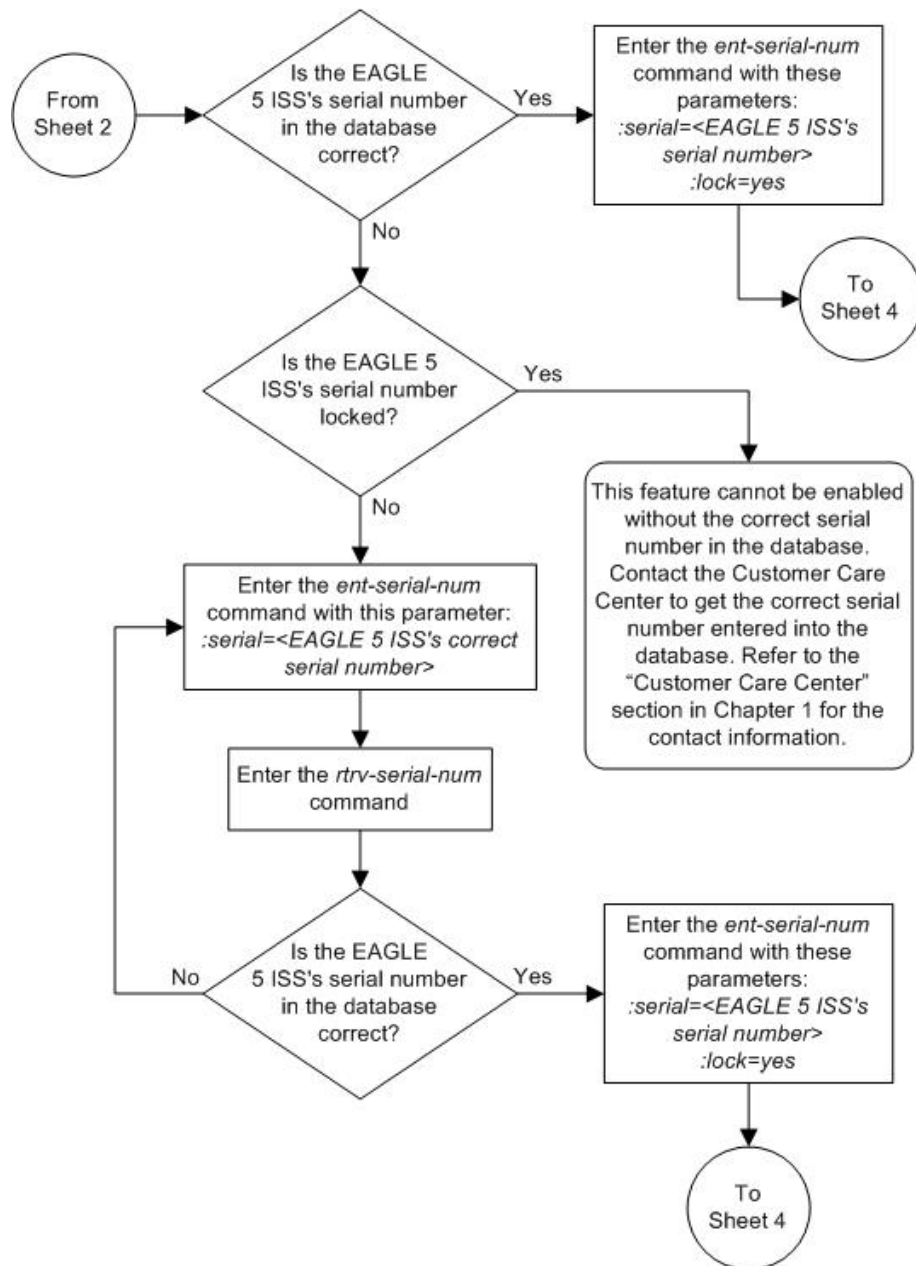
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

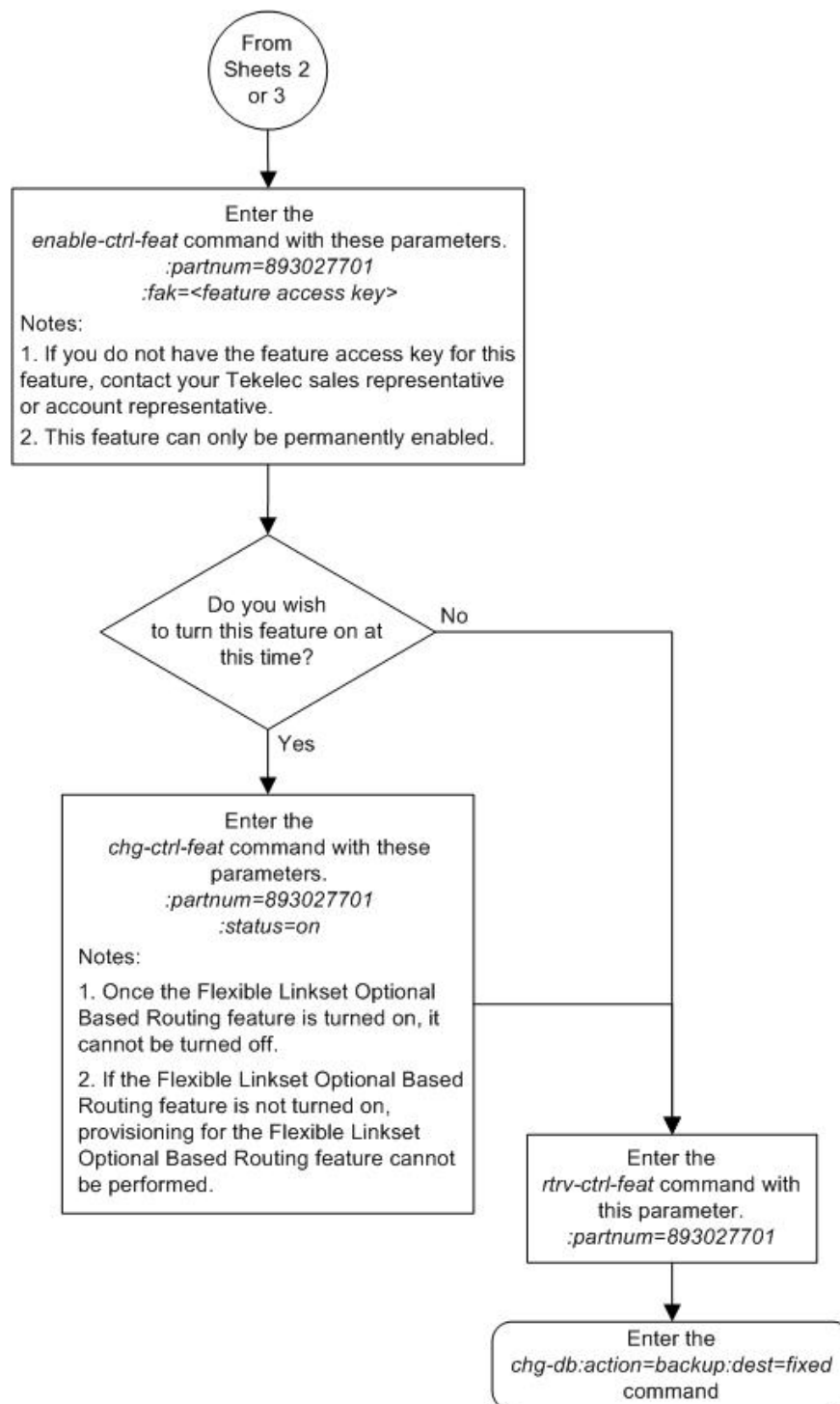
Figure 82: Activating the Flexible Linkset Optional Based Routing Feature



**Notes:**

1. If the *rtrv-ctrl-feat* output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the Eagle 5 ISS's serial number must be verified. This is the default entry for the *rtrv-ctrl-feat* output. This entry is shown whether or not the Eagle 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).





Activating the TCAP Opcode Based Routing Feature

This procedure is used to enable and turn on the TCAP Opcode Based Routing feature using the feature's part number and a feature access key.

The feature access key for the TCAP Opcode Based Routing feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Tekelec-issued part number of the TCAP Opcode Based Routing feature, 893027801.

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature has been enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number of the TCAP Opcode Based Routing feature, 893027801.

`:status=on` – used to turn the TCAP Opcode Based Routing feature on.

Once the TCAP Opcode Based Routing feature has been turned on, it cannot be turned off.

Before the TCAP Opcode Based Routing feature can be enabled and turned on, the Flexible Linkset Optional Based Routing feature must be enabled and turned on. The status of the TCAP Opcode Based Routing feature and the Flexible Linkset Optional Based Routing feature is shown with the `rtrv-ctrl-feat` command.

1. Display the status of the TCAP Opcode Based Routing feature by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name           Partnum      Status  Quantity
Command Class Management 893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
HC-MIM SLK Capacity      893012707  on      64

The following features have been temporarily enabled:
Feature Name           Partnum      Status  Quantity  Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name           Partnum
Zero entries found.
```

If the TCAP Opcode Based Routing feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the TCAP Opcode Based Routing feature is enabled and but not turned on, continue the procedure with [Step 3](#) on page 986.

If the TCAP Opcode Based Routing feature is not enabled, continue the procedure by performing one of these steps.

- If the Flexible Linkset Optional Based Routing feature is enabled and turned on, shown by the entry `Flex Lset Optnl Based Rtg` in the `rtrv-ctrl-feat` output, continue the procedure with [Step 2](#) on page 986.
 - If the Flexible Linkset Optional Based Routing feature is not enabled or turned on, perform [Activating the Flexible Linkset Optional Based Routing Feature](#) on page 976 to enable and turn on the Flexible Linkset Optional Based Routing feature. After the Flexible Linkset Optional Based Routing feature has been enabled and turned on, continue the procedure with [Step 2](#) on page 986.
2. Enable the TCAP Opcode Based Routing feature with the `enable-ctrl-feat` command specifying the part number for the TCAP Opcode Based Routing feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893027801:fak=<TCAP Opcode Based Routing
feature access key>
```

Note: The TCAP Opcode Based Routing feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the TCAP Opcode Based Routing feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

If you wish to turn the TCAP Opcode Based Routing feature on at this time, continue the procedure with [Step 3](#) on page 986.

If you do not wish to turn the TCAP Opcode Based Routing feature on at this time, continue the procedure with [Step 4](#) on page 987.



CAUTION

CAUTION: If the TCAP Opcode Based Routing feature is not turned on, provisioning for the TCAP Opcode Based Routing feature cannot be performed.

3. Turn the TCAP Opcode Based Routing feature on with the `chg-ctrl-feat` command specifying the part number for the TCAP Opcode Based Routing feature and the `status=on` parameter.

Enter this command.

```
chg-ctrl-feat:partnum=893027801:status=on
```

When the `chg-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

4. Verify the changes by entering the `rtrv-ctrl-feat` command with the TCAP Opcode Based Routing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893027801
```

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name                Partnum    Status  Quantity
TCAP Opcode Based Routing  893027801 on      ----

The following features have been temporarily enabled:

Feature Name                Partnum    Status  Quantity    Trial Period Left
Zero entries found.

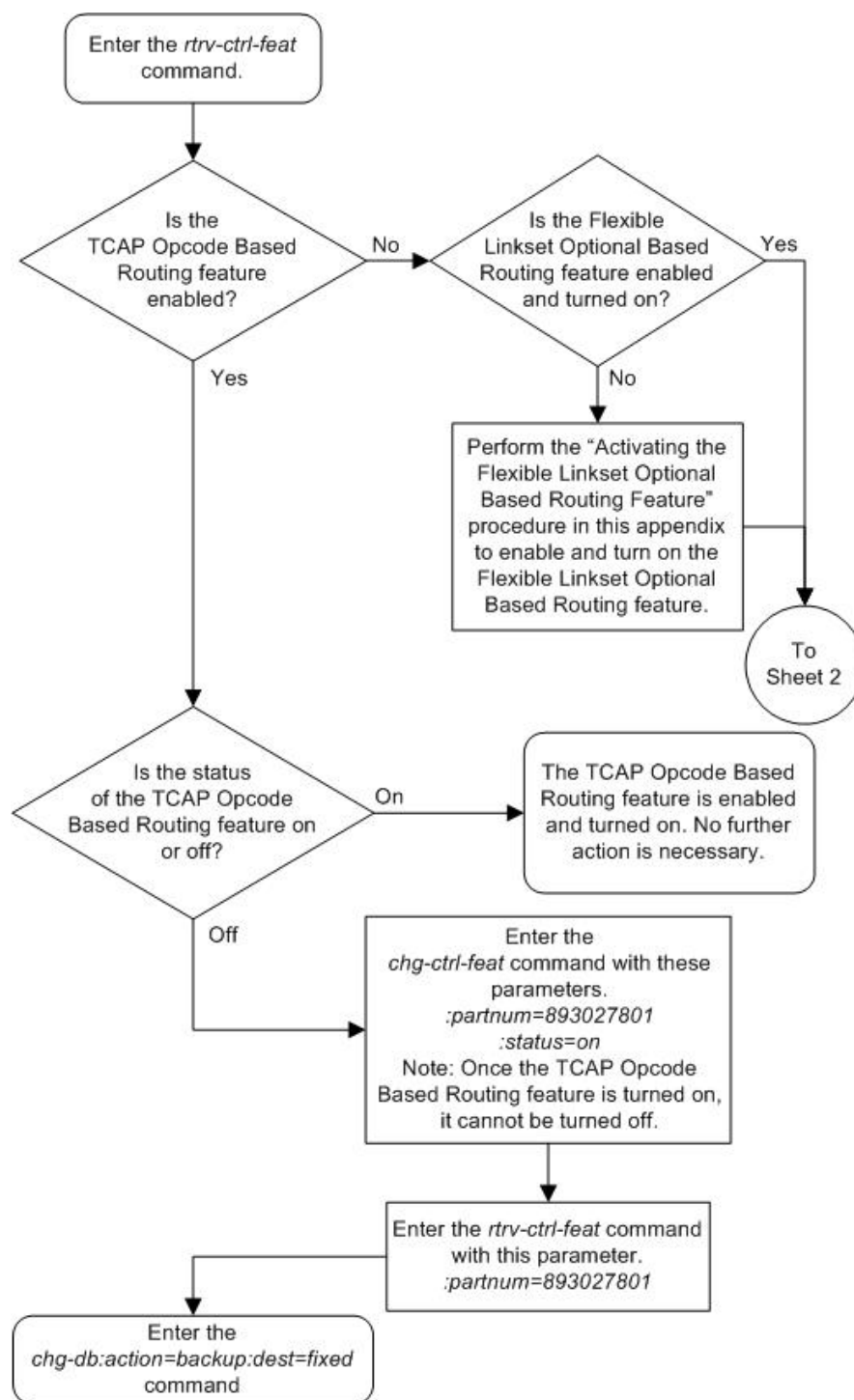
The following features have expired temporary keys:

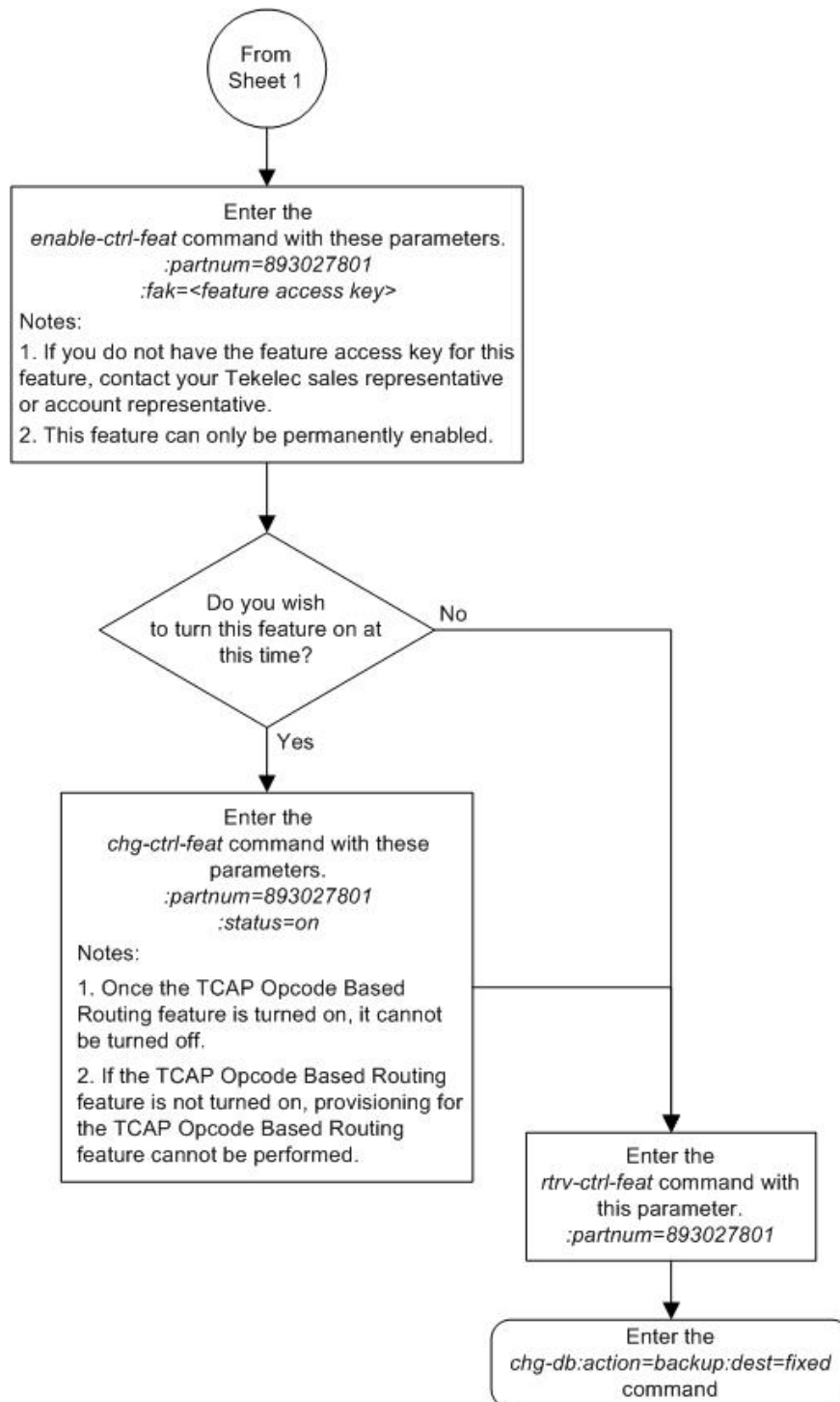
Feature Name                Partnum
Zero entries found.
```

5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 83: Activating the TCAP Opcode Based Routing Feature





Enabling a TOBR Opcode Quantity

This procedure is used to enable a TOBR opcode quantity for the TCAP Opcode Based Routing (TOBR) feature. The TOBR opcode quantity is enabled using the feature's part number and a feature access key.

The feature access key for the TOBR opcode quantity is based on the part number for the specific quantity and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

[Table 96: TOBR Opcode Quantity Part Numbers](#) on page 990 shows the TOBR opcode quantities that can be enabled.

Table 96: TOBR Opcode Quantity Part Numbers

TOBR Opcode Quantities	Part Numbers
3	893027901
6	893027902
12	893027903
24	893027904
48	893027905
96	893027906
1,000,000	893027907
Note: While the 1,000,000 TOBR opcode quantity can be enabled, the actual number of opcode translations that can be entered is controlled by the XGTT table expansion quantity that is enabled. For example, if the 1,000,000 TOBR opcode quantity is enabled, and the XGTT table expansion quantity is enabled for 400,000, a maximum of 400,000 TOBR opcode translations can be provisioned in the database.	

The TCAP Opcode Based Routing feature must be enabled and turned on before a TOBR opcode quantity can be enabled. Perform [Activating the TCAP Opcode Based Routing Feature](#) on page 985 to enable and turn on the TCAP Opcode Based Routing feature.

The `enable-ctrl-feat` command enables the TOBR opcode quantity by inputting the quantity's feature access key and the part number of the quantity with these parameters.

: fak – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

: partnum – The Tekelec-issued part number of the TOBR Opcode quantity. [Table 96: TOBR Opcode Quantity Part Numbers](#) on page 990 shows the TOBR opcode quantity part numbers.

This feature cannot be temporarily enabled (with the temporary feature access key).

The `chg-ctrl-feat` command cannot be used with this procedure.

1. Display the features that are enabled by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
LNP Short Message Service	893006601	on	----
Intermed GTT Load Sharing	893006901	on	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007710	on	3000
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the maximum TOBR opcode quantity, 1,000, 000, is enabled, no further action is necessary. This procedure does not need to be performed.

If the TOBR opcode quantity is less than the desired quantity, continue the procedure with [Step 2](#) on page 991.

If a TOBR opcode quantity is not enabled, continue the procedure by performing one of these steps.

- If the TCAP Opcode Based Routing feature is enabled and turned on, shown by the entry TCAP Opcode Based Routing in this step, continue the procedure with [Step 2](#) on page 991.
 - If the TCAP Opcode Based Routing feature is not enabled or turned on, perform [Activating the TCAP Opcode Based Routing Feature](#) on page 985 to enable and turn on the TCAP Opcode Based Routing feature. After the TCAP Opcode Based Routing feature has been enabled and turned on, continue the procedure with [Step 2](#) on page 991.
2. Enable the TOBR opcode quantity by entering the enable-ctrl-feat command with the part number of the desired quantity. [Table 96: TOBR Opcode Quantity Part Numbers](#) on page 990 shows the TOBR opcode quantity part numbers.

For this example, enter this command.

```
enable-ctrl-feat:partnum=893027903:fak=<TOBR Opcode Quantity feature
access key>
```

Note: The TOBR opcode quantity enabled in this step must be greater than the quantity that is currently enabled, shown in [Step 1](#) on page 990.

Note: A temporary feature access key cannot be specified to enable this feature.

Note: The value for the feature access key (the fak parameter) is provided by Tekelec. If you do not have the feature access key for the TOBR opcode quantity that you wish to enable, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

3. Verify the changes by entering the `rtrv-ctrl-feat` command with the part number specified in [Step 2](#) on page 991.

For this example, enter this command.

```
rtrv-ctrl-feat:partnum=893027903
```

The following is an example of the possible output.

```
rlghncxa03w 09-05-28 21:15:37 GMT EAGLE5 41.0.0
The following features have been permanently enabled:

Feature Name          Partnum    Status  Quantity
TOBR Opcode Quantity  893027903  on      12

The following features have been temporarily enabled:

Feature Name          Partnum    Status  Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

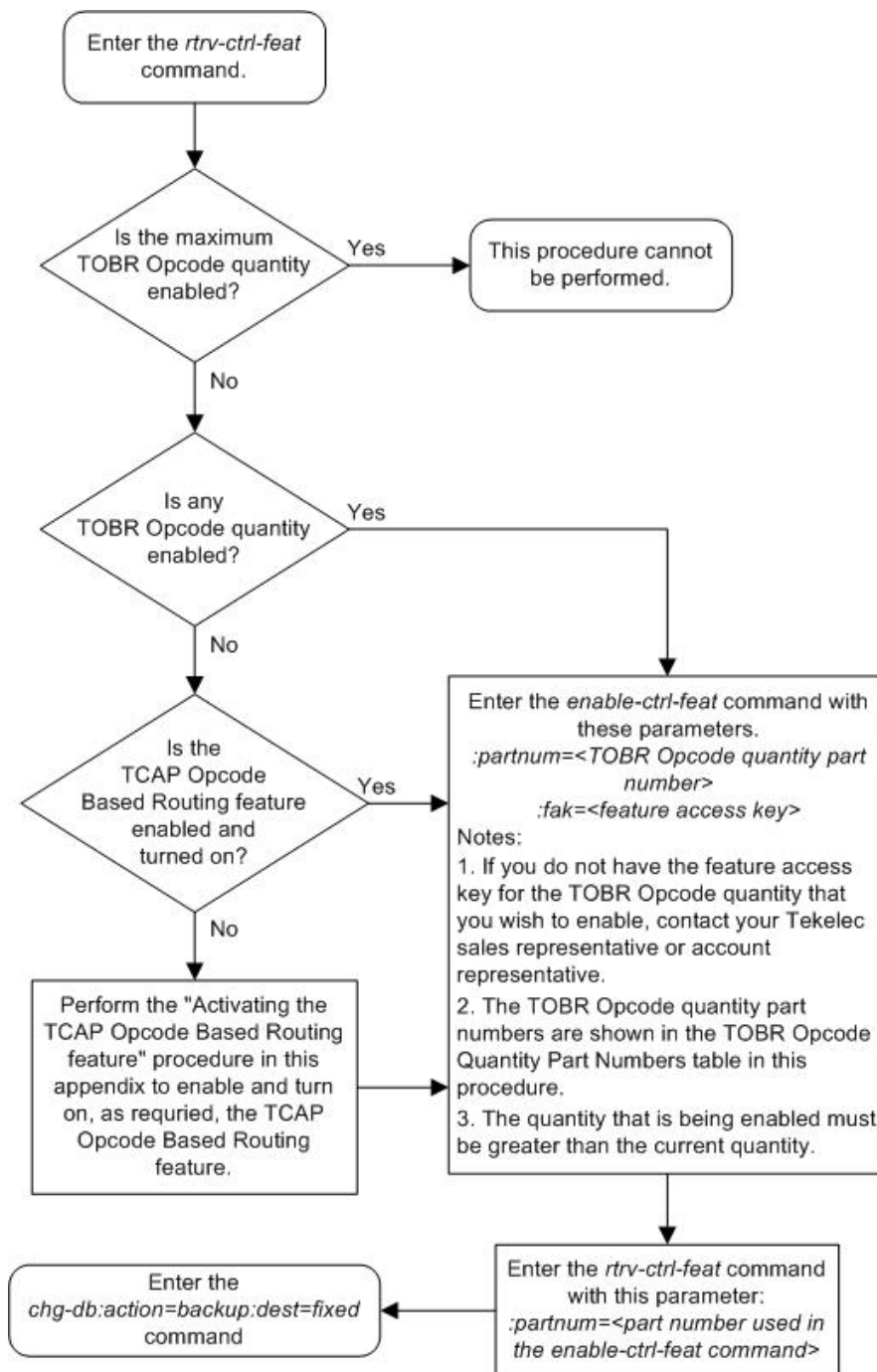
Feature Name          Partnum
Zero entries found.
```

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 84: Enabling a TOBR Opcode Quantity



Appendix B

MO SMS B-Party Routing Configuration Procedures

Topics:

- [*Introduction.....996*](#)
- [*Activating the MO SMS B-Party Routing Feature.....997*](#)
- [*Configuring the GSM MO SMS B-Party Routing Options.....1007*](#)
- [*Configuring the IS-41 MO SMS B-Party Routing Options.....1010*](#)
- [*Adding a Service Selector Entry for the MO SMS B-Party Routing Feature.....1013*](#)
- [*Removing a Service Selector Entry.....1023*](#)
- [*Changing the Attributes of a Service Selector Entry for the MO SMS B-Party Routing Feature.....1027*](#)
- [*Turning the MO SMS B-Party Routing Feature Off.....1034*](#)

Appendix B, MO SMS B-Party Routing Configuration Procedures, describes the procedures necessary to configure the EAGLE 5 ISS to perform global title translation on the MAP B-Party digits instead of the GTT called party address of the message.

Introduction

The MO SMS B-Party Routing feature allows global translation type (GTT) routing to be performed on IS41 MO SMDPP and GSM MO_FSM messages based on the SMS B-party digits from the MAP layer of the message.

If the B number is a short code, then a short message service (SMS) can be directed to a specific short message service center (SMSC) based on the short code dialed by the SMS sender. If the B number is the MSISDN/MDN of the SMS recipient, then the SMS can be directed to a specific SMSC based on subscriber groupings or types.

Provisioning the MO SMS B-Party Routing Feature

1. Enable the MO SMS B-Party Routing feature using the `enable-ctrl-feat` command. Perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997.

Note: The MO SMS B-Party Routing feature can be turned on in this step using the `chg-ctrl-feat` command. If the MO SMS B-Party Routing feature is not turned on in this step, provisioning for the MO SMS B-Party Routing feature can still be performed. When the provisioning is completed, the MO SMS B-Party Routing feature can be turned on. The MO SMS B-Party Routing feature will not work until the feature is turned on.

2. Provision a GTT set that will be used by the MO SMS B-Party Routing feature using the `ent-gttset` command. Perform the procedure [Adding a GTT Set](#) on page 660 .
3. Assign the GTT set to the B-Party GTT set name option. Perform one or both of these procedures.
 - If global translation type (GTT) routing will be performed on GSM MO_FSM messages, the GTT set name must be the value of the `bpartygttsn` parameter of the `chg-gsmsmsopts` command. Perform the procedure [Configuring the GSM MO SMS B-Party Routing Options](#) on page 1007.
 - If global translation type (GTT) routing will be performed on IS41 MO SMDPP messages, the GTT set name must be the value of the `bpartygttsn` parameter of the `chg-is41smsopts` command. Perform the procedure [Configuring the IS-41 MO SMS B-Party Routing Options](#) on page 1010.
4. Specify that global title translation needs to be performed on the MAP B-Party digits of the message. Perform one or both of these procedures.
 - If global translation type (GTT) routing will be performed on GSM MO_FSM messages, the value `mapbparty` must be specified for the `mosmsgttdig` parameter of the `chg-gsmsmsopts` command. Perform the procedure [Configuring the GSM MO SMS B-Party Routing Options](#) on page 1007.
 - If global translation type (GTT) routing will be performed on IS41 MO SMDPP messages, the value `mapbparty` must be specified for the `mosmsgttdig` parameter of the `chg-is41smsopts` command. Perform the procedure [Configuring the IS-41 MO SMS B-Party Routing Options](#) on page 1010.
5. Provision the service selectors for the MO SMS B-Party Routing feature using the `ent-srvsel` command. Perform the procedure [Adding a Service Selector Entry for the MO SMS B-Party Routing Feature](#) on page 1013 .

6. If the MO SMS B-Party Routing feature was not turned on in step 1, turn the feature on using the `chg-ctrl-feat` command. Perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997.

Activating the MO SMS B-Party Routing Feature

This procedure is used to enable and turn on the MO SMS B-Party Routing feature using the feature's part number and a feature access key.

The feature access key for the MO SMS B-Party Routing feature is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the MO SMS B-Party Routing feature by inputting the feature's access key and the feature's part number with these parameters:

`: fak` – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`: partnum` – The Tekelec-issued part number of the MO SMS B-Party Routing feature, 893024601.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`: serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`: lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, provisioning for this feature can be performed, but the feature will not work until the feature is turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`: partnum` – The Tekelec-issued part number of the MO SMS B-Party Routing feature, 893024601.

`: status=on` – used to turn the MO SMS B-Party Routing feature on.

Once the MO SMS B-Party Routing feature has been turned on, it can be turned off. For more information on turning the MO SMS B-Party Routing feature off, refer to the procedure [Turning the MO SMS B-Party Routing Feature Off](#) on page 1034.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The MO SMS B-Party Routing feature requires that DSMs or E5-SM4G cards are installed and provisioned in the EAGLE 5 ISS. DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column of the `rtrv-card` output.

The MO SMS B-Party Routing feature also requires that the Global Title Translation (GTT) and Enhanced Global Title Translation (EGTT) features are turned on. The status of the Global Title Translation and Enhanced Global Title Translation features are shown in the `rtrv-feat` output.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
Command Class Management 893005801  on       ----
LNP Short Message Service 893006601  on       ----
Intermed GTT Load Sharing 893006901  on       ----
XGTT Table Expansion    893006101  on       400000
XMAP Table Expansion     893007710  off      ----
Large System # Links     893005910  on       2000
Routesets               893006401  on       6000
HC-MIM SLK Capacity     893012707  on       64

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the MO SMS B-Party Routing feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the MO SMS B-Party Routing is enabled and but not turned on, continue the procedure with [Step 9](#) on page 1001.

If the MO SMS B-Party Routing is not enabled, continue the procedure with [Step 2](#) on page 998.

2. Display the cards in the EAGLE 5 ISS using the `rtrv-card` command.

The MO SMS B-Party Routing feature requires that DSMs or E5-SM4G cards running the VSCCP application are in the database. This is an example of the possible output.

```
rlghncxa03w 09-05-25 09:58:31 GMT EAGLE5 41.0.0
CARD  TYPE      APPL      LSET NAME      PORT SLC  LSET NAME      PORT SLC
1102   TSM         GLS
1113   GPSM        OAM
1114   TDM-A
1115   GPSM        OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0      SS7ANSI    sp2            A      0      sp1            B      0
1203   LIMDS0      SS7ANSI    sp3            A      0
1204   LIMDS0      SS7ANSI    sp3            A      1
1206   LIMDS0      SS7ANSI    nsp3           A      1      nsp4           B      1
1216   DCM         STPLAN
1301   DSM         VSCCP
1303   DSM         VSCCP
```


1305	DSM	VSCCP						
1308	LIMDS0	SS7ANSI	sp6	A	1	sp7	B	0
1314	LIMDS0	SS7ANSI	sp7	A	1	sp5	B	1
1317	DCM	STPLAN						

There are two types of service modules, DSMs or E5-SM4G cards running the VSCCP application.

DSMs and E5-SM4G cards are shown by the entries DSM in the TYPE column and VSCCP in the APPL column.

If DSMs or E5-SM4G cards running the VSCCP application are in the EAGLE 5 ISS, continue the procedure with [Step 3](#) on page 999.

If no service modules are shown in the `rtrv-card` output, perform the procedure [Adding a Service Module](#) on page 94 to add DSMs or E5-SM4G cards to the EAGLE 5 ISS. Make sure to turn the EGTT feature on while performing the procedure [Adding a Service Module](#) on page 94. After the procedure [Adding a Service Module](#) on page 94 has been performed, continue the procedure with [Step 4](#) on page 1000.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 998 shows any controlled features, continue the procedure with [Step 8](#) on page 1001. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, [Step 4](#) on page 1000 through [Step 7](#) on page 1000 must be performed.

3. The Enhanced Global Title Translation (EGTT) feature must be turned on to enable the MO SMS B-Party Routing feature. Verify the status of the EGTT feature by entering the `rtrv-feat` command.

If the EGTT feature is on, the EGTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, refer to the `rtrv-feat` command description in the *Commands Manual*.

If the EGTT feature is on, shown by the entry `EGTT = on` in the `rtrv-feat` command output, continue the procedure with [Step 4](#) on page 1000.

If the EGTT feature is off, shown by the entry `EGTT = off` in the `rtrv-feat` command output, turn the EGTT feature on by entering this command.

```
chg-feat:egtt=on
```

Note: Once the Enhanced Global Title Translation (EGTT) feature is turned on with the `chg-feat` command, it cannot be turned off.

The EGTT feature must be purchased before turning it on. If you are not sure whether you have purchased the EGTT feature, contact your Tekelec Sales Representative or Account Representative.

When the `chg-feat` has successfully completed, this message should appear.

```
rlghncxa03w 08-09-25 09:57:41 GMT EAGLE5 39.1.0  
CHG-FEAT: MASP A - COMPLTD
```

After the EGTT feature has been turned on, continue the procedure with [Step 4](#) on page 1000.

Note: If the `rtrv-ctrl-feat` output in [Step 1](#) on page 998 shows any controlled features, continue the procedure with [Step 8](#) on page 1001. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, [Step 4](#) on page 1000 through [Step 7](#) on page 1000 must be performed.

4. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with [Step 8](#) on page 1001. If the serial number is correct but not locked, continue the procedure with [Step 7](#) on page 1000. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

5. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

6. Verify that the serial number entered into [Step 5](#) on page 1000 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
Command Completed
```

If the serial number was not entered correctly, repeat [Step 5](#) on page 1000 and [Step 6](#) on page 1000 and re-enter the correct serial number.

7. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 4](#) on page 1000, if the serial number shown in [Step 4](#) on page 1000 is correct, or with the serial number shown in [Step 6](#) on page 1000, if the serial number was changed in [Step 5](#) on page 1000, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

8. Enable the MO SMS B-Party Routing feature with the `enable-ctrl-feat` command specifying the part number for the MO SMS B-Party Routing feature and the feature access key. Enter this command.

```
enable-ctrl-feat:partnum=893024601:fak=<MO SMS B-Party Routing feature
access key>
```

Note: The MO SMS B-Party Routing feature cannot be enabled with a temporary feature access key.

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the MO SMS B-Party Routing feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```



CAUTION

CAUTION: Once the MO SMS B-Party Routing feature is enabled, provisioning for MO SMS B-Party Routing feature can be performed, but the EAGLE 5 ISS will not perform global title translation on the MAP B-Party digits of any messages until the MO SMS B-Party Routing is turned on in [Step 9](#) on page 1001.

If you wish to turn the MO SMS B-Party feature on at this time, continue the procedure with [Step 9](#) on page 1001.

If you do not wish to turn the MO SMS B-Party feature on at this time, continue the procedure with [Step 10](#) on page 1001.

9. Turn the MO SMS B-Party Routing feature on with the `chg-ctrl-feat` command specifying the part number for the MO SMS B-Party Routing feature and the `status=on` parameter. Enter this command.

```
chg-ctrl-feat:partnum=893024601:status=on
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

10. Verify the changes by entering the `rtrv-ctrl-feat` command with the MO SMS B-Party Routing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893024601
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
MO SMS B-Party Routing	893024601	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

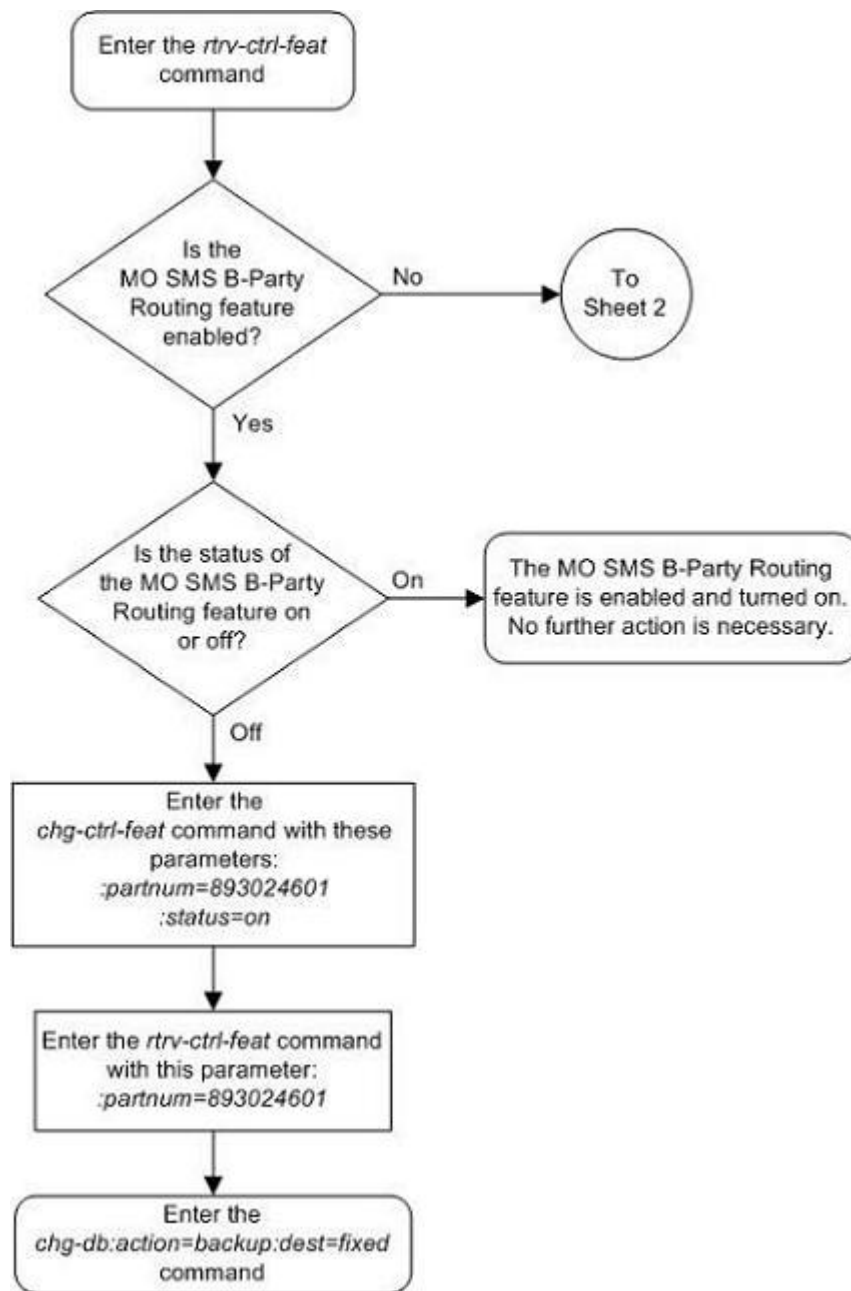
The following features have expired temporary keys:

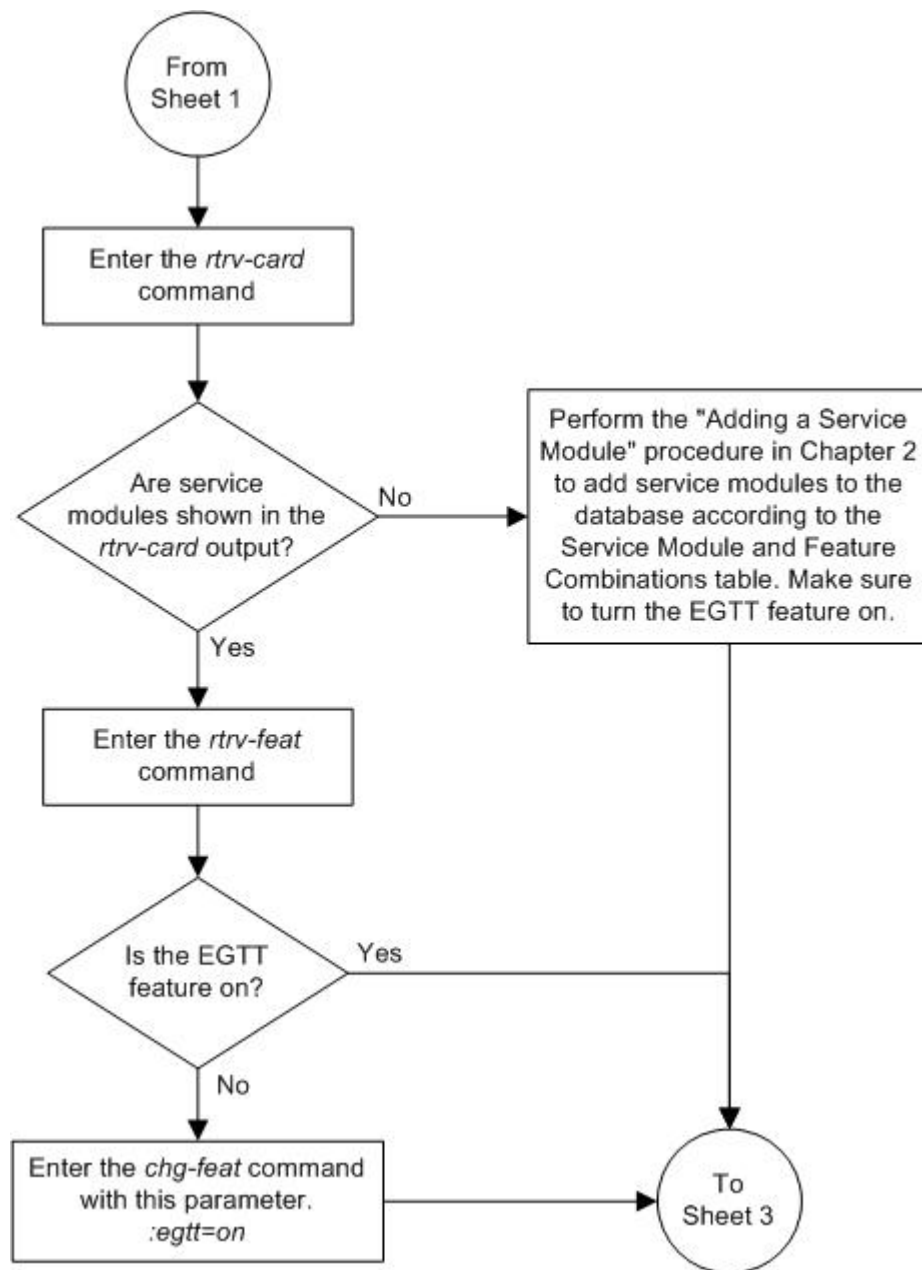
Feature Name	Partnum
Zero entries found.	

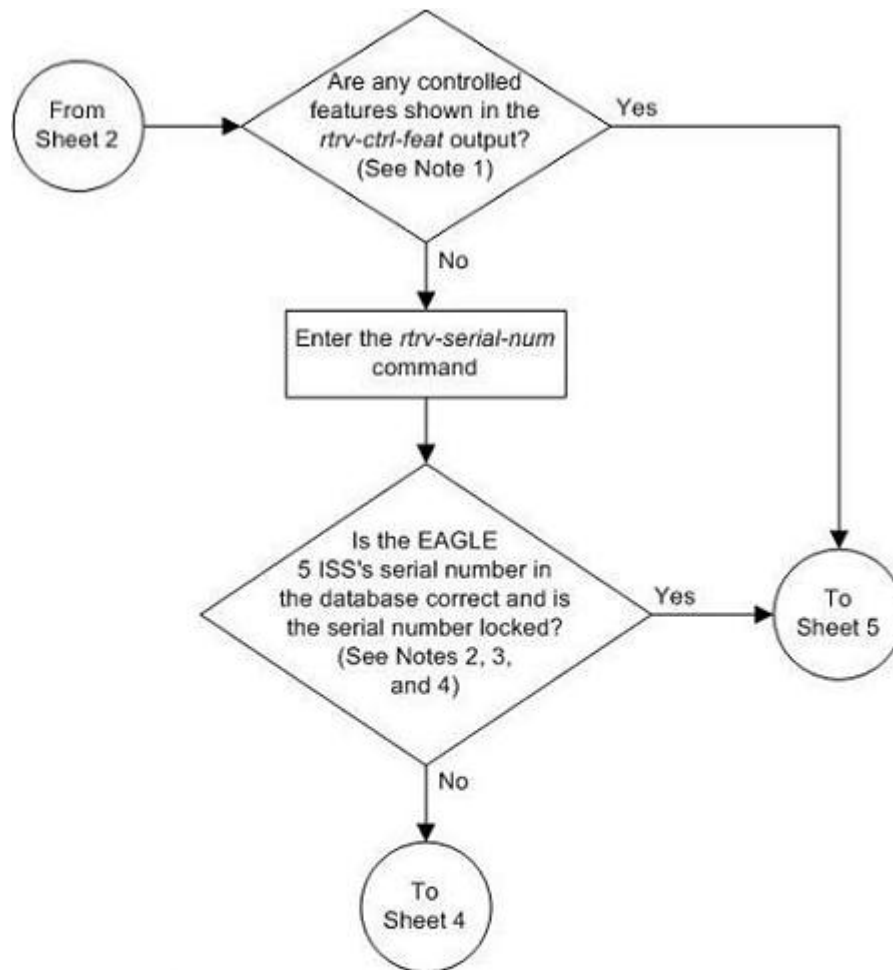
11. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 85: Activating the MO SMS B-Party Routing Feature

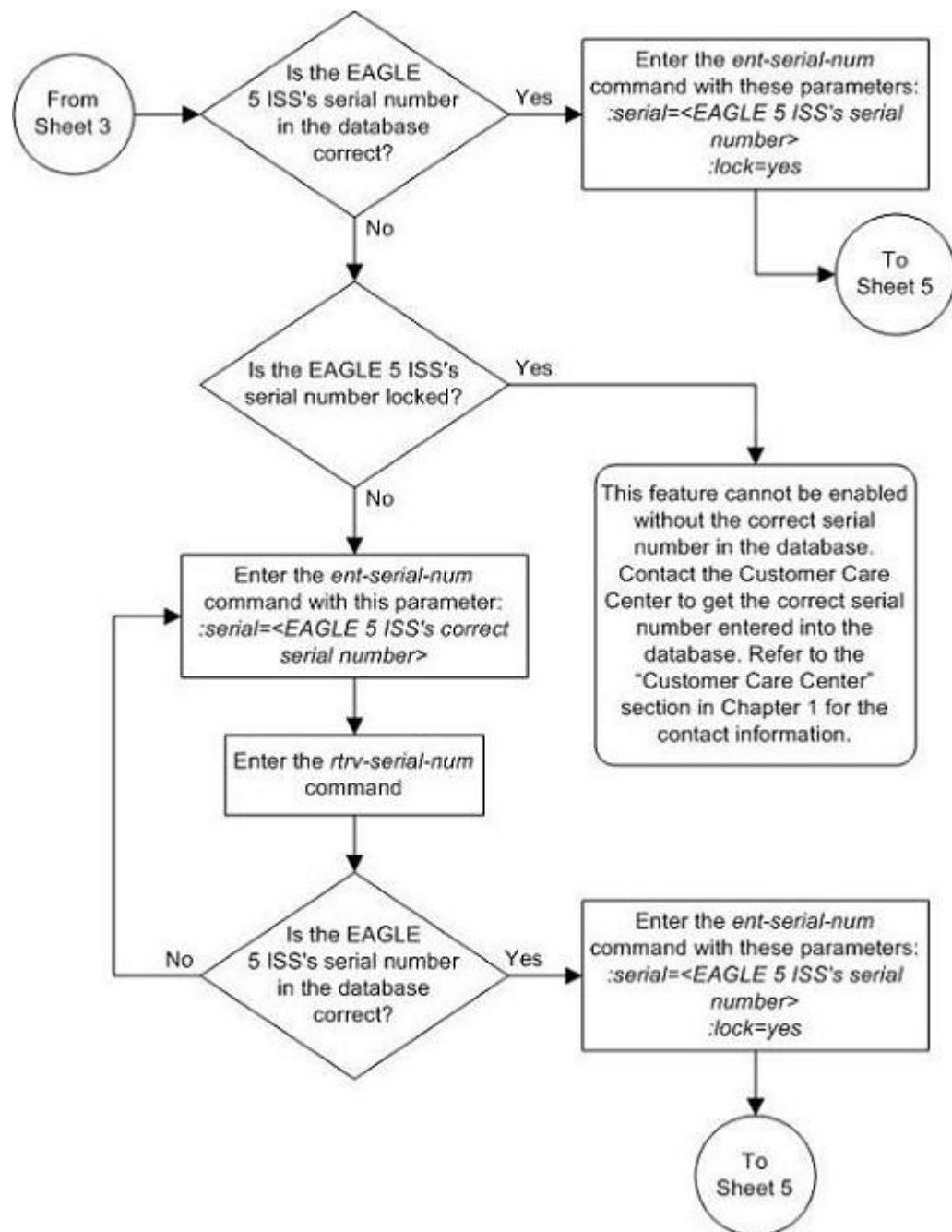


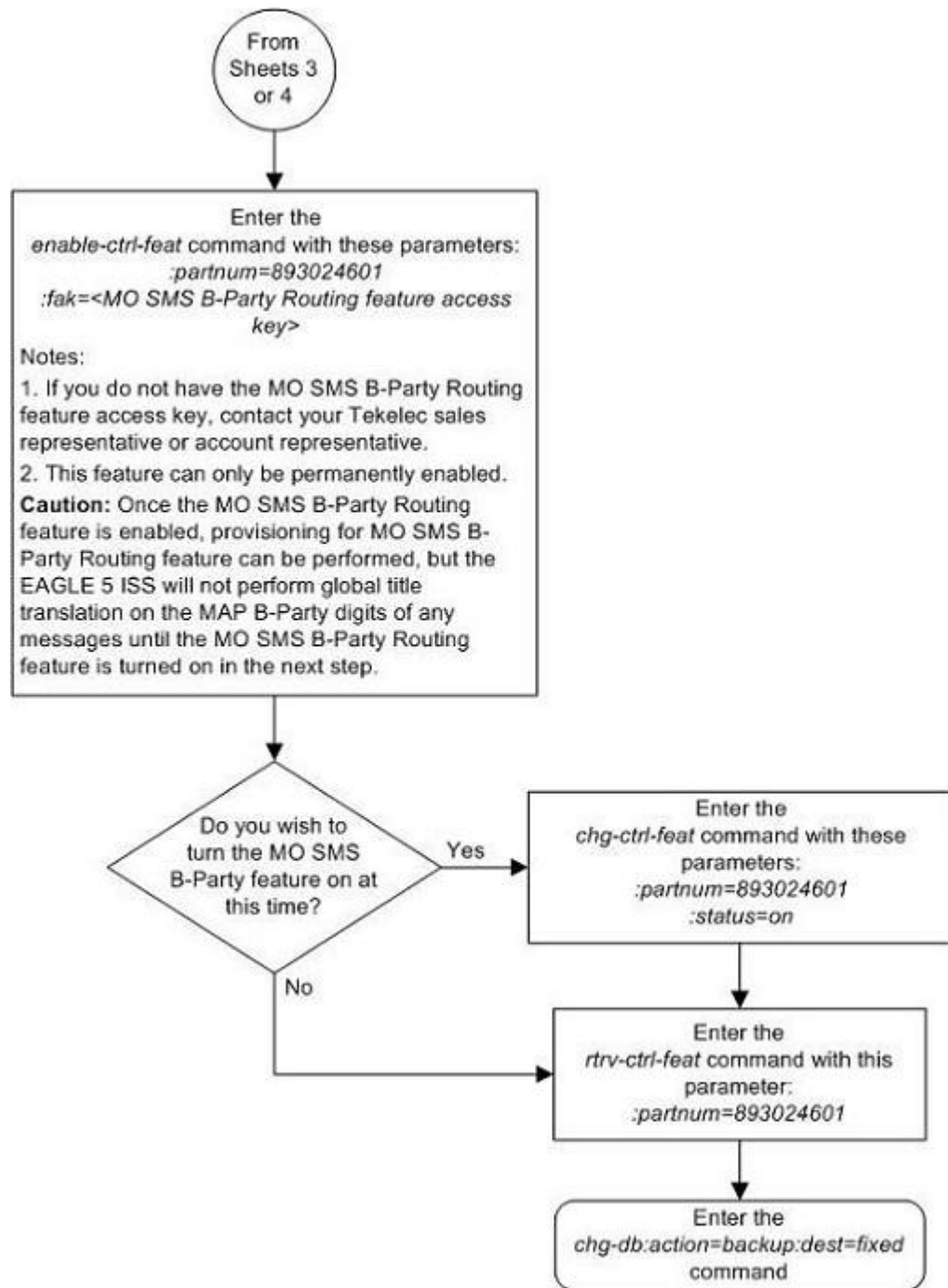




Notes:

1. If the *rtrv-ctrl-feat* output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the Eagle 5 ISS's serial number must be verified. This is the default entry for the *rtrv-ctrl-feat* output. This entry is shown whether or not the Eagle 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).





Configuring the GSM MO SMS B-Party Routing Options

This procedure is used to configure the MO SMS B-Party routing options for GSM messages using the *chg-gsmsmsopts* command with these parameters:

:bpartygttsn – the name of the GTT set, shown in the `rtrv-gttset` output, global title translation on the MAP B-Party digits of the GSM message will be performed on; or the value `none` indicating that global title translation on the MAP B-Party digits of the GSM message will not be performed on any GTT set.

:mosmsgttldig – the digits that are used for global title translation.

- `sccpcdpa` - the digits of the SCCP called party address portion of the message are used for global title translation.
- `mapbparty` - the MAP B-party number is used for global title translation.

The system default value for the `bpartygttsn` parameter is `none`. The system default value for the `mosmsgttldig` parameter is `sccpcdpa`.

This procedure can be performed only if the MO SMS B-Party Routing feature is enabled.

If the Origin-Based SCCP Routing feature is enabled, the set type of the GTT set name that will be specified for the `bpartygttsn` parameter must be `CDGTA`. The set type of the GTT set is shown in the `SETTYPE` column of the `rtrv-gttset` output.

If the value of the `bpartygttsn` parameter is `none` when this procedure is completed, the value of the `mosmsgttldig` parameter must be `sccpcdpa`.

1. Display the existing GSM MO SMS B-Party routing option values by entering the `rtrv-gsmmsmsopts` command.

This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT EAGLE5 39.1.0
GSM SMS OPTIONS
-----
BPARTYGTTSN      = NONE
MOSMSGTTDIG      = SCCPCDPA
```

Note: The `rtrv-gsmmsmsopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-gsmmsmsopts` command, refer to the `rtrv-gsmmsmsopts` command description in the *Commands Manual*.

If the `BPARTYGTTSN` and `MOSMSGTTDIG` fields are not shown in the `rtrv-gsmmsmsopts` output, the MO SMS B-Party Routing feature is not enabled. Perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997 to enable the MO SMS B-Party Routing feature.

If the `BPARTYGTTSN` and `MOSMSGTTDIG` fields are shown in the `rtrv-gsmmsmsopts` output, the MO SMS B-Party Routing feature was enabled in this step, continue the procedure by performing one of these actions.

- If a GTT set name will be specified, continue the procedure with [Step 2](#) on page 1008.
- If a GTT set name will not be specified, only the `mosmsgttldig` parameter value will be changed, continue the procedure with [Step 3](#) on page 1009.

Note: The `mosmsgttldig` parameter value can be `mapbparty` only if a GTT set name is specified for the `bpartygttsn` parameter value.

2. Display the GTT sets in the database using the `rtrv-gttset` command.

This is an example of the possible output.

```
rlghncxa03w 08-09-07 00:29:31 GMT EAGLE5 39.1.0
```

GTTSN	NETDOM	SETTYPE	NDGT
abcd1234	itu	CGGTA	12
gttset3	ansi	CGGTA	10
gttset6	ansi	OPC	-
gttset7	ansi	CGPC	-
gttset12	ansi	OPC	-
imsi	itu	CDGTA	15
lidx	ansi	CDGTA	10
t800	ansi	CDGTA	10
s1000	itu	CDGTA	15
s2000	itu	CGPC	-

The SETTYPE column is shown in the `rtrv-gttset` output only if the Origin-Based SCCP Routing feature is enabled. The SETTYPE value of the GTT set name specified for the `bpartygttsn` parameter must be CDGTA if the Origin-Based SCCP Routing feature is enabled.

If the required GTT set name is not shown in the `rtrv-gttset` output, perform [Adding a GTT Set](#) on page 660 to add the required GTT set. After the new GTT set has been added to the database, continue the procedure with [Step 3](#) on page 1009.

3. Configure the GSM MO SMS B-Party Routing options using the `chg-gsmsmsopts` command.

For this example, enter this command.

```
chg-gsmsmsopts:bpartygttsn=s1000:mosmsgtttdig=mapbparty
```

When the `chg-gsmsmsopts` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-07 00:22:57 GMT EAGLE5 39.1.0
CHG-GSMSMSOPTS: MASP A - COMPLTD
```

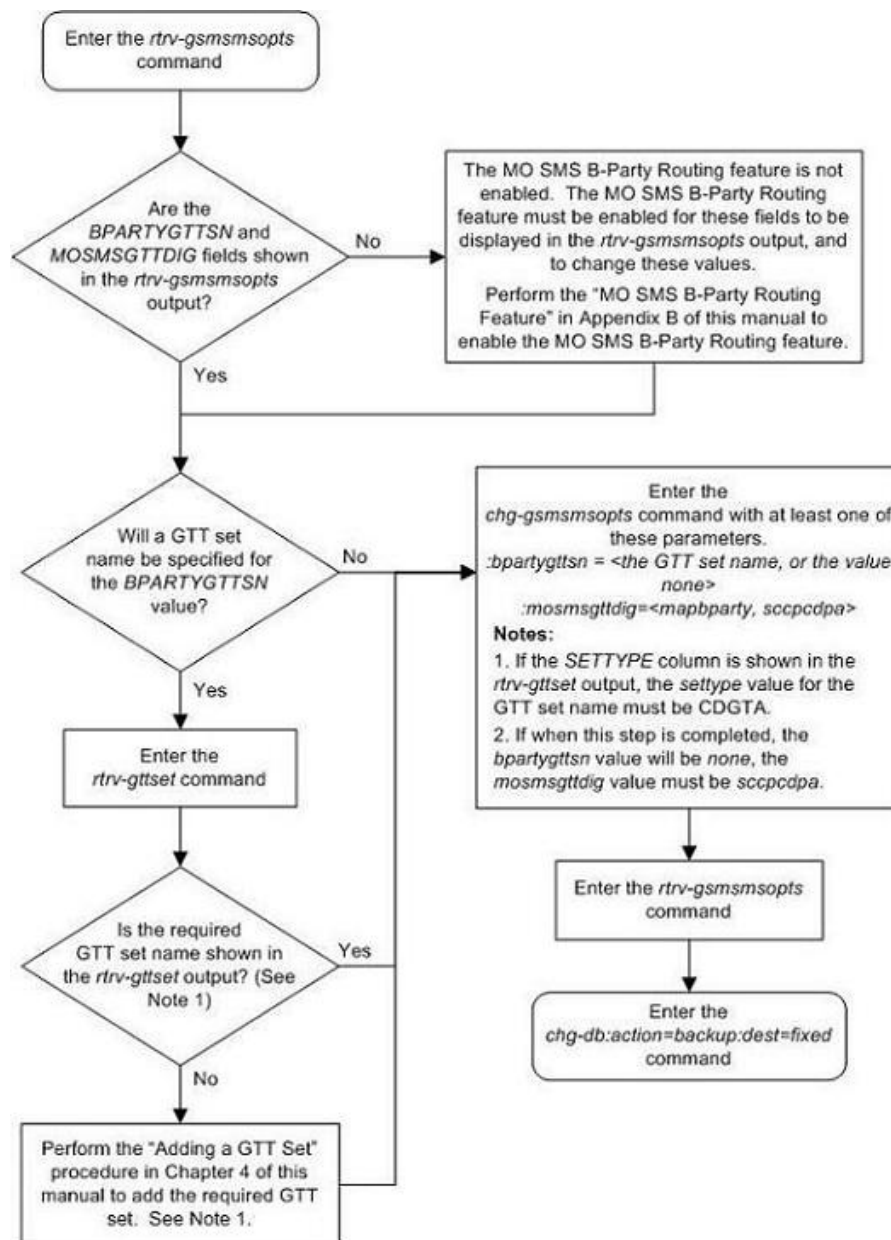
4. Verify the changes using the `rtrv-gsmsmsopts` command. This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT EAGLE5 39.1.0
GSM SMS OPTIONS
-----
BPARTYGTTSN      = s1000
MOSMSGTTDIG      = MAPBPARTY
```

5. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 86: Configuring the GSM MO SMS B-Party Routing Options



Configuring the IS-41 MO SMS B-Party Routing Options

This procedure is used to configure the MO SMS B-Party routing options for IS-41 messages using the *chg-is41smssopts* command with these parameters:

:bpartygttsn – the name of the GTT set, shown in the *rtv-gttset* output, global title translation on the MAP B-Party digits of the IS-41 message will be performed on; or the value *none* indicating that global title translation on the MAP B-Party digits of the IS-41 message will not be performed on any GTT set.

:mosmsgttdig – the digits that are used for global title translation.

- sccpcdpa - the digits of the SCCP called party address portion of the message are used for global title translation.
- mapbparty - the MAP B-party number is used for global title translation.

The system default value for the bpartygttsn parameter is none. The system default value for the mosmsgttdig parameter is sccpcdpa.

This procedure can be performed only if the MO SMS B-Party Routing feature is enabled.

If the Origin-Based SCCP Routing feature is enabled, the set type of the GTT set name that will be specified for the bpartygttsn parameter must be CDGTA. The set type of the GTT set is shown in the SETTYPE column of the rtrv-gttset output.

If the value of the bpartygttsn parameter is none when this procedure is completed, the value of the mosmsgttdig parameter must be sccpcdpa.

1. Display the existing IS-41 MO SMS B-Party routing option values by entering the rtrv-is41smsopts command.

This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT EAGLE5 39.1.0
IS41 SMS OPTIONS
-----
BPARTYGTTSN      = NONE
MOSMSGTTDIG      = SCCPCDPA
```

Note: The rtrv-is41smsopts command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the rtrv-is41smsopts command, refer to the rtrv-is41smsopts command description in the *Commands Manual*.

If the BPARTYGTTSN and MOSMSGTTDIG fields are not shown in the rtrv-is41smsopts output, the MO SMS B-Party Routing feature is not enabled. Perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997 to enable the MO SMS B-Party Routing feature.

If the BPARTYGTTSN and MOSMSGTTDIG fields are shown in the rtrv-is41smsopts output, the MO SMS B-Party Routing feature was enabled in this step, continue the procedure by performing one of these actions.

- If a GTT set name will be specified, continue the procedure with [Step 2](#) on page 1011.
- If a GTT set name will not be specified, only the mosmsgttdig parameter value will be changed, continue the procedure with [Step 3](#) on page 1012.

Note: The mosmsgttdig parameter value can be mapbparty only if a GTT set name is specified for the bpartygttsn parameter value.

2. Display the GTT sets in the database using the rtrv-gttset command.

This is an example of the possible output.

```
rlghncxa03w 08-09-07 00:29:31 GMT EAGLE5 39.1.0

GTTSN      NETDOM  SETTYPE  NDGT
abcd1234   itu      CGGTA    12
gttset3    ansi     CGGTA    10
gttset6    ansi     OPC      -
gttset7    ansi     CGPC     -
```

gttset12	ansi	OPC	-
imsi	itu	CDGTA	15
lidx	ansi	CDGTA	10
t800	ansi	CDGTA	10
s1000	itu	CDGTA	15
s2000	itu	CGPC	-

The SETTYPE column is shown in the `rtrv-gttset` output only if the Origin-Based SCCP Routing feature is enabled. The SETTYPE value of the GTT set name specified for the `bpartygttsn` parameter must be CDGTA if the Origin-Based SCCP Routing feature is enabled.

If the required GTT set name is not shown in the `rtrv-gttset` output, perform [Adding a GTT Set](#) on page 660 to add the required GTT set. After the new GTT set has been added to the database, continue the procedure with [Step 3](#) on page 1012.

3. Configure the IS-41 MO SMS B-Party Routing options using the `chg-is41smsopts` command.

For this example, enter this command.

```
chg-is41smsopts:bpartygttsn=s1000:mosmsgttdig=mapbparty
```

When the `chg-is41smsopts` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-07 00:22:57 GMT EAGLE5 39.1.0
CHG-IS41SMSOPTS: MASP A - COMPLTD
```

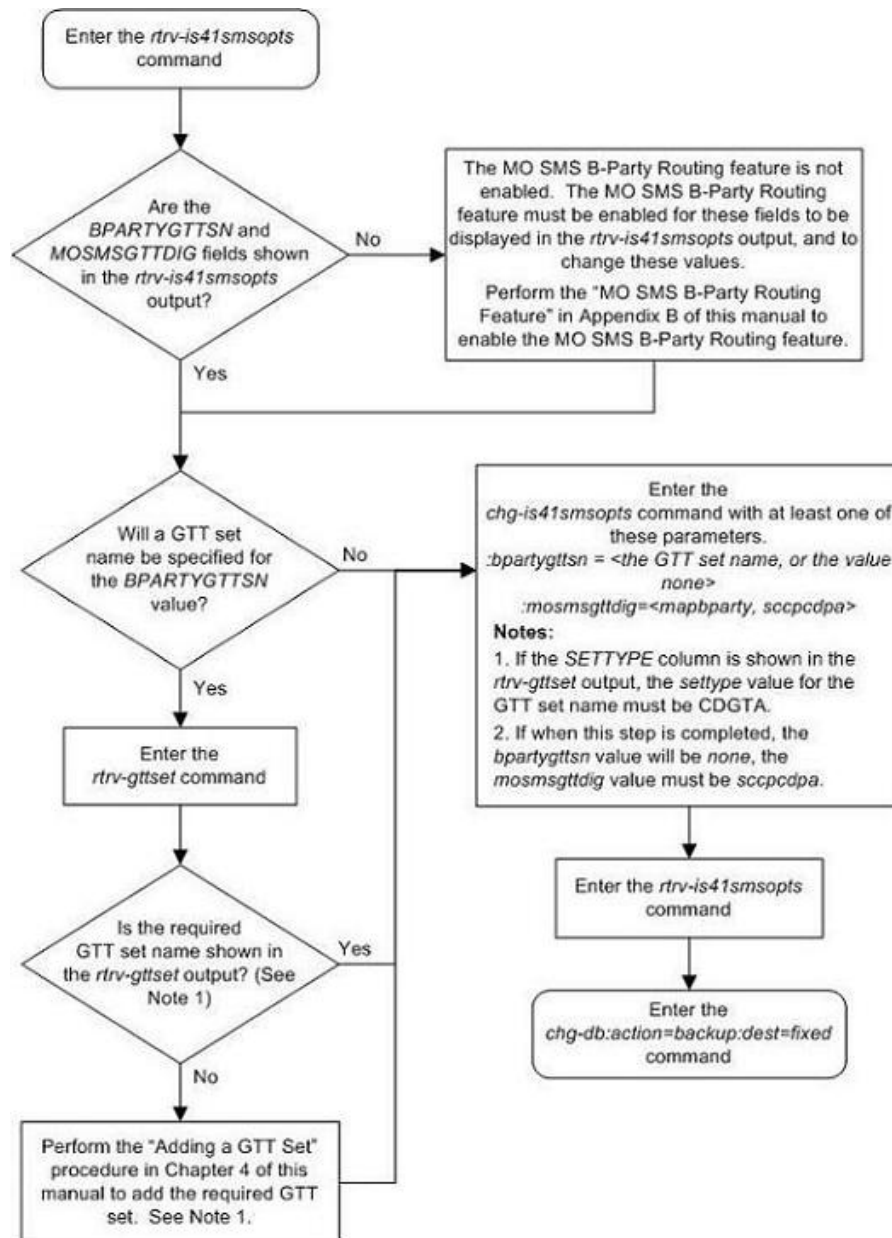
4. Verify the changes using the `rtrv-is41smsopts` command. This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT EAGLE5 39.1.0
IS41 SMS OPTIONS
-----
BPARTYGTTSN      = s1000
MOSMSGTTDIG      = MAPBPARTY
```

5. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 87: Configuring the IS-41 MO SMS B-Party Routing Options



Adding a Service Selector Entry for the MO SMS B-Party Routing Feature

This procedure is used to provision an entry in the service selector table for the MO SMS B-Party Routing feature using the `ent-srvsel` command.

The `ent-srvsel` command uses these parameters.

:gti/gtia/gtii/gtin/gtin24 – The global title indicator. The GTI defines the domain as

- gti and gtia (ANSI) with GTI=2

- `gtii` (ITU international) with GTI=2 or GTI=4, and
- `gtin` and `gtin24` (ITU national) with GTI=2 or GTI=4.

The `gti` and `gtia` parameters are equivalent.

:`serv` – the DSM service - `smsmr`.

:`tt` – The global title translation. (0-255)

:`ssn` – The subsystem number. (0-255, or *)

:`nai` or :`naiv`– The nature of address indicator. See [Table 97: NAIV/NAI Mapping](#) on page 1014 for NAI/NAIV.

Note: The nature of address indicator parameters (`naiv` or `nai`) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the `naiv` or `nai` parameter. [Table 97: NAIV/NAI Mapping](#) on page 1014 shows the mapping between the `naiv` and the `nai` parameters.

:`np` or :`npv`– The numbering plan. See [Table 98: NPV/NP Mapping](#) on page 1015 for NP/NPV mapping.

Note: The numbering plan parameters (`npv` or `np`) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the `npv` or `np` parameter. [Table 98: NPV/NP Mapping](#) on page 1015 shows the mapping between the `npv` and the `np` parameters.

:`snai` – The service nature of address indicator.

- `natl` — National significant number
- `intl` — International number
- `rnidn` — Routing number prefix and international dialed/directory number
- `rnndn` — Routing number prefix and national dialed/directory number
- `rnsdn` — Routing number prefix and subscriber dialed/directory number
- `ccrndn` — Country code, routing number, and national directory number
- `sub` — Subscriber number

:`snp` – The service numbering plan - e164

Table 97: NAIV/NAI Mapping

NAIV	NAI	Description
0	--	Unknown
1	Sub	Subscriber Number
2	Rsvd	Reserved for national use
3	Natl	National significant number
4	Intl	International number

NAIV	NAI	Description
5-127	---	Spare

Table 98: NPV/NP Mapping

NPV	NP	Description
0	--	Unknown
1	E164	ISDN/telephony numbering plan
2	Generic	Generic numbering plan
3	X121	Data numbering plan
4	F69	Telex numbering plan
5	E210	Maritime mobile numbering plan
6	E212	Land mobile numbering plan
7	E214	ISDN/mobile numbering plan
8	Private	Private network or network-specific numbering plan
9-15	---	Spare

To perform this procedure, the MO SMS B-Party Routing feature must be enabled. Enter the `rtrv-ctrl-feat` command with the MO SMS B-Party Routing part number, 893024601, to verify whether or not the MO SMS B-Party Routing feature is enabled. If the MO SMS B-Party Routing feature is not enabled, perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997 to enable MO SMS B-Party Routing feature.

ITU service selectors (defined by either the `gtii`, `gtin`, or `gtin24` parameters) can be specified only if the ANSIGFLEX `stp` option is not enabled. Enter the `rtrv-stpopts` command to verify whether or not the ANSIGFLEX option is enabled.

1. Verify the status of the MO SMS B-Party Routing feature by entering the `rtrv-ctrl-feat` command with the MO SMS B-Party Routing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893024601
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
MO SMS B-Party Routing	893024610	on	----

The following features have been temporarily enabled:

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

The following features have expired temporary keys:

Feature Name	Partnum
Zero entries found.	

If the MO SMS B-Party Routing feature has not been enabled, perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997 procedure to enable this feature.

2. Display the service selector entries by entering this command `rtrv-srvsel` command.

```
rtrv-srvsel:num=20992:force=yes
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
```

GTIA	TT	NP	NAI	SSN	SNP	SNAI	SERV
2	9	--	----	*	e212	intl	gflex
2	10	--	----	3	e164	intl	gflex
2	253	--	----	4	e214	natl	gflex
GTII	TT	NP	NAI	SSN	SNP	SNAI	SERV
2	0	--	----	2	e164	intl	gflex
2	18	--	----	*	e164	rnsdn	inpmr
4	0	e214	sub	*	e214	sub	gflex
GTIN	TT	NP	NAI	SSN	SNP	SNAI	SERV
2	2	--	----	3	e164	intl	gflex
2	9	--	----	*	----	----	inpq
4	2	e164	natl	*	e164	rnndn	inpmr
4	9	--	----	4	----	----	inpq

SRV SELECTOR table is (10 of 20992) 1 % full

Note: If the `rtrv-srvsel` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-srvsel` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 20992 service selectors in the database, to display all the service selectors in the database, the `force=yes` and `num=20992` parameters must be specified with the `rtrv-srvsel` command.

If the number of service selector entries is 20992, the new service selector entry cannot be added unless an existing service selector entry is removed from the database, or an existing service selector entry is changed with the new information for the MO SMS B-Party Routing feature.

Continue the procedure by performing one of these actions.

- If the number of service selector entries is 20992 and you wish to change an existing service selector entry, perform the procedure [Changing the Attributes of a Service Selector Entry for the MO SMS B-Party Routing Feature](#) on page 1027 using the service selector information that would have been used in this procedure. Do not perform the remainder of this procedure.

- If the number of service selector entries is 20992 and you wish to remove an existing service selector entry, perform the procedure [Removing a Service Selector Entry](#) on page 1023. After the service selector entry has been removed, continue the procedure with [Step 3](#) on page 1017.
 - If the number of service selector entries is less than 20992, continue the procedure with [Step 3](#) on page 1017.
3. ITU service selectors cannot be added to the database if the ANSIGFLEX STP option is enabled.

If ITU service selectors are shown in the `rtrv-srvsel` output in [Step 2](#) on page 1016, shown by the `GTII`, `GTIN`, or `GTIN24` columns, or if no ITU service selectors will be added, continue the procedure with [Step 5](#) on page 1017.

If ITU service selectors are not shown in the `rtrv-srvsel` output in [Step 2](#) on page 1016, and ITU service selectors will be added, verify whether or not the ANSIGFLEX STP option is enabled by entering the `rtrv-stpopts` command.

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
STP OPTIONS
-----
ANSIGFLEX          no
```

Note: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, refer to the `rtrv-stpopts` command description in the *Commands Manual*.

The value `yes` in the `rtrv-stpopts` output for the ANSIGFLEX field shows that the ANSIGFLEX STP option is enabled.

If the value for the ANSIGFLEX field is `no`, continue the procedure with [Step 5](#) on page 1017.

If the value for the ANSIGFLEX field is `yes`, continue the procedure with [Step 4](#) on page 1017.

4. Change the ANSIGFLEX STP option value to `no` by entering this command.

```
chg-stpopts:ansigflex=no
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
CHG-STPOPTS: MASP A - COMPLTD
```



CAUTION

CAUTION: After changing the ANSIGFLEX value to `no` in this step, and adding the ITU service selectors in [Step 5](#) on page 1017, the ANSIGFLEX STP option cannot be enabled.

5. Add the new service selector for the MO SMS B-Party Routing feature by entering the `ent-srvsel` command with the appropriate parameter combinations shown in [Table 99: Parameter Combinations for Adding Service Selectors for the MO SMS B-Party Routing Feature](#) on page 1018.

Table 99: Parameter Combinations for Adding Service Selectors for the MO SMS B-Party Routing Feature

ANSI Service Selector	ITU Service Selector
:gti/gtia = 2	:gtii/gtin/gtin24 = 2, 4
:serv = smsmr	:serv = smsmr
:tt = 0-255	:tt = 0-255
:ssn = 0-255, *	:ssn = 0-255, *
:snp = e164	:snp=e164
:snai = sub, natl, intl, rnidn, rrndn, rnsdn, ccrndn	:snai = sub, natl, intl, rnidn, rrndn, rnsdn, ccrndn
	:nai or :naiv - See the Note
	:np or :npv - See the Note
Note: The nai and naiv, and the np and npv parameters cannot be specified together in the ent-srvsel command. Refer to Table 97: NAIV/NAI Mapping on page 1014 for the nai and naiv parameter values. Refer to Table 98: NPV/NP Mapping on page 1015 for the np and npv parameter values. The nai, naiv, np, and npv parameters can be specified only if the gtii/gtin/gtin24 parameter value is 4.	

For this example, enter these commands.

```
ent-srvsel:gtia=2:serv:smsmr:tt=25:ssn=50:snp=e164:snai=natl
ent-srvsel:gtii=2:serv:smsmr:tt=35:ssn=60:snp=e164:snai=intl
ent-srvsel:gtin=4:serv:smsmr:tt=45:ssn=70:snp=e164:snai=sub
:nai=intl:npv=5
```

When each of these commands have successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
ENT-SRVSEL: MASP A - COMPLTD
```

- Verify the changes using the rtrv-srvsel command and specifying the parameters and values specified in [Step 5](#) on page 1017.

For this example, enter these commands.

```
rtrv-srvsel:gtia=2:serv:smsmr:tt=25:ssn=50:snp=e164:snai=natl
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTIA    TT    NP      NAI    SSN    SNP    SNAI    SERV
2       25    --      ----   50     e164   natl    smsmr

SRV SELECTOR table is (13 of 20992)    1 % full

rtrv-srvsel:gtii=2:serv:smsmr:tt=35:ssn=60:snp=e164:snai=intl
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTII      TT      NP      NAI      SSN      SNP      SNAI      SERV
2         35      --      ----      60      e164     intl      smsmr

SRV SELECTOR table is (13 of 20992) 1 % full

rtrv-srvsel:gtin=4:serv:smsmr:tt=45:ssn=70:snp=e164:snai=sub
:nai=intl:npv=5
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

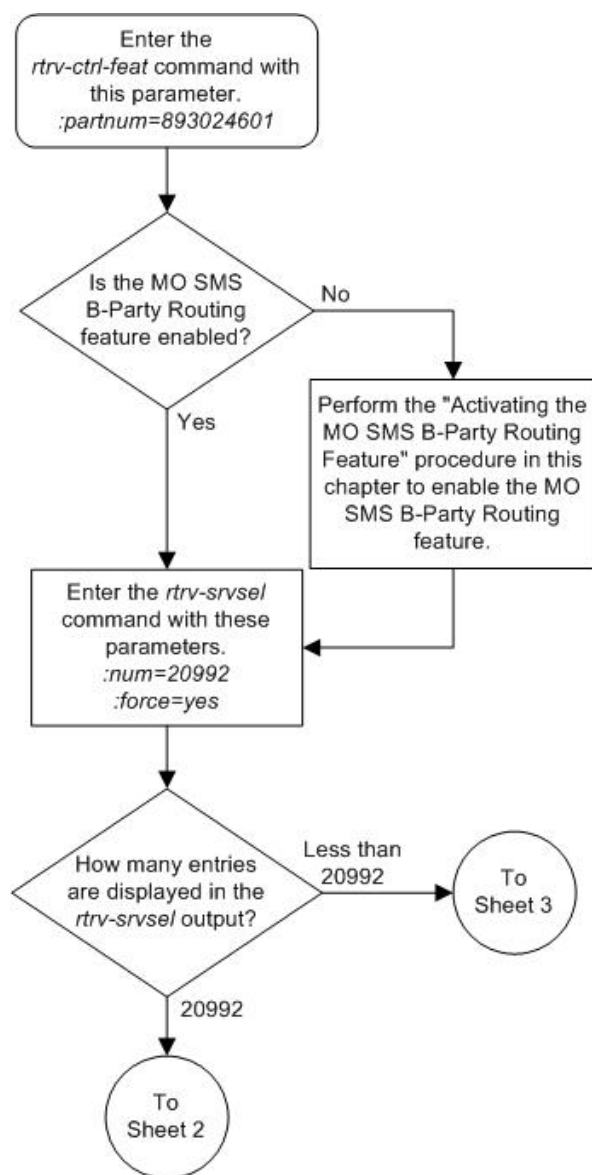
GTIN      TT      NP      NAI      SSN      SNP      SNAI      SERV
4         45      e210     intl     75      e164     sub       smsmr

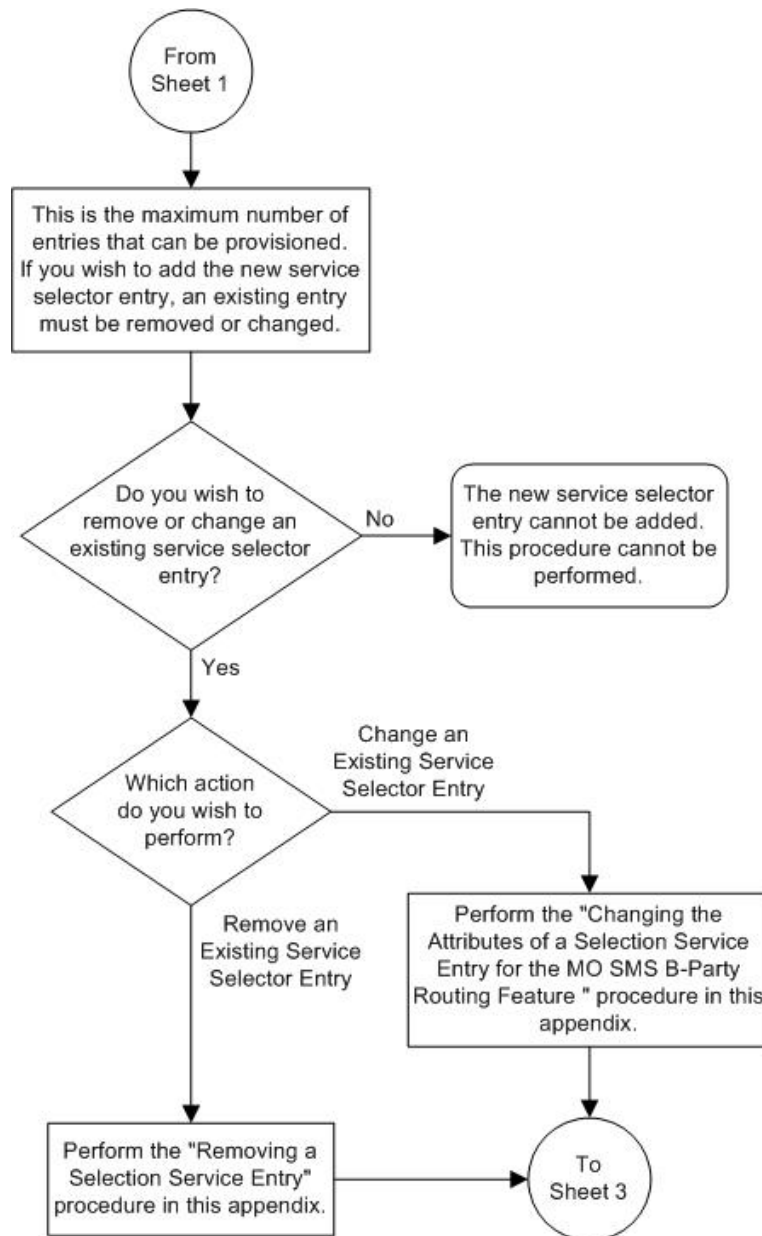
SRV SELECTOR table is (13 of 20992) 1 % full
```

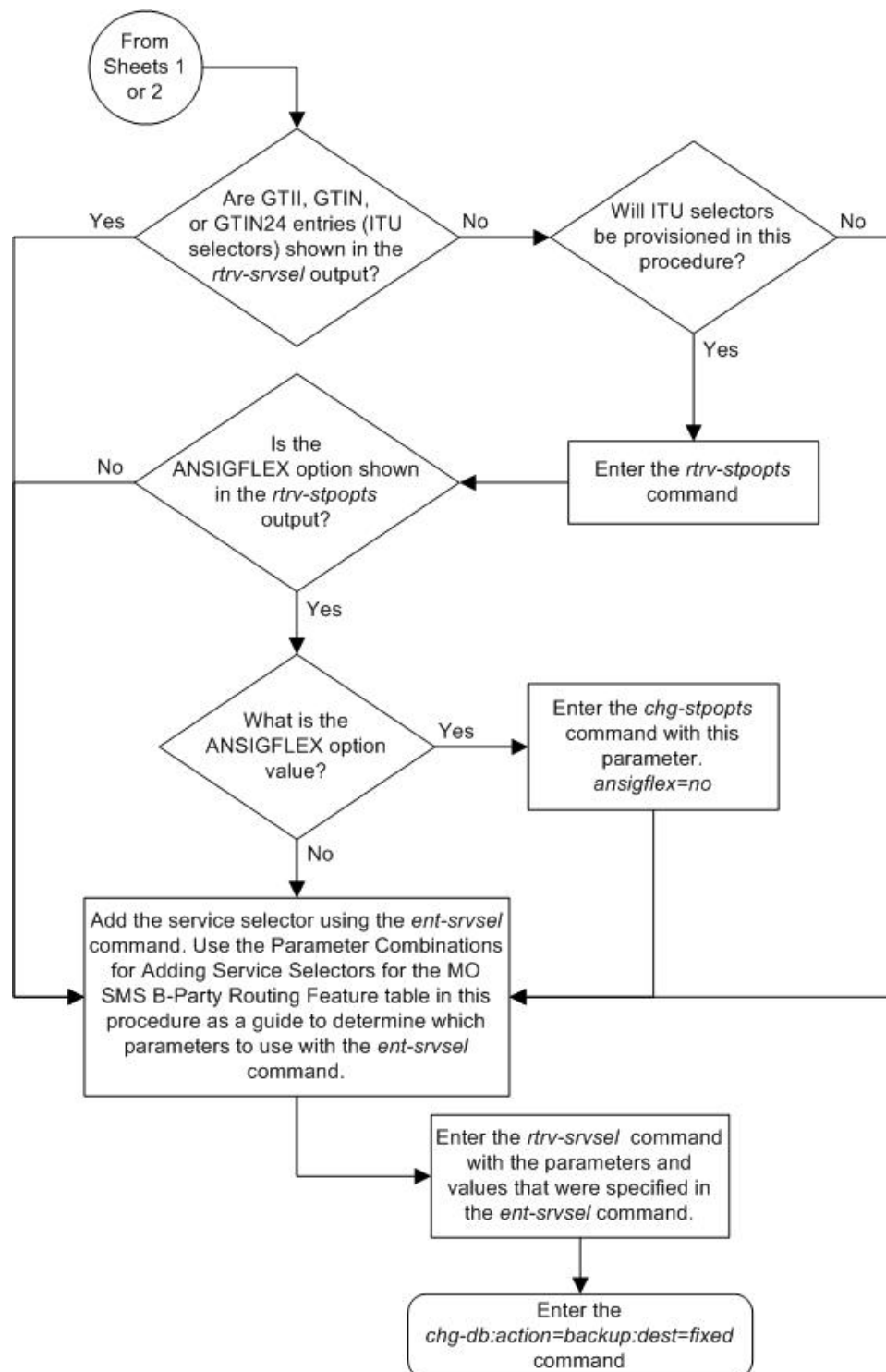
7. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 88: Adding a Service Selector Entry for the MO SMS B-Party Routing Feature







Removing a Service Selector Entry

This procedure is used to remove a service selector using the `dlt-srvsel` command.

The `dlt-srvsel` command uses these parameters.

`:gti/gtia/gtii/gtin/gtin24` – The global title indicator. The GTI defines the domain as

- `gti` and `gtia` (ANSI) with GTI=2
- `gtii` (ITU international) with GTI=2 or GTI=4, and
- `gtin` and `gtin24` (ITU national) with GTI=2 or GTI=4.

The `gti` and `gtia` parameters are equivalent.

`:tt` – The global title translation value shown in the `rtrv-srvsel` output for the service selector that is being removed.

`:ssn` – The subsystem number value shown in the `rtrv-srvsel` output for the service selector that is being removed.

`:nai` or `:naiv` – The nature of address indicator value shown in the `rtrv-srvsel` output for the service selector that is being removed. (See [Table 100: NAIV/NAI Mapping](#) on page 1023 for NAI/NAIV mapping)

Note: The nature of address indicator parameters (`naiv` or `nai`) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the `naiv` or `nai` parameter. [Table 100: NAIV/NAI Mapping](#) on page 1023 shows the mapping between the `naiv` and the `nai` parameters.

`:np` or `:npv` – The numbering plan value shown in the `rtrv-srvsel` output for the service selector that is being removed. (See [Table 101: NPV/NP Mapping](#) on page 1024 for NP/NPV mapping)

Note: The numbering plan parameters (`npv` or `np`) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the `npv` or `np` parameter. [Table 101: NPV/NP Mapping](#) on page 1024 shows the mapping between the `npv` and the `np` parameters.

Table 100: NAIV/NAI Mapping

NAIV	NAI	Description
0	--	Unknown
1	Sub	Subscriber Number
2	Rsvd	Reserved for national use
3	Natl	National significant number
4	Intl	International number

NAIV	NAI	Description
5-127	---	Spare

Table 101: NPV/NP Mapping

NPV	NP	Description
0	--	Unknown
1	E164	ISDN/telephony numbering plan
2	Generic	Generic numbering plan
3	X121	Data numbering plan
4	F69	Telex numbering plan
5	E210	Maritime mobile numbering plan
6	E212	Land mobile numbering plan
7	E214	ISDN/mobile numbering plan
8	Private	Private network or network-specific numbering plan
9-15	---	Spare

The service selector that is being removed from the database must be shown in the `rtrv-srvsel` output.

1. Display the service selector entries by entering this command `rtrv-srvsel` command.

```
rtrv-srvsel:num=20992:force=yes
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTIA  TT  NP    NAI  SSN  SNP  SNAI  SERV
2      9   --    ----  *    e212  intl  gflex
2     10   --    ----  3    e164  intl  gflex
2     25   --    ----  50   e164  natl  smsmr
2    253   --    ----  4    e214  natl  gflex

GTII  TT  NP    NAI  SSN  SNP  SNAI  SERV
2      0   --    ----  2    e164  intl  gflex
4      0  e214  sub  *    e214  sub  gflex
2     18   --    ----  *    e164  rnsdn inpmr
```

```

2      35  --      ----  60  e164  intl  smsmr
GTIN   TT   NP      NAI   SSN  SNP   SNAI  SERV
2      2   --      ----  3   e164  intl  gflex
2      9   --      ----  *   ----  ----  inpq
4      2   e164     natl  *   e164  rnndn  inpmr
4      9   --      ----  4   ----  ----  inpq
4      45  e210     intl  75  e164  sub   smsmr

SRV SELECTOR table is (13 of 20992) 1 % full

```

Note: If the `rtrv-srvsel` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-srvsel` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 20992 service selectors in the database, to display all the service selectors in the database, the `force=yes` and `num=20992` parameters must be specified with the `rtrv-srvsel` command.

- From the `rtrv-srvsel` output in [Step 1](#) on page 1024, select the service selector that will be removed. Record all the values for this service selector. These values will be used in [Step 4](#) on page 1026 with the `rtrv-srvsel` command to verify that the service selector has been removed from the database.
- Remove the service selector from the database by entering the `dlt-srvsel` command with the appropriate parameter combinations shown in [Table 102: Parameter Combinations for Removing Service Selectors](#) on page 1025.

Table 102: Parameter Combinations for Removing Service Selectors

ANSI Service Selector	ITU Service Selector
:gti/gtia = 2	:gtii/gtin/gtin24 = 2, 4
:tt = the value shown in the <code>rtrv-srvsel</code> output.	:tt = the value shown in the <code>rtrv-srvsel</code> output.
:ssn = the value shown in the <code>rtrv-srvsel</code> output.	:ssn = the value shown in the <code>rtrv-srvsel</code> output.
	:nai or :naiv - the value shown in the <code>rtrv-srvsel</code> output. See the Note
	:np or :npv - the value shown in the <code>rtrv-srvsel</code> output. See the Note
Note: The <code>nai</code> and <code>naiv</code> , and the <code>np</code> and <code>npv</code> parameters cannot be specified together in the <code>dlt-srvsel</code> command. Refer to Table 100: NAIV/NAI Mapping on page 1023 for the <code>nai</code> and <code>naiv</code> parameter values. Refer to Table 101: NPV/NP Mapping on page 1024 for the <code>np</code> and <code>npv</code> parameter values. The <code>nai</code> , <code>naiv</code> , <code>np</code> , and <code>npv</code> parameters can be specified only if the <code>gtii/gtin/gtin24</code> parameter value is 4.	

For this example, enter these commands.

```
dlt-srvsel:gtia=2:tt=25:ssn=50
```

```
dlt-srvsel:gtii=2::tt=35:ssn=60
```

```
dlt-srvsel:gtin=4:tt=45:ssn=70:nai=intl:npv=5
```

When each of these commands have successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
DLT-SRVSEL: MASP A - COMPLTD
```

4. Verify the changes using the `rtrv-srvsel` command and specifying the values that were recorded in [Step 2](#) on page 1025.

For this example, enter these commands.

```
rtrv-srvsel:gtia=2:serv:smsmr:tt=25:ssn=50:snp=e164:snai=natl
rtrv-srvsel:gtii=2:serv:smsmr:tt=35:ssn=60:snp=e164:snai=intl
rtrv-srvsel:gtin=4:serv:smsmr:tt=45:ssn=70:snp=e164:snai=sub
:nai=intl:npv=5
```

When each of these commands have successfully completed, this output is displayed showing that the serv ice selector is not in the database.

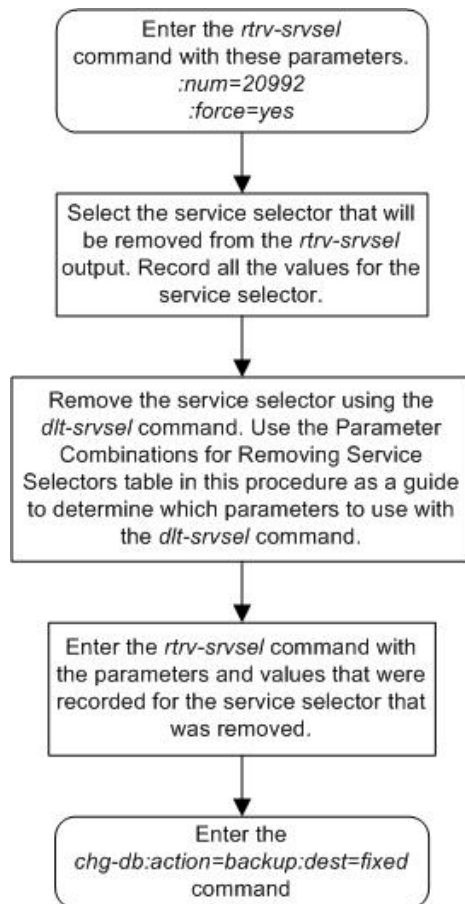
```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTIN    TT    NP      NAI    SSN    SNP    SNAI    SERV
No SRV Selector found in range
```

5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 89: Removing a Service Selector Entry



Changing the Attributes of a Service Selector Entry for the MO SMS B-Party Routing Feature

This procedure is used to provision an entry in the service selector table for the MO SMS B-Party Routing feature using the *chg-srvsel* command.

The *chg-srvsel* command uses these parameters.

:gti/gtia/gtii/gtin/gtin24 – The global title indicator. The GTI defines the domain as

- *gti* and *gtia* (ANSI) with GTI=2
- *gtii* (ITU international) with GTI=2 or GTI=4, and
- *gtin* and *gtin24* (ITU national) with GTI=2 or GTI=4.

The *gti* and *gtia* parameters are equivalent.

:serv – the DSM service - *smsmr*.

:tt – The global title translation type value shown in the *rtv-srvsel* output for the service selector that is being changed.

:ssn – The subsystem number shown in the `rtrv-srvsel` output for the service selector that is being changed.

:naior :naiv – The nature of address indicator shown in the `rtrv-srvsel` output for the service selector that is being changed. See [Table 103: NAIV/NAI Mapping](#) on page 1028 for NAI/NAIV mapping.

Note: The nature of address indicator parameters (naiv or nai) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the naiv or nai parameter. [Table 103: NAIV/NAI Mapping](#) on page 1028 shows the mapping between the naiv and the nai parameters.

:np or :npv – The numbering plan value shown in the `rtrv-srvsel` output for the service selector that is being changed. See [Table 104: NPV/NP Mapping](#) on page 1029 for NP/NPV mapping.

Note: The numbering plan parameters (npv or np) can be specified by supplying either a mnemonic or an explicit value. At no time may both the mnemonic and the explicit value be specified at the same time for the same parameter. You can specify either the npv or np parameter. [Table 104: NPV/NP Mapping](#) on page 1029 shows the mapping between the npv and the np parameters.

:snai – The service nature of address indicator.

- natl — National significant number
- intl — International number
- rnsdn — Routing number prefix and international dialed/directory number
- rnsdn — Routing number prefix and national dialed/directory number
- rnsdn — Routing number prefix and subscriber dialed/directory number
- ccrndn — Country code, routing number, and national directory number
- sub — Subscriber number

:snp – The service numbering plan - e164

Table 103: NAIV/NAI Mapping

NAIV	NAI	Description
0	--	Unknown
1	Sub	Subscriber Number
2	Rsvd	Reserved for national use
3	Natl	National significant number
4	Intl	International number
5-127	---	Spare

Table 104: NPV/NP Mapping

NPV	NP	Description
0	--	Unknown
1	E164	ISDN/telephony numbering plan
2	Generic	Generic numbering plan
3	X121	Data numbering plan
4	F69	Telex numbering plan
5	E210	Maritime mobile numbering plan
6	E212	Land mobile numbering plan
7	E214	ISDN/mobile numbering plan
8	Private	Private network or network-specific numbering plan
9-15	---	Spare

To perform this procedure, the MO SMS B-Party Routing feature must be enabled. Enter the `rtrv-ctrl-feat` command with the MO SMS B-Party Routing part number, 893024601, to verify whether or not the MO SMS B-Party Routing feature is enabled. If the MO SMS B-Party Routing feature is not enabled, perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997 to enable MO SMS B-Party Routing feature.

1. Display the service selector entries by entering this command `rtrv-srvsel` command.

```
rtrv-srvsel:num=20992:force=yes
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTIA   TT   NP   NAI   SSN   SNP   SNAI  SERV
2       9   --   ----  *    e212  intl  gflex
2      10  --   ----  3    e164  intl  gflex
2      25  --   ----  50   e164  natl  smsmr
2     253  --   ----  4    e214  natl  gflex

GTII   TT   NP   NAI   SSN   SNP   SNAI  SERV
2       0   --   ----  2    e164  intl  gflex
4       0  e214  sub   *    e214  sub   gflex
2      18  --   ----  *    e164  rnsdn inpmr
2      35  --   ----  60   e164  intl  smsmr

GTIN   TT   NP   NAI   SSN   SNP   SNAI  SERV
```

```

2      2      --      ----  3      e164  intl  gflex
2      9      --      ----  *      ----  ----  inpq
4      2      e164     natl  *      e164  rnndn  inpmr
4      9      --      ----  4      ----  ----  inpq
4      45     e210     intl  75     e164  sub    smsmr

```

```
SRV_SELECTOR table is (13 of 20992) 1 % full
```

Note: If the `rtrv-srvsel` command is entered with no other parameters specified, a maximum of 50 entries are displayed. To display more than 50 entries, the `force=yes` parameter must be specified with the `rtrv-srvsel` command and the `num` parameter value must be greater than 50. Since there can be a maximum of 20992 service selectors in the database, to display all the service selectors in the database, the `force=yes` and `num=20992` parameters must be specified with the `rtrv-srvsel` command.

If the value `smsmr` is shown in the `SERV` column of the `rtrv-srvsel` output, continue the procedure with [Step 3](#) on page 1030.

If the value `smsmr` is not shown in the `SERV` column of the `rtrv-srvsel` output, continue the procedure with [Step 2](#) on page 1030.

2. Verify the status of the MO SMS B-Party Routing feature by entering the `rtrv-ctrl-feat` command with the MO SMS B-Party Routing feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893024601
```

The following is an example of the possible output.

```

rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
MO SMS B-Party Routing 893024610  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.

```

If the MO SMS B-Party Routing feature has not been enabled, perform the procedure [Activating the MO SMS B-Party Routing Feature](#) on page 997 procedure to enable this feature.

3. From the `rtrv-srvsel` output in [Step 1](#) on page 1029, select the service selector that will be removed. Record all the values for this service selector. These values and the new values for the `snr`, `snai`, and `serv` parameters will be used in [Step 5](#) on page 1032 with the `rtrv-srvsel` command to verify the changes that will be made to the service selector.
4. Change the service selector by entering the `chg-srvsel` command with the appropriate parameter combinations shown in [Table 105: Parameter Combinations for Changing Service Selectors for the MO SMS B-Party Routing Feature](#) on page 1031.

Table 105: Parameter Combinations for Changing Service Selectors for the MO SMS B-Party Routing Feature

ANSI Service Selector	ITU Service Selector	
Mandatory Parameters		
:gti/gtia = 2	:gtii/gtin/gtin24 = 2	:gtii/gtin/gtin24 = 4
:tt = the value shown in the rtrv-srvsel output.	:tt = the value shown in the rtrv-srvsel output.	:tt = the value shown in the rtrv-srvsel output.
:ssn = the value shown in the rtrv-srvsel output.	:ssn = the value shown in the rtrv-srvsel output.	:ssn = the value shown in the rtrv-srvsel output.
		:nai or :naiv - the value shown in the rtrv-srvsel output. See Note 1.
		:np or :npv - the value shown in the rtrv-srvsel output. See Note 1.
Optional Parameters (See Note 2)		
:nserv = smsmr (See Note 3)	:nserv = smsmr (See Note 3)	:nserv = smsmr (See Note 3)
:nsnp = e164 (See Note 3)	:nsnp= e164 (See Note 3)	:nsnp = e164 (See Note 3)
:nsnai = sub, natl, intl, rnidn, rnndn, rnsdn, ccrndn	:nsnai = sub, natl, intl, rnidn, rnndn, rnsdn, ccrndn	:nsnai = sub, natl, intl, rnidn, rnndn, rnsdn, ccrndn

Notes:

1. The nai and naiv, and the np and npv parameters cannot be specified together in the chg-srvsel command. Refer to [Table 103: NAI/NAI Mapping](#) on page 1028 for the nai and naiv parameter values. Refer to [Table 104: NPV/NP Mapping](#) on page 1029 for the np and npv parameter values. The nai, naiv, np, and npv parameters can be specified only if the gtii/gtin/gtin24 parameter value is 4.

2. A minimum of one optional parameter must be specified for the chg-srvsel command. The value of any optional parameter that is not specified is not changed.

3. If the current SERV value is smsmr, the nserv and nsnp parameters cannot be specified. The SERV and SNP values cannot be changed.

For this example, enter these commands.

```
chg-srvsel:gtia=2:tt=25:ssn=50:nsnai=rnndn
chg-srvsel:gtia=2:tt=253:ssn=4:nserv=smsmr:nsnp=e164:nsnai=rnidn
chg-srvsel:gtii=2:tt=35:ssn=60:nsnai=sub
chg-srvsel:gtii=4:tt=0:ssn=:nai=sub:np=e214:nserv=smsmr
:nsnp=e164:nsnai=rnsdn
```

```
chg-srvsel:gtin=4:tt=45:ssn=75:nai=intl:np=e210:nsnai=natl
```

```
chg-srvsel:gtin=2:tt=9:ssn=:nserv=smsmr:snp=e164:nsnai=natl
```

When each of these commands have successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
CHG-SRVSEL: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-srvsel` command and specifying the values that were recorded in [Step 3](#) on page 1030 and the new values for the `snp`, `snai`, and `serv` parameters, as applicable..

For this example, enter these commands.

```
rtrv-srvsel:gtia=2:tt=25:ssn=50:snp=e164:snai=rnndn:serv=smsmr
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTIA    TT    NP      NAI    SSN    SNP    SNAI    SERV
2       25    --      ----   50     e164   rnndn   smsmr

SRV SELECTOR table is (13 of 20992)  1 % full
```

```
rtrv-srvsel:gtia=2:tt=253:ssn=4:snp=e164:snai=rnidn:serv=smsmr
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTII    TT    NP      NAI    SSN    SNP    SNAI    SERV
2       253   --      ----   4      e164   rnidn   smsmr

SRV SELECTOR table is (13 of 20992)  1 % full
```

```
rtrv-srvsel:gtii=2:tt=35:ssn=60:snp=e164:snai=sub:serv=smsmr
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTII    TT    NP      NAI    SSN    SNP    SNAI    SERV
2       35    --      ----   60     e164   sub     smsmr

SRV SELECTOR table is (13 of 20992)  1 % full
```

```
rtrv-srvsel:gtin=4:tt=0:ssn=:snp=e164:snai=sub:nai=sub
:np=e214:serv=smsmr
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0

GTII    TT    NP      NAI    SSN    SNP    SNAI    SERV
4       0     e214    sub    *     e164   rnsdn   smsmr
```

```
SRV_SELECTOR table is (13 of 20992) 1 % full
```

```
rtrv-srvsel:gtin=4:tt=45:ssn=75:snp=e164:snai=natl:nai=intl  
:np=e210:serv:smsmr
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
```

GTIN	TT	NP	NAI	SSN	SNP	SNAI	SERV
4	45	e210	intl	75	e164	natl	smsmr

```
SRV_SELECTOR table is (13 of 20992) 1 % full
```

```
rtrv-srvsel:gtin=2:tt=9:ssn=:snp=e164:snai=natl:serv:smsmr
```

This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
```

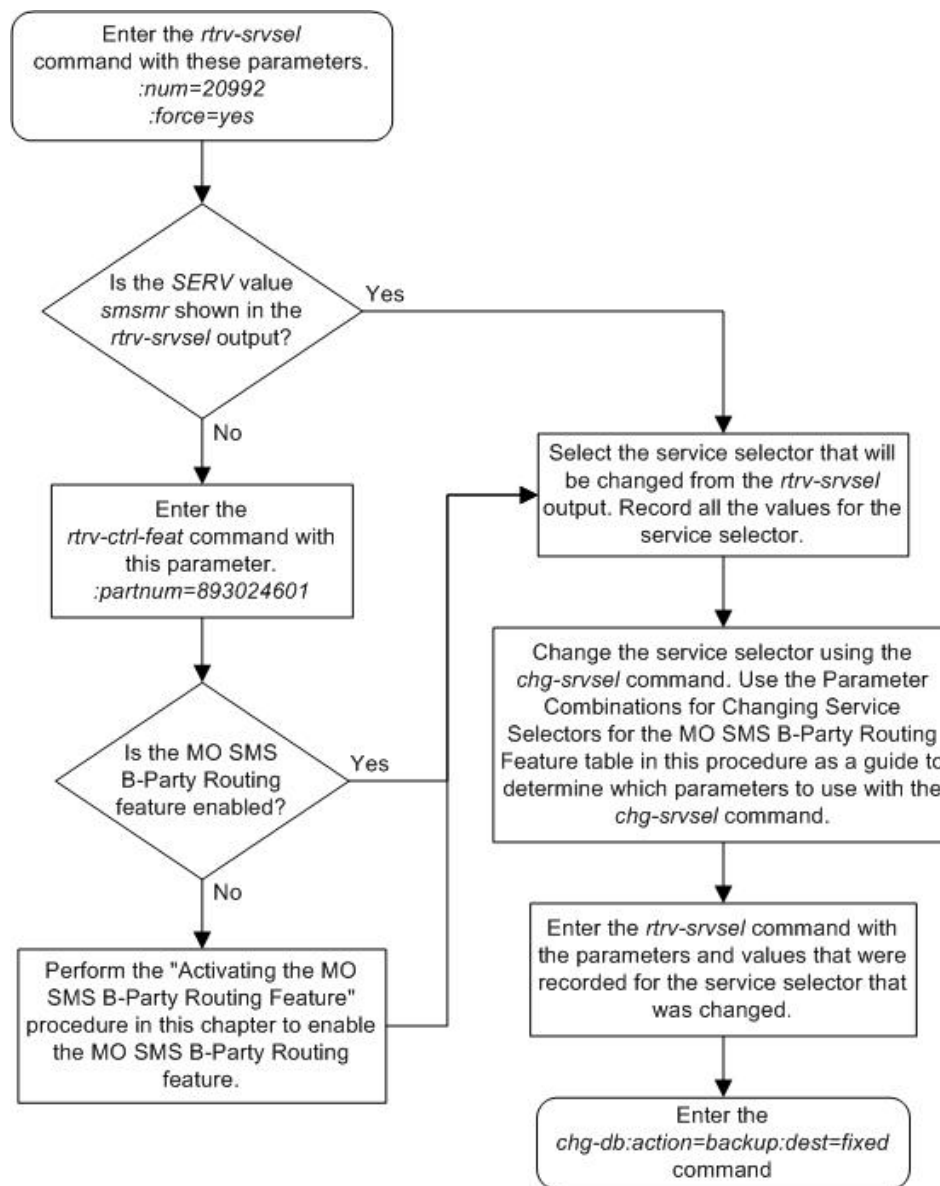
GTIN	TT	NP	NAI	SSN	SNP	SNAI	SERV
2	9	--	----	*	e164	natl	smsmr

```
SRV_SELECTOR table is (13 of 20992) 1 % full
```

- Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 90: Changing the Attributes of a Service Selector Entry for the MO SMS B-Party Routing Feature



Turning the MO SMS B-Party Routing Feature Off

This procedure is used to turn off the MO SMS B-Party Routing feature using the *chg-ctrl-feat* command.

The *chg-ctrl-feat* command uses the following parameters:

:partnum - The part number of the MO SMS B-Party Routing feature, 893024601.

:status=off - used to turn off the MO SMS B-Party Routing feature.

The status of the MO SMS B-Party Routing feature must be on and is shown with the `rtrv-ctrl-feat` command.



CAUTION

If the MO SMS B-Party Routing feature is turned off, provisioning for MO SMS B-Party Routing can be performed with the `chg-gsmsmsopts`, `chg-is41smsopts`, `ent-srvsel`, `dlt-srvsel`, and `chg-srvsel` commands. The EAGLE 5 ISS will not perform global title translation on the MAP B-Party digits of the message.

1. Display the status of the MO SMS B-Party Routing feature by entering the `rtrv-ctrl-feat:partnum=893024601` command.

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
MO SMS B-Party Routing 893024601  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the status of the MO SMS B-Party Routing feature is off, or if the MO SMS B-Party Routing feature is not enabled, this procedure cannot be performed.

2. Turn off the MO SMS B-Party Routing feature by entering the `chg-ctrl-feat` command with the `status=off` parameter.

For example, enter this command.

```
chg-ctrl-feat:partnum=893024601:status=off
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:16:37 GMT EAGLE5 39.1.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the MO SMS B-Party Routing feature has been turned off by using the `rtrv-ctrl-feat:partnum=893024601` command. The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
MO SMS B-Party Routing 893024601  off       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.
```

The following features have expired temporary keys:

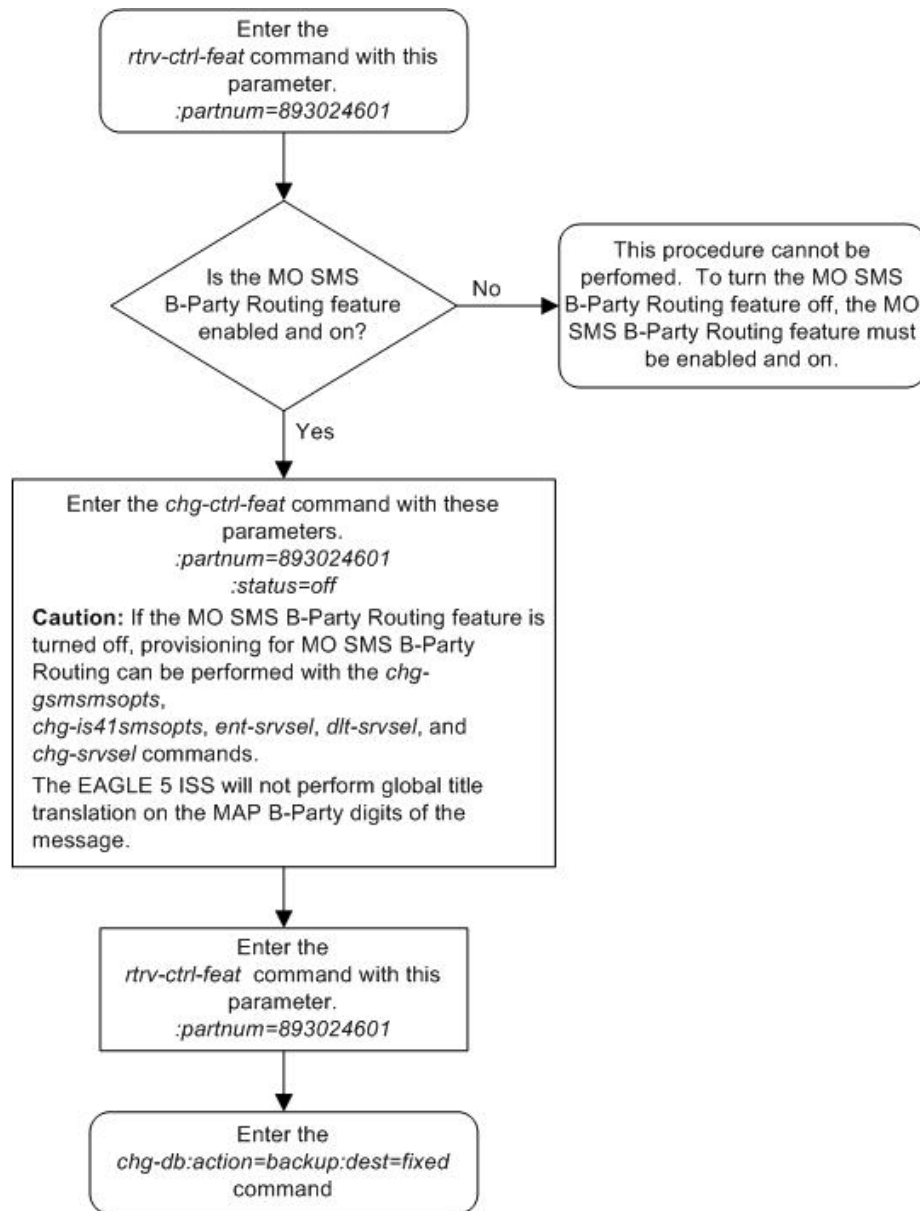
Feature Name	Partnum
Zero entries found.	

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 91: Turning the MO SMS B-Party Routing Feature Off



Appendix

C

MO SMS Prepaid Intercept on B-Party Configuration Procedures

Topics:

- [*Introduction.....1040*](#)
- [*Activating the Prepaid SMS Intercept Phase 1 Feature.....1040*](#)
- [*Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature.....1050*](#)
- [*Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature.....1054*](#)
- [*Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature.....1068*](#)
- [*Turning the Prepaid SMS Intercept Phase 1 Feature Off.....1076*](#)

Appendix C, MO SMS Prepaid Intercept on B-Party Configuration Procedures, describes the procedures necessary to configure the EAGLE 5 ISS to redirect MO SMS messages from a prepaid B-party subscriber to a specific SMSC.

Introduction

The MO SMS Prepaid Intercept on B-Party feature allows the existing Prepaid Intercept Phase 1 feature to redirect MO SMS messages based on whether the B-Party of the subscriber is prepaid.

Note: The B-party is checked only if the A-party is not a prepaid subscriber.

Provisioning the MO SMS Prepaid Intercept on B-Party Feature

1. Enable the MO SMS Prepaid Intercept on B-Party feature using the `enable-ctrl-feat` command and turn the MO SMS Prepaid Intercept on B-Party on using the `chg-ctrl-feat` command. Perform the procedure [Activating the Prepaid SMS Intercept Phase 1 Feature](#) on page 1040.
2. Configure the service selectors for the MO SMS Prepaid Intercept on B-Party feature using the `ent-srvsel` command. Perform the procedure [Adding a Service Selector Entry for the MO SMS B-Party Routing Feature](#) on page 1013 .
3. Configure entries in the PPSOPTS table for a prepaid portability type using the `chg-ppsopts` command. Perform these procedures.
 - To configure the point code entries in the PPSOPTS table, perform the procedure [Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1054.
 - To configure the GTA entries in the PPSOPTS table, perform the procedure [Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1068.
4. Configure the B-Party check option. Perform the procedure [Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1050.

Activating the Prepaid SMS Intercept Phase 1 Feature

This procedure is used to enable and turn on the Prepaid SMS Intercept Phase 1 feature.

The feature access key is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the Prepaid SMS Intercept Phase 1 feature by inputting the feature's access key and the feature's part number with these parameters:

: fak – The feature access key provided by Tekelec. The feature access key contains 13 alphanumeric characters and is not case sensitive

: partnum – The Tekelec-issued part number of the Prepaid SMS Intercept Phase 1 feature, 893006701.

If the feature is being enabled with a temporary feature access key, the feature must not be in the *in-use*, *expired*, or *unavailable* state.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked

once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`:serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`:lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

Once the feature has been enabled, the feature must be activated with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number of the Prepaid SMS Intercept Phase 1 feature, 893006701.

`:status=on` – used to turn the Prepaid SMS Intercept Phase 1 feature on.

The status of the features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The Prepaid SMS Intercept Phase 1 requires that DSMs or E5-SM4G cards are installed and provisioned in the EAGLE 5 ISS. The `rtrv-stp` command can be used to verify if DSMs or E5-SM4G cards are provisioned in the database. Specifying the `type=dsm` parameter with the `rtrv-stp` command displays the DSMs and E5-SM4G cards.

1. Display the status of the Prepaid SMS Intercept Phase 1 feature by entering the `rtrv-ctrl-feat` command.

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:
```

Feature Name	Partnum	Status	Quantity
Command Class Management	893005801	on	----
Intermed GTT Load Sharing	893006701	off	----
XGTT Table Expansion	893006101	off	----
XMAP Table Expansion	893007710	on	3000
Large System # Links	893005910	on	2000
Routesets	893006401	on	6000
HC-MIM SLK Capacity	893012707	on	64

```
The following features have been temporarily enabled:
```

Feature Name	Partnum	Status	Quantity	Trial Period Left
Zero entries found.				

```
The following features have expired temporary keys:
```

Feature Name	Partnum
Zero entries found.	

If the `rtrv-ctrl-feat` output shows that the Prepaid SMS Intercept Phase 1 feature is permanently enabled, and its status is `on`, no further action is necessary.

If the Prepaid SMS Intercept Phase 1 feature is permanently enabled, and its status is `off`, continue the procedure with [Step 10](#) on page 1044.

If the Prepaid SMS Intercept Phase 1 feature is temporarily enabled, and you wish to permanently enable this feature, or the temporary feature access key for that feature has expired, continue the procedure with [Step 9](#) on page 1044.

If the Prepaid SMS Intercept Phase 1 feature is to remain temporarily enabled, and its status is off, continue the procedure with [Step 10](#) on page 1044. If the feature's status is on, no further action is necessary.

If the Prepaid SMS Intercept Phase 1 feature is to remain temporarily enabled, and its status is on, no further action is necessary.

If the Prepaid SMS Intercept Phase 1 feature is not enabled, continue the procedure with [Step 2](#) on page 1042.

2. If the `rtrv-ctrl-feat` output in [Step 1](#) on page 1041 shows any controlled features, continue the procedure with [Step 9](#) on page 1044. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, [Step 3](#) on page 1042 through [Step 6](#) on page 1043 must be performed.
3. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
System serial number = nt00001231
```

```
System serial number is not locked.
```

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with [Step 7](#) on page 1043. If the serial number is correct but not locked, continue the procedure with [Step 6](#) on page 1043. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to [Customer Care Center](#) on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

4. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

5. Verify that the serial number entered into [Step 4](#) on page 1042 was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
System serial number = nt00001231
```

```
System serial number is not locked.
```

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
Command Completed
```

If the serial number was not entered correctly, repeat [Step 4](#) on page 1042 and [Step 5](#) on page 1042 and re-enter the correct serial number.

6. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in [Step 3](#) on page 1042, if the serial number shown in [Step 3](#) on page 1042 is correct, or with the serial number shown in [Step 5](#) on page 1042, if the serial number was changed in [Step 4](#) on page 1042, and with the `lock=yes` parameter.

For this example, enter this command.

```
ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
ENT-SERIAL-NUM: MASP A - COMPLTD
```

7. Verify that the GTT feature is on, by entering the `rtrv-feat` command. If the GTT feature is on, the GTT field should be set to on.

Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

If the GTT feature is not on, perform the [Adding a Service Module](#) on page 94 procedure to turn the GTT feature on and add DSMs or E5-SM4G cards to the EAGLE 5 ISS. After the GTT feature is turned on and the DSMs or E5-SM4G cards have been added, continue the procedure with [Step 9](#) on page 1044.

If the GTT feature is on, continue the procedure with [Step 8](#) on page 1043 .

8. Display any DSMs or E5-SM4G cards by entering this command.

```
rtrv-stp:type=dsm
```

This is an example of the possible output if DSMs or E5-SM4G cards are provisioned in the database.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
```

Card	Part Number	Rev	Serial Number	Type	DB	APPL	GPL Version
1105	870-1275-03	W	10245689323	DSM	40696M	VSCCP	027-010-000
1214	870-1275-03	W	10245689333	DSM	40696M	VSCCP	027-010-000
2107	870-1275-03	W	10245689343	DSM	40696M	VSCCP	027-010-000

```
Command Completed.
```

This is an example of the possible output if there are no DSMs or E5-SM4G cards provisioned in the database.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
```

Card	Part Number	Rev	Serial Number	Type	DB	APPL	GPL Version
------	-------------	-----	---------------	------	----	------	-------------

```
Command Completed.
```

If no DSMs or E5-SM4G cards are shown in this step, perform the procedure [Adding a Service Module](#) on page 94 to add the required cards. After the cards have been added, continue the procedure with [Step 9](#) on page 1044.

If cards are shown in this step, continue the procedure with [Step 9](#) on page 1044.

9. Enable the Prepaid SMS Intercept Phase 1 feature with either a permanent key or temporary key by entering the `enable-ctrl-feat` command. For this example, enter this command.

```
enable-ctrl-feat:partnum=893006701:fak=<Prepaid SMS Intercept Phase  
1 feature access key>
```

Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the Prepaid SMS Intercept Phase 1 feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0  
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

10. The Prepaid SMS Intercept Phase 1 feature must be turned on using the `chg-ctrl-feat` command, specifying the Prepaid SMS Intercept Phase 1 feature part number and the `status=on` parameter. For this example, enter this command.

```
chg-ctrl-feat:partnum=893006701:status=on
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0  
CHG-CTRL-FEAT: MASP B - COMPLTD
```

11. Verify the changes by entering the `rtrv-ctrl-feat` command with the Prepaid SMS Intercept Phase 1 part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893006701
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0  
The following features have been permanently enabled:  


| Feature Name              | Partnum   | Status | Quantity |
|---------------------------|-----------|--------|----------|
| Prepaid SMS Intercept Ph1 | 893006701 | on     | ----     |

  
The following features have been temporarily enabled:  


| Feature Name        | Partnum | Status | Quantity | Trial Period Left |
|---------------------|---------|--------|----------|-------------------|
| Zero entries found. |         |        |          |                   |

  
The following features have expired temporary keys:  


| Feature Name        | Partnum |
|---------------------|---------|
| Zero entries found. |         |

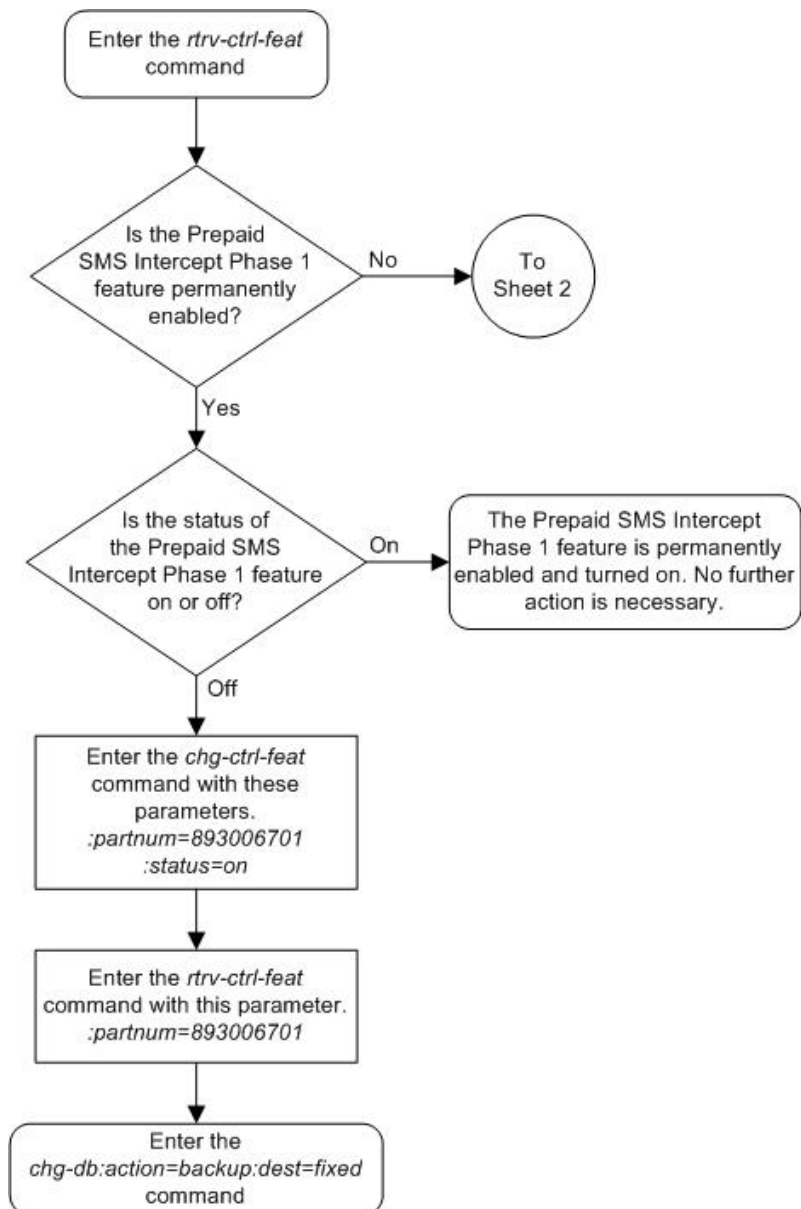

```

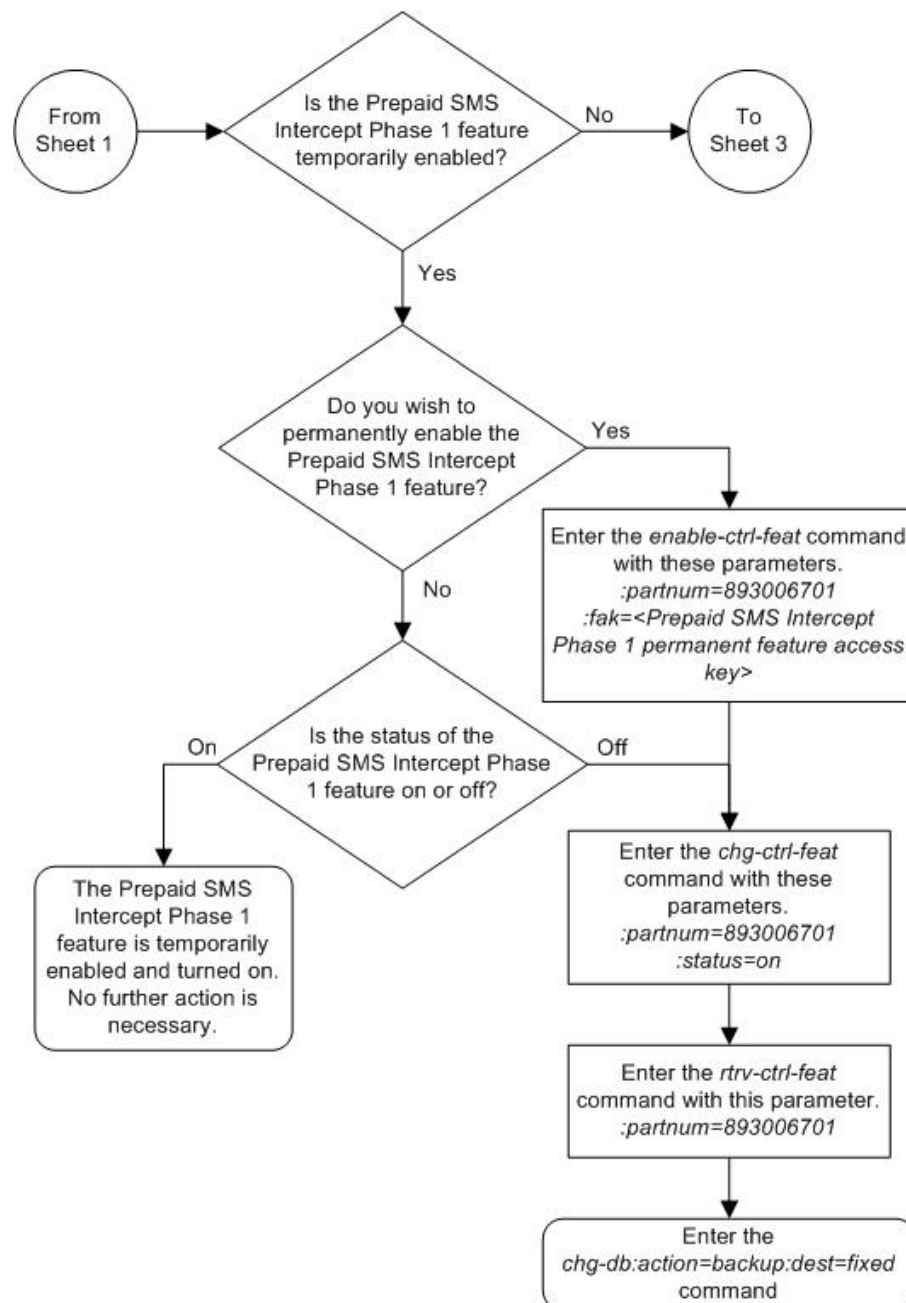
12. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

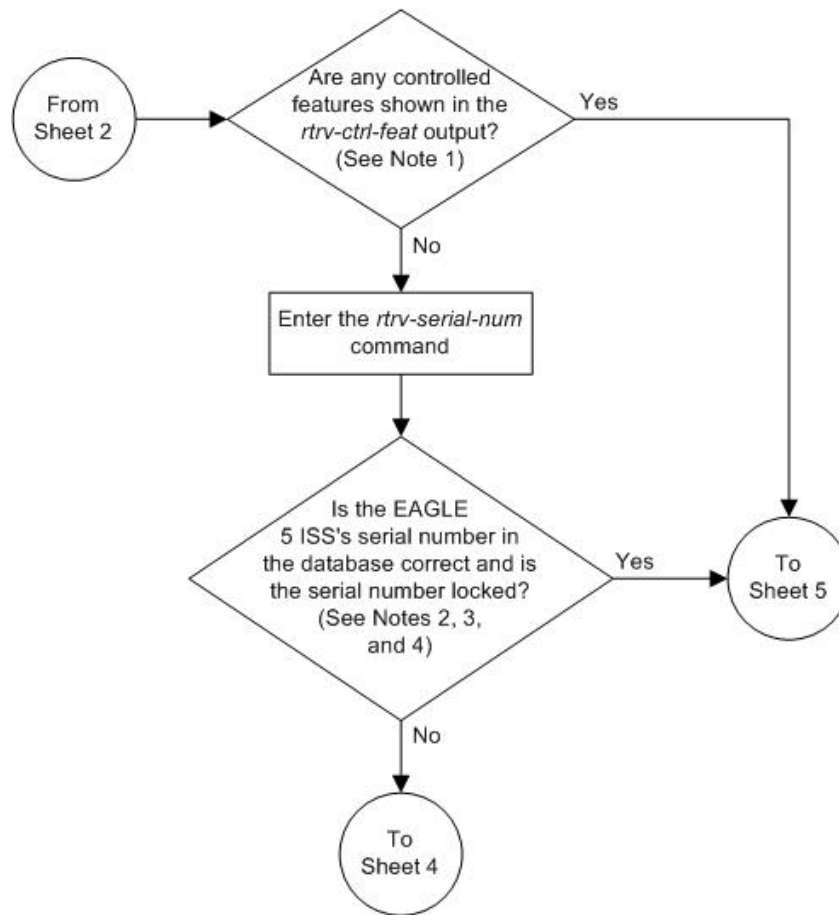
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 92: Activating the Prepaid SMS Intercept Phase 1 Feature

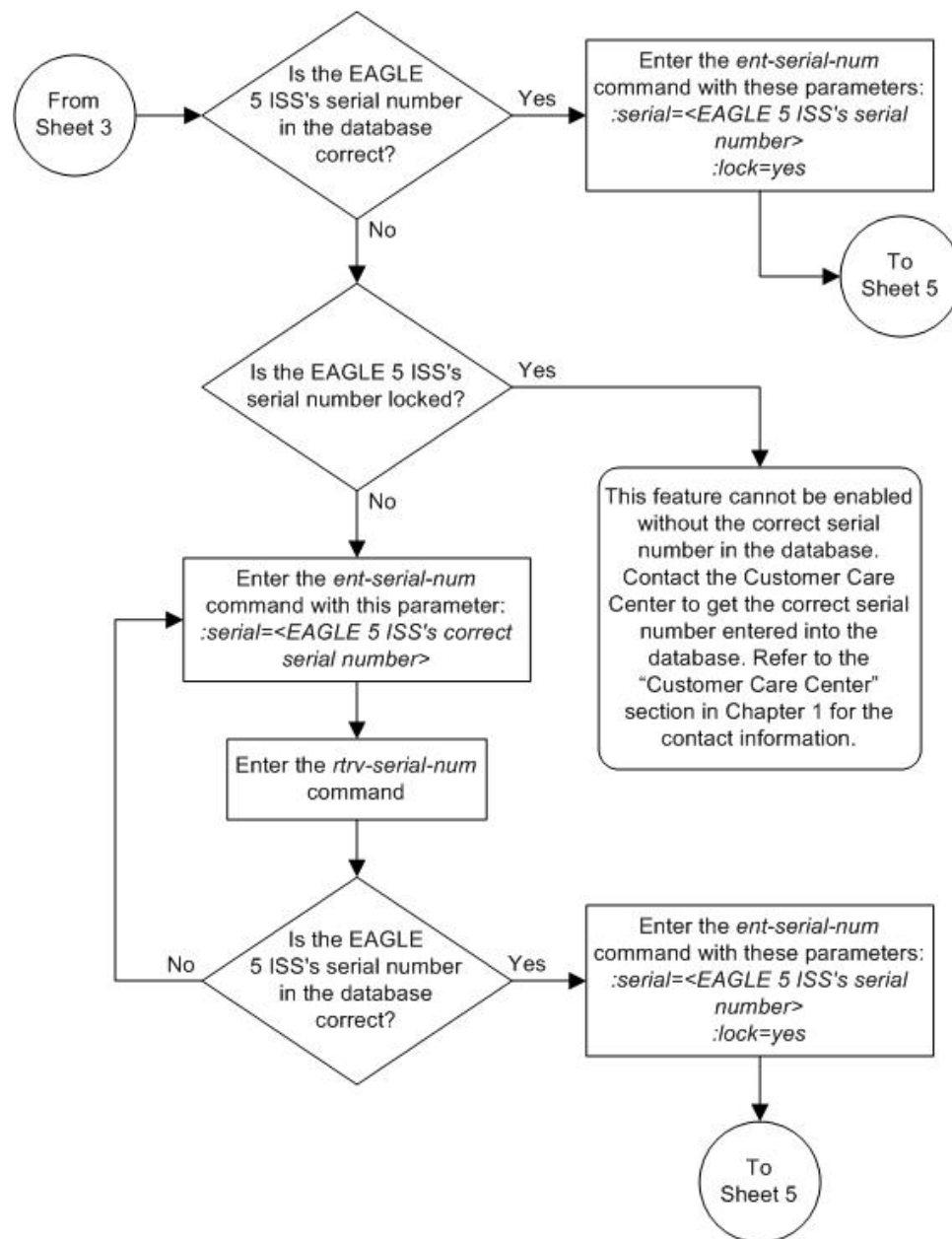


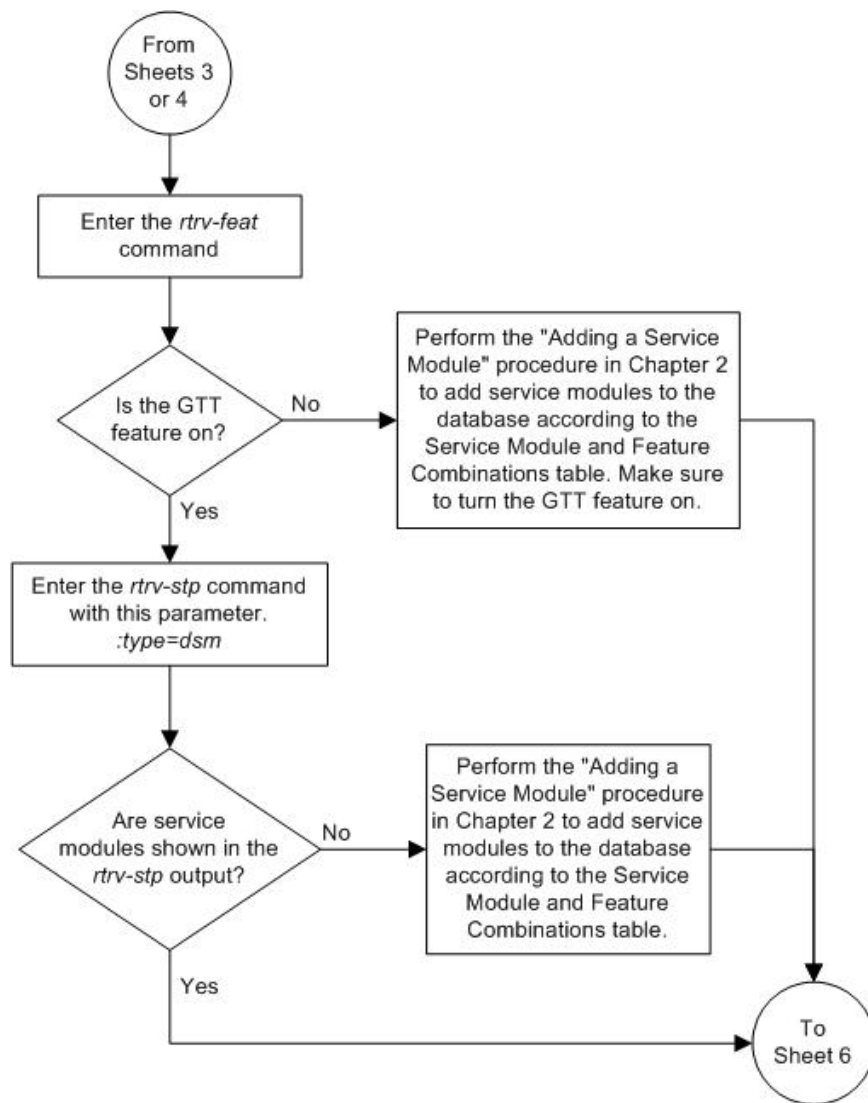


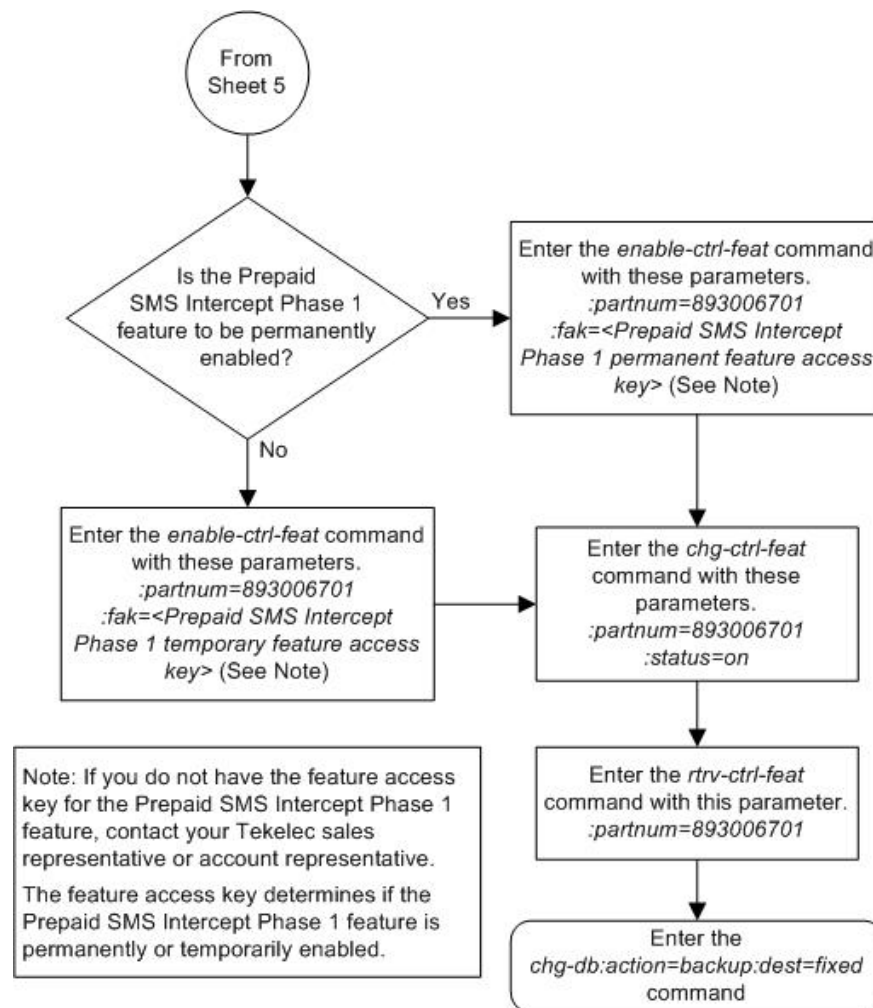


Notes:

1. If the *rtrv-ctrl-feat* output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the Eagle 5 ISS's serial number must be verified. This is the default entry for the *rtrv-ctrl-feat* output. This entry is shown whether or not the Eagle 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).







Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature

This procedure is used to configure the B-Party check option shown in the `rtrv-ppsopts` command output using the `bpartychk` parameter of the `chg-ppsopts` command. The `bpartychk` parameter has two values:

- off — Prepaid Check on B-Party is not performed
- on — Prepaid Check on B-Party is performed.

Point code and global title address (GTA) entries can also be configured with the `chg-ppsopts` command. Perform the procedure [Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1054 to configure the point code entries. Perform the procedure [Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1068 to configure the GTA entries.

The Prepaid SMS Intercept Phase 1 feature must be enabled and turned on before this procedure can be performed. The status of the Prepaid SMS Intercept Phase 1 feature can be verified by

entering the `rtrv-ctrl-feat` command. Perform the procedure [Activating the Prepaid SMS Intercept Phase 1 Feature](#) on page 1040 to enable and turn on the Prepaid SMS Intercept Phase 1 feature, if necessary.

1. Display the status of the Prepaid SMS Intercept Phase 1 feature by entering this command.

```
rtrv-ctrl-feat:partnum=893006701
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status   Quantity
Prepaid SMS Intercept Ph1 893006701  on      ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status   Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the Prepaid SMS Intercept Phase 1 feature is enabled and turned on, continue the procedure with [Step 2](#) on page 1051.

If the Prepaid SMS Intercept Phase 1 feature is not enabled or not turned on, perform the procedure [Activating the Prepaid SMS Intercept Phase 1 Feature](#) on page 1040 to enable and turn on the Prepaid SMS Intercept Phase 1 feature. After the Prepaid SMS Intercept Phase 1 feature has been enabled and turned on, continue the procedure with [Step 2](#) on page 1051.

2. Display the current BPARTYCHK value in the `rtrv-ppsopts` output by entering this command.

```
rtrv-ppsopts:ppt=1
```

This is an example of the possible output.

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK          = ON
PPT                PCA/PCI/PCN                SSN          RI
---              -
1                 PCA:    001-001-002          NONE          SSN
```

3. Configure the BPARTYCHK value by entering one of these commands.

If the current BPARTYCHK value is `on`, enter this command.

```
chg-ppsopts:bpartychk=off
```

If the current BPARTYCHK value is `off`, enter this command.

```
chg-ppsopts:bpartychk=on
```

When the `chg-ppsopts` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-07 11:44:13 GMT EAGLE5 39.1.0
CHG-PPSOPTS: MASP A - COMPLTD
```

4. Verify the changes by entering this command.

```
rtrv-ppsopts:ppt=1
```

This is an example of the possible output.

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK          = OFF
PPT                PCA/PCI/PCN                SSN          RI
---                -
1                  PCA:    001-001-002        NONE        SSN
```

5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

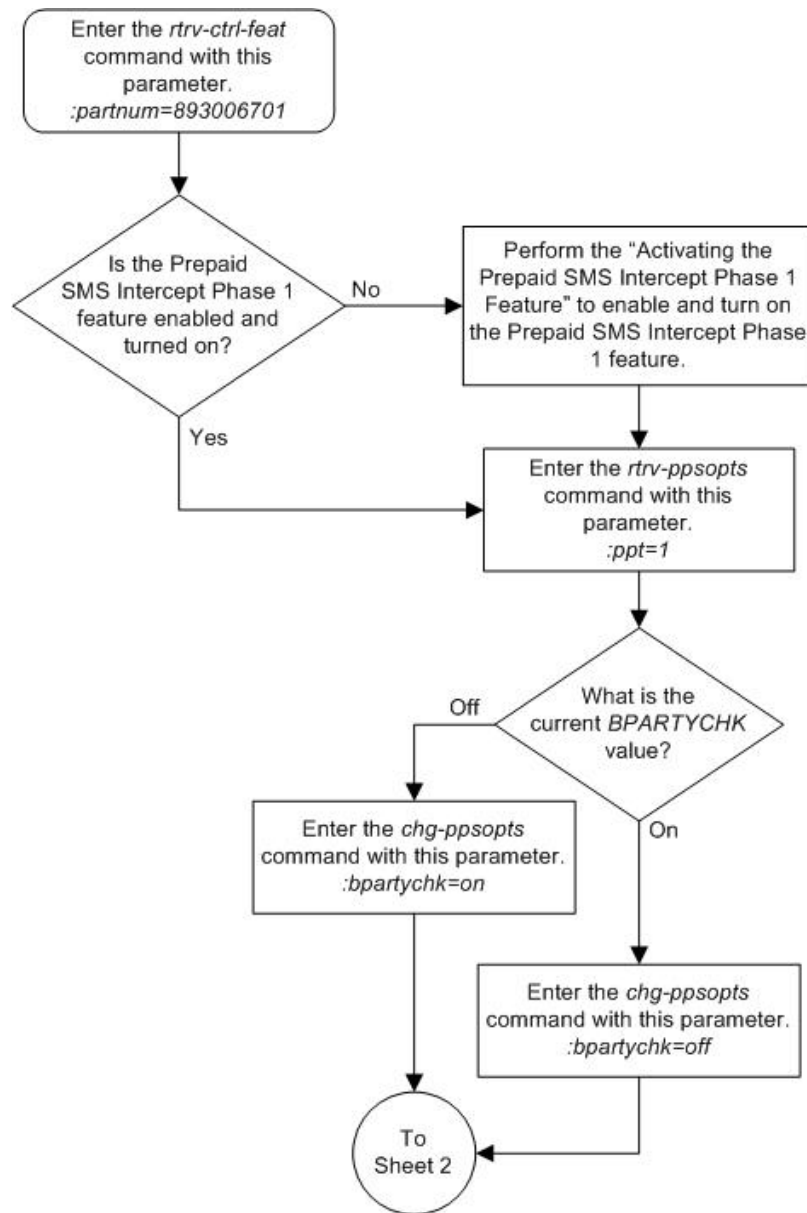
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

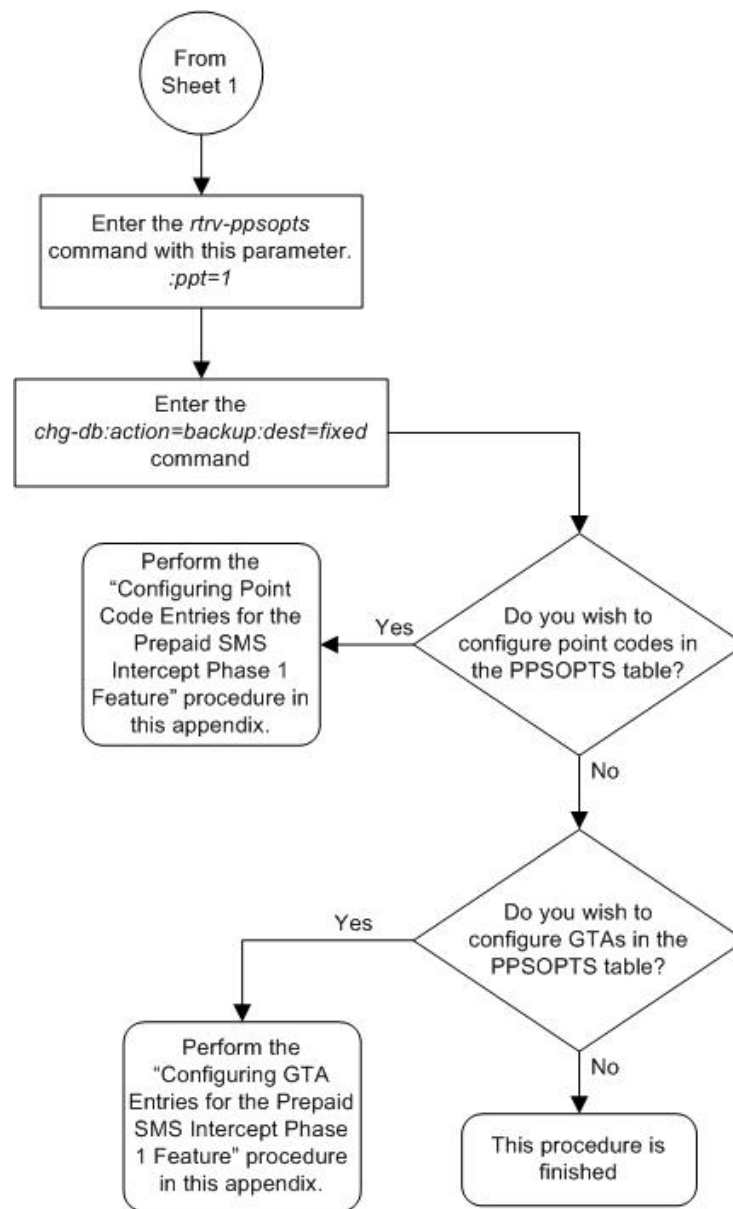
If you do not wish to configure point code and global title address (GTA) entries in the PPSOPTS table, this procedure is finished.

If you wish to configure point code and global title address (GTA) entries in the PPSOPTS table, perform these procedures as applicable.

- To configure point code entries, perform the procedure [Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1054.
- To configure GTA entries, perform the procedure [Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1068.

Figure 93: Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature





Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature

This procedure is used to add point code entries to the PPSOPTS table, or remove point code entries from the PPSOPTS table using these parameters of the *chg-ppsopts* command.

:*ppt* – The prepaid portability type number of the entry that is being changed, from 1 to 32.

:*pc/pca/pci/pcn* – The point code for the IN platform, or the value none. The value none removes the point code from the entry that is being changed.

- `pc/pca` - An ANSI point code
- `pci` - An ITU-I point code
- `pcn` - A 14-bit ITU-N point code

Note: Refer to Chapter 2, Configuring Destination Tables in the *Database Administration Manual - SS7* for a definition of the point code types that are used on the EAGLE 5 ISS and for a definition of the different formats that can be used for ITU national point codes.

`:ri` - The routing indicator for the IN platform

- `gt` - Routes on the GT value. If the Intermediate Global Title Loadsharing feature is enabled and turned on, the mated relay node (MRN) table is used to determine how the message is routed. If the Intermediate Global Title Loadsharing feature is not enabled or not turned on, the message is routed to the point code in the entry that is being changed.
- `ssn` - Routes on the SSN value. The mated application (MAP) table determines how the message is routed.

`:setid` - The MRN set or MAP set ID that contains the point code in the entry that is being changed. This parameter can be specified only if the Flexible GTT Load Sharing feature is enabled. This parameter must be specified if the Flexible GTT Load Sharing feature is enabled. If the Flexible GTT Load Sharing feature is enabled, the point code must be in the MRN set or MAP set specified by the `setid` parameter. If the `ssn` parameter is specified with the `ri=ssn` parameter, the point code and SSN value must be in the MAP set specified by the `setid` parameter.

`:ssn` - The subsystem number that is assigned to the point code entry. The values for this parameter are 2 - 255, or none. The value none removes the existing subsystem number from the point code entry. The default value for this parameter is none.

[Table 106: CHG-PPSOPTS Parameter Combinations](#) on page 1055 shows the parameter combinations that can be used in this procedure.

Table 106: CHG-PPSOPTS Parameter Combinations

Adding a Point Code Entry	Removing a Point Code or SSN Entry
<code>:ppt</code> = the prepaid portability type that is being changed	<code>:ppt</code> = the prepaid portability type that is being changed
<code>:pc/pca/pci/pcn</code> = the point code value that is being added	<code>:pc/pca/pci/pcn</code> = none
<code>:ri</code> = <code>gt</code> , <code>ssn</code>	<code>:ssn</code> = none
<code>:setid</code> = the MRN or MAP set ID containing the point code	
<code>:ssn</code> = 2 - 255	

Global title address (GTA) entries and the B-Party check option can also be configured with the `chg-ppsopts` command. Perform [Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1050 to configure the B-Party check option. Perform [Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1068 to configure the GTA entries.

The Prepaid SMS Intercept Phase 1 feature must be enabled and turned on before this procedure can be performed. The status of the Prepaid SMS Intercept Phase 1 feature can be verified by entering the `rtrv-ctrl-feat` command. Perform [Activating the Prepaid SMS Intercept Phase 1 Feature](#) on page 1040 to enable and turn on the Prepaid SMS Intercept Phase 1 feature, if necessary.

The point code that will be specified in this procedure must be the DPC of a route. This can be verified by entering the `rtrv-rte` command with the `dpca/dpci/dpcn` parameter. The `dpca/dpci/dpcn` parameter value must be the point code that will be specified in this procedure.

Canceling the RTRV-MRN and RTRV-MAP Commands

Because the `rtrv-mrn` and `rtrv-map` commands used in this procedure can output information for a long period of time, the `rtrv-mrn` and `rtrv-map` commands can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-mrn` and `rtrv-map` commands can be canceled.

- Press the F9 function key on the keyboard at the terminal where the `rtrv-mrn` and `rtrv-map` commands were entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-mrn` and `rtrv-map` commands were entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-mrn` and `rtrv-map` commands were entered, from another terminal other than the terminal where the `rtrv-mrn` and `rtrv-map` commands were entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, refer to the *Commands Manual*.

1. Display the status of the Prepaid SMS Intercept Phase 1 feature by entering this command.

```
rtrv-ctrl-feat:partnum=893006701
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
Prepaid SMS Intercept Ph1 893006701  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the Prepaid SMS Intercept Phase 1 feature is enabled and turned on, continue the procedure with [Step 2](#) on page 1057.

If the Prepaid SMS Intercept Phase 1 feature is not enabled or not turned on, perform [Activating the Prepaid SMS Intercept Phase 1 Feature](#) on page 1040 to enable and turn on the Prepaid SMS

2. Display the PPSOPTS table by entering the `rtrv-ppsopts` command. This is an example of the possible output.

[illegible]

```
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
NONE
```

If the Flexible GTT Load Sharing feature is not enabled, the SETID column is not shown in the `rtrv-ppsopts` output.

If you wish to remove a point code or SSN entry, continue the procedure with [Step 7](#) on page 1060.

If you wish to add a new point code entry, continue the procedure with [Step 3](#) on page 1058.

3. Verify that the new point code is the DPC of a route by entering the `rtrv-rte` command with the appropriate `dpc` parameter, according to the point code format, and the new point code. For this example, enter this command.

```
rtrv-rte:dpc=001-001-004
```

This is an example of the possible output.

```
rlghncxa03w 08-09-07 00:34:31 GMT EAGLE5 39.1.0

  DPCA          ALIASI          ALIASN/N24          LSN          RC          APCA
  001-001-004  -----          -----          lsn3          1          001-001-004
                                RTX:No  CLLI :-----
```

If the new point code value is the DPC of a route, continue the procedure with [Step 4](#) on page 1059.

If the new point code value is not the DPC of a route, perform one of the Adding a Route procedures in the *Database Administration Manual - SS7* to add the required route with the new point code value as the DPC of the route. A proxy point code cannot be assigned to the DPC of the route. After the new route has been added, continue the procedure by performing one of these actions.

- If the routing indicator of the entry that is being changed will be `gt`, and the SETID column is not shown in the `rtrv-ppsopts` output, continue the procedure with [Step 7](#) on page 1060.
- If the routing indicator of the entry that is being changed will be `gt`, and the SETID column is shown in the `rtrv-ppsopts` output, continue the procedure with [Step 5](#) on page 1059.
- If the routing indicator of the entry that is being changed will be `ssn`, continue the procedure with [Step 6](#) on page 1059.

If the new point code value is the DPC of a route, or if a new route was added, continue the procedure by performing one of these actions.

- Display the attributes of the DPC of the route shown in [Step 3](#) on page 1058 by using the `rtrv-dstn` command and specifying the DPC of the route. For this example, enter this command.

```
rtrv-dstn:dpca=001-001-004
```

This is an example of the possible output.

```
rlghncxa03w 09-05-10 11:43:04 GMT EAGLE5 41.0.0

  DPCA          CLLI          BEI  ELEI    ALIASI          ALIASN/N24    DMN
  001-001-004  -----  no   ---    -----  -----  SS7

  SPCA          NCAI          RCAUSE          NPRST          SPLITIAM
  -----  ----          none          off          none

Destination table is (14 of 2000) 1% full
Alias table is (0 of 12000) 0% full
```

A proxy point code (a point code value is shown in the PPC column) cannot be assigned to the point code that will be added in this procedure. If a proxy point code is shown in this step, choose another point code and repeat [Step 3](#) on page 1058 and [Step 4](#) on page 1059.

If a proxy point code is not assigned to the point code that will be added in this procedure, continue the procedure by performing one of these actions.

- If the routing indicator of the entry that is being changed will be `gt`, and the `SETID` column not is shown in the `rtrv-ppsopts` output, continue the procedure with [Step 7](#) on page 1060.
 - If the routing indicator of the entry that is being changed will be `gt`, and the `SETID` column is shown in the `rtrv-ppsopts` output, continue the procedure with [Step 5](#) on page 1059.
 - If the routing indicator of the entry that is being changed will be `ssn`, continue the procedure with [Step 6](#) on page 1059.
- Display the MRN entries in the database by entering the `rtrv-mrn` command.

This is an example of the possible output.

```
rlghncxa03w 08-09-07 00:34:31 GMT EAGLE5 39.1.0

  MRNSET    PC          RC
  1          001-001-002    1
           001-001-003    2

MRN table is (2 of 6000) 1% full
```

If the new point code value is not shown in the `rtrv-mrn` output, perform [Provisioning MRN Entries](#) on page 367 to add the new point code to an MRN set. After the MRN set has been added, continue the procedure with [Step 7](#) on page 1060.

If the new point code value is shown in the `rtrv-mrn` output, continue the procedure with [Step 7](#) on page 1060.

- Display the MAP entries in the database by entering the `rtrv-map` command with the appropriate `pc` parameter, according to the point code format, and the new point code. If the `ssn` parameter will be specified with the `chg-ppsopts` command, specify the `ssn` parameter and value with the `rtrv-map` command, along with the appropriate `pc` parameter. For this example, enter this command.

```
rtrv-map:pca=001-001-004:ssn=25
```

This is an example of the possible output.

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0

MAPSET ID=2
PCA          Mate PCA      SSN RC MULT SRM MRC GRP NAME SSO
001-001-004      25 10   SOL --- --- ----- OFF

MAP table is (3 of 36000) 1% full.
```

If the Flexible GTT Load Sharing feature is not enabled, the MAPSET ID row is not shown in the rtrv-map output, and the MAP table capacity is either 1024, 2000, or 3000.

If the new point code value is not shown in the rtrv-map output, perform the one of the Provisioning a Mated Application procedures in [Global Title Translation \(GTT\) Overview](#) on page 15 to add the new point code to a MAP group or a MAP set. After the point code has been added to the MAP group or MAP set, continue the procedure with [Step 7](#) on page 1060. If the ssn parameter will be specified with the chg-ppsopts command, the new SSN value must be specified with the new point code value.

If the new point code value and SSN value if required, is shown in the rtrv-map output, continue the procedure with [Step 7](#) on page 1060.

7. Configure the point code entry by entering the chg-ppsopts command. Perform one of these substeps.

- a) If a point code or SSN entry is being removed from the PPSOPTS table, enter the chg-ppsopts command with the prepaid portability type and the appropriate pc parameter, according to the point code format, with the value none. If the SSN entry is being removed, the ssn=none parameter must be specified with the chg-ppsopts command. For this example, enter one of these commands.

```
chg-ppsopts:ppt=1:pca=none
chg-ppsopts:ppt=1:ssn=none
chg-ppsopts:ppt=1:pca=none:ssn=none
```

- b) If a point code entry is being added to the PPSOPTS table, and the routing indicator value will be gt, enter the chg-ppsopts command with these parameters.

- The prepaid portability type - ppt
- The appropriate pc parameter and value, according to the point code format
- The ri=gt parameter
- If the SETID column is shown in the rtrv-ppsopts output in [Step 2](#) on page 1057, the setid parameter must be specified with the chg-ppsopts command. The setid parameter value must be the MRN set ID that contains the point code value.
- The ssn parameter can be specified for this entry.

For this example, enter this command.

```
chg-ppsopts:ppt=3:pca=001-001-004:ri=gt:setid=2
```

- c) If a point code entry is being added to the PPSOPTS table, and the routing indicator value will be ssn, enter the chg-ppsopts command with these parameters.

- The prepaid portability type - ppt
- The appropriate pc parameter and value, according to the point code format

- The `ri=ssn` parameter
- If the `SETID` column is shown in the `rtrv-ppsopts` output in [Step 2](#) on page 1057, the `setid` parameter must be specified with the `chg-ppsopts` command. The `setid` parameter value must be the MAP set ID that contains the point code value.
- The `ssn` parameter can be specified for this entry. If the `ssn` parameter is specified for this entry, the SSN value must be shown with the point code value in the `rtrv-map` output. If the `setid` parameter is specified, the point code and SSN values must be in the MAP set specified by the `setid` parameter.

For this example, enter this command.

```
chg-ppsopts:ppt=3:pca=001-001-004:ri=ssn:setid=2:ssn=25
```

When the `chg-ppsopts` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-07 11:44:13 GMT EAGLE5 39.1.0
CHG-PPSOPTS: MASP A - COMPLTD
```

8. Verify the changes using the `rtrv-ppsopts` command with the `ppt` parameter value specified in [Step 7](#) on page 1060.

If a point code entry was removed in [Step 7](#) on page 1060, for this example, enter this command.

```
rtrv-ppsopts:ppt=1
```

This is an example of the possible output.

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK      = ON
PPT            PCA/PCI/PCN                SSN      RI      Set ID
---            -
1              -                        NONE     GT     DFLT
```

If a point code entry was added in [Step 7](#) on page 1060, for this example, enter this command.

```
rtrv-ppsopts:ppt=3
```

This is an example of the possible output if the `RI` value is `GT`.

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK      = ON
PPT            PCA/PCI/PCN                SSN      RI      Set ID
---            -
3              PCA: 001-001-004          NONE     GT     2
```

This is an example of the possible output if the `RI` value is `SSN`.

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK      = ON
PPT            PCA/PCI/PCN                SSN      RI      Set ID
---            -
3              PCA: 001-001-004          25       SSN     2
```

9. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

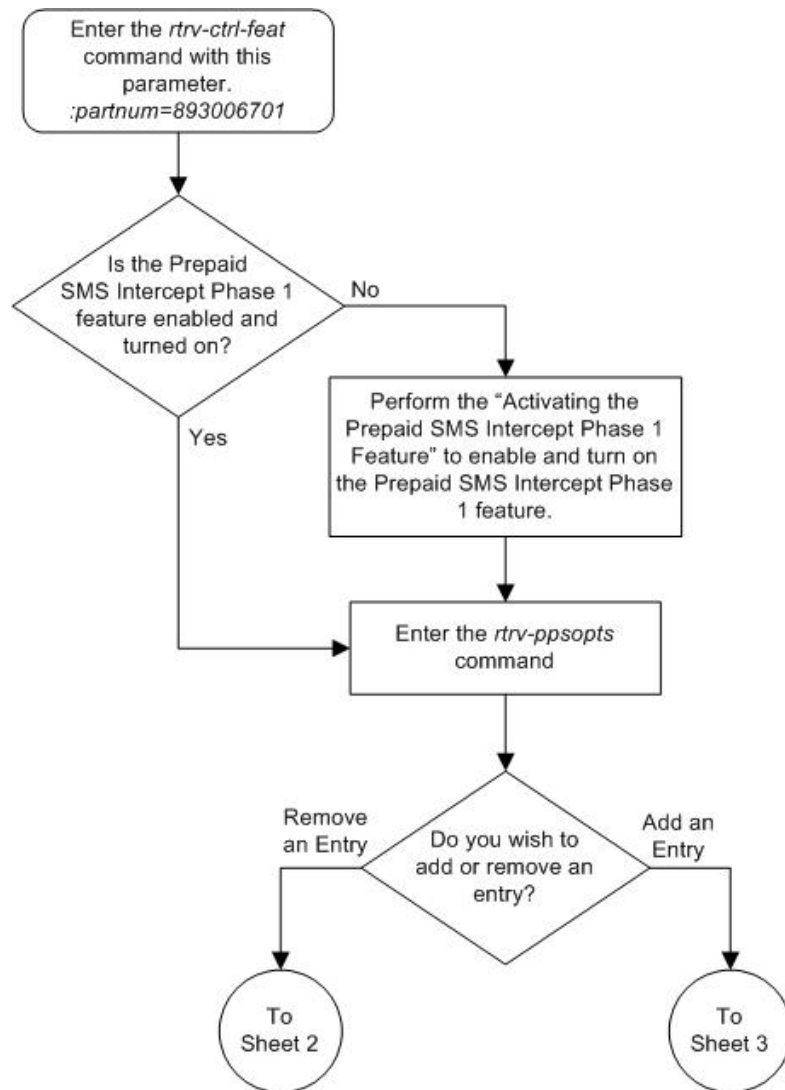
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.  
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.  
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.  
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

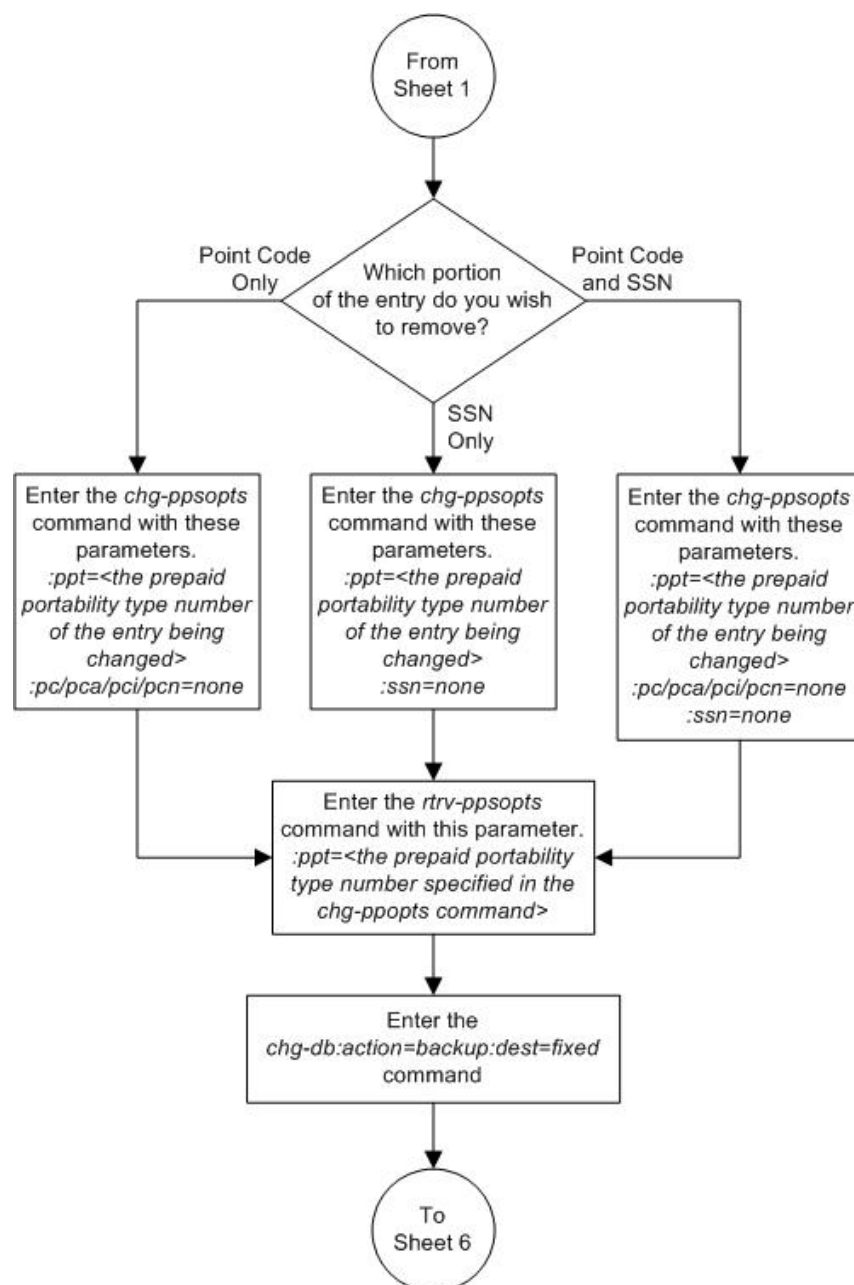
If you do not wish to configure global title address (GTA) entries and the B-Party check option in the PPSOPTS table, this procedure is finished.

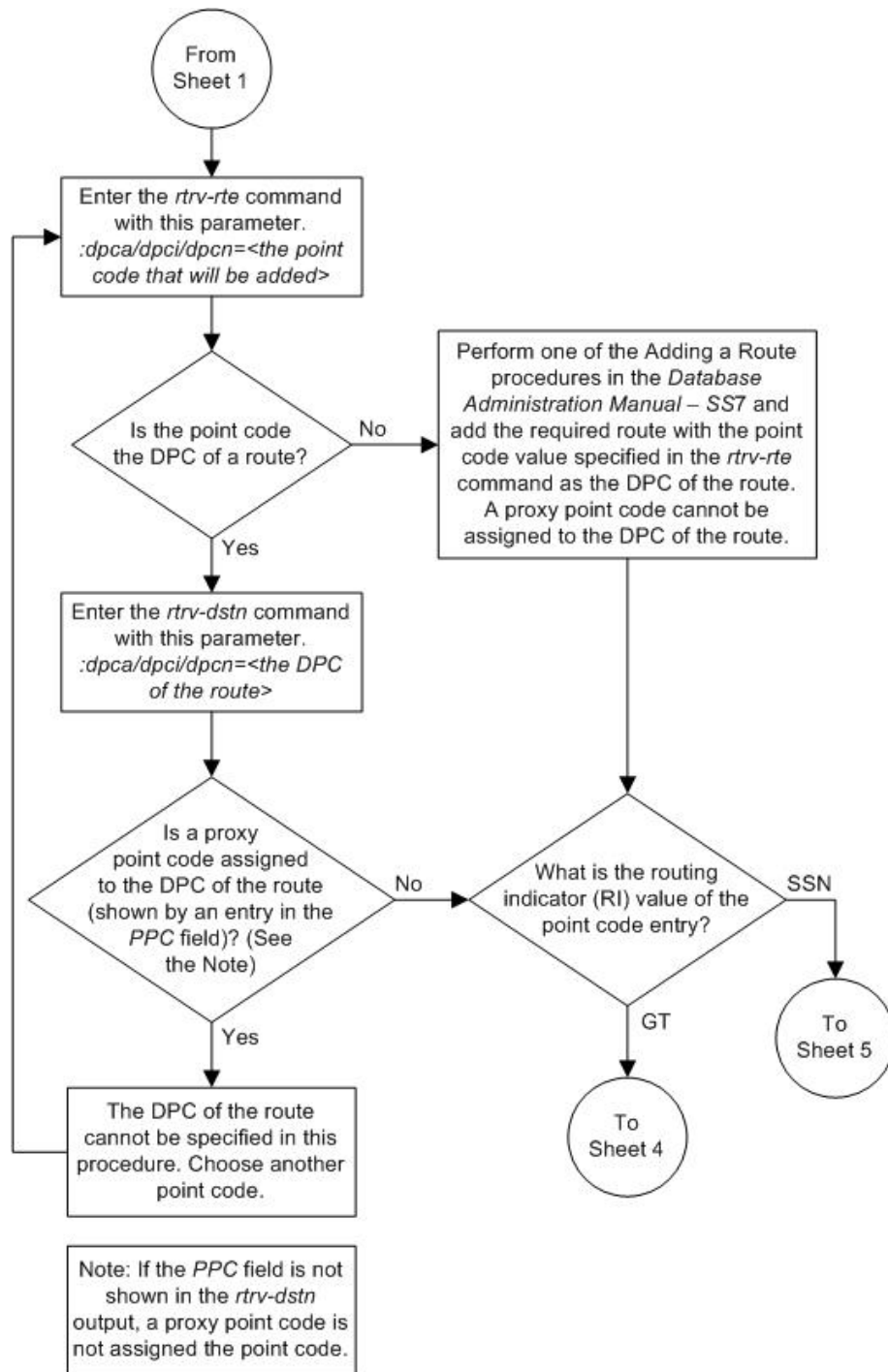
If you wish to configure global title address (GTA) entries and the B-Party check option in the PPSOPTS table, perform these procedures as applicable.

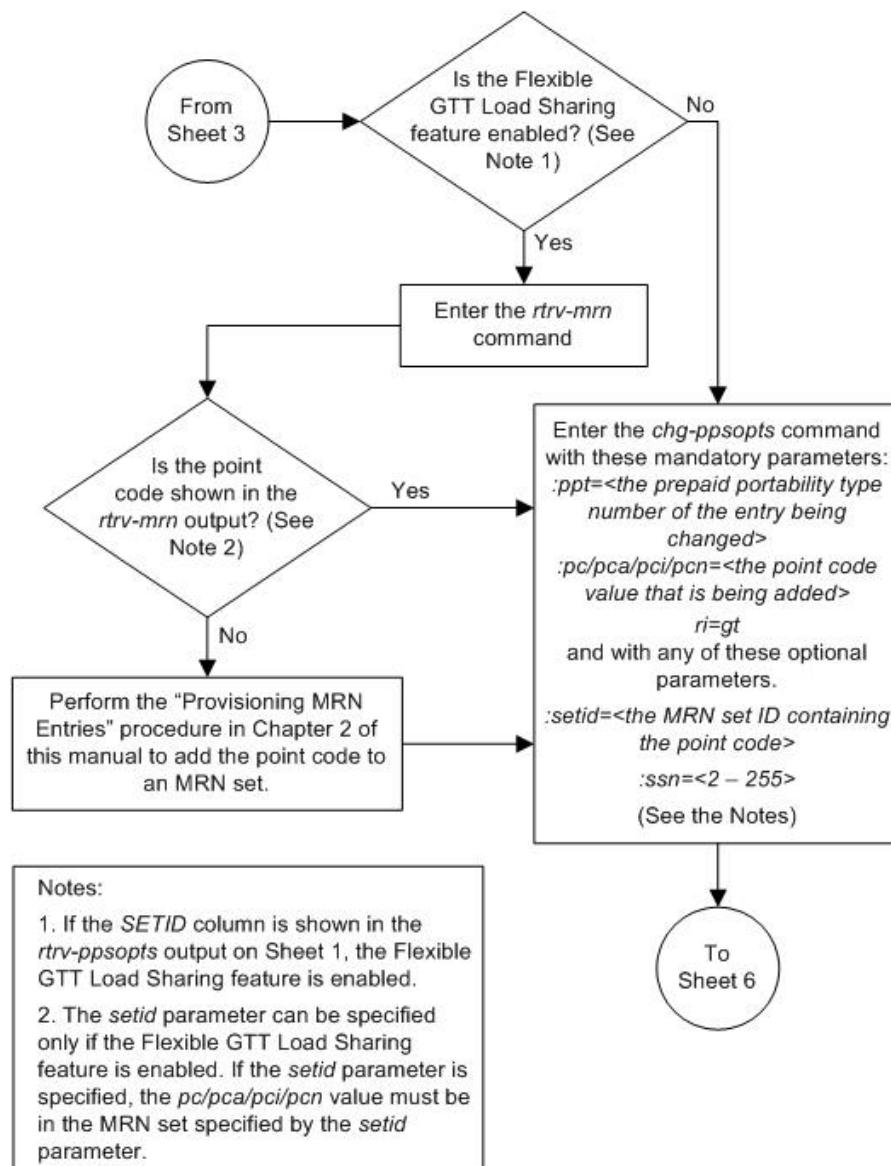
- To configure GTA entries, perform [Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1068.
- To configure the B-Party check option, perform [Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1050.

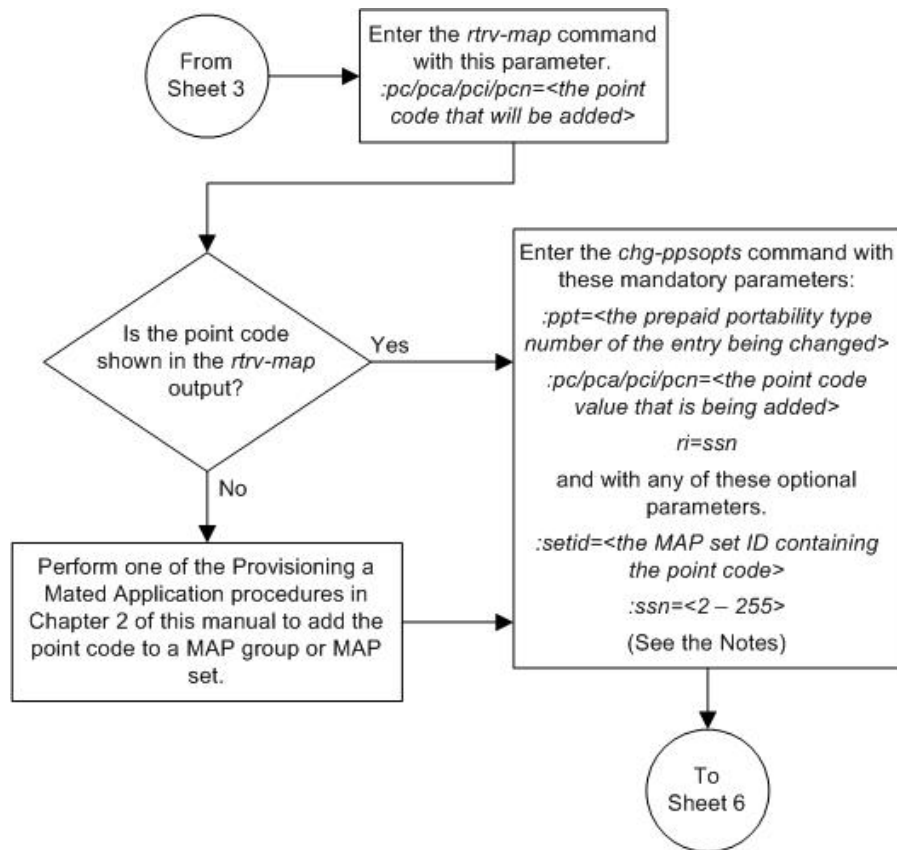
Figure 94: Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature





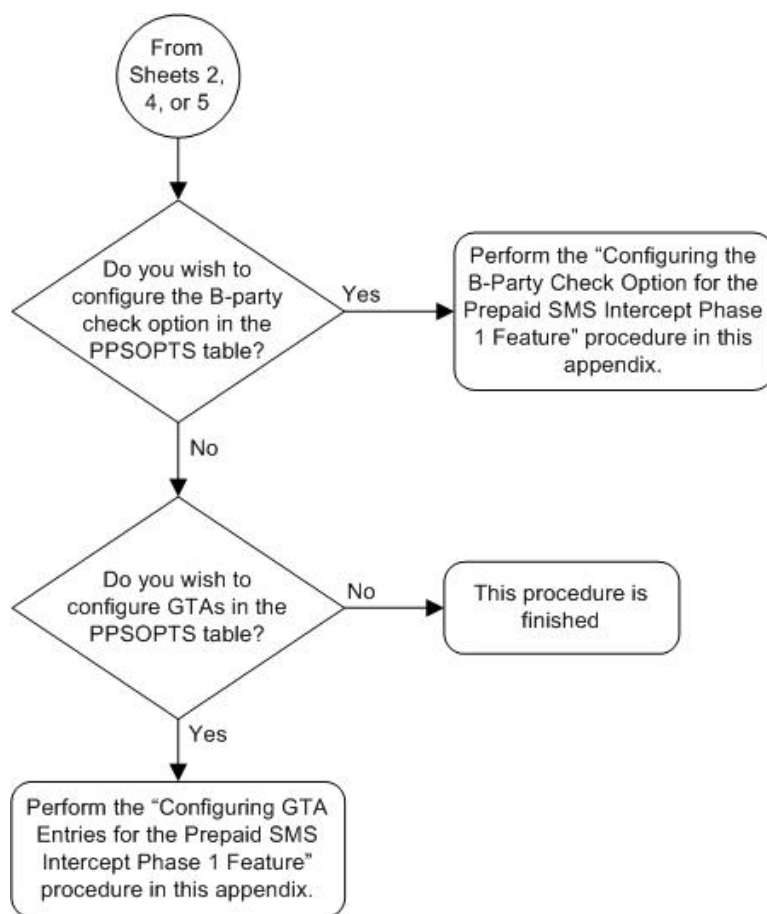






Notes:

1. The *pc/pca/pci/pcn* value must be shown in the *rtrv-map* output.
2. If the *pc/pca/pci/pcn* and *ssn* parameters are specified, the point code and SSN combination must be shown in the *rtrv-map* output.
3. If the *SETID* column is shown in the *rtrv-ppsopts* output on Sheet 1, the Flexible GTT Load Sharing feature is enabled.
4. The *setid* parameter can be specified only if the Flexible GTT Load Sharing feature is enabled.
5. If the *setid* parameter is specified, the *pc/pca/pci/pcn* value must be in the MAP set specified by the *setid* parameter.
6. If the *setid* and *ssn* parameters are specified, the point code and SSN combination must be in the MAP set specified by the *setid* parameter.



Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature

This procedure is used to add global title address (GTA) entries to the PPSOPTS table, remove GTA entries from the PPSOPTS table, or replace existing GTA entries with new GTA entries using these parameters of the `chg-ppsopts` command.

:gta – The global title address that is being added, consisting of 1 to 15 digits, or the global title address that is being removed, shown in the `rtrv-ppsopts` output.

:gta1 – The global title address that is being added, consisting of 1 to 15 digits.

:gta2 – The global title address that is being added, consisting of 1 to 15 digits.

:gta3 – The global title address that is being added, consisting of 1 to 15 digits.

:ngta – The global title address value that replaces an existing GTA entry. If a new GTA being added, the `ngta` parameter value must contain 1 to 15 digit. If an existing GTA entry is being removed, the `ngta` parameter value must be none.

The GTA entry is the address for an IN platform and determines whether or not an incoming message is screening by the Prepaid SMS Intercept Phase 1 feature.

The PPSOPTS table can contain a maximum of 32 GTA entries. To remove or replace a GTA entry, a GTA entry must be shown in the `rtrv-ppsopts` output. To add GTA entries, blank GTA entries must be shown in the `rtrv-ppsopts` output.

A maximum of four GTA entries can be added with the `chg-ppsopts` command. To add more than four GTA entries to the PPSOPTS table, enter the `chg-ppsopts` command with the `gta`, `gta1`, `gta2`, and `gta3` parameters as needed to add the desired number of GTA entries, up to the maximum of 32 GTA entries.

Point code entries and the B-Party check option can also be configured with the `chg-ppsopts` command. Perform the procedure [Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1050 to configure the B-Party check option. Perform the procedure [Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1054 to configure the point code entries.

The Prepaid SMS Intercept Phase 1 feature must be enabled and turned on before this procedure can be performed. The status of the Prepaid SMS Intercept Phase 1 feature can be verified by entering the `rtrv-ctrl-feat` command. Perform the procedure [Activating the Prepaid SMS Intercept Phase 1 Feature](#) on page 1040 to enable and turn on the Prepaid SMS Intercept Phase 1 feature, if necessary.

1. Display the status of the Prepaid SMS Intercept Phase 1 feature by entering this command.

```
rtrv-ctrl-feat:partnum=893006701
```

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum    Status    Quantity
Prepaid SMS Intercept Ph1 893006701  on       ----

The following features have been temporarily enabled:

Feature Name          Partnum    Status    Quantity    Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the Prepaid SMS Intercept Phase 1 feature is enabled and turned on, continue the procedure with [Step 2](#) on page 1069.

If the Prepaid SMS Intercept Phase 1 feature is not enabled or not turned on, perform the procedure [Activating the Prepaid SMS Intercept Phase 1 Feature](#) on page 1040 to enable and turn on the Prepaid SMS Intercept Phase 1 feature. After the Prepaid SMS Intercept Phase 1 feature has been enabled and turned on, continue the procedure with [Step 2](#) on page 1069.

2. Display the PPSOPTS table by entering the `rtrv-ppsopts` command. This is an example of the possible output..

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK          = OFF
PPT                PCA/PCI/PCN                SSN          RI
---                -----                ----          ---
```

Database Administration Manual - Global Title Translation

[illegible]

NONE
NONE

To remove a GTA entry or replace and GTA entry, the GTA entry must be shown in the `rtrv-ppsopts` output. To add a new GTA entry, entries with the word `NONE` must be shown in the `rtrv-ppsopts` output. If there are 32 entries shown in the `rtrv-ppsopts` output, a GTA entry can only be removed or replaced.

3. Configure the GTA entries by entering the `chg-ppsopts` command with the `gta`, `gta1`, `gta2`, `gta3`, or `ngta` parameters as required. Perform one of these substeps.

- a) To add a new GTA entry, enter the `chg-ppsopts` command with the `gta`, `gta1`, `gta2`, and `gta3` parameters as needed to add the desired number of GTA entries. For this example, enter this command.

```
chg-ppsopts:gta=800556:gta1=801478:gta2=460972:gta3=461875
```

The new GTA values cannot be shown in the `rtrv-ppsopts` output.

Repeat this substep as needed to add the desired number of GTA entries, up to the maximum of 32 GTA entries.

- b) To replace an existing GTA entry, enter the `chg-ppsopts` command with the `gta` and `ngta` parameters. The GTA value that is being replaced must be shown in the `rtrv-ppsopts` output. The new GTA value cannot be shown in the `rtrv-ppsopts` output. For this example, enter this command.

```
chg-ppsopts:gta=910461:ngta=910527
```

- c) To remove an existing GTA entry, enter the `chg-ppsopts` command with the `gta` and `ngta=none` parameters. The GTA value that is being removed must be shown in the `rtrv-ppsopts` output. For this example, enter this command.

```
chg-ppsopts:gta=910460:ngta=none
```

When the `chg-ppsopts` command has successfully completed, this message should appear.

```
rlghncxa03w 08-09-07 11:44:13 GMT EAGLE5 39.1.0
CHG-PPSOPTS: MASP A - COMPLTD
```

4. Verify the changes by entering the `rtrv-ppsopts` command. This is an example of the possible output.

```
rlghncxa03w 09-03-07 00:34:31 GMT EAGLE5 40.1.0
Prepaid SMS Options
-----
BPARTYCHK      = OFF
PPT            PCA/PCI/PCN                SSN      RI
---            -
1              PCA:    001-001-002         NONE     SSN
2              PCA:    001-002-003         NONE     GT
3              -----                     NONE     GT
4              -----                     NONE     GT
5              -----                     NONE     GT
6              -----                     NONE     GT
7              -----                     NONE     GT
8              -----                     NONE     GT
9              -----                     NONE     GT
10             -----                     NONE     GT
11             -----                     NONE     GT
12             -----                     NONE     GT
13             -----                     NONE     GT
```

14	-----	NONE	GT
15	-----	NONE	GT
16	-----	NONE	GT
17	-----	NONE	GT
18	-----	NONE	GT
19	-----	NONE	GT
20	-----	NONE	GT
21	-----	NONE	GT
22	-----	NONE	GT
23	-----	NONE	GT
24	-----	NONE	GT
25	-----	NONE	GT
26	-----	NONE	GT
27	-----	NONE	GT
28	-----	NONE	GT
29	-----	NONE	GT
30	-----	NONE	GT
31	-----	NONE	GT
32	-----	NONE	GT

GTA

800556

910527

801478

460972

461875

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

NONE

5. Backup the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
```

```
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
```

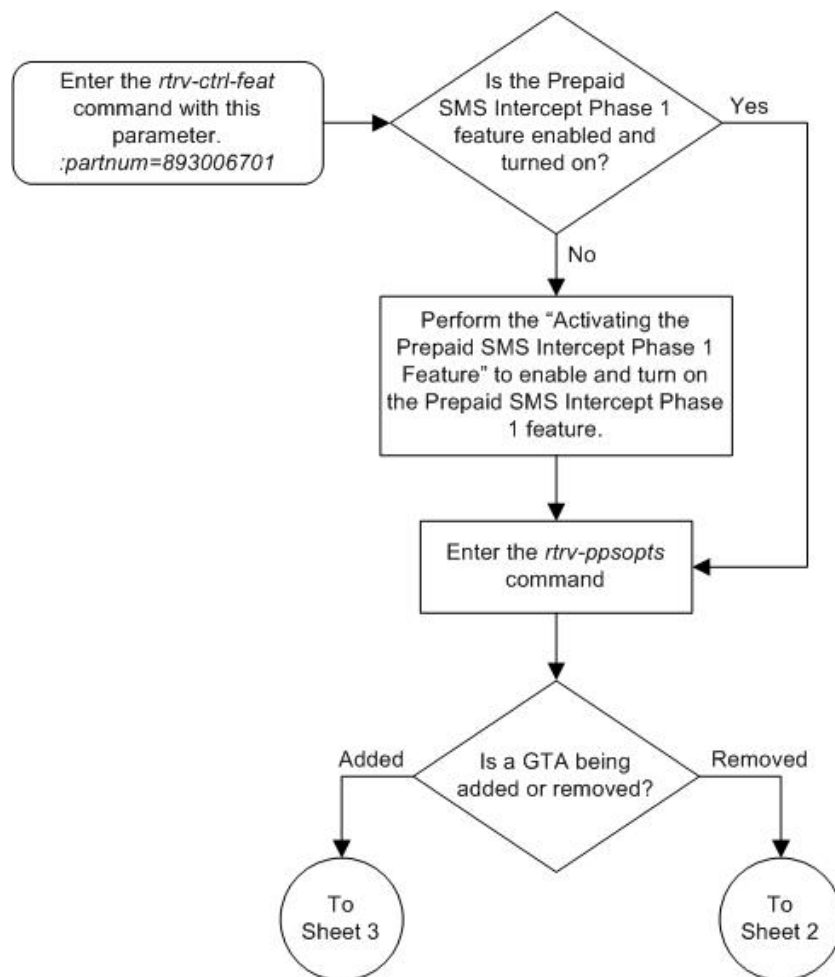
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.

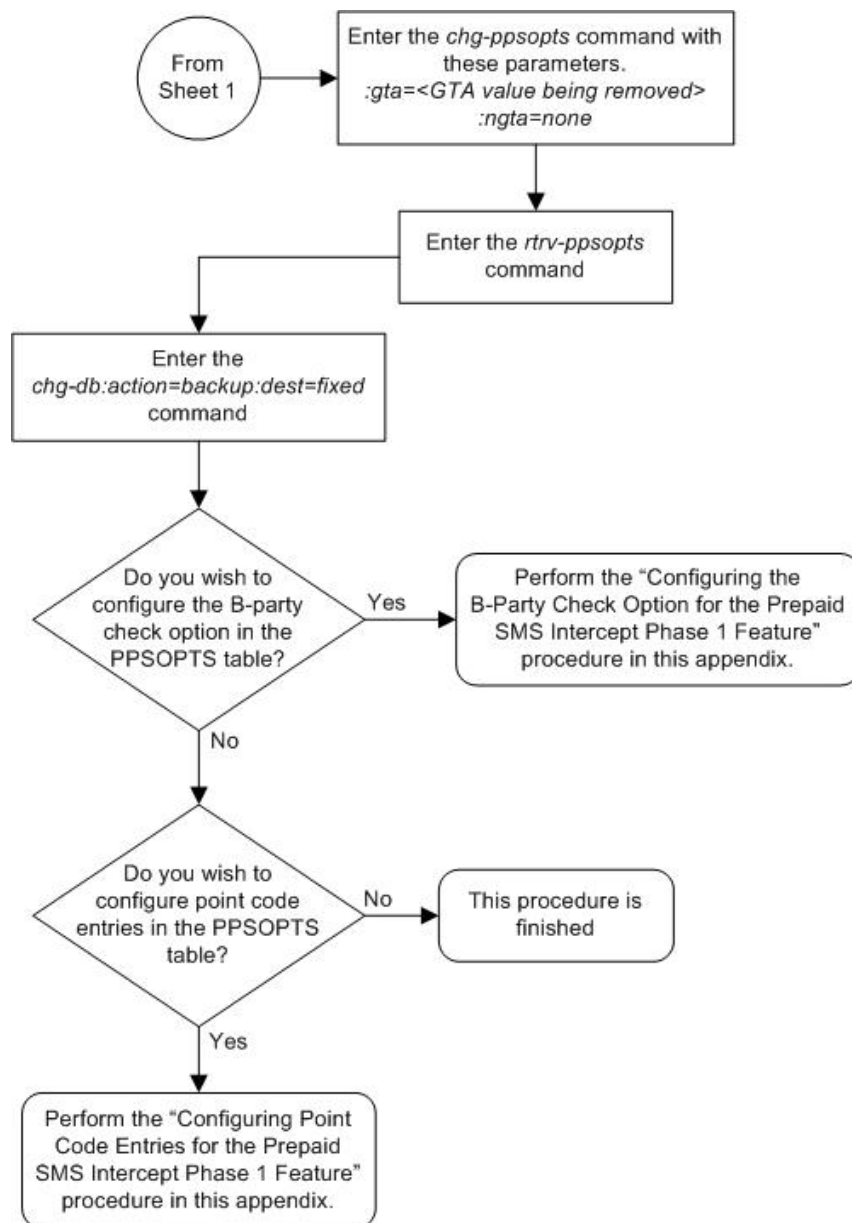
If you do not wish to configure point code entries and the B-Party check option in the PPSOPTS table, this procedure is finished.

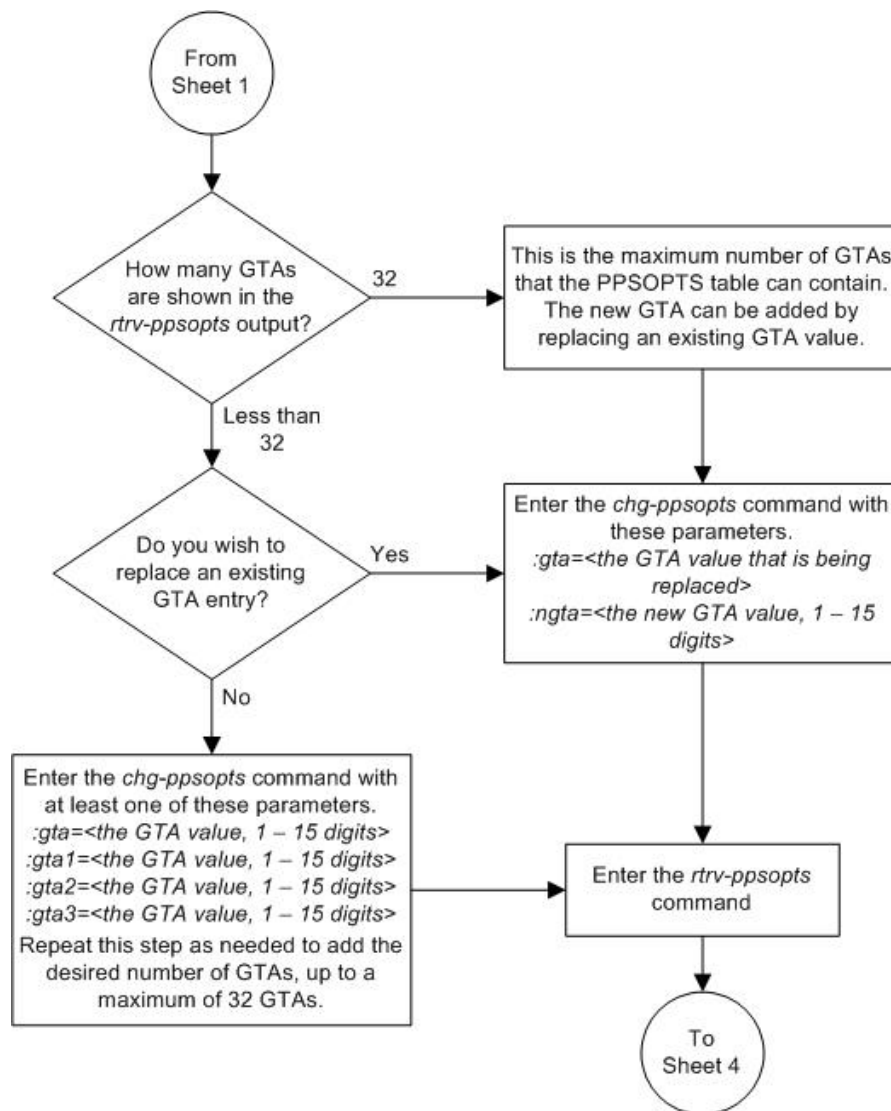
If you wish to configure point code entries and the B-Party check option in the PPSOPTS table, perform these procedures as applicable.

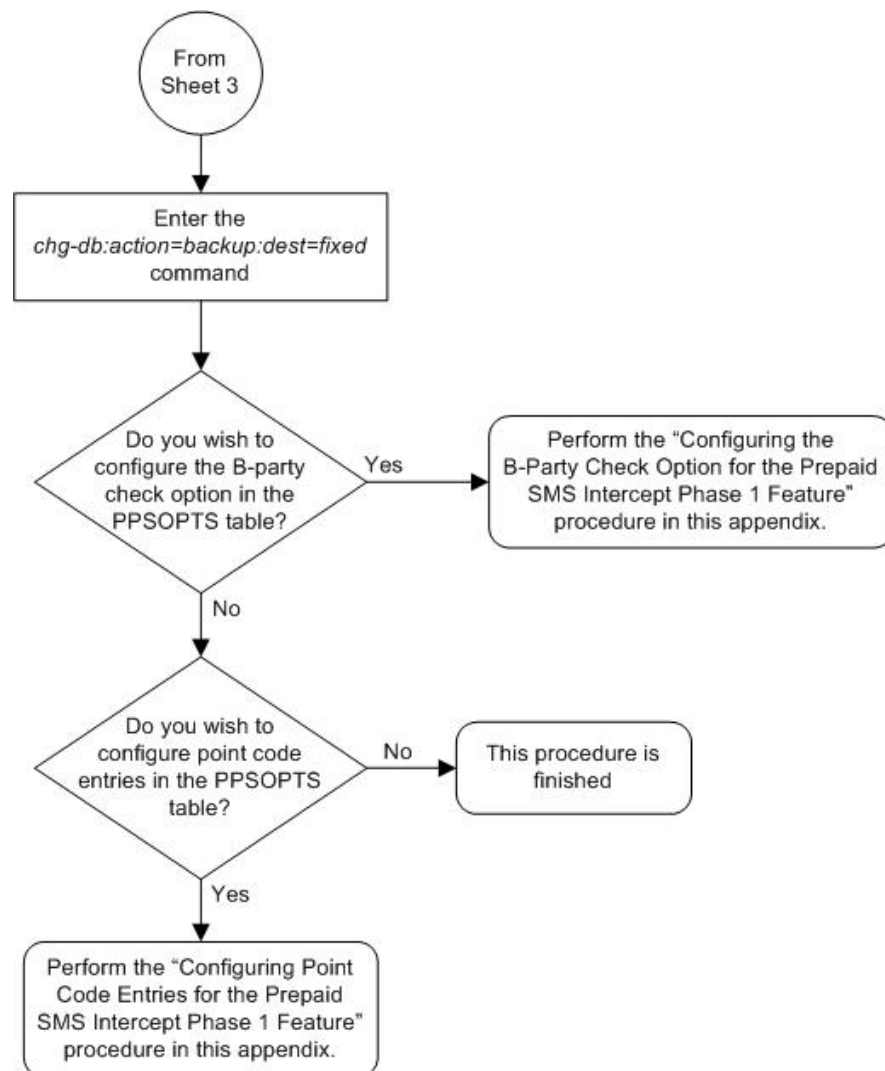
- To configure point code entries, perform the procedure [Configuring Point Code Entries for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1054.
- To configure the B-Party check option, perform the procedure [Configuring the B-Party Check Option for the Prepaid SMS Intercept Phase 1 Feature](#) on page 1050.

Figure 95: Configuring GTA Entries for the Prepaid SMS Intercept Phase 1 Feature









Turning the Prepaid SMS Intercept Phase 1 Feature Off

This procedure is used to turn off the Prepaid SMS Intercept Phase 1 feature, using the *chg-ctrl-feat* command.

The *chg-ctrl-feat* command uses the following parameters:

:partnum - The part number of the Prepaid SMS Intercept Phase 1, 893006701.

:status=off - used to turn off the Prepaid SMS Intercept Phase 1 feature.

The status of the Prepaid SMS Intercept Phase 1 feature must be on and is shown with the *rtrv-ctrl-feat* command.



CAUTION

CAUTION: If the Prepaid SMS Intercept Phase 1 feature is turned off, the screening of incoming messages from an MSC by the EAGLE 5 ISS based on the MAP operation code will not be performed.

1. Display the status of the Prepaid SMS Intercept Phase 1 feature by entering the `rtrv-ctrl-feat:partnum=893006701` command.

The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum      Status  Quantity
Prepaid SMS Intercept Ph1 893006701  on      ----

The following features have been temporarily enabled:

Feature Name          Partnum      Status  Quantity      Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

If the status of the Prepaid SMS Intercept Phase 1 is off, or if the Prepaid SMS Intercept Phase 1 is not enabled, this procedure cannot be performed.

2. Turn off the Prepaid SMS Intercept Phase 1 by entering the `chg-ctrl-feat` command with the `status=off` parameter.

For example, enter this command.

```
chg-ctrl-feat:partnum=893006701:status=off
```

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-28 21:16:37 GMT EAGLE5 39.1.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the Prepaid SMS Intercept Phase 1 has been turned off by using the `rtrv-ctrl-feat:partnum=893006701` command. The following is an example of the possible output.

```
rlghncxa03w 08-09-28 21:15:37 GMT EAGLE5 39.1.0
The following features have been permanently enabled:

Feature Name          Partnum      Status  Quantity
Prepaid SMS Intercept Ph1 893006701  off      ----

The following features have been temporarily enabled:

Feature Name          Partnum      Status  Quantity      Trial Period Left
Zero entries found.

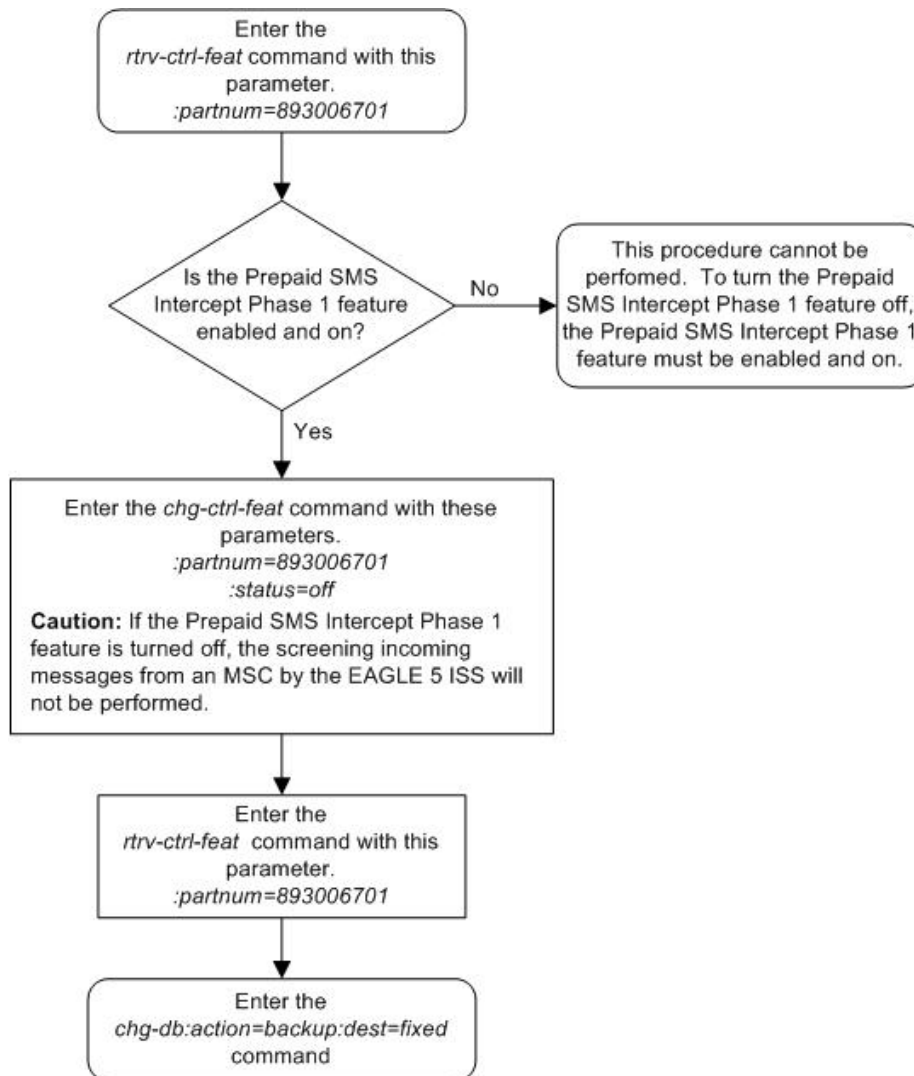
The following features have expired temporary keys:

Feature Name          Partnum
Zero entries found.
```

4. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 96: Turning the Prepaid SMS Intercept Phase 1 Feature Off



Glossary

A

ANSI	<p>American National Standards Institute</p> <p>An organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. ANSI develops and publishes standards. ANSI is a non-commercial, non-government organization which is funded by more than 1000 corporations, professional bodies, and enterprises.</p>
A-Port	<p>ANSI-41 Mobile Number Portability</p>
ATINP	<p>ATI Number Portability Query feature</p>
ATINPQ	<p>ATI Number Portability Query (Name of the local subsystem)</p>
ATM	<p>Asynchronous Transfer Mode</p> <p>A packet-oriented transfer mode that uses an asynchronous time division multiplexing technique to multiplex information flow in fixed blocks, called cells.</p> <p>A high-bandwidth, low-delay switching, and multiplexing technology to support applications that include high-speed data, local area network interconnection, multimedia application and imaging, and residential applications such as video telephony and other information-based services.</p>

C

CCGT	Cancel Called Global Title
CdPA	<p>Called Party Address</p> <p>The portion of the MSU that contains the additional addressing information of the destination of the MSU. Gateway screening uses this additional information to determine if MSUs that contain the DPC in the routing label and the subsystem number in the called party address portion of the MSU are allowed in the network where the EAGLE 5 ISS is located.</p>
CgPA	<p>Calling Party Address</p> <p>The point code and subsystem number that originated the MSU. This point code and subsystem number are contained in the calling party address portion of the signaling information field of the MSU. Gateway screening uses this information to determine if MSUs that contain this point code and subsystem number area allowed in the network where the EAGLE 5 ISS is located.</p>
Cluster	<p>A group of signaling points whose point codes have identical values for the network and cluster fields of the point codes. A cluster entry in the routing table is shown as an asterisk (*) in the member field of the point code, for example, 111-011-*. Cluster entries can be provisioned only as ANSI destination point codes.</p>
control cards	<p>Cards that occupy slots 1113 through 1118 of the control shelf on an EAGLE 5 ISS and perform OAM, TDM, and database</p>

C

functions for the EAGLE 5 ISS.
The legacy set consists of the single-slot GPSM-II card running the OAM application and EOAM GPL, the single-slot TDM card, and the dual-slot MDAL card. The E5-based set consists of the dual-slot E5-MASP card (the E5-MCAP module and the E5-TDM module) and the dual-slot E5-MDAL card.

CPC

Capability Point Code

A capability point code used by the SS7 protocol to identify a group of functionally related STPs in the signaling network.

credit card drive

Flash memory credit card-shaped drive used in the flush-mounted USB port on an E5-MCAP card for upgrade; it could be used for disaster recovery.

CSPC

Concerned Signaling Point Code

The point code that receives subsystem allowed and subsystem prohibited status messages about a particular global title translation node. These messages are broadcast from SCCP management.

D

Database

All data that can be administered by the user, including cards, destination point codes, gateway screening tables, global title translation tables, links, LNP services, LNP service providers, location routing numbers, routes, shelves, subsystem applications, and 10 digit telephone numbers.

D

Destination	The node to which the signaling link traffic is routed. This destination is identified by a point code, either a full point code or a cluster point code.
DPC	<p>Destination Point Code</p> <p>DPC refers to the scheme in SS7 signaling to identify the receiving signaling point. In the SS7 network, the point codes are numeric addresses which uniquely identify each signaling point. This point code can be adjacent to the EAGLE 5 ISS, but does not have to be.</p>
DSM	<p>Database Service Module.</p> <p>The DSM provides large capacity SCCP/database functionality. The DSM is an application card that supports network specific functions such as EAGLE Provisioning Application Processor (EPAP), Global System for Mobile Communications (GSM), EAGLE Local Number Portability (ELAP), and interface to Local Service Management System (LSMS).</p>

E

E1	The European equivalent of T1 that transmits digital data over a telephone network at 2.048 Mbps.
E5-MASP card	E5-based dual-slot card that consists of the E5-MCAP module (occupies slot 1113 and slot 1115) and the E5-TDM module (occupies slot 1114 and slot 1116) in an EAGLE 5 ISS control shelf. Used when the E5-MDAL card is used.

E

E5-MCAP card

The module contains the Communications Processor and Applications Processor and provides connections to the IMT bus. Controls the maintenance and database administration activity and performs both application and communication processing. Runs the OAM application and OAMHC GPL. Occupies slot 1113 and slot 1115 in an EAGLE 5 ISS control shelf. Used when the E5-MDAL card is used. Contains two USB ports.

E5-MDAL card

The E5 MDAL card processes alarm requests, provides general purpose relays, and provides fan control. Occupies slots 1117 and 1118 in an EAGLE 5 ISS Control Shelf. Used with E5-MASP cards. Does NOT contain a drive for removable cartridges.

E5-TDM card

The E5-TDM card provides the EAGLE 5 ISS with 16 ports for user terminals, contains fixed disk storage and distributes Composite Clocks and High Speed Master clocks throughout the EAGLE 5 ISS. Occupies slot 1114 and slot 1116 in an EAGLE 5 ISS Control Shelf. Used when the E5-MDAL card is used.

EGMS

Enhanced GSM MAP Screening

EGTT

Enhanced Global Title Translation

A feature that is designed for the signaling connection control part (SCCP) of the SS7 protocol. The EAGLE 5 ISS uses this feature to determine to which service database to send the query

E

message when a Message Signaling Unit (MSU) enters the system.

EIR**Equipment Identity Register**

A network entity used in GSM networks, as defined in the 3GPP Specifications for mobile networks. The entity stores lists of International Mobile Equipment Identity (IMEI) numbers, which correspond to physical handsets (not subscribers). Use of the EIR can prevent the use of stolen handsets because the network operator can enter the IMEI of these handsets into a 'blacklist' and prevent them from being registered on the network, thus making them useless.

Enhanced Global Title Translation

See EGTT.

ETT**Existing Translation Type**

The translation type value included in the called party address of a unitdata (UDT) or extended unitdata (XUDT) message on an incoming or outgoing gateway link set, which will be used for the translation type mapping function.

F**FAK****Feature Access Key**

The feature access key allows the user to enable a controlled feature in the system by entering either a permanent feature access key or a temporary feature access key. The feature access key is supplied by Tekelec.

F

fixed disk drive	Hard drive on the TDM card and the E5-TDM card.
Flexible GTT Load Sharing	See FGTTLS.
flush-mounted USB port	USB port on the E5-MCAP card; used with credit card flash memory drives for upgrades and could be used for disaster recovery.

G

G-Flex	<p>GSM Flexible numbering</p> <p>A feature that allows the operator to flexibly assign individual subscribers across multiple HLRs and route signaling messages, based on subscriber numbering, accordingly.</p>
GPL	<p>Generic Program Load</p> <p>Software that allows the various features in the system to work. GPLs and applications are not the same software.</p>
G-Port	<p>GSM Mobile Number Portability</p> <p>A feature that provides mobile subscribers the ability to change the GSM subscription network within a portability cluster, while retaining their original MSISDN(s).</p>
GPSM-II card	<p>General Purpose Service Module II</p> <p>Contains the communications processor and applications processor and provides connections to the Interprocessor Message Transport (IMT) bus. The</p>

G

GPSM-II card can run on the OAM, IPS, or MCP applications.

This card runs various GPLs and applications in the EAGLE 5 ISS. As a control card, it runs the OAM application and EOAM GPL. Used when the legacy TDM cad and MDAL card are used.

GSM

Global System for Mobile Communications

GT

Global Title Routing Indicator

GTA

Global Title Address

GTAI

Global Title Address Information

GTI

Global Title Indicator

GTT

Global Title Translation

A feature of the signaling connection control part (SCCP) of the SS7 protocol that the EAGLE 5 ISS uses to determine which service database to send the query message when an MSU enters the EAGLE 5 ISS and more information is needed to route the MSU. These service databases also verify calling card numbers and credit card numbers. The service databases are identified in the SS7 network by a point code and a subsystem number.

H

HC-MIM

High Capacity Multi-Channel Interface Module

H

A card that provides access to eight E1/T1 ports residing on backplane connectors A and B. Each data stream consists of 24 T1 or 31 E1 DS0 signaling links assigned in a time-division multiplex (TDM) manner. Each channel occupies a unique timeslot in the data stream and can be selected as a local signaling link on the interface card. Each card has 8 E1 or 8 T1 port interfaces with a maximum of 64 signaling links provisioned among the 8 E1/T1 ports.

HIPR

High-Speed IMT Packet Router

A card that provides increased system throughput and traffic capacity. HIPR moves EAGLE from an intra-shelf ring topology to an intra-shelf switch topology. HIPR acts as a gateway between the intra-shelf IMT BUS, running at 125Mbps, and the inter-shelf operating at 1.0625Gbps. The HIPR card will seat in the same slot as an HMUX card (slots xx09 & xx10 of each shelf).

HMUX

High-Speed Multiplexer

A card that supports the requirements for up to 1500 links, allowing communication on IMT buses between cards, shelves and frames. HMUX cards interface to 16 serial links, creating a ring from a series of point to point links. Each HMUX card provides a bypass multiplexer to maintain the ring's integrity as cards are removed and inserted into an operational shelf.

High-Speed IMT Multiplexer, a replacement card for the IPMX.

I

I

ID	Identity, identifier
IDP	Initial Detection Point
IGTTLS	Intermediate Global Title Translation Load Sharing
IMSI	International Mobile Subscriber Identity
IN	Intelligent Network A network design that provides an open platform for developing, providing and managing services.
INAP	Intelligent Network Application Protocol
INP	INAP-based Number Portability Tekelec's INP can be deployed as a stand-alone or an integrated signal transfer point/number portability solution. With Tekelec's stand-alone NP server, no network reconfiguration is required to implement number portability. The NP server delivers a much greater signaling capability than the conventional SCP-based approach. Intelligent Network (IN) Portability
INTL	FNAI class International
IP	Internet Protocol IP specifies the format of packets, also called datagrams, and the addressing scheme. The network

I

layer for the TCP/IP protocol suite widely used on Ethernet networks, defined in STD 5, RFC 791. IP is a connectionless, best-effort packet switching protocol. It provides packet routing, fragmentation and re-assembly through the data link layer.

IPGWx

Point-to-multipoint MTP-User signaling (e.g. ISUP, TCAP) over IP capability. Typically used for A link connectivity which require routing keys. Far End not required to support MTP3. The IPGWx GPL (IPGWI, SS7IPGW) run on the SSEDCEM/E5-ENET hardware.

IS-41

Interim Standard 41, same as and interchangeable with ANSI-41. A standard for identifying and authenticating users, and routing calls on mobile phone networks. The standard also defines how users are identified and calls are routed when roaming across different networks.

ISDN

Integrated Services Digital Network

ISDN

Integrated Services Digital Network

Integrates a number of services to form a transmission network. For example, the ISDN network integrates, telephony, facsimile, teletext, Datex-J, video telephony and data transfer services, providing users with various digital service over a single interface: voice, text, images, and other data.

I

ISS Integrated Signaling System

ITU International Telecommunications Union

ITU-N ITU National

K

Key For the ICNP feature, a unique DS value used to access a table entry, consisting of a number length and number type.

L

latched USB port On the E5-MCAP card, a USB port with a lockable latch. Used with removable media (flash memory "thumb" drives) to install and back up customer data.

LIDB Line Information Database

LIM Link Interface Module
Provides access to remote SS7, IP and other network elements, such as a Signaling Control Point (SCP) through a variety of signaling interfaces (DS0, MPL, E1/T1 MIM, LIM-ATM, E1-ATM, IPLIMx, IPGWx). The LIMs consist of a main assembly and possibly, an interface appliqué board. These appliques provide level one and some level two functionality on SS7 signaling links.

LNP Local Number Portability

L

Load Sharing

A type of routing used by global title translation to route MSUs. This type of routing is used when a second point code and subsystem is defined for the primary point code and subsystem. Traffic is shared equally between the replicated point codes and subsystems.

LSN

Link Set Name
The name of the link set.

M

MAP

Mobile Application Part

MAP Group

The MAP entities in an entity set used for the distribution of traffic.

MAS

Maintenance and Administration Subsystem

A set of cards located in the Control Shelf, used to provide a central management point for the EAGLE 5 ISS. The MAS provides user interface, maintenance communication, peripheral services, alarm processing, system disk interface, and measurements using the following three subassemblies: GPSM-II, TDM, and MDAL.

MASP

Maintenance and Administration Subsystem Processor

The Maintenance and Administration Subsystem Processor (MASP) function is a logical pairing of the GPSM-II card and the TDM card. The GPSM-II card is connected to the TDM card by means of an Extended Bus Interface (EBI) local bus.

M

The MDAL card contains the removable cartridge drive and alarm logic. There is only one MDAL card in the Maintenance and Administration Subsystem (MAS) and it is shared between the two MASPs.

Mated Application

The point codes and subsystem numbers of the service databases that messages are routed to for global title translation.

MCAP

Maintenance Communications & Applications Processor

MNP

Mobile Number Portability

MO

Magneto Optical

Managed Object

Mobile Originated

Refers to a connection established by a mobile communication subscriber. Everything initiated by the mobile station is known as mobile originated.

MPS

Multi-Purpose Server

The Multi-Purpose Server provides database/reload functionality and a variety of high capacity/high speed offboard database functions for applications. The MPS resides in the General Purpose Frame.

MRC

MAS Redundancy Controller

Message Routing under
Congestion

M

MRN

Message Reference Number

An unsolicited numbered message (alarm or information) that is displayed in response to an alarm condition detected by the system or in response to an event that has occurred in the system.

Mated Relay Node

A mated relay node (MRN) group is provisioned in the database to identify the nodes that the traffic is load shared with, and the type of routing, either dominant, load sharing, or combined dominant/load sharing.

MSU

Message Signaling Unit

The SS7 message that is sent between signaling points in the SS7 network with the necessary information to get the message to its destination and allow the signaling points in the network to set up either a voice or data connection between themselves.

The message contains the following information:

- The forward and backward sequence numbers assigned to the message which indicate the position of the message in the traffic stream in relation to the other messages.
- The length indicator which indicates the number of bytes the message contains.
- The type of message and the priority of the message in the signaling information octet of the message.
- The routing information for the message, shown in the routing label of the message, with the identification of the node that

M

sent message (originating point code), the identification of the node receiving the message (destination point code), and the signaling link selector which the EAGLE 5 ISS uses to pick which link set and signaling link to use to route the message.

MTP The levels 1, 2, and 3 of the SS7 protocol that control all the functions necessary to route an SS7 MSU through the network.

MTT Mapped SS7 Message Translation Type
Message Text Table

N

NAI Nature of Address Indicator
Standard method of identifying users who request access to a network.

NAIV NAI Value

NGT New Global Title

NP Number Plan

NPV Numbering Plan Value

O

OPC Originating Point Code

P

PC Point Code

P

The identifier of a signaling point or service control point in a network. The format of the point code can be one of the following types:

- ANSI point codes in the format network indicator-network cluster-network cluster member (**ni-nc-ncm**).
- Non-ANSI domestic point codes in the format network indicator-network cluster-network cluster member (**ni-nc-ncm**).
- Cluster point codes in the format network indicator-network cluster-* or network indicator-*-*.
- ITU international point codes in the format **zone-area-id**.
- ITU national point codes in the format of a 5-digit number (**nnnnn**), or 2, 3, or 4 numbers (members) separated by dashes (**m1-m2-m3-m4**) as defined by the Flexible Point Code system option. A group code is required (**m1-m2-m3-m4-gc**) when the ITUDUPPC feature is turned on.
- 24-bit ITU national point codes in the format main signaling area-subsignaling area-service point (**msa-ssa-sp**).

The EAGLE 5 ISS LNP uses only the ANSI point codes and Non-ANSI domestic point codes.

PCA

Point Code ANSI

PCI

Peripheral Component Interface
Point Code International

P

Protocol Control Information
Peripheral Component
Interconnect

PCN

Point Code National
Product Change Notice

PPSMS

Prepaid Short Message Service
Prepaid Short Message Service
Intercept

R

RC

Relative Cost

removable cartridge

MO cartridge used in the drive
on the legacy MDAL card.

removable cartridge drive

Media drive for removable MO
cartridges on the legacy MDAL
card.

removable media

Flash memory or “thumb” drives
used in the latched USB port on
an E5-MCAP card for installation
and backup of customer data.

RI

Routing Indicator

Route

A path to another signaling point.

S

SBR

Subsystem Backup Routing

SCCP

Signaling Connection Control Part

S

SCCPCNV	A feature that allow the system to convert MTP-routed SCCP messages from ANSI to ITU format and to convert ITU formatted messages to ANSI.
SCCP Routing Control	The portion of the SCCP subsystem that determines where SCCP messages are routed.
SCP	<p>Service Control Point</p> <p>Service Control Points (SCP) are network intelligence centers where databases or call processing information is stored. The primary function of SCPs is to respond to queries from other SPs by retrieving the requested information from the appropriate database, and sending it back to the originator of the request.</p> <p>Secure Copy</p>
SCRC	SCCP Routing Control
SEAS	<p>Signaling Engineering and Administration System</p> <p>An interface defined by Bellcore and used by the Regional Bell Operating Companies (RBOCs), as well as other Bellcore Client Companies (BCCs), to remotely administer and monitor the signaling points in their network from a central location.</p>
Signaling Link	The transmission path connecting the EAGLE 5 ISS to other signaling points in the network and providing access to ANSI SS7 and ITU SS7 network elements. The signaling link is connected to the

S

EAGLE 5 ISS at the link interface module (LIM).

SLS Signaling Link Selector

SMS Short Message Service

SMSC Short Message Service Center

SNR Subsystem Normal Routing

SPC Secondary Point Code

The SPC enables the EAGLE 5 ISS to assume more than one point code for SS7 routing. The EAGLE 5 ISS uses the SPC for routing and provisioning as if the SPC were an actual point code of the EAGLE 5 ISS. The EAGLE 5 ISS supports one ANSI true point code and up to seven secondary point codes.

Spare Point Code

SRI Send_Route_Information Message

SRM Subsystem Routing Messages

SS Subsystem

SS7 Signaling System #7

SSN Subsystem Number

The subsystem number of a given point code. The subsystem number identifies the SCP application that should receive the message, or the subsystem number of the destination point code to be

S

assigned to the LNP subsystem of the EAGLE 5 ISS.

A value of the routing indicator portion of the global title translation data commands indicating that no further global title translation is required for the specified entry.

STP

Signal Transfer Point

STPs are ultra-reliable, high speed packet switches at the heart of SS7 networks, which terminate all link types except F-links. STPs are nearly always deployed in mated pairs for reliability reasons. Their primary functions are to provide access to SS7 networks and to provide routing of signaling messages within and among signaling networks.

STPLAN

Signaling Transfer Point Local Area Network

The generic program load and application used by the STPLAN card to support the STP LAN application. This GPL does not support 24-bit ITU-N point codes.

T

T1

Transmission Level 1

A T1 interface terminates or distributes T1 facility signals for the purpose of processing the SS7 signaling links carried by the E1 carrier.

A leased-line connection capable of carrying data at 1,544,000 bits-per-second.

TCAP

Transaction Capabilities
Application Part

T

TCAPCNV

TCAP Conversion

A feature that allows the system to convert MTP-routed TCAP messages from ANSI to ITU format and to convert ITU formatted messages to ANSI.

TDM

Terminal Disk Module

Time Division Multiplexing

TPC

True Point Code

TPS

Transactions Per Second

TT

Translation Type.

Resides in the Called Party Address (CdPA) field of the MSU and determines which service database is to receive query messages. The translation type indicates which Global Title Translation table determines the routing to a particular service database.

TTN

Translation Type Name

U

UAM

Unsolicited Alarm Message.

UDT

Unit Data Transfer

UDTS

Unitdata Service message

UIM

Unsolicited Information Message

U

USB port

Receptacle for flash memory drives on personal computers. On the E5-MDAL card, a flush-mounted USB port used with credit card flash memory drives for upgrade. On the E5-MCAP card, a latched USB port for use with flash memory "thumb" drives for installation and backup of customer data.

V

V-Flex

Voicemail Flexible Routing

An advanced database application based on the industry proven EAGLE 5 ISS. Deployed as a local subsystem on the EAGLE platform, V-Flex centralizes voicemail routing.

VGTT

Variable Length GTT

A feature that provides the ability to provision global title entries of varying lengths to a single translation type or GTT set. Users are able to assign global title entries of up to 10 different lengths to a single translation type or GTT set.

VSCCP

VxWorks Signaling Connection Control Part

The application used by the Service Module card to support the G-Flex, G-Port, INP, AINPQ, EIR, A-Port, IGM, V-Flex, and LNP features. If the G-Flex, G-Port, INP, AINPQ, EIR, A-Port, IGM, V-Flex, or LNP feature is not turned on, and a Service Module card is present, the VSCCP GPL processes normal GTT traffic.

X

X

XLAT	Translate Indicator
XGTT	Expanded GTT (GTT Table Expansion).
XMAP	Expanded MAP Table
XUDT	Extended User Data
XUDTS	Extended Unitdata Service message

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