Tekelec EAGLE® 5 SAS - Release 34.3
Database Administration - Global Title Translation

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Tekelec EAGLE® 5
Signaling Application System

Release 34.3

Database Administration Manual - Global Title Translation

910-3259-001 Revision A
March 2006

TEKELEC

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Introduction

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Introduction

The *Database Administration Manual – Global Title Translation* describes the procedures necessary for database administration personnel or translations personnel to configure the EAGLE 5 SAS and its database to implement these features:

- Global Title Translation
- Enhanced Global Title Translation
- Variable-Length Global Title Translation
- Global Title Translation Modification Feature
- Intermediate GTT Load Sharing
- ANSI-ITU-China SCCP Conversion

NOTE: Before enabling any one 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.

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.

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.

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 Variable-Length Global Title Translation (VGTT), the Global Title Translation Modification (MGTT), and Intermediate GTT Load Sharing (IGTTLS) features as they apply to both global title translation and enhanced global title translation.

Chapter 3, "Global Title Translation (GTT) Configuration," contains the procedures specific to configure the global title translation feature.

Chapter 4, "Enhanced Global Title Translation (EGTT) Configuration," contains the procedures specific to configure the enhanced global title translation feature.

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.

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, and Appendix A can be performed.

Related Publications

The *Database Administration Manual – Global Title Translation* is part of the EAGLE 5 SAS documentation and may refer to one or more of the following manuals:

- The *Commands Manual* contains procedures for logging into or out of the EAGLE 5 SAS, a general description of the terminals, printers, the disk drive used on the system, and a description of all the commands used in the system.
- The *Commands Error Recovery Manual* contains the procedures to resolve error message conditions generated by the commands in the *Commands Manual*. These error messages are presented in numerical order.
- The *Database Administration Manual – Features* contains procedural information required to configure the EAGLE 5 SAS to implement these features:
  - X.25 Gateway
  - STP LAN
  - Database Transport Access
  - GSM MAP Screening
  - EAGLE 5 SAS Support for Integrated Sentinel
- The *Database Administration Manual - Gateway Screening* contains a description of the Gateway Screening (GWS) feature and the procedures necessary to configure the EAGLE 5 SAS to implement this feature.
- The *Database Administration Manual - IP7 Secure Gateway* contains procedural information required to configure the EAGLE 5 SAS to implement the SS7-IP Gateway.

- The *Database Administration Manual – SEAS* contains the EAGLE 5 SAS configuration procedures that can be performed from the Signaling Engineering and Administration Center (SEAC) or a Signaling Network Control Center (SNCC). Each procedure includes a brief description of the procedure, a flowchart showing the steps required, a list of any EAGLE 5 SAS commands that may be required for the procedure but that are not supported by SEAS, and a reference to optional procedure-related information, which can be found in one of these manuals:
  - *Database Administration Manual – Gateway Screening*
  - *Database Administration Manual – Global Title Translation*
  - *Database Administration Manual – SS7*
- The *Database Administration Manual – SS7* contains procedural information required to configure an EAGLE 5 SAS to implement the SS7 protocol.
- The *Database Administration Manual – System Management* contains procedural information required to manage the EAGLE 5 SAS database and GPLs, and to configure basic system requirements such as user names and passwords, system-wide security requirements, and terminal configurations.
- The *Dimensioning Guide for EPAP Advanced DB Features* is used to provide EPAP planning and dimensioning information. This manual is used by Tekelec personnel and EAGLE 5 SAS customers to aid in the sale, planning, implementation, deployment, and upgrade of EAGLE 5 SAS systems equipped with one of the EAGLE 5 SAS EPAP Advanced Database (EADB) Features.
- The *ELAP Administration Manual* defines the user interface to the EAGLE 5 SAS LNP Application Processor on the MPS/ELAP platform. The manual defines the methods for accessing the user interface, menus, screens available to the user and describes their impact. It provides the syntax and semantics of user input, and defines the output the user receives, including information and error messages, alarms, and status.
- The *EPAP Administration Manual* describes how to administer the EAGLE 5 SAS Provisioning Application Processor on the MPS/EPAP platform. The manual defines the methods for accessing the user interface, menus, and screens available to the user and describes their impact. It provides the syntax and semantics of user input and defines the output the user receives, including messages, alarms, and status.
- The *Feature Manual - EIR* provides instructions and information on how to install, use, and maintain the EIR feature on the Multi-Purpose Server (MPS) platform of the EAGLE 5 SAS. The feature provides network operators with the capability to prevent stolen or disallowed GSM mobile handsets from accessing the network.
- The *Feature Manual - G-Flex C7 Relay* provides an overview of a feature supporting the efficient management of Home Location Registers in various

networks. This manual gives the instructions and information on how to install, use, and maintain the G-Flex feature on the Multi-Purpose Server (MPS) platform of the EAGLE 5 SAS.

- The *Feature Manual - G-Port* provides an overview of a feature providing the capability for mobile subscribers to change the GSM subscription network within a portability cluster while retaining their original MSISDNs. This manual gives the instructions and information on how to install, use, and maintain the G-Port feature on the Multi-Purpose Server (MPS) platform of the EAGLE 5 SAS.
- The *Feature Manual - INP* provides the user with information and instructions on how to implement, utilize, and maintain the INAP-based Number Portability (INP) feature on the Multi-Purpose Server (MPS) platform of the EAGLE 5 SAS.
- The *FTP-Based Table Retrieve Application (FTRA) User Guide* describes how to set up and use a PC to serve as the offline application for the EAGLE 5 SAS FTP Retrieve and Replace feature.
- The *Hardware Manual* - EAGLE 5 SAS contains hardware descriptions and specifications of Tekelec's signaling products. These include the EAGLE 5 SAS, OEM-based products such as the ASi 4000 Service Control Point (SCP), the Netra-based Multi-Purpose Server (MPS), and the Integrated Sentinel with Extended Services Platform (ESP) subassembly.

  The Hardware Manual provides an overview of each system and its subsystems, details of standard and optional hardware components in each system, and basic site engineering. Refer to this manual to obtain a basic understanding of each type of system and its related hardware, to locate detailed information about hardware components used in a particular release, and to help configure a site for use with the system hardware.
- The *Hardware Manual - Tekelec 1000 Application Server* provides general specifications and a description of the Tekelec 1000 Applications Server (T1000 AS). This manual also includes site preparation, environmental and other requirements, procedures to physically install the T1000 AS, and troubleshooting and repair of Field Replaceable Units (FRUs).
- The *Hardware Manual - Tekelec 1100 Application Server* provides general specifications and a description of the Tekelec 1100 Applications Server (T1000 AS). This manual also includes site preparation, environmental and other requirements, procedures to physically install the T1100 AS, and troubleshooting and repair of Field Replaceable Units (FRUs).
- The *Installation Manual - EAGLE 5 SAS* contains cabling requirements, schematics, and procedures for installing the EAGLE 5 SAS along with LEDs, connectors, cables, and power cords to peripherals. Refer to this manual to install components or the complete systems.
- The *Installation Manual - Integrated Applications* provides the installation information for integrated applications such as EPAP 4.0 or earlier

(Netra-based Multi-Purpose Server (MPS) platform) and Sentinel. The manual includes information about frame floors and shelves, LEDs, connectors, cables, and power cords to peripherals. Refer to this manual to install components or the complete systems.

- The *LNP Database Synchronization Manual - LSMS with* EAGLE 5 SAS describes how to keep the LNP databases at the LSMS and at the network element (the EAGLE 5 SAS is a network element) synchronized through the use of resynchronization, audits and reconciles, and bulk loads. This manual is contained in both the LSMS documentation set and in the EAGLE 5 SAS documentation set.
- The *LNP Feature Activation Guide* contains procedural information required to configure the EAGLE 5 SAS for the LNP feature and to implement these parts of the LNP feature on the EAGLE 5 SAS:
  - LNP services
  - LNP options
  - LNP subsystem application
  - Automatic call gapping
  - Triggerless LNP feature
  - Increasing the LRN and NPANXX Quantities on the EAGLE 5 SAS
  - Activating and Deactivating the LNP Short Message Service (SMS) feature.
- The *Maintenance Manual* contains procedural information required for maintaining the EAGLE 5 SAS and the card removal and replacement procedures. The *Maintenance Manual* provides preventive and corrective maintenance procedures used in maintaining the different systems.
- The *MPS Platform Software and Maintenance Manual - EAGLE 5 SAS with Tekelec 1000 Application Server* describes the platform software for the Multi-Purpose Server (MPS) based on the Tekelec 1000 Application Server (T1000 AS) and describes how to perform preventive and corrective maintenance for the T1000 AS-based MPS. This manual should be used with the EPAP-based applications (EIR, G-Port, G-Flex, and INP).
- The *MPS Platform Software and Maintenance Manual - EAGLE 5 SAS with Tekelec 1100 Application Server* describes the platform software for the Multi-Purpose Server (MPS) based on the Tekelec 1100 Application Server (T1100 AS) and describes how to perform preventive and corrective maintenance for the T1100 AS-based MPS. This manual should be used with the ELAP-based application (LNP).
- The *Provisioning Database Interface Manual* defines the programming interface that populates the Provisioning Database (PDB) for the EAGLE 5 SAS features supported on the MPS/EPAP platform. The manual defines the provisioning

messages, usage rules, and informational and error messages of the interface. The customer uses the PDBI interface information to write his own client application to communicate with the MPS/EPAP platform.

- The *Previously Released Features Manual* summarizes the features of previous EAGLE, EAGLE 5 SAS, and IP^7 Secure Gateway releases, and it identifies the release number of their introduction.
- The *Release Documentation* contains the following documents for a specific release of the system:
  - *Feature Notice* - Describes the features contained in the specified release. The Feature Notice also provides the hardware baseline for the specified release, describes the customer documentation set, provides information about customer training, and explains how to access the Customer Support Website.
  - *Release Notice* - Describes the changes made to the system during the lifecycle of a release. The Release Notice includes Generic Program Loads (GPLs), a list of PRs resolved in a build, and all known PRs.

    NOTE: The *Release Notice* is maintained solely on Tekelec's Customer Support site to provide you with instant access to the most up-to-date release information.
  - *System Overview* - Provides high-level information on SS7, the IP7 Secure Gateway, system architecture, LNP, and EOAP.
  - *Master Glossary* - Contains an alphabetical listing of terms, acronyms, and abbreviations relevant to the system.
  - *Master Index* - Lists all index entries used throughout the documentation set.
- The *System Manual – EOAP* describes the Embedded Operations Support System Application Processor (EOAP) and provides the user with procedures on how to implement the EOAP, replace EOAP-related hardware, device testing, and basic troubleshooting information.

Documentation Packaging and Updates

Customer documentation is updated whenever significant changes that affect system operation or configuration are made.

The document part number is shown on the title page along with the current revision of the document, the date of publication, and, if applicable, the software release that the document covers. The bottom of each page contains the document part number and the date of publication.

Documentation Admonishments

Admonishments are icons and text that may appear in this and other Tekelec manuals that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Following are the admonishments, listed in descending order of priority.

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

Customer Care Center

The Customer Care Center offers a point of contact through which customers can receive support for problems that may be encountered during the use of Tekelec's products. The Customer Care Center is staffed with highly trained engineers to provide solutions to your technical questions and issues seven days a week, twenty-four hours a day. A variety of service programs are available through the Customer Care Center to maximize the performance of Tekelec products that meet and exceed customer needs.

To receive technical assistance, call the Customer Care Center at one of the following locations:

- Tekelec, UK

  Phone: +44 1784 467 804
  Fax: +44 1784 477 120
  Email: **ecsc@tekelec.com**

- Tekelec, USA

  Phone (within the continental US) 888-367-8552 (888-FOR-TKLC)
  (outside the continental US) +1 919-460-2150.
  Email: **support@tekelec.com**.

When your call is received, the Customer Care Center issues a Customer Service Report (CSR). Each CSR includes an individual tracking number. When a CSR is issued, the Customer Care Center determines the classification of the trouble. The CSR contains the serial number of the system, problem symptoms, and messages. The Customer Care Center assigns the CSR to a primary engineer, who will work to solve the problem. The Customer Care Center closes the CSR when the problem is resolved.

If a critical problem exists, the Customer Care Center initiates emergency procedures (see the following topic, "Emergency Response").

Emergency Response

If a critical service situation occurs, the Customer Care Center offers emergency response twenty-four hours a day, seven days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure a rapid resolution to the problem.

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

- Failure in the system that prevents transaction processing
- Reduction in EAGLE 5 SAS capacity or in EAGLE 5 SAS traffic-handling capability
- Inability to restart the EAGLE 5 SAS
- Corruption of the database
- Inability to perform maintenance or recovery operations
- Inability to provide any required critical or major trouble notification
- Any other problem severely affecting service, capacity, traffic, and billing. Maintenance capabilities may be defined as critical by prior discussion and agreement with the Customer Care Center.

Maintenance and Administration Subsystem

The maintenance and administration subsystem consists of two processors, MASP (maintenance and administration subsystem processor) A and MASP B.

Each MASP is made up of two cards, the GPSM-II card (general purpose service module) and the TDM (terminal disk module).

The GPSM-II card contains the communications processor and applications processor and provides connections to the IMT bus. The GPSM-II controls the maintenance and database administration activity.

The TDM contains the fixed disk drive, the terminal processor for the 16 serial I/O ports and interfaces to the MDAL (maintenance disk and alarm) card which contains the removable cartridge drive and alarm logic. There is only one MDAL card in the maintenance and administration subsystem and it is shared between the two MASPs.

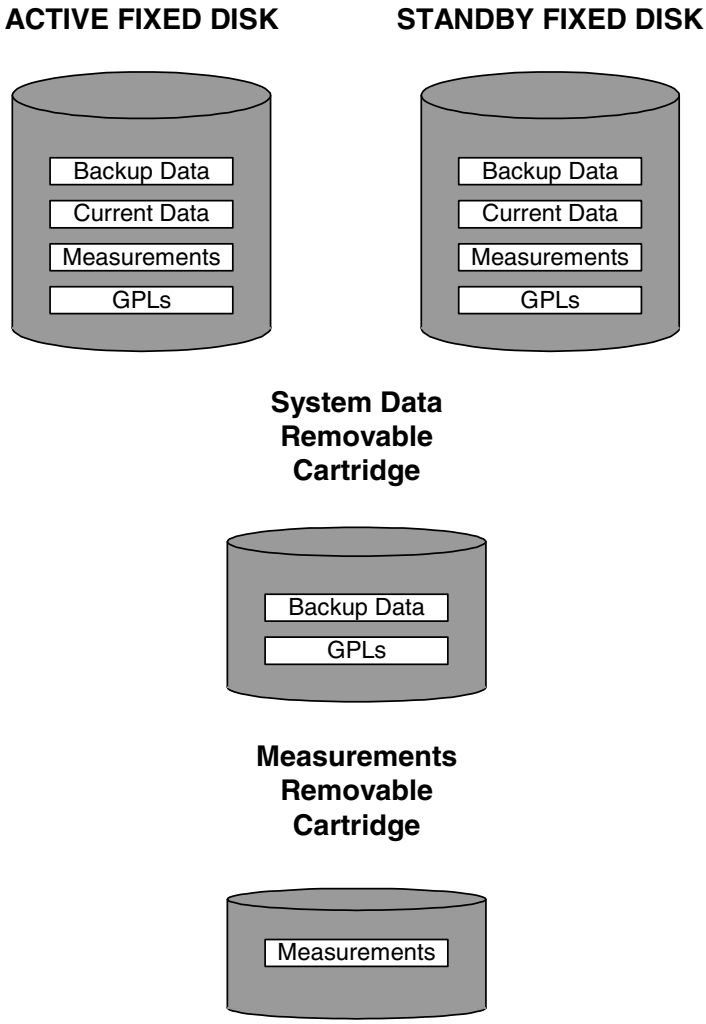
The procedures in the *Database Administration Manual – Global Title Translation* refer to the terms MASP and MDAL. The database commands, such as **`rept-stat-db`**, refer to the MASP because the MASP controls the input to the TDM and MDAL, and output from the TDM and MDAL. The MDAL is only referred to when inserting or removing the removable cartridge because the removable cartridge drive resides on the MDAL.

For more information on these cards, go to the *Hardware Manual - EAGLE 5 SAS*.

Database Partitions

The data that the EAGLE 5 SAS 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 1-1.

Figure 1-1. Database Partitions



Fixed Disk Drive

There are two fixed disk drives on the EAGLE 5 SAS. The fixed disk drives contain the "master" set of data and programs for the EAGLE 5 SAS. 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 SAS. 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 SAS 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

A removable cartridge is used for two purposes.

- To hold an off-line back-up 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 cannot store all of the data in the database, GPL and measurements partitions.

To use a removable cartridge to hold the system data, it must be formatted for system data. To use a removable cartridge to hold measurements data, it must be formatted for measurements data. The EAGLE 5 SAS provides the user the ability to format a removable cartridge for either of these purposes. A removable cartridge can be formatted on the EAGLE 5 SAS 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 drive can be found in the *Hardware Manual - EAGLE 5 SAS*.

The removable cartridge drive is located on the MDAL card in card location 1117.

Additional and preformatted removable cartridges are available from the Customer Care Center.

List of Acronyms and Abbreviations

ANSI .....American National Standards Institute

APC .....Adjacent Point Code

APCA .....The ANSI adjacent point code

APCI.....The ITU international adjacent point code

APCN.....The ITU national adjacent point code

API .....Application Programming Interface

APPL .....The application software assigned to the card.

AST.....Associated State for Maintenance

BEI .....Broadcast Exception Indicator

CANC .....Cancel

CDPA .....Called Party Address

CDR.....Call Detail Record

CGPA .....Calling Party Address

CHG .....Change

CLLI .....Common Language Location Identifier

Cmd Rej .....Command Rejected

CSPC GRP .....The name of the concerned signaling point code group that contains the point codes that should be notified of the subsystem status.

CSPC .....Concerned Signaling Point Code

DLT.....Delete

DPC .....Destination Point Code

DPCA .....ANSI Destination Point Code

DPCI.....ITU International Destination Point Code

DPCN.....ITU National Destination Point Code

DPCSSN .....The global title translation performed on the DPC and subsystem number of the MSU

DSM .....Database Services Module

DTE .....Data Terminal Equipment

EGTA .....The end value of a range of global title addresses

ENT .....Enter

ETT.....Existing SS7 Message Translation Type

Gbyte .....Gigabyte

GPL .....Generic Program Load

GRP .....The name of the concerned signaling point code group

GT.....Global Title Routing Indicator

GTA.....Global Title Address

GTT .....Global Title Translation

ID.....The ID value of an ITU international point code, expressed as zone-area-id.

IGTTLS .....Intermediate GTT Load Sharing

IS-NR .....In Service - Normal

IP-SCP.....Signaling Control Point with an IP Interface

ITU .....International Telecommunications Union

ITU-I .....ITU International

ITU-N.....ITU National

LAN .....Local Area Network

LIM .....Link Interface Module

LIMDS0 .....A LIM with a DS0A interface

LIMV35.....A LIM with a V.35 interface

LNKS .....The number of signaling links in the linkset

LNP.....Local Number Portability

LOC.....Card Location

LS.....Link Set

LSN .....Link Set Name

LST .....The linkset type of the specified linkset

MAP.....Mated Application

MAS .....Maintenance and Administration Subsystem

MASP.....Maintenance and Administration Subsystem Processor

MDAL.....Maintenance Disk and Alarm Card

MGTT .....Global Title Translation Modification

MPC .....Mate Point Code

MPCA .....ANSI Mate Point Code

MPCI.....ITU International Mate Point Code

MPCN.....ITU National Mate Point Code

MRN .....Mated Relay Node

MRN .....Message Reference Number

MSSN.....Mate Subsystem Number

MSU .....Message Signaling Unit

MTP.....Message Transfer Part

MTT.....Mapped SS7 Message Translation Type

NDGT .....The number of digits contained in the global title translation.

NGT .....The new type of global title translation

NPC.....The ITU national point code.

NPDD .....The prefix digits being deleted from the called party address

NPDS .....The prefix digits being added to the called party address.

OOS-MT-DSBLD.....Out of Service - Maintenance Disabled

OPC.....Originating Point Code

PC .....Point Code

PCA .....ANSI Point Code

PCI.....ITU International Point Code

PCN.....ITU National Point Code

PCTYPE .....Point code type

PORT.....The port on the LIM assigned to the signaling link.

PORT A LSET .....The name of the linkset to which port A of the signaling link is assigned.

PORT B LSET.....The name of the linkset to which port B of the signaling link is assigned.

PST .....Primary State for Maintenance

RC.....The relative cost value of a route, a mated application, or a mated relay node

REPT-STAT.....Report Status

RI .....The routing indicator in the called party address (CDPA) and the calling party address (CGPA).

RST ..... Restore

RTRV ..... Retrieve

SCCP ..... Signaling Connection Control Part – The application software used by the TSMs for the global title translation (GTT) feature.

SCP ..... Service Control Point

SEAC ..... Signaling Engineering and Administration Center

SEAS ..... Signaling Engineering and Administration System

SNCC ..... Signaling Network Control Center

SRM ..... Subsystem routing messages

SS7 DPC ..... SS7 Destination Point Code

SS7 ..... Signaling System #7

SSA ..... Subsystem Allowed network management message

SSN ..... SS7 Subsystem Number

SSP ..... Subsystem Prohibited network management message

SST ..... Secondary State for Maintenance

SST ..... Subsystem Status Test network management message

STP ..... Signal Transfer Point

TCAP ..... Transaction Capability Application Part

TCP ..... Transmission Control Protocol

TCP/IP ..... Transmission Control Protocol/Internet Protocol

TDM ..... Terminal Disk Module

TFA ..... Transfer Allowed network management message

TFP ..... Transfer Prohibited network management message

TSM ..... Translation Services Module

TT ..... Translation Type

TTN ..... Translation Type Name

TYPE ..... The global title translation type

UAM ..... Unsolicited Alarm Message

UDP ..... User Datagram Protocol

UDTS ..... Unitdata Service

VGTT ..... Variable-Length Global Title Translation

VSCCP .....The application software used with the DSM for the global title translation (GTT) feature

XLAT .....Translate Indicator

XUDT .....Extended User Data

2

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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 "Upgrading from Global Title Translation (GTT) to Enhanced Global Title Translation (EGTT)" on page 2-21.

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.

NOTES:

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 Chapter 4, "Enhanced Global Title Translation (EGTT) Configuration".**

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 SAS uses this feature to determine to which service database to send the query message when a Message Signaling Unit (MSU) enters the EAGLE 5 SAS and more information is needed to route the MSU.

If an MSU enters the EAGLE 5 SAS 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 SAS 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 SAS'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 2-1 on page 2-5 shows the message fields, the gray shaded areas in Figure 2-1 on page 2-5, affected by global title translation.

Figure 2-1. 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 DPC OPC SLS NCM NC NI NCM NC NI xx		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)

ITU-I MSU (ITU International Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label DPC OPC SLS ID AREA ZONE ID AREA ZONE xx		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)

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 DPC OPC SLS NPC NPC xx		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)

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 DPC OPC SLS MSA SSA SP MSA SSA SP xx		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)

The GTT feature allows global title translation on global title addresses of fixed length. There are three optional add-on features that enhance the funtionality 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 the section "Variable-length Global Title Translation Feature" on page 2-12.
- The Global Title Translation Modification feature (MGTT) allows the EAGLE 5 SAS 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 "Global Title Translation Modification Feature" on page 2-15.
- 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 2-16.

The EAGLE 5 SAS 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, go to "Enabling the XGTT Table Expansion feature" procedure on page A-17
- 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, go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27.

The GTT feature requires one of two cards:

- Translation Services Module (TSM)
- Database Services Module (DSM)

For more information on these cards, go to the "Adding an SCCP Card" procedure on page 2-48 or to the *Hardware Manual - EAGLE 5 SAS*.

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 SAS uses this feature to determine to which service database to send the query message when a Message Signaling Unit (MSU) enters the EAGLE 5 SAS and more information is needed to route the MSU.

If an MSU enters the EAGLE 5 SAS 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 SAS 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 SAS 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 funtionality 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 section “Variable-length Global Title Translation Feature” on page 2-12.
- The Global Title Translation Modification feature, allows the EAGLE 5 SAS 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 section “Global Title Translation Modification Feature” on page 2-15.
- 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 2-16.

The EGTT feature requires one of two cards:

- Translation Services Module (TSM)
- Database Services Module (DSM)

For more information on these cards, go to the “Adding an SCCP Card” procedure on page 2-48 or to the *Hardware Manual - EAGLE 5 SAS*.

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 2-2 on page 2-9 shows the message fields, the gray shaded areas in Figure 2-2 on page 2-9, affected by enhanced global title translation.

Figure 2-2. 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 DPC OPC SLS NCM NC NI NCM NC NI xx		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)

ITU-I MSU (ITU International Message Signal Unit)

BSN FSN LI	SIO xx xx xxxx NIC PRI SI	SIF			
		Routing Label DPC OPC SLS ID AREA ZONE ID AREA ZONE xx		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 (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 DPC OPC SLS NPC NPC xx		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 (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 DPC OPC SLS MSA SSA SP MSA SSA SP xx		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 (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 SAS 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 SAS's point code and local SSN.

New Commands

The EGTT feature introduces three new command sets:

- GTTSET commands
  - **`ENT-GTTSET`**—Enter 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 SAS 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, go to "Enabling the XGTT Table Expansion feature" procedure on page A-17
- a maximum of 20,992 GTT selectors
  - 256 ANSI selectors
  - 256 ITU selectors with GTI=2
  - 20,480 ITU selectors with GTI=4 (256 TTs * 16 NPs per TT * 5 NAIs per NP)
- 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, go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27

Variable-length Global Title Translation Feature

The Variable-length Global Title Translation feature (VGTT) allows global title translation on global title addresses of varying length. The Variable-length Global Title Translation feature must be enabled with the **chg-feat** command.

VGTT and Global Title Translation

If the Variable-Length Global Title Translation (VGTT) feature is on, shown the entry **VGTT = on**, in the **rtrv-feat** command output, up to 10 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, 1 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

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 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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 6 digits, 12 digits, and 15 digits.

When the VGTT feature is 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.

If the translation type has 10 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 10 lengths already assigned to the translation type. If the length of the global title address does not match one of the 10 lengths already assigned to the translation type, the **ent-gtt** command is rejected with this message.

```
E2958 Cmd Rej: No more than 10 GTA lengths supported per TT for
VGTT
```

If the translation type has less than 10 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.

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.

This feature requires that either a TSM running the SCCP GPL or a DSM running the VSCCP GPL be installed in the EAGLE 5 SAS. Table 2-4, "SCCP Card and Feature Combinations," on page 2-48 shows the type of SCCP cards that can be used depending on which features are on or enabled.

VGTT and Enhanced Global Title Translation

If the Variable-Length Global Title Translation (VGTT) feature is on, shown the entry **VGTT = on**, in the **rtrv-feat** command output, up to 10 different length global title addresses can be assigned to a GTT set name. The length of the global title address is only limited by the range of values for the **gta** and **egta** parameters for the **ent-gta** and **chg-gta** commands, 1 to 21 digits, and by the global title addresses already assigned to the translation type. The **ndgt** parameter of the **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-gttset** command and the VGTT feature is on, the **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-gttset** command output, as shown in the following example.

```
rlghncxa03w 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** 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 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 **lidb** (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 lidb contains only 3- and 10-digit global title addresses.

If the translation type has 10 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 being added to the GTT set name must be the same as one of the 10 lengths already assigned to the GTT set name. If the length of the global title address does not match one of the 10 lengths already assigned to the GTT set name, the **ent-gta** command is rejected with this message.

E2959 Cmd Rej: No more than 10 GTA lengths supported per GTTSET for VGTT

If the GTT set name has less than 10 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.

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.

This feature requires that either a TSM running the SCCP GPL or a DSM running the VSCCP GPL be installed in the EAGLE 5 SAS. Table 2-4, "SCCP Card and Feature Combinations," on page 2-48 shows the type of SCCP cards that can be used depending on which features are on or enabled.

Global Title Translation Modification Feature

This feature allows the EAGLE 5 SAS 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. This action is specified by the **xlat=dpcngt** and the **ri=gt** parameters of 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).

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 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 either a TSM running the SCCP GPL or a DSM running the VSCCP GPL be installed in the EAGLE 5 SAS. Table 2-4, "SCCP Card and Feature Combinations," on page 2-48 shows the type of SCCP cards that can be used depending on which features are on or enabled.

For the EAGLE 5 SAS to be able to make these changes to the called party address portion of the MSU, the Global Title Translation Modification feature must be enabled with the **chg-feat:mgtt=on** command, and at least one of these parameters 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).

- **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

To configure the prefix or suffix digit modification, perform one of these procedures:

- "Adding a Global Title Translation" procedure on page 3-17
- "Changing a Global Title Translation" procedure on page 3-49
- "Adding Global Title Address Information" procedure on page 4-26
- "Changing Global Title Address Information" procedure on page 4-54.

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, see the "Provisioning an MRN Group" procedure on page 2-137.

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 SAS 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 SAS 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 SAS 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.

Modified GTT Enhancements

The MGTT feature is enhanced as part of the ANSI-ITU-China SCCP Conversion feature. Starting with release 31.3, the MGTT feature supports Suffix Digit Modification, which allows for digits to be deleted or substituted from the end of the global title address digits. Prefix and Suffix Digit Modifications are mutually exclusive on a GTT (if the MGTT feature is on and the EGTT feature is not on) or GTA (if the EGTT and MGTT features are on) entry. If the MGTT feature is on, each GTT or GTA entry can specify either Prefix or Suffix Digit Modification, but not both. See the "Global Title Translation Modification Feature" section on page 2-15 for more information on the MGTT feature.

ANSI-ITU-China SCCP Conversion Feature Configuration

This feature requires that either TSMs or DSMs are present in the EAGLE 5 SAS. Table 2-4, "SCCP Card and Feature Combinations," on page 2-48 shows the type of SCCP cards 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 the "Activating the ANSI-ITU-China SCCP Conversion Feature" procedure on page A-36 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 the "Adding a Concerned Signaling Point Code" procedure on page 2-68.

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 either the "Provisioning a Mated Application" procedure on page 2-78 or "Changing a Mated Application" procedure on page 2-117.

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.

:**gtcnvdflt** – 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 "Changing the ANSI-ITU-China SCCP Conversion Options" procedure on page 2-193.

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 (see "Modified GTT Enhancements" section on page 2-16 and the "Global Title Translation Modification Feature" section on page 2-15). The Default GT Conversion Table is configured using either the **ent-gtcnv** command to add new entries to the Default GT Conversion Table (see the "Adding a GT Conversion Table Entry" procedure on page 2-162), or the **chg-gtcnv** command to change existing entries in the Default GT Conversion Table (see the "Changing a GT Conversion Table Entry" procedure on page 2-179).

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 SAS, 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 SAS'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 SAS 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
- INP – Message Relay service supported; call related query service is not supported (load sharing requirements apply).
- 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.
- EAGLE 5 SAS'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 SAS is not segmented. If the messages are segmented, the EAGLE 5 SAS performs message relay.
- GSM MAP Screening/Enhanced GSM MAP Screening - GSM MAP Screening (GMS) and Enhanced GSM MAP Screening (EGMS) does not support screening on XUDT messages. If an 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 - only Class 0 SCCP XUDT messages are supported.

The following features do not support the Support of SCCP XUDT Messages feature:

- Prepaid SMS Intercept (PPSMS)
- MNP Check for MO SMS (MNPSMS)
- INAP-based Number Portability Query Service (INP-QS)
- 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 SAS in the same order that they were received by the EAGLE 5 SAS. 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 SAS. 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: 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 SAS, they are not delivered to the next node in the correct sequence. The EAGLE 5 SAS does not perform message re-sequencing for messages that are received out of sequence, because the EAGLE 5 SAS 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 SAS does not guarantee routing these messages out of the EAGLE 5 SAS in the same order that they were received.

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 SAS 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
- **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-gttsel`** 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 2-1 in the reuse of the selector for setint000. In this example, you can break up GTT selectors into more specific entries (other than **`dflt`**) 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 2-1 shows an alias entry, GTII=4, TT=0, NP=E164, NAI=INTL, added to the same GTT set *setint000* as several other selectors.

Table 2-1. 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

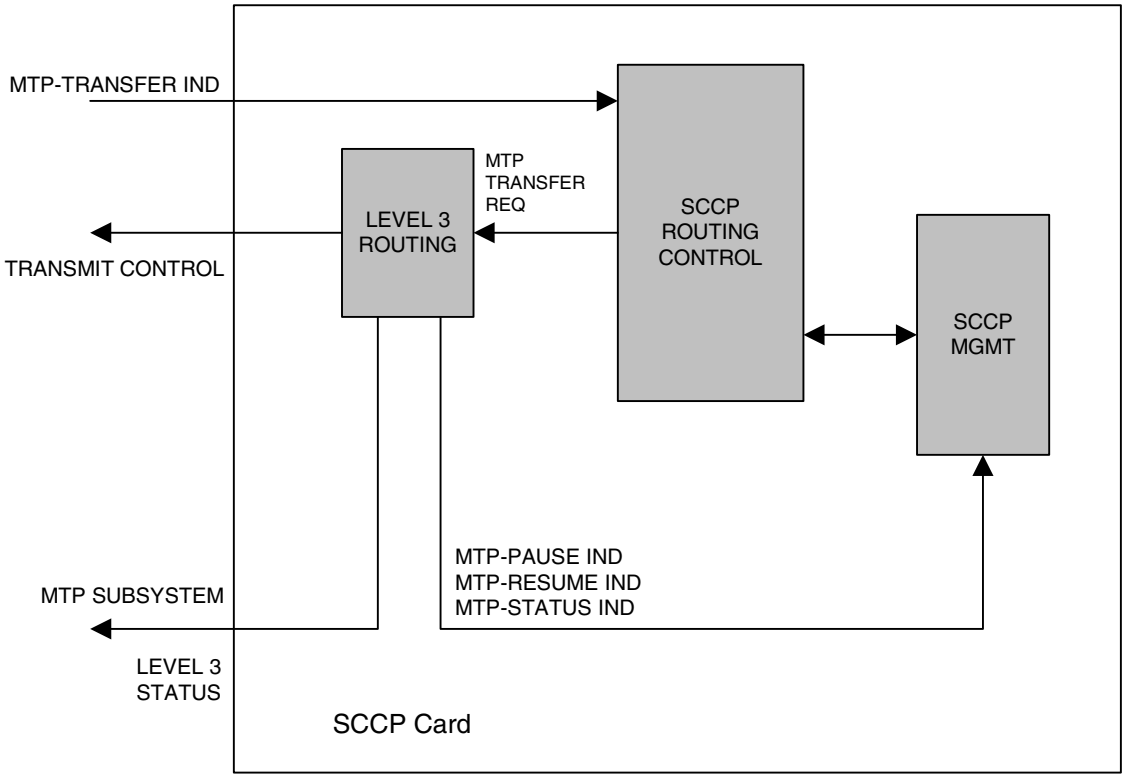
SCCP Overview

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

- SCCP Routing Control
- SCCP Management

Figure 2-3 shows the relationship of these two functions.

Figure 2-3. Logical View of SCCP Subsystems



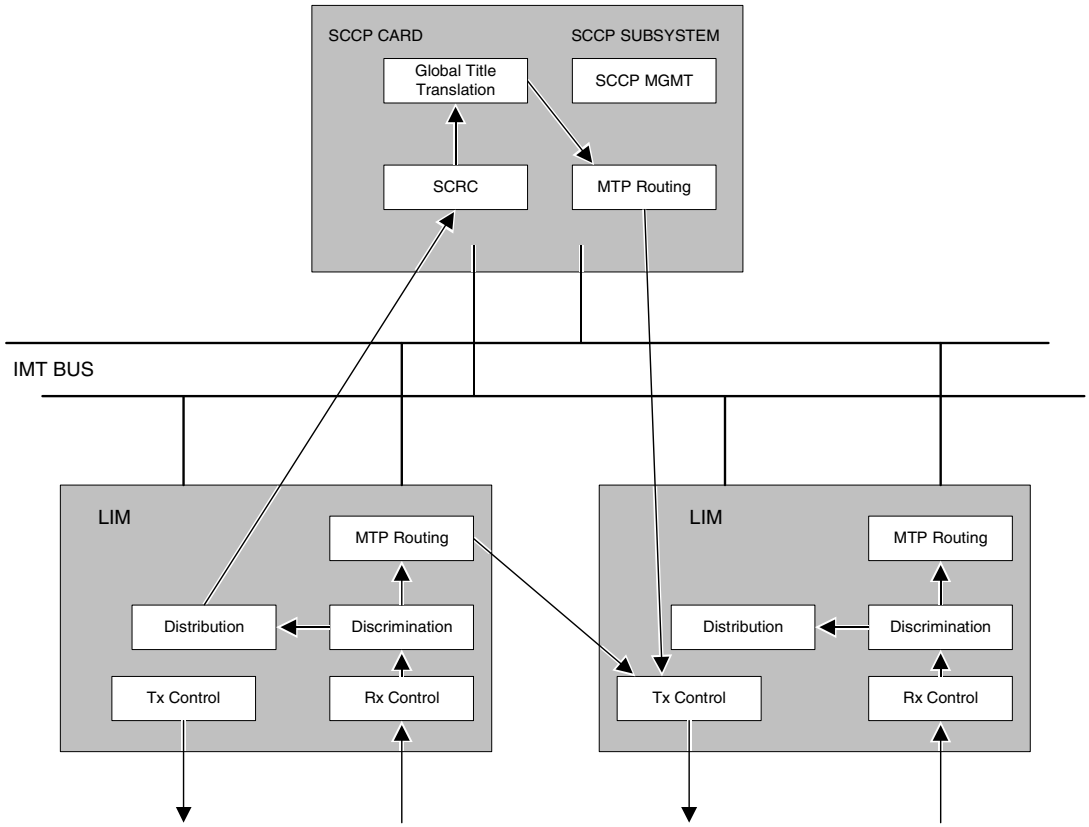
SCCP Routing Control

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

A load balancing function assigns each LIM to an SCCP card to distribute the SCCP traffic among the available SCCP cards. When a LIM receives an SCCP message that is destined for the EAGLE 5 SAS, it sends the message to the SCCP card assigned to that LIM. If that LIM does not have an SCCP card assigned to it, the LIM discards the SCCP message. If no SCCP cards 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 SCCP card. Figure 2-4 shows the message flow for an SCCP message destined for the EAGLE 5 SAS and for an SCCP message destined for another node.

Figure 2-4. SCCP Message Flow through the EAGLE 5 SAS



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 SAS, the only valid local subsystem is SCCP management (ssn = 1). If the LNP feature is enabled, the EAGLE 5 SAS 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*.

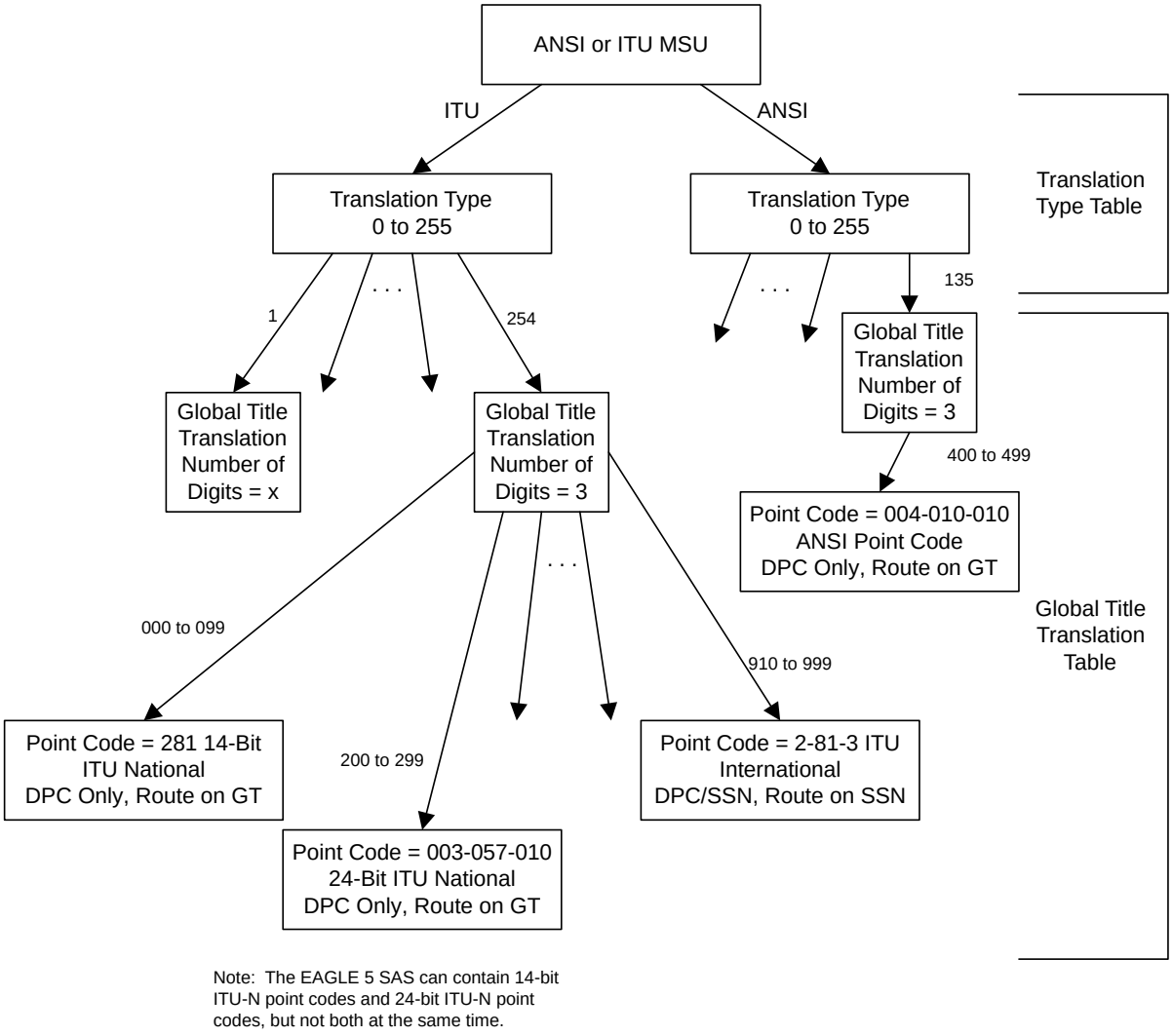
2. Global Title (gt) – This indicates that global title translation is required. The EAGLE 5 SAS performs the translation, determines the new DPC for the message, and routes the message to that DPC.

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 2-5 shows how these tables are organized.

Figure 2-5. Example of Using Translation Type and Global Title Translation Tables



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

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, go 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, go 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 2-2 on page 2-30 shows which fields in the MSU are modified for each translation result.

Table 2-2. 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
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

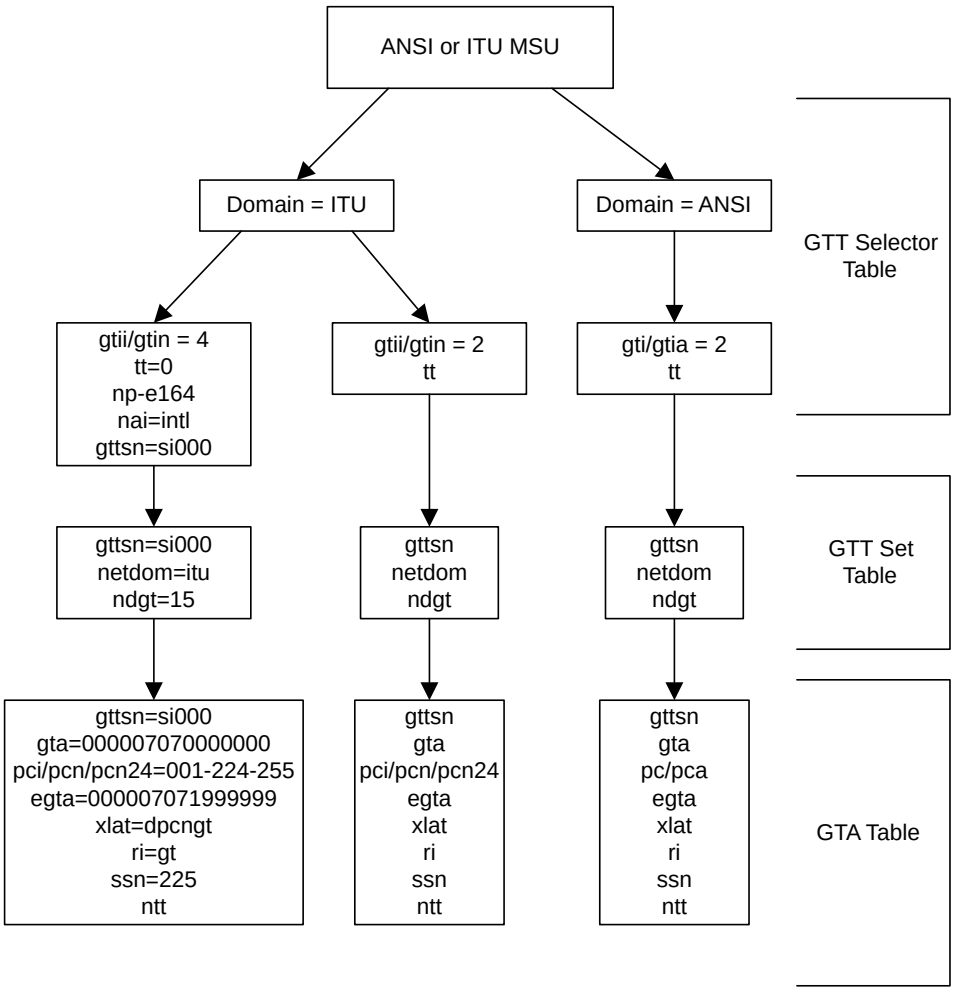
The "Route on GT" translate indicator (subsequent global title translation required) represents the need for a second translation after the initial one.

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 2-6. Example of Using GTT Selector, GTT Set, and GTA Tables



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

The GTT Set table is configured by the **ent-gttset** command; the GTT Selector table is configured by the **ent-gttsel**. For more information on this command, go 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:

- 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.
- GTT Set name

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, go 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 2-2 shows which fields in the MSU are modified for each translation result.

Table 2-3. 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
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 SAS 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 SAS 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 **`gti=4`**, the GTI is made up of the Numbering Plan (NP), Nature of Address Indicator (NAI), and Translation Type (TT) selectors.

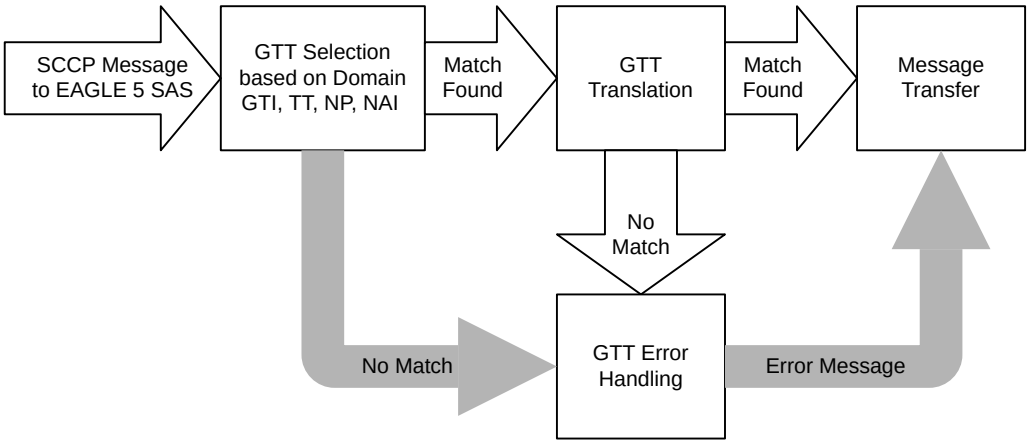
3. The EGTT feature does a Selector Table lookup based on the selector information extracted. If a match is found, then EGTT is performed on the message. If no match is found in the selector table for this entry, then EGTT performs SCRC error handling on the message.

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-gttsel`** 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 section "Variable-length Global Title Translation Feature" on page 2-12.

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 2-7.

Figure 2-7. 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 seven 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:

1. Solitary – there is no backup point code and subsystem for the primary point code and subsystem.
2. 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.

3. 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.

4. Combined dominant/load sharing – a group that is a combination of the dominant and load sharing groups. At least one of the point codes in this group has the same relative cost value as the relative cost value as the primary point code and subsystem. The rest of the point codes in this group 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 are the same. 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, go 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 SAS 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, go 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 SAS 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). 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.

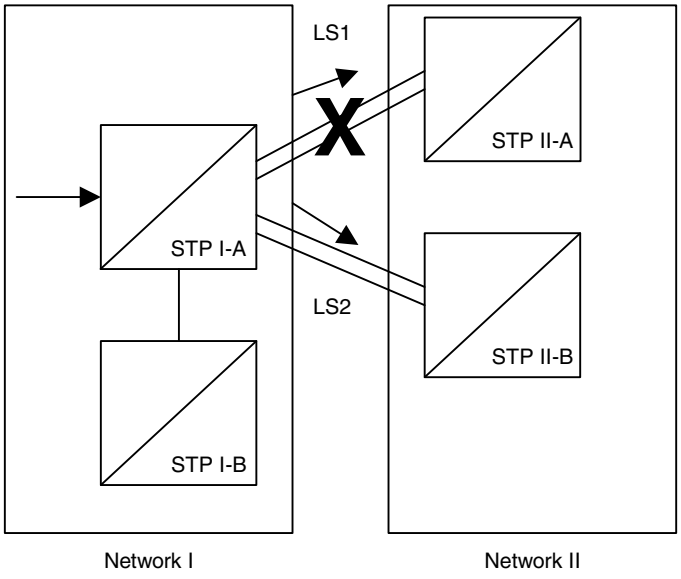
The translation type mapping feature is configured for any linkset, however, translation type mapping has no effect on messages in X.25 linksets, since this feature has not been implemented for X.25 linksets. There is currently no specification for translation type mapping in ITU networks, therefore, the EAGLE 5 SAS provides the same translation type mapping function as for ANSI networks.

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 SAS, and is performed before the global title translation function, the gateway screening function, or the MSU copy function associated with the STP LAN feature. Outgoing translation type mapping is performed on linksets carrying messages out of the EAGLE 5 SAS to other destinations, and is performed after the global title translation function, the gateway screening function, or the MSU copy function associated with the STP LAN feature.

When outgoing translation type mapping is configured and the MSU is copied for the STP LAN 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 2-8 shows an example of a translation type that is double mapped.

Figure 2-8. An Example of Double Translation Type Mapping



TT Mapping

STP I-A			
LS1	ETT	MTT	Meaning
incoming:	N/A	N/A	
outgoing:	251	127	800
	127	96	LIDB
LS2			
incoming:	N/A	N/A	
outgoing:	251	127	800
	127	96	LIDB

In Figure 2-8, 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 SAS supports 64 translation type mappings for each linkset. This includes both incoming and outgoing translation type mappings. Since the EAGLE 5 SAS supports a total of 1024 linksets, the total number of translation type mappings that can be configured in the EAGLE 5 SAS 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:

- SCCP cards
- Translation type mapping
- Concerned signaling point codes
- Mated applications
- Mated relay nodes.
- GT conversion table entries for the ANSI-ITU-China SCCP Conversion 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 Chapter 3, "Global Title Translation (GTT) Configuration." Figure 2-9 on page 2-41 shows the relationships of the database elements that are configured for the global title translation feature.

The procedures shown in this chapter use a variety of commands. If more information on these commands is needed, go 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.

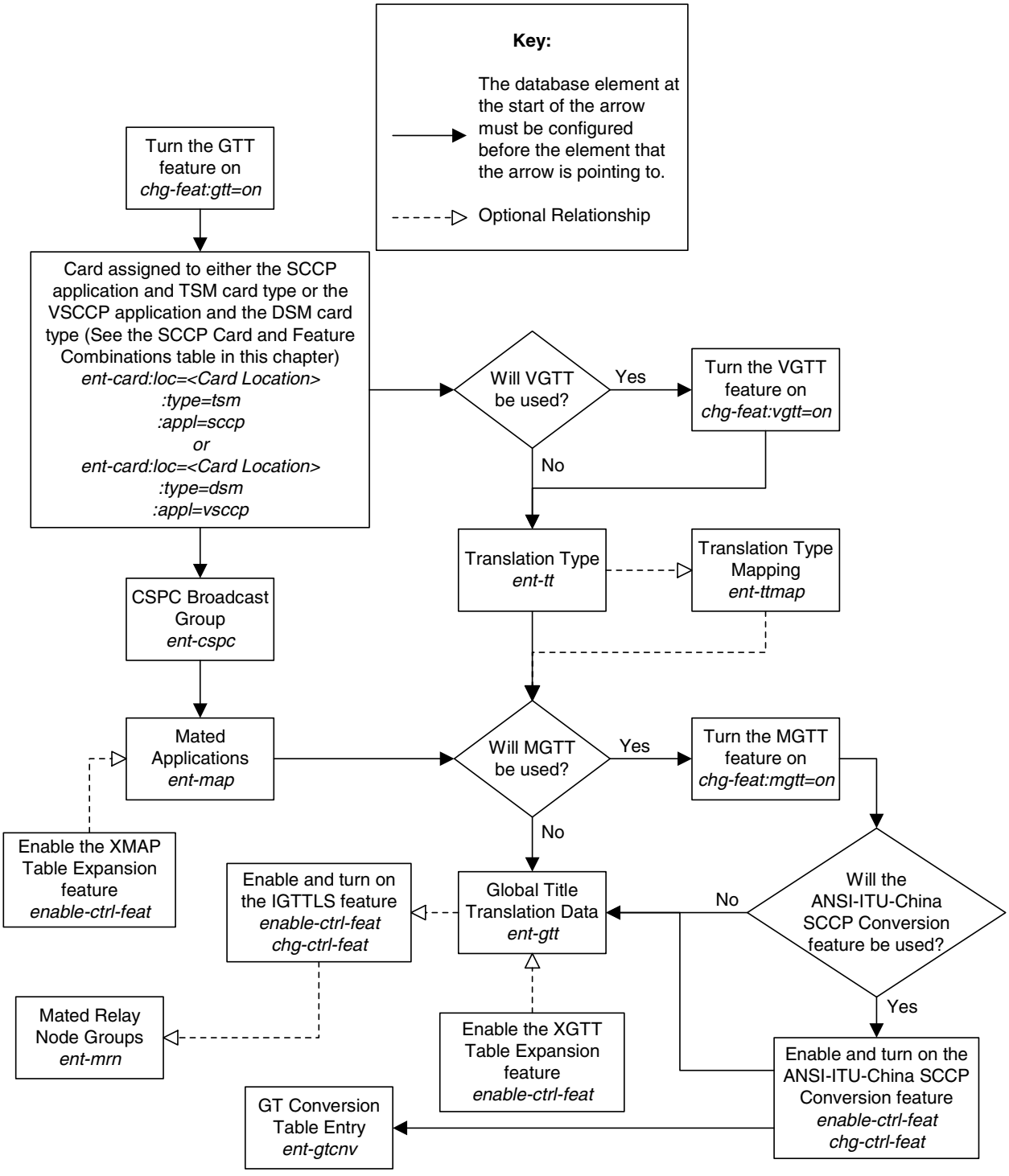
The following is a brief description of the global title translation entities. These global title translation entities must be configured in the order that they are shown.

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.

Figure 2-9. GTT Database Relationships



2. An SCCP card must be configured in the database with the **ent-card** command. An SCCP card can be one of these cards: TSM or DSM. The TSM is specified with the **type=tsm** and **appl=sccp** parameters of the **ent-card** command. The DSM is specified with the **type=dsm** and **appl=vsccp** parameters of the **ent-card** command. See Table 2-4, "SCCP Card and Feature Combinations," on page 2-48 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. See the "Variable-length Global Title Translation Feature" section on page 2-12 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.

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 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 Global Title Translation Modification (MGTT) feature is being used, it must be enabled with the **chg-feat:mgtt=on** command. Verify this with the **rtrv-feat** command. See the "Global Title Translation Modification Feature" section on page 2-15 for more information on this feature.

   NOTE: Once the Global Title Translation Modification (MGTT) feature is enabled with the chg-feat command, it cannot be disabled.

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

   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.

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. See the "Intermediate GTT Load Sharing Feature" section on page 2-16 for more information on this 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 SCCP cards, 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" section on page 2-40. The procedures to configure GTT sets, GTT selectors and global title address information are located in Chapter 4, "Enhanced Global Title Translation (EGTT) Configuration." Figure 2-10 on page 2-45 shows the relationships of the database elements that are configured for the enhanced global title translation feature.

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. An SCCP card must be configured in the database with the **ent-card** command. An SCCP card can be either a TSM or DSM. The TSM is specified with the **type=tsm** and **appl=sccp** parameters of the **ent-card** command. The DSM is specified with the **type=dsm** and **appl=vsccp** parameters of the **ent-card** command. See Table 2-4, "SCCP Card and Feature Combinations," on page 2-48 for the required cards. The card configuration can be verified with the **rtrv-card** command.

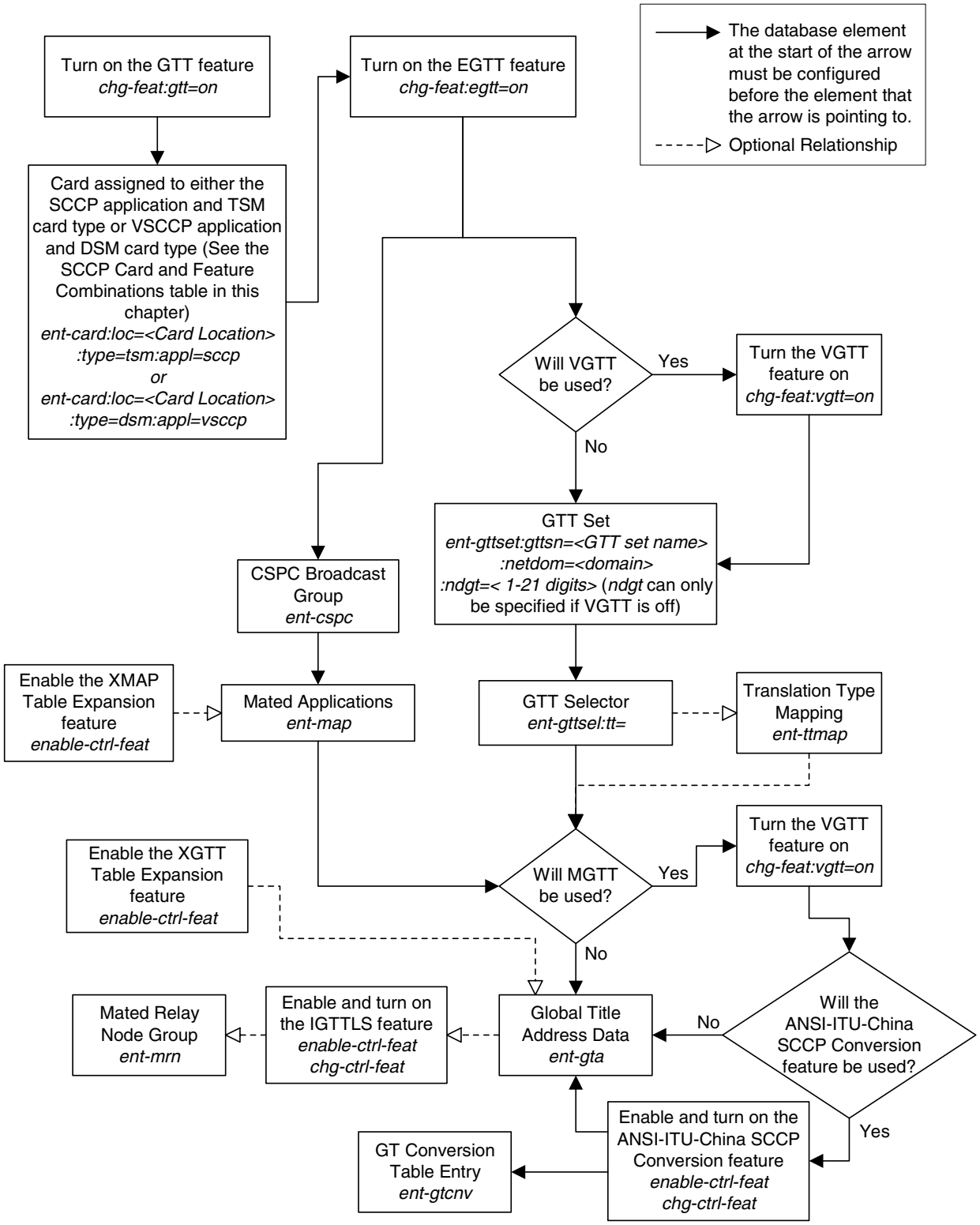
3. A global title translation (GTT) set must be defined in the database. Verify this with the **rtrv-gttset** command. If the necessary GTT set is not in the database, add it with the **ent-gttset** command.

   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. See the "Variable-length Global Title Translation Feature" section on page 2-12 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.

Figure 2-10. EGTT Database Relationships



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 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.

7. 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.

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 Global Title Translation Modification (MGTT) feature is being used, it must be turned on with the **chg-feat:mgtt=on** command. Verify this with the **rtrv-feat** command. See the "Global Title Translation Modification Feature" section on page 2-15 for more information on this feature.

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

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

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.

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. See the "Intermediate GTT Load Sharing Feature" section on page 2-16 for more information on this feature.

Adding an SCCP Card

This procedure is used to add an SCCP card to support the Global Title Translation or Enhanced Global Title Translation feature to the database using the **ent-card** command.

An SCCP card can be one of the following:

- TSM-256
- TSM-512
- TSM-768
- TSM-1024
- DSM 1G
- DSM 2G
- DSM 3G
- DSM 4G

The card that is used as an SCCP card depends on the GTT related features that are being used and the features that will enabled after this procedure is performed. The features or feature combinations shown in Table 3-2 show the type of card that must be installed in the EAGLE 5 SAS to meet the minimum EAGLE 5 SAS performance requirements. DSMs can be used in place of TSMs, when the feature combination requires TSMs. The features that are currently being used by the EAGLE 5 SAS are shown in the **rtrv-feat** or **rtrv-ctrl-feat** command outputs.

Table 2-4. SCCP Card and Feature Combinations

Card	Features
DSM 1G, DSM 2G, DSM 3G, DSM 4G	Any of these features: • Enhanced GSM MAP Screening • G-FLEX • G-Port • INP • ELAP Configuration feature and any LNP Telephone Number Quantity* • XGTT Table Expansion for 1,000,000 GTT entries • Equipment Identity Register (EIR) • IDP Screening for Prepaid or GTT and EGTT (if the Enhanced Global Title Translation feature is on) in combination with at least 2 of these features: • VGTT • MGTT (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
TSM-256, TSM-512, TSM-768, TSM-1024	• GSM MAP Screening GTT and EGTT (if the Enhanced Global Title Translation feature is on) in combination with only one of these features: • VGTT • MGTT (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
* See the LNP Hardware and Part Number Configuration table in the *LNP Feature Activation Guide* for the minimum requirements for DSMs used with the LNP feature.	

The DSM can be inserted only in the odd numbered card slots of the extension shelf. Slot 09 of each shelf contains the HMUX card, thus the DSM cannot be inserted in slot 09. The DSM can be inserted in the control shelf, but only in slots 01, 03, 05, and 07. The DSM occupies two card slots, so the even numbered card slot adjacent to the odd numbered slot where the DSM has been inserted must be empty, as shown in Table 2-5. The DSM is connected to the network through the odd numbered card slot connector.

Table 2-5. DSM Card Locations

Location of the DSM	Empty Card Location	Location of the DSM	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
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 depends on the card being configured in the database. Table 2-6 shows the values for the type parameter.

Table 2-6. Card Type Parameter Value

Card	Card Type Parameter Value
TSM-256, TSM-512, TSM-768, TSM-1024	tsm
DSM 1G, DSM 2G, DSM 3G, DSM 4G	dsm

:appl – The application software or GPL that is assigned to the card. The value of this parameter depends on the card being configured in the database. Table 2-7 shows the values for the **appl** parameter.

Table 2-7. Application Parameter Values

Card	Application Parameter Value
TSM-256, TSM-512, TSM-768, TSM-1024	sccp
DSM 1G, DSM 2G, DSM 3G, DSM 4G	vsccp

:force – Allow the LIM to be added to the database even if there are not enough SCCP cards to support the number of LIMs in the EAGLE 5 SAS. This parameter does not apply to configuring SCCP cards 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, see 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.

The EAGLE 5 SAS can contain a maximum of25 TSMs running the SCCP GPL or 25 DSMs running the VSCCP GPL.

Procedure

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, see 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 step 1, skip this step and go to step 3.

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 enabled with the chg-feat command, it cannot be disabled.

   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 06-03-25 09:57:41 GMT EAGLE5 34.3.0
   CHG-FEAT: MASP A - COMPLTD
   ```

NOTE: If step 2 was performed, skip this step and go to step 4.

3. Display the status of the controlled features in the database by entering the **rtrv-ctrl-feat** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
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.
```

4. Display the cards in the EAGLE 5 SAS using the **rtrv-card** command. This is an example of the possible output.

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

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

5. Verify that the SCCP card has been physically installed into the proper location according to the feature requirements shown in Table 2-4 on page 2-48. Table 2-4 shows the type of SCCP card that is required based on the GTT-related features that are currently being used (also shown in the **rtrv-feat** output in step 1 as being **on**, and in the **rtrv-ctrl-feat** output in step 3 as being enabled) and any features that will be enabled after this procedure is performed. If DSMs are required, any TSMs running the SCCP application currently in the EAGLE 5 SAS must be replaced by DSMs. Contact the Customer Care Center before replacing any SCCP cards. Refer to "Customer Care Center" on page 1-8 for the contact information.

CAUTION: If the SCCP card is a DSM and the version of the BPDCM GPL on the DSM card does not match the BPDCM GPL version in the database when the DSM 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 *Maintenance Manual* before proceeding with this procedure.

6. Add the SCCP card to the database using the **ent-card** command. For this example, enter this command.

   ent-card:loc=1212:type=tsm:appl=sccp

   If a DSM is being configured as an SCCP card, the **ent-card** command would be entered as shown in this example.

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

   Tables 2-6 and 2-7 on page 2-49 show the parameter combinations that can be used depending on what type of SCCP card is being added to the database.

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

```
rlghncxa03w 06-03-25 09:57:51 GMT  EAGLE5 34.3.0
ENT-CARD: MASP A - COMPLTD
```

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

   rtrv-card:loc=1212

   This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1212   TSM       SCCP
```

   If a DSM card was added to the database in step 7, the output of the **rtrv-card** command would show the DSM card type and the VSCCP application as shown in this example.

   rtrv-card:loc=1301

   This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1301   DSM       VSCCP
```

NOTE: If the EGTT feature is on, shown by the entry `EGTT = on` in the `rtrv-feat` command output in step 1, or if the EGTT feature is off and will not be enabled in this procedure, skip this step and go to step 9.

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

   `chg-feat:egtt=on`

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

   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.

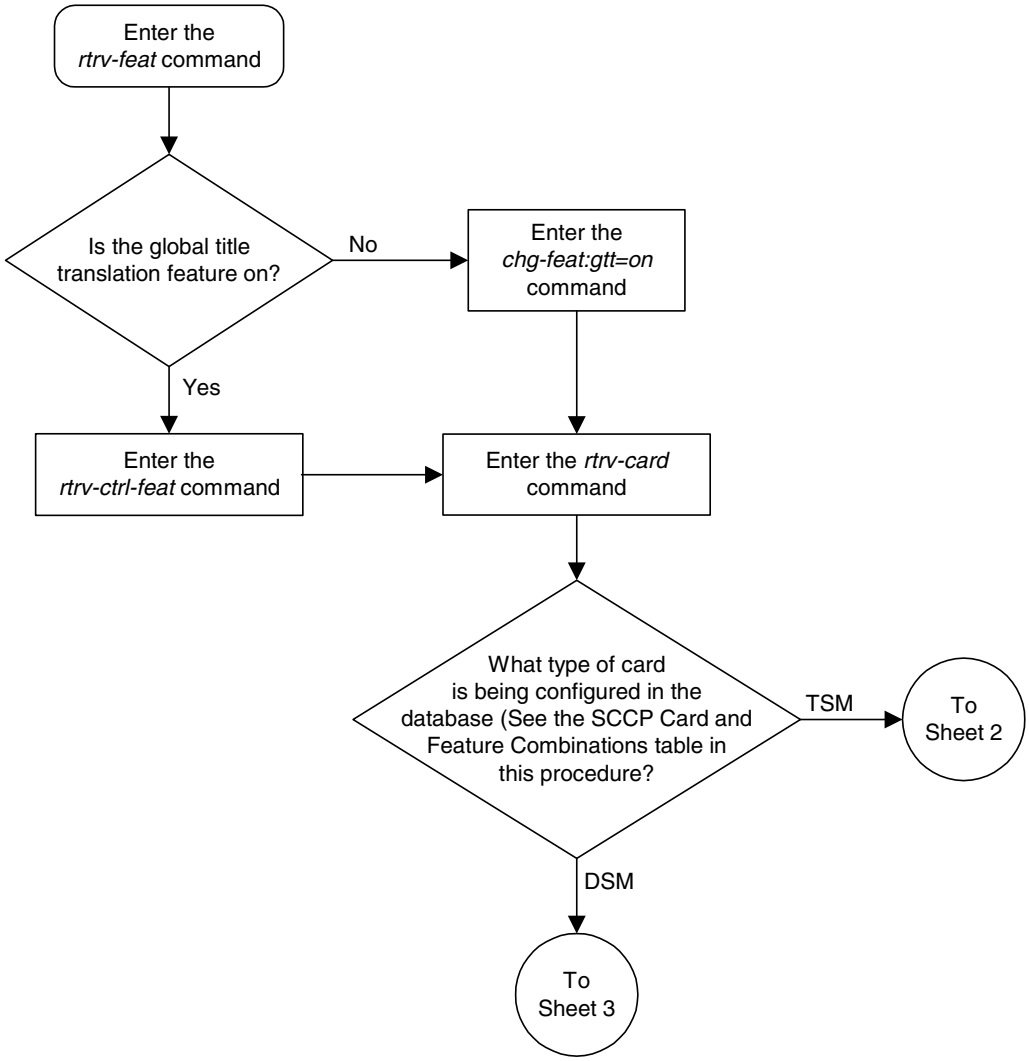
```
rlghncxa03w 06-03-25 09:57:41 GMT EAGLE5 34.3.0
CHG-FEAT: MASP A - COMPLTD
```

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.

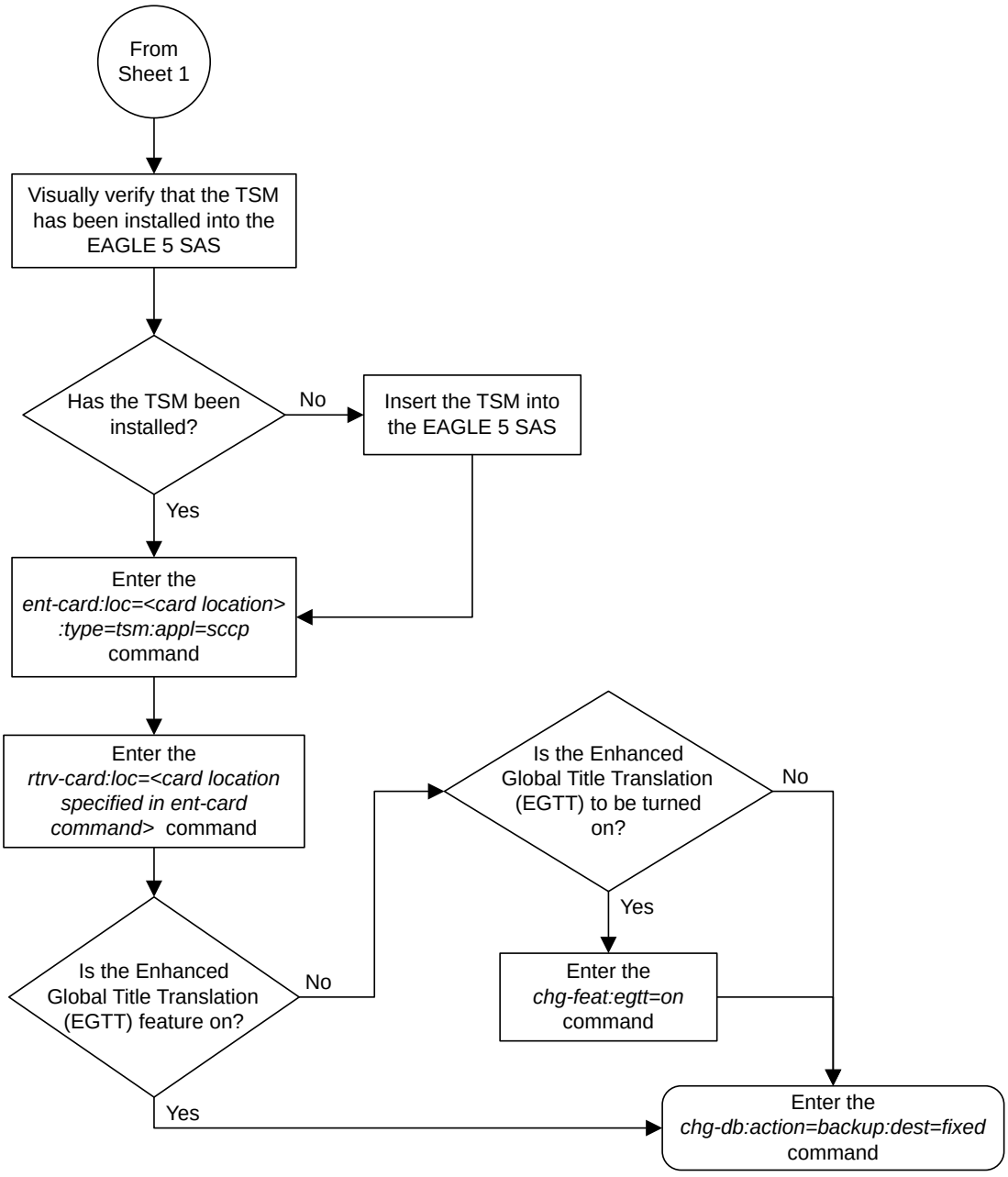
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Flowchart 2-1. Adding an SCCP Card to the Database (Sheet 1 of 4)

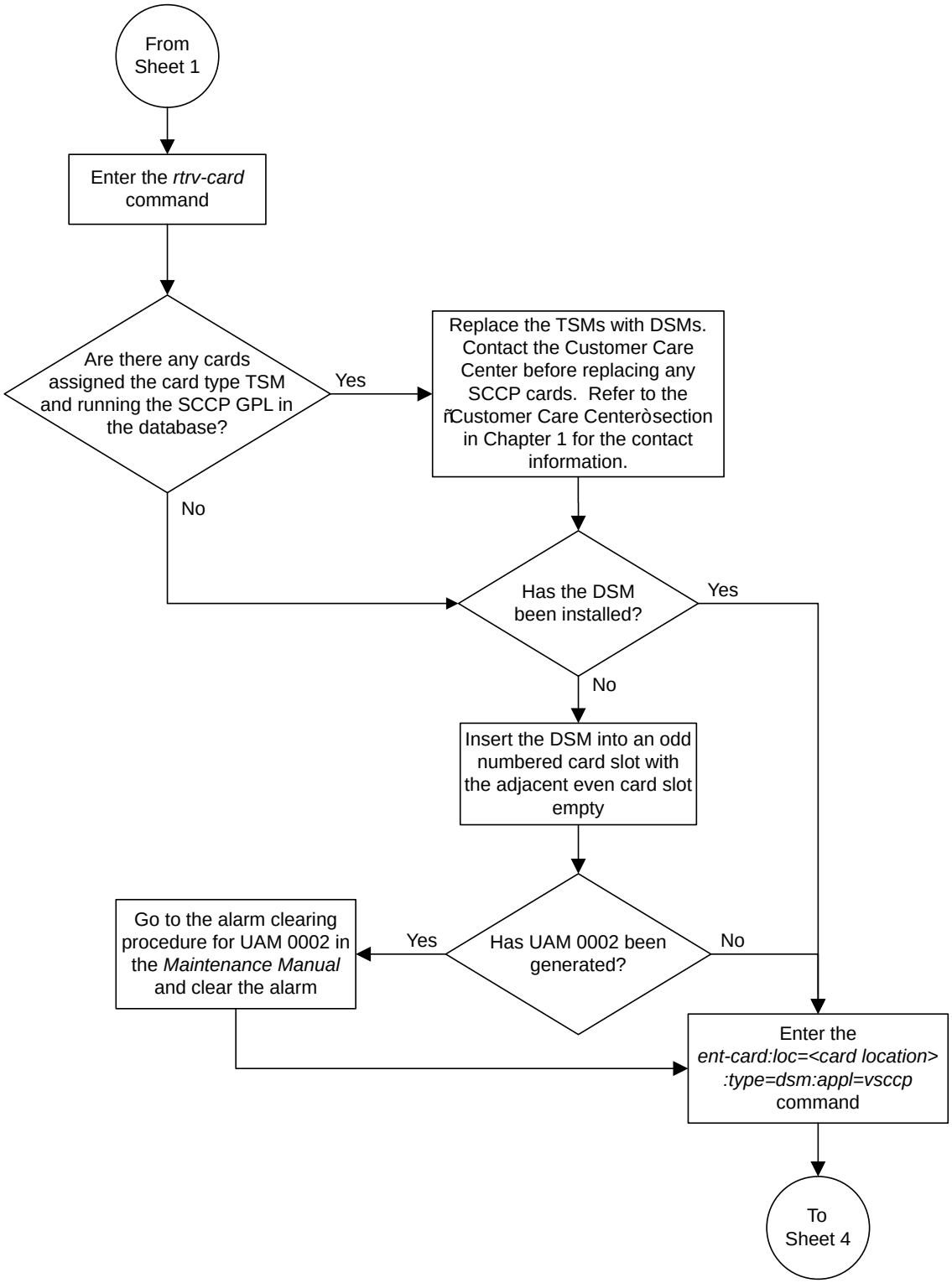
NOTE: Before executing this procedure, make sure you have purchased the Global Title Translation (GTT) and Enhanced Global Title Translation (EGTT) (if the EGTT feature is being enabled) features. If you are not sure whether you have purchased the GTT and EGTT features, contact your Tekelec Sales Representative or Account Representative.



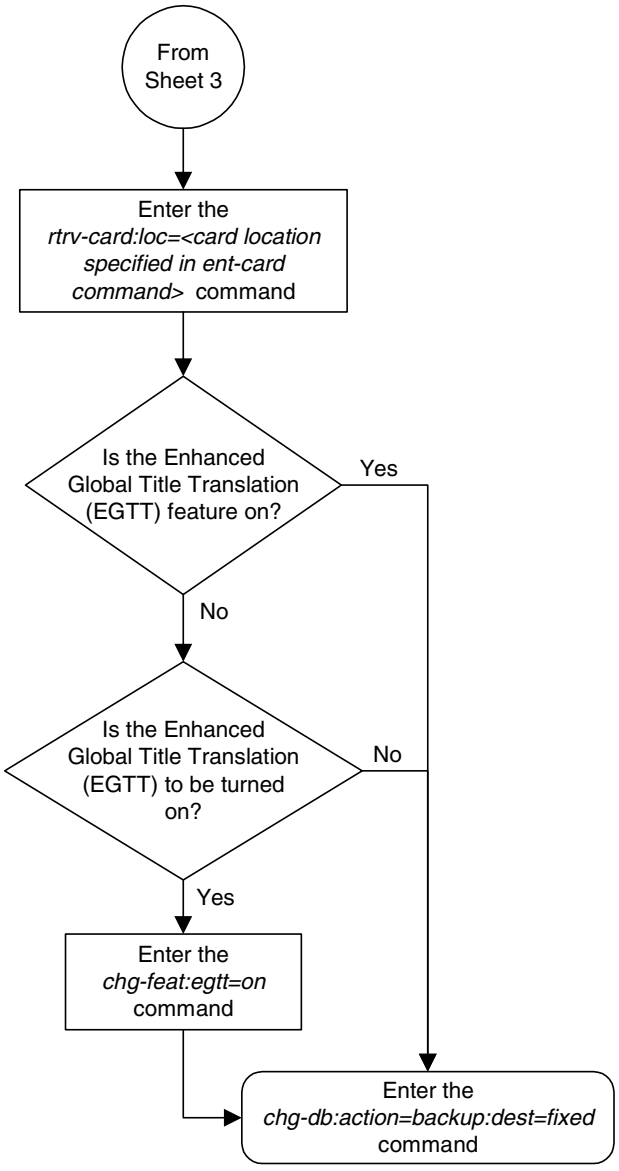
Flowchart 2-1. Adding an SCCP Card to the Database (Sheet 2 of 4)



Flowchart 2-1. Adding an SCCP Card to the Database (Sheet 3 of 4)



Flowchart 2-1. Adding an SCCP Card to the Database (Sheet 4 of 4)



Removing an SCCP Card

This procedure is used to remove SCCP cards, 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: If the SCCP card is the last SCCP card 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 SCCP card in card location 1204.

Procedure

1. Display the status of the SCCP cards by entering the **rept-stat-sccp** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
1204  113-002-001  IS-NR           Active     -----        47%         81%
1208  113-002-001  IS-NR           Active     -----        34%         50%
2101  113-002-001  IS-NR           Active     -----        21%         29%
2105  113-002-001  IS-NR           Active     -----        35%         52%
2112  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, see 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 SCCP card to be inhibited is the only SCCP card 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. For this example, enter this command.

rmv-card:loc=1204

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

```
rlghncxa03w 06-03-25 09:57:41 GMT  EAGLE5 34.3.0
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 06-03-25 09:57:51 GMT  EAGLE5 34.3.0
DLT-CARD: MASP A - COMPLTD
```

4. Verify the changes using the **rtrv-card** command specifying the card that was removed in step 3. For this example, enter this command.

   rtrv-card:loc=1204

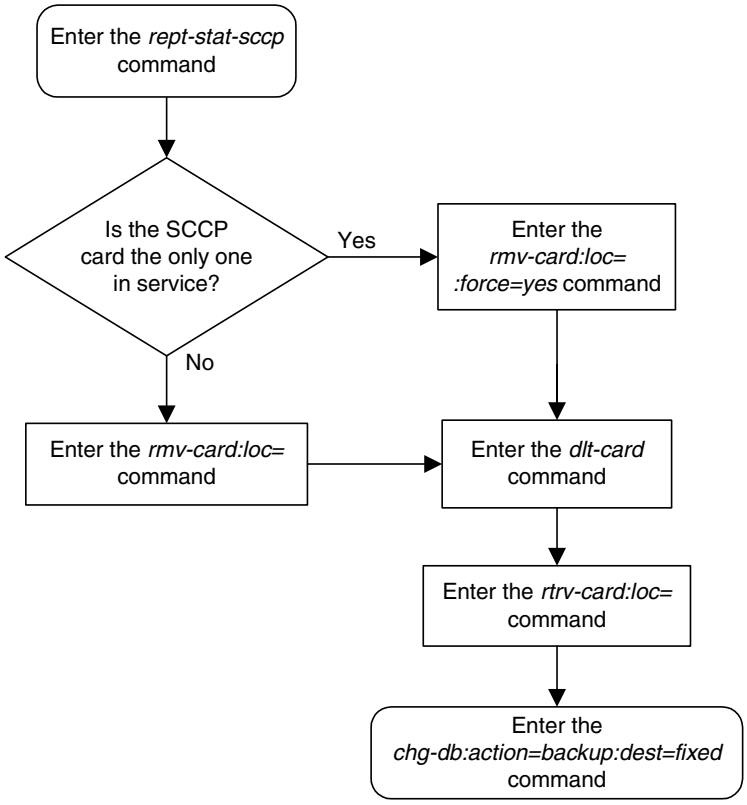
   When this command has successfully completed, this message should appear.

   ```
   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.
   ```

Flowchart 2-2. Removing an SCCP Card



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 that 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*.

Procedure

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

```
rlghncxa03w 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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 06-03-25 09:57:41 GMT EAGLE5 34.3.0

                                 L3T SLT              GWS GWS GWS
LSN           APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
lsa1          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

                                 L3T SLT              GWS GWS GWS
LSN           APCA (X25)     SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
ls6           244-010-004    scr4  1    4  no  a   6    off off off ---   off
ls7           244-012-005    scr5  1    5  no  c   3    on  on  on  ---   off
ls8           244-012-006    scr6  1    6  no  c   8    off off off ---   off

                                 L3T SLT              GWS GWS GWS
LSN           APCI (SS7)     SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
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 ---   ---

                                 L3T SLT              GWS GWS GWS
LSN           APCN (SS7)     SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
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

                                L3T SLT              GWS GWS GWS
LSN          APCN24 (SS7)   SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS

                                 L3T SLT              GWS GWS GWS
LSN (CHINA)  APCN   (SS7)   SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS

                                 L3T SLT              GWS GWS GWS
LSN (CHINA)  APCN24 (SS7)   SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS

Link set table is ( 14 of 1024)  1% full
```

If the required linkset is not in the database, go to 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 06-03-25 09:57:51 GMT  EAGLE5 34.3.0
ENT-TTMAP: MASP A - COMPLTD

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

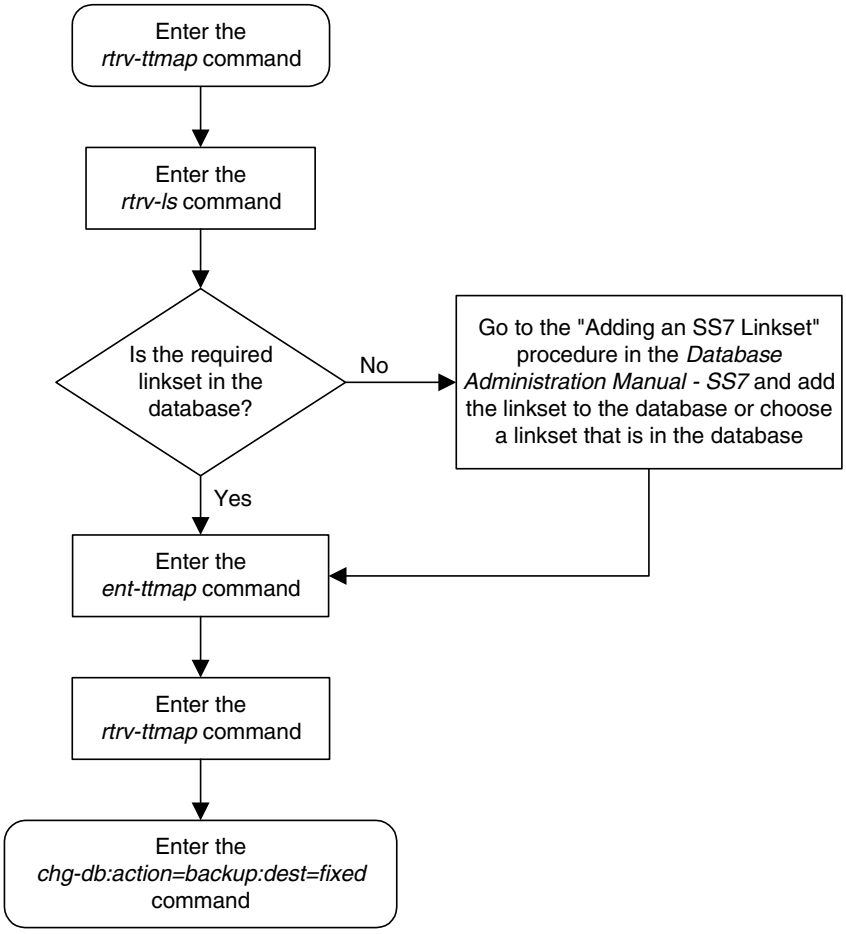
4. Verify the changes using the **rtrv-ttmap** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT  EAGLE5 34.3.0
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. 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.
```

Flowchart 2-3. 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**.

Procedure

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

```
rlghncxa03w 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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 06-03-25 09:57:41 GMT  EAGLE5 34.3.0
DLT-TTMAP: MASP A - COMPLTD

TTMAP table for nc001 is (5 of 64) 8% full
```

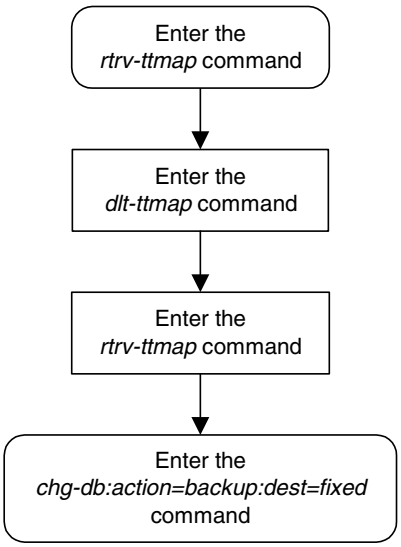
3. Verify the changes using the **rtrv-ttmap** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:51 GMT  EAGLE5 34.3.0
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.
```

Flowchart 2-4. 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" procedure on page 2-64, then re-entered with the new **lsn**, **io**, or **ett** values using the "Adding a Mapped SS7 Message Translation Type" procedure on page 2-60.

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**.

Procedure

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

```
rlghncxa03w 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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 06-03-25 09:57:41 GMT  EAGLE5 34.3.0
CHG-TTMAP: MASP A - COMPLTD

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

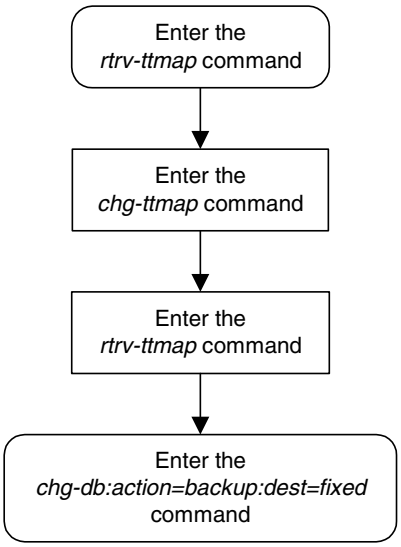
3. Verify the changes using the **rtrv-ttmap** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:51 GMT  EAGLE5 34.3.0
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.
```

Flowchart 2-5. 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: 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 SAS and for a definition of the different formats that can be used for ITU national point codes.

NOTE: The EAGLE 5 SAS 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 2-8.

Table 2-8. 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 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 eight entries, a primary point code and up to seven 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 (**pcn**24), 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.

Procedure

1. Display the CSPC group names in the database using the **rtrv-cspc** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:57:31  GMT  EAGLE5 34.3.0
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, skip this step and go to step 3.

---

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 06-03-25 09:57:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:57:31  GMT  EAGLE5 34.3.0
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 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   002-002-002 ---------- --------------   ls02       10    002-002-002
                                                    CLLI=ls02clli
```

   rtrv-rte:dpca=008-008-008

   This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   008-008-008 ---------- --------------   ls20       10    008-008-008
                                                    CLLI=ls20clli
```

rtrv-rte:dpca=009-009-009

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   009-009-009 ---------- --------------   ls09       10    009-009-009
                                                     CLLI=ls09clli
```

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.

NOTE: 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, skip this step and go to step 5.

4. 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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" procedure on page A-36 and the ANSI-ITU-China SCCP Conversion feature.

---

5. 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 06-03-25 09:57:41  GMT  EAGLE5 34.3.0
ENT-CSPC:  MASP A - COMPLTD
```

---

6. Verify the changes using the **rtrv-cspc** command, with the CSPC group names specified in step 5. For this example enter these commands.

rtrv-cspc:grp=grp05

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31  GMT  EAGLE5 34.3.0
CSPC GRP      PCA
grp05         002-002-002
              008-008-008
```

rtrv-cspc:grp=grp10

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:59:31  GMT  EAGLE5 34.3.0
CSPC GRP      PCA
grp10         008-008-008
              009-009-009
```

rtrv-cspc:grp=grp15

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:41  GMT  EAGLE5 34.3.0
CSPC GRP      PCA
grp15         002-002-002
              009-009-009
```

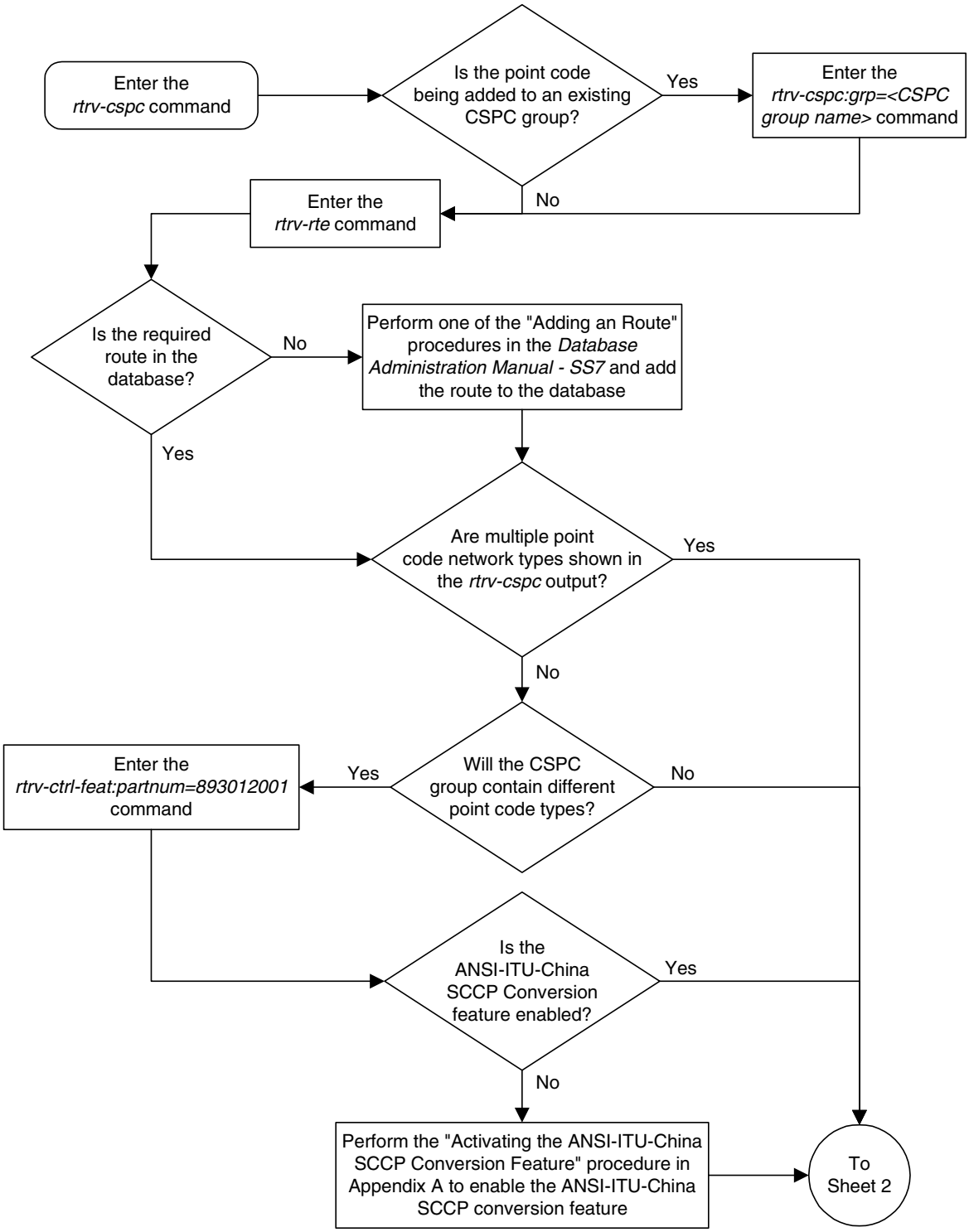
NOTE: If the ANSI-ITU-China SCCP Conversion feature is enabled, then point codes of multiple network types can be displayed in the rtrv-cspc output, if point codes of multiple network types are assigned to the CSPC group.

---

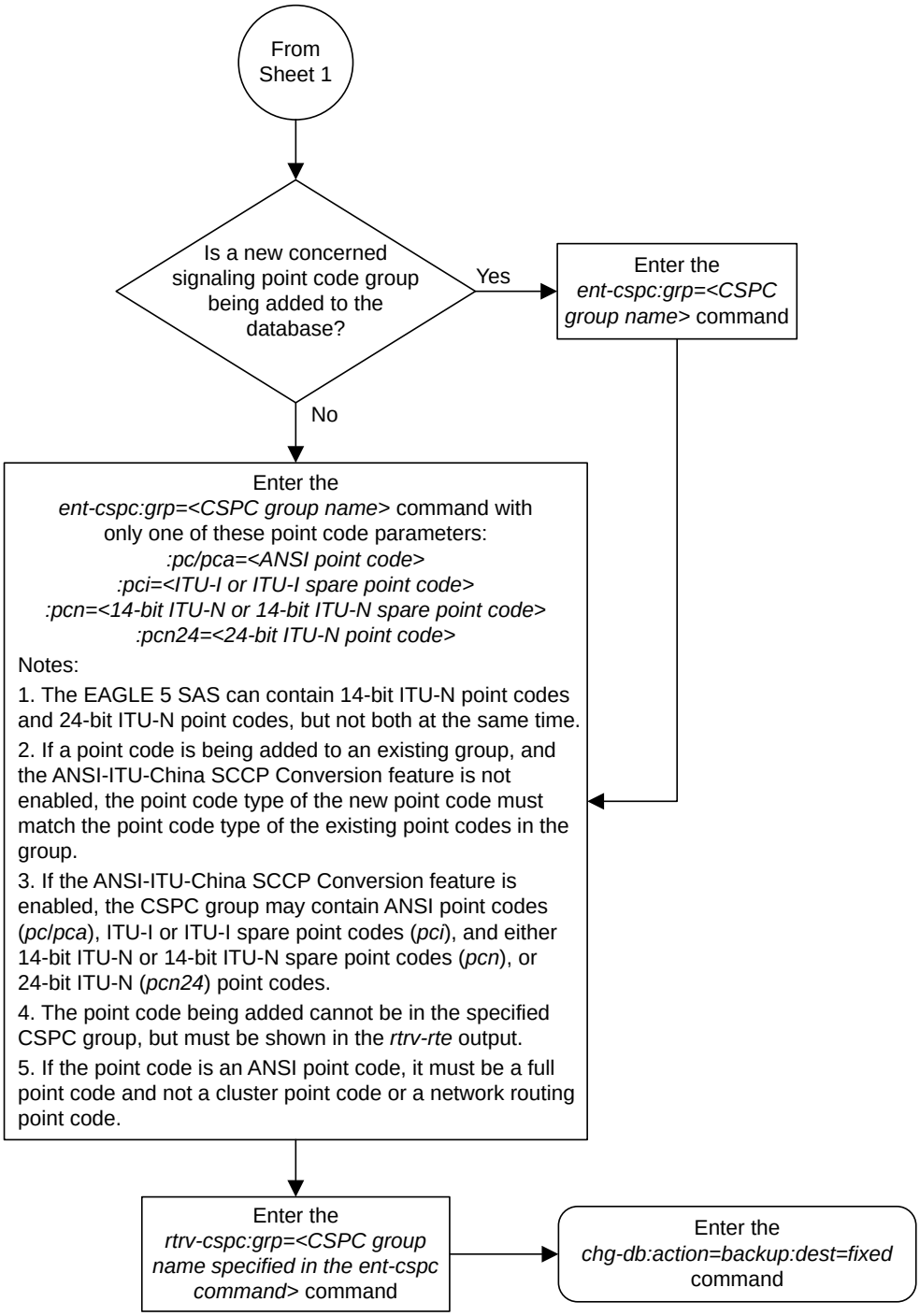
7. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

Flowchart 2-6. Adding a Concerned Signaling Point Code (Sheet 1 of 2)



Flowchart 2-6. Adding a Concerned Signaling Point Code (Sheet 2 of 2)



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: 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 SAS 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.

Procedure

1. Display the group names in the database using the **rtrv-cspc** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:47:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:57:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:48:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:57:31  GMT  EAGLE5 34.3.0
CSPC GRP      PC            TYPE
grp10         008-008-008   A
              009-009-009   A
              3-003-3       I
              00112         N
```

3. 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 06-03-25 09:49:31  GMT  EAGLE5 34.3.0
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.

4. 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.

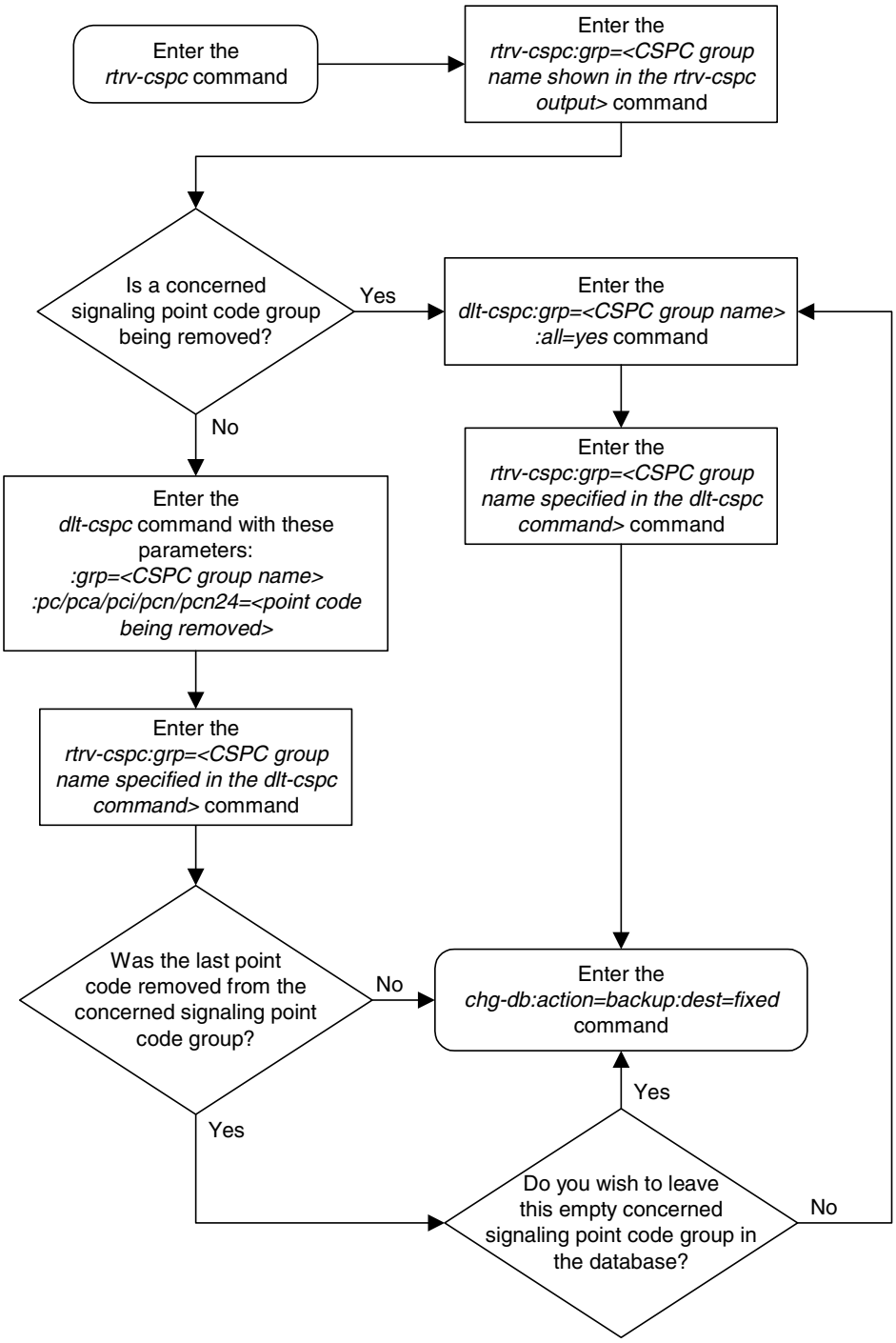
```
rlghncxa03w 06-03-25 09:50:31  GMT  EAGLE5 34.3.0
CSPC GRP      PCA
GRP10         009-009-009
```

   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.

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.
```

Flowchart 2-7. Removing a Concerned Signaling Point Code



Provisioning a Mated Application

This procedure is used to provision a mated application in the database using the **ent-map** and **chg-map** commands. The **ent-map** and **chg-map** commands use these parameters to provision a 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: 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 SAS 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.

:mssn – Mate subsystem number – the subsystem address of the backup 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, with the default value being 0.

: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 0.

: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 SAS's true point code, shown in the **rtrv-sid** output.

There are four types of mated applications that can be provisioned: solitary, dominant, load shared, and combined dominant/load shared.

Solitary Mated Application

A solitary mated application contains one point code and subsystem and no mate point codes and subsystems.

Since there is only one point code and subsystem in a solitary mated application, the **rc** parameter does not have to be specified and has no meaning. However, if at a later time, mated point codes and subsystems are added to the solitary mated application, thus changing the type of mated application, the value of the **rc** parameter will be used to determine how the traffic is routed. The **rc** parameter has a range of values from 0 to 99, with the default value being 0. Only the **pc/pca/pci/pcn/pcn24**, **ssn**, **grp**, **sso**, and **rc** parameters can be specified for a solitary mated application.

Dominant Mated Application

A dominant mated application can contain up to eight point codes and subsystems, a primary point code and subsystem, and up to seven mated point codes and subsystems. If 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.

Load Shared Mated Application

A load shared mated application can contain up to eight point codes and subsystems, a primary point code and subsystem, and up to seven mated point codes and subsystems. If 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.

Combined Dominant/Load Shared Mated Application

A combined dominant/load shared mated application can contain up to eight point codes and subsystems, a primary point code and subsystem, and up to seven mated point codes and subsystems. If 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. At least one of the point codes in this mated application has the same relative cost value as the relative cost value as the primary point code and subsystem. The rest of the point codes in this mated application 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 are the same. 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.

Provisioning the Mated Application

The examples in this procedure are used to add the mated applications shown in Tables 2-9, 2-10, 2-11, and 2-12.

Table 2-9. Solitary Mated Application Configuration Table

Point Code	SSN	CSPC Group	SSO
007-007-007	251	grp05	on
006-006-006	250	grp15	off

Table 2-10. Dominant Mated Application Configuration Table

Point Code	SSN	RC	Mated Point Code	Mated SSN	MATE RC	CSPC Group	MRC	SRM	SSO
003-003-003	254	10	040-040-040	254	20	grp10	yes	yes	on
005-005-005	250	10	060-060-060	250	20	grp15	yes	yes	off
			070-070-070	251	30	grp05	yes	yes	on

Table 2-11. Load Shared Mated Application Configuration Table

Point Code	SSN	RC	Mated Point Code	Mated SSN	MATE RC	CSPC Group	MRC	SRM	SSO
004-004-004	254	10	100-100-100	254	10	grp10	yes	yes	off
002-002-002	250	10	100-130-079	250	10	grp15	yes	yes	on
			068-135-094	251	10	grp05	yes	yes	off

Table 2-12. Combined Dominant/Load Shared Mated Application Configuration Table

Point Code	SSN	RC	Mated Point Code	Mated SSN	MATE RC	CSPC Group	MRC	SRM	SSO
008-008-008	254	10	200-147-100	254	10	grp10	yes	yes	on
			179-183-050	250	10	grp15	yes	yes	off
			031-049-100	250	20	grp15	yes	yes	on
			056-113-200	251	20	grp05	yes	yes	off

The mated applications, either primary or the mate, cannot be in the database.

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 SAS'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 SAS's true point code is shown in the **PCA**, **PCI**, **PCN**, or **PCN24** fields of the **rtrv-sid** command output.

If the EAGLE 5 SAS'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 subsystem is the LNP subsystem, the primary point code (**pc** or **pca**) must be the EAGLE 5 SAS's true point code. ITU-I, ITU-I spare, and ITU-N point codes (14-bit ITU-N, 14-bit ITU-N spare, and 24-bit ITU-N point codes) cannot be used with mated applications that use the LNP subsystem. The LNP feature must be enabled for a quantity greater than zero.

NOTE: The EAGLE 5 SAS's true point code and subsystem (LNP subsystems also) can be specified only for solitary and dominant mated applications.

If the subsystem is the INP subsystem, the ITU primary point code of the mated application, **pcn** or **pcn24**, must be the EAGLE 5 SAS's true point code. ANSI point codes cannot be used with mated applications that use the INP subsystem. The INP feature must be on. The **pcn** parameter value can be either a 14-bit ITU-N or 14-bit ITU-N spare point code.

The EIR subsystem should be assigned to, and can be assigned to, mated applications containing ITU-I or ITU-I true spare point codes (**pci**) or 14-bit ITU-N or 14-bit ITU-N spare (**pcn**) true point codes. The EIR feature must be enabled and activated.

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 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 (see the "Adding a Concerned Signaling Point Code" procedure on page 2-68), 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 **srm=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.

The values of the **ssn** and **mssn** parameters must be from 2 to 255.

The EAGLE 5 SAS can contain 1024, 2000, or 3000 mated applications. The EAGLE 5 SAS 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, go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27.

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 that 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, go to the *Commands Manual*.

Procedure

1. Display the mated applications in the database using the **rtrv-map** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   2 % FULL    (20 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                                PCA          SSN RC MULT
   255-001-000   250   10 SOL                          YES YES GRP01    ON
   255-001-000   251   10 SHR
                                253-001-002  254 10 SHR  YES YES GRP01    OFF
   255-001-000   252   10 SOL                          YES YES GRP01    ON
   255-001-000   253   10 SHR
                                253-001-004  254 10 SHR  YES YES GRP01    OFF
   255-001-001   255   10 DOM
                                253-001-005  254 20 DOM  YES YES GRP01    ON
   255-001-001   250   10 DOM
                                253-001-001  254 20 DOM  YES YES GRP01    OFF
   255-001-002   251   10 SHR
```

```
                              255-001-002  254 10 SHR  NO  YES GRP01    OFF
255-001-002   252   10 DOM
                              255-001-003  254 20 DOM  YES YES GRP01    ON
255-001-002   253   10 SHR
                              255-001-004  254 10 SHR  YES NO  GRP01    ON

PCI           SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCI          SSN RC MULT
2-001-2       255 10 DOM
                              2-001-1      254 20 DOM  --- --- GRP03    OFF

PCN           SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCN          SSN RC MULT
00347         253 10 SHR
                              01387        254 10 SHR  --- --- GRP05    OFF
```

NOTE: If the `rtrv-map` output in step 1 shows that the maximum number of mated applications is 3000, skip step 2 and go to step 3.

NOTE: If the If the `rtrv-map` output in step 1 shows that the maximum number of mated applications is 2000, and the mated application being added increases the number beyond 2000, do not perform step 2, but go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27 and enable XMAP Table Expansion controlled feature for 3000 mated applications. Then go to step 3.

NOTE: If the `rtrv-map` output in step 1 shows that the maximum number of mated applications is either 1024 or 2000, and the mated application being added will not increase the number beyond the quantity shown in the `rtrv-map` output in step 1, skip step 2 and go to step 3.

2. Display the status of the XMAP Table Expansion controlled feature by entering the **`rtrv-ctrl-feat`** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
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, go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27 and enable XMAP Table Expansion controlled feature for either 2000 or 3000 mated applications as required. Then go to step 3.

NOTE: If a concerned signaling point code (CSPC) group is not being assigned to the mated application, skip steps 3 and 4, and go to step 5.

3. 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 06-03-25 09:48:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:48:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:59:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:48:31  GMT  EAGLE5 34.3.0
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, go to the "Adding a Concerned Signaling Point Code" procedure on page 2-68 and add the required CSPC group or point code to the database.

NOTE: If the output of the `rtrv-cspc` command performed in step 3 shows CSPC groups containing a mixture of point code types, or if the new CSPC group that was added in step 3 contains a mixture of point code types, skip this step and go to step 5.

4. 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 (see the "Adding a Concerned Signaling Point Code" procedure on page 2-68), 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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" procedure on page A-36 to enable the ANSI-ITU-China SCCP Conversion feature.

NOTE: If the EAGLE 5 SAS's point code and subsystem number are being assigned to the mated application, skip step 5 and go to step 6. The EAGLE 5 SAS's point code and subsystem cannot be assigned to a load shared or combined dominant/load shared mated application.

5. 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=002-002-002

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   002-002-002 ---------- --------------   ls02       10    002-002-002
                                                     CLLI=ls02clli
```

rtrv-rte:dpca=003-003-003

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   003-003-003 ---------- --------------   ls03       10    003-003-003
                                                     CLLI=ls07clli
```

rtrv-rte:dpca=004-004-004

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   004-004-004 ---------- --------------   ls04     10 004-004-004
                                                     CLLI=ls04clli
```

rtrv-rte:dpca=005-005-005

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                     CLLI=ls05clli
```

rtrv-rte:dpca=006-006-006

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-006-006 ---------- --------------   ls06       10    006-006-006
                                                     CLLI=ls06clli
```

rtrv-rte:dpca=007-007-007

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                     CLLI=ls03clli
```

rtrv-rte:dpca=008-008-008

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   008-008-008 ---------- --------------   ls20       10    008-008-008
                                                     CLLI=ls20clli
```

rtrv-rte:dpca=031-147-100

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   031-147-100 ---------- --------------   ls10       10    031-147-100
                                                     CLLI=ls10clli
```

rtrv-rte:dpca=040-040-040

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   040-040-040 ---------- --------------   ls11       10    040-040-040
                                                     CLLI=ls11clli
```

rtrv-rte:dpca=056-113-200

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   056-113-200 ---------- --------------   ls12       10    056-113-200
                                                     CLLI=ls12clli
```

rtrv-rte:dpca=060-060-060

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   060-060-060 ---------- --------------   ls13       10    060-060-060
                                                     CLLI=ls13clli
```

rtrv-rte:dpca=068-135-094

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   068-135-094 ---------- --------------   ls14       10    068-135-094
                                                     CLLI=ls14clli
```

rtrv-rte:dpca=070-070-070

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   070-070-070 ---------- --------------   ls15       10    070-070-070
                                                     CLLI=ls15clli
```

rtrv-rte:dpca=100-100-100

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   100-100-100 ---------- --------------   ls16       10    100-100-100
                                                     CLLI=ls16clli
```

rtrv-rte:dpca=100-130-079

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   100-130-079 ---------- --------------   ls17       10    100-130-079
                                                     CLLI=ls17clli
```

rtrv-rte:dpca=179-183-050

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   179-183-050 ---------- --------------   ls18       10    179-183-050
                                                     CLLI=ls18clli
```

rtrv-rte:dpca=200-147-100

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   200-147-100 ---------- --------------   ls19       10    200-147-100
                                                     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.

NOTE: If the EAGLE 5 SAS's point code and the INP subsystem are not being assigned to the mated application, or if the mated application is a combined dominant/load shared mated application, skip step 6 and go to step 7. The EAGLE 5 SAS's point code and INP subsystem cannot be assigned to a combined dominant/load shared mated application, or to a mated application using the sso parameter.

6. Verify whether or not either the INP feature is on by entering the **rtrv-feat** command. The entry **INP = on** is shown if the INP feature is on. If the INP feature is on, skip steps 7 and 8, and go to step 9.

   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 EAGLE 5 SAS's point code and the LNP or EIR subsystems are not being assigned to the mated application, or if the mated application is a load shared or combined dominant/load shared mated application, skip step 7 and go to step 8. The EAGLE 5 SAS's point code and LNP or EIR subsystem cannot be assigned to a load shared or a combined dominant/load shared mated application, or to a mated application using the `sso` parameter.

NOTE: If the `rtrv-ctrl-feat` output in step 2 shows that either the LNP feature is enabled, the EIR feature is enabled and activated, or if the INP feature is on (shown in step 6), skip this step and step 8, and go to step 9.

7. Verify whether or not either the LNP is enabled, or the EIR feature is enabled and activated by entering the **`rtrv-ctrl-feat`** command, or by examining the **`rtrv-ctrl-feat`** output from step 2, if step 2 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 activated, the status of the EIR feature should be on. If the LNP feature is enabled, or if the EIR feature is enabled and activated, skip step 8 and go to step 9.

---

8. Enable either the INP, EIR, or LNP features, depending on which subsystem you wish to use.

   To enable the INP feature, perform the procedures in the *Feature Manual - INP*.

   To enable the LNP feature, perform the procedures in the *LNP Feature Activation Guide*.

   To enable and activate the EIR feature, perform the procedures in the *Feature Manual - EIR*.

   NOTE: Only one of the INP, EIR, or LNP features can be enabled at the same time.

NOTE: If the outputs of steps 2, 6, or 7 shows that neither the LNP feature is enabled, EIR feature is enabled and activated, or INP feature is on, skip step 9 and go to step 10.

9. Enter the **`rtrv-ss-appl`** command to verify that either the LNP, EIR, 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 06-03-28 14:42:38 GMT EAGLE5 34.3.0
APPL       SSN       STAT
LNP        254       ONLINE

SS-APPL table is (1 of 1) 100% full
```

   If the LNP feature is enabled and no subsystem number is shown in the **`rtrv-ss-appl`** output, go to the *LNP Feature Activation Guide* and add the LNP subsystem number to the subsystem application table.

If the INP feature is on and no subsystem number is shown in the **rtrv-ss-appl** output, go to the *Feature Manual - INP* and add the INP subsystem number to the subsystem application table.

If the EIR feature is enabled and activated and no subsystem number is shown in the **rtrv-ss-appl** output, go to the *Feature Manual - EIR* and add the EIR subsystem number to the subsystem application table.

---

10. Display the EAGLE 5 SAS self-identification, using the **rtrv-sid** command. The EAGLE 5 SAS's true point code is shown in either the **PCA**, **PCI**, **PCN**, or **PCN24** fields. This is an example of the possible output.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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 an entry is being added to an existing mated application, or if the mated application being created is a solitary mated application, skip this step and go to step 12.

11. Add the mated application to the database using the **ent-map** command. 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

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:pca=004-004-004:ssn=254:rc=10:mpc=100-100-100:mssn=254
:materc=10:grp=grp10:mrc=yes:srm=yes:sso=off

ent-map:pca=002-002-002:ssn=250:rc=10:mpc=100-130-079:mssn=250
:materc=10:grp=grp15:mrc=yes:srm=yes:sso=on

ent-map:pca=008-008-008:ssn=254:rc=10:mpc=200-147-100:mssn=254
:materc=10:grp=grp10:mrc=yes:srm=yes:sso=on
```

Notes:

1. If the EAGLE 5 SAS's point code and subsystem number is being assigned to the mated application, the point code and subsystem number must have the lowest relative cost value in the mated application and can have only one mated point code and subsystem assigned to it. After performing step 11, skip step 12 and go to step 13. The EAGLE 5 SAS's point code and subsystem cannot be assigned to a load shared or combined dominant/load shared mated application, or if the **sso** parameter is specified for the mated application.

2. 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 0.

3. To create a dominant mated application, the **rc**, **mpc/mpca/mpci/mpcn/mpcn24**, **mssn**, and **materc** parameters must be specified. The **materc** values must be larger than the **rc** value. The **materc** values cannot be equal to each other.

4. To create a load shared mated application, the **rc**, **mpc/mpca/mpci/mpcn/mpcn24**, **mssn**, and **materc** parameters must be specified. The **materc** values must be equal to the **rc** value.

5. To create a combined dominant/load shared mated application, the **rc**, **mpc/mpca/mpci/mpcn/mpcn24**, **mssn**, and **materc** parameters must be specified. At least one of the **materc** values must be equal to the **rc** value. The other **materc** values in the group must be equal to each other, but these **materc** values must be greater than the **rc** value.

6. The EIR subsystem can be assigned to mated applications containing an ITU-I EAGLE 5 SAS point code and to another mated application containing a 14-bit ITU-N EAGLE 5 SAS point code. Perform this step as necessary to provision an ITU-I and a 14-bit ITU-N mated application containing the EIR subsystem.

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 (see the "Adding a Concerned Signaling Point Code" procedure on page 2-68), and the network type of the CSPC group can be different from the network type of the primary point code of the mated application.

8. 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.

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-07  11:44:13  GMT  EAGLE5 34.3.0
ENT-MAP:  MASP A - COMPLTD
```

NOTE: If no other entries are being added to the mated application, skip this step and go to step 13.

12. Add the mated point code and subsystem to the mated application using the **chg-map** command according to notes 1 through 5 and note 8 in step 11. 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=002-002-002:ssn=250:rc=10:mpca=068-135-094
:mssn=251:materc=10:grp=grp05:mrc=yes:srm=yes:sso=off

chg-map:pca=008-008-008:ssn=254:rc=10:mpc=179-183-050:mssn=250:
materc=10:grp=grp15:mrc=yes:srm=yes:sso=off

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

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
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-07  11:44:13  GMT  EAGLE5 34.3.0
CHG-MAP:  MASP A - COMPLTD
```

Repeat this step for all new entries being added to the existing mated application.

---

13. Verify the changes using the **rtrv-map** command with the primary point code and subsystem specified in steps 11 and 12. For this example, enter these commands.

rtrv-map:pca=006-006-006:ssn=250

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   006-006-006  250  0 SOL                             --- --- grp15    OFF
```

rtrv-map:pca=007-007-007:ssn=251

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   007-007-007  251  0 SOL                             --- --- grp05    ON
```

rtrv-map:pca=003-003-003:ssn=254

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   003-003-003  254 10 DOM
                            040-040-040  254 20 DOM  YES YES grp10    ON
```

rtrv-map:pca=005-005-005:ssn=250

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   005-005-005  250 10 DOM
                            060-060-060  250 20 DOM  YES YES grp15    OFF
                            070-070-070  251 30 DOM  YES YES grp05    ON
```

rtrv-map:pca=004-004-004:ssn=254

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   004-004-004  254 10 SHR
                            100-100-100  254 10 SHR  YES YES grp10    OFF
```

rtrv-map:pca=002-002-002:ssn=250

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   002-002-002  250 10 SHR
                            100-130-079  250 10 SHR  YES YES grp15    ON
                            068-135-094  251 10 SHR  YES YES grp05    OFF
```

rtrv-map:pca=008-008-008:ssn=254

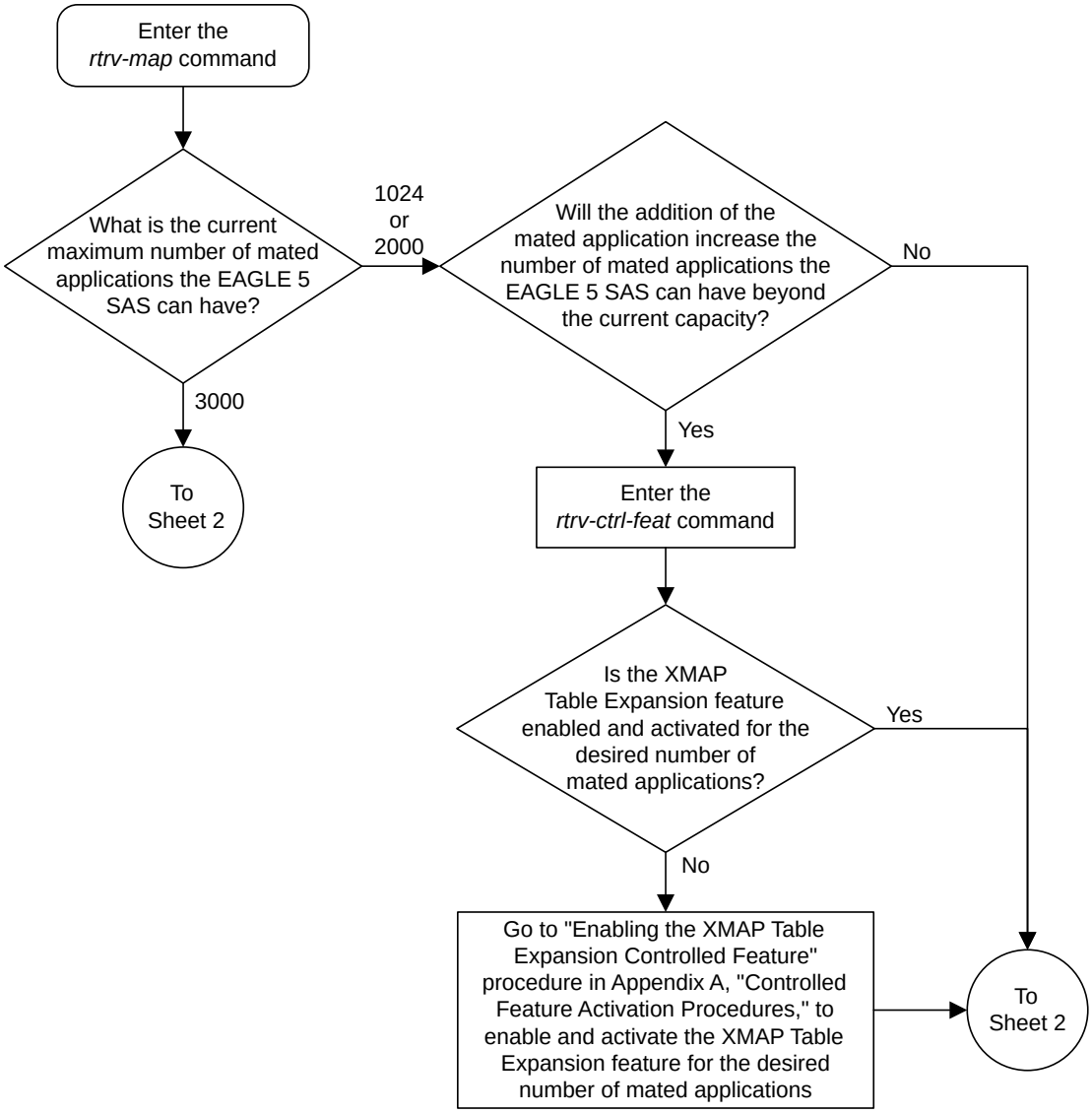
This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   008-008-008  254 10 COM
                            200-147-100  254 10 COM  YES YES grp10    ON
                            179-183-050  250 10 COM  YES YES grp15    OFF
                            031-049-100  250 20 COM  YES YES grp15    ON
                            056-113-200  251 20 COM  YES YES grp05    OFF
```

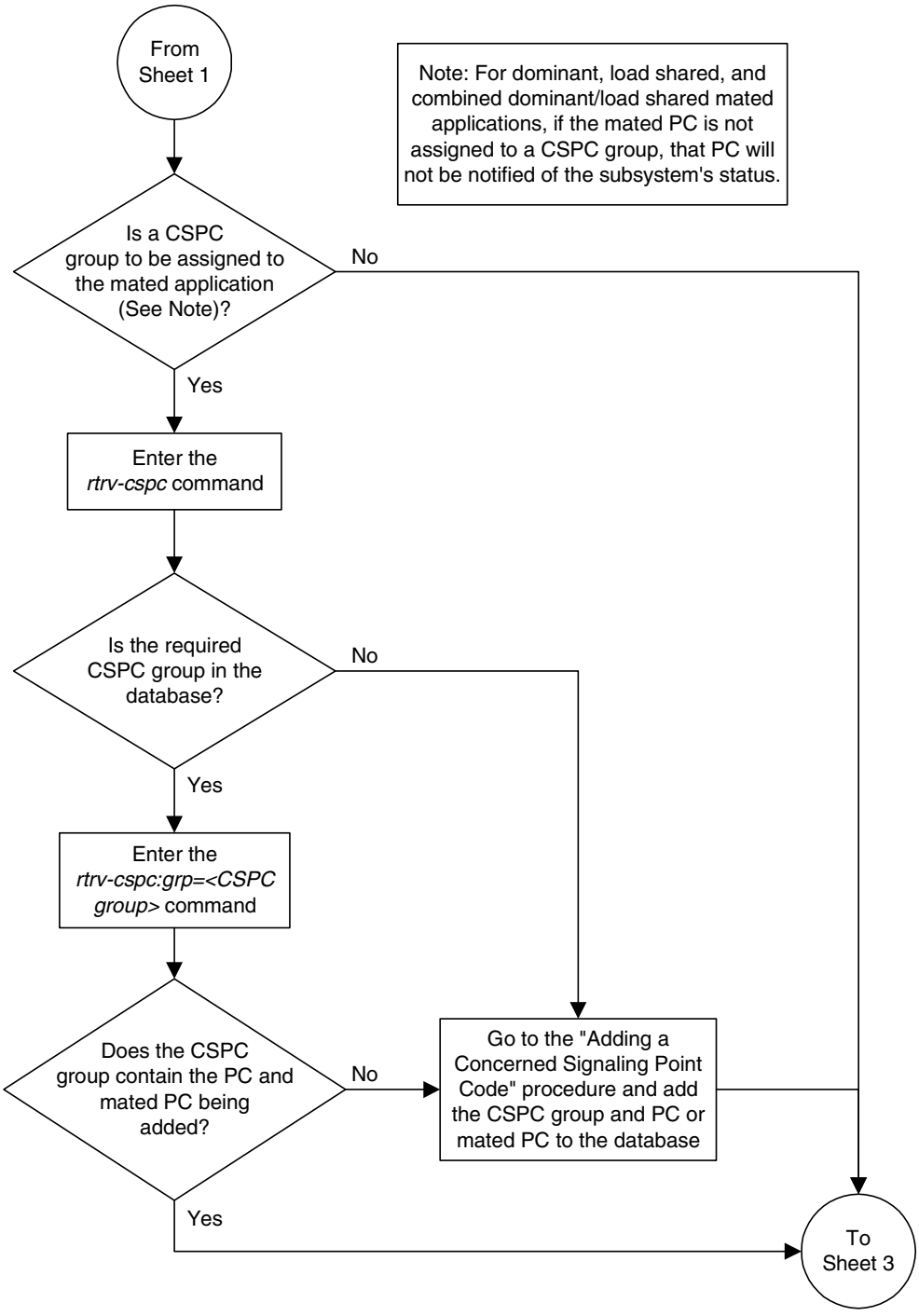
14. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

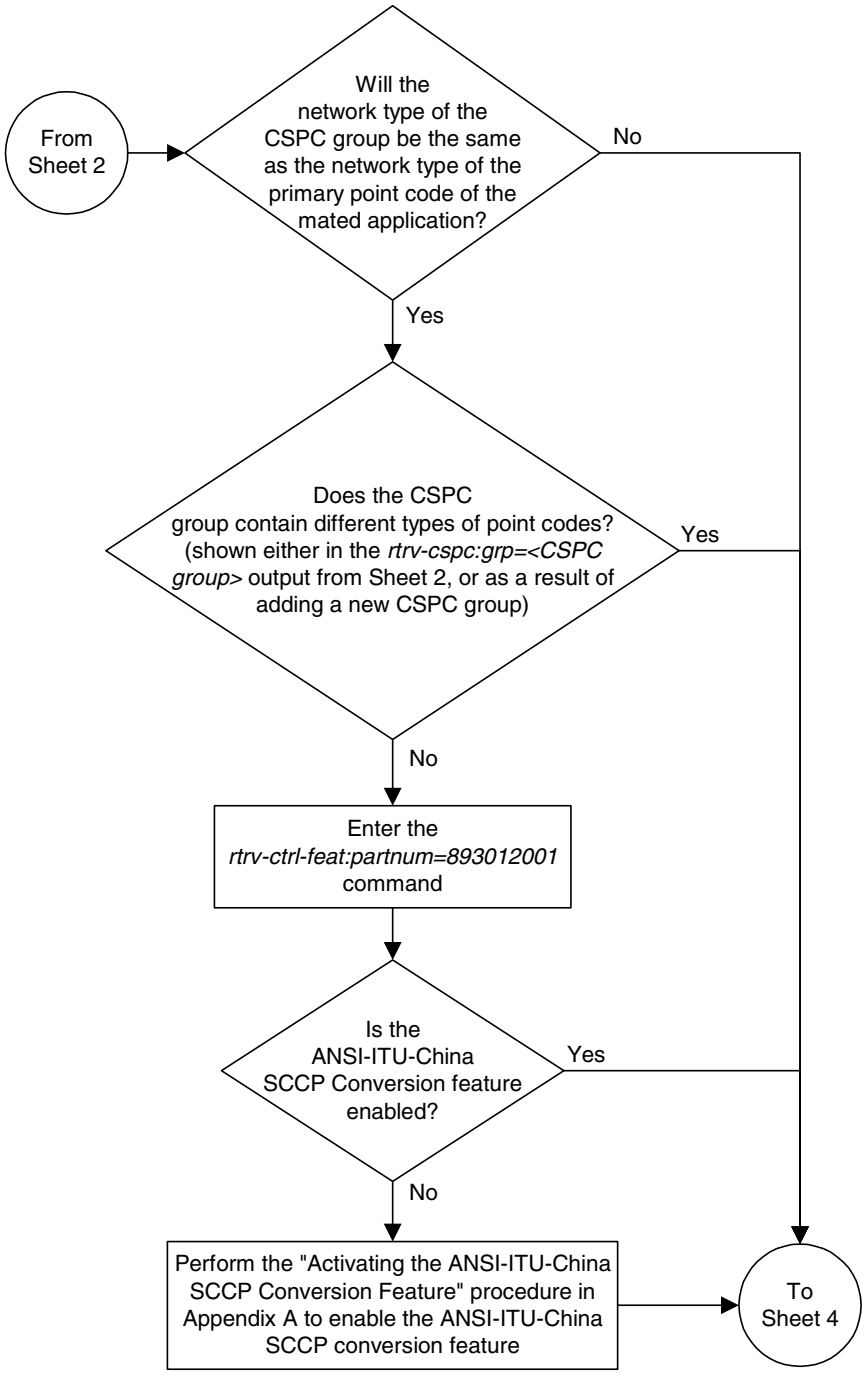
Flowchart 2-8. Provisioning a Mated Application (Sheet 1 of 12)



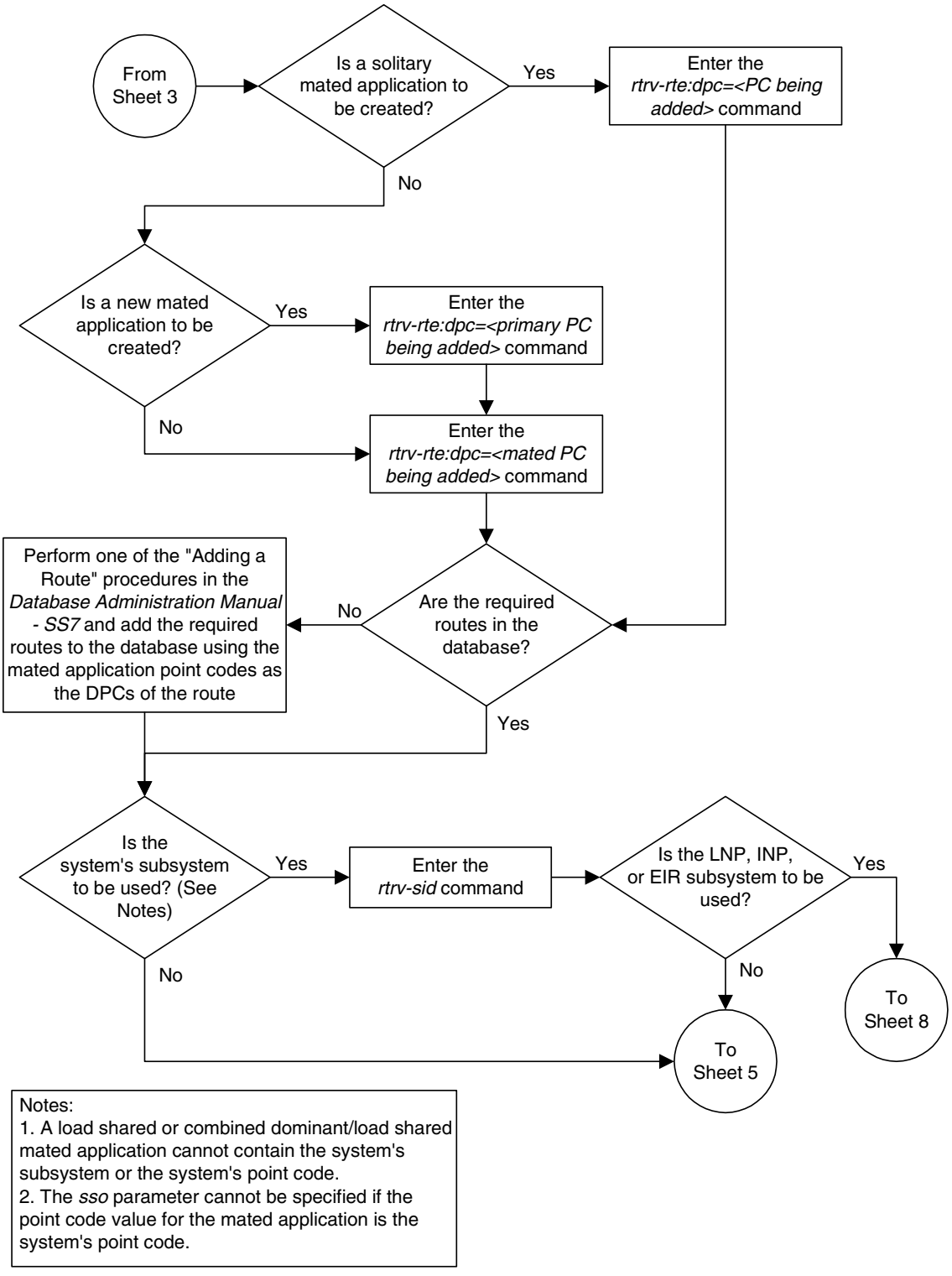
Flowchart 2-8. Provisioning a Mated Application (Sheet 2 of 12)



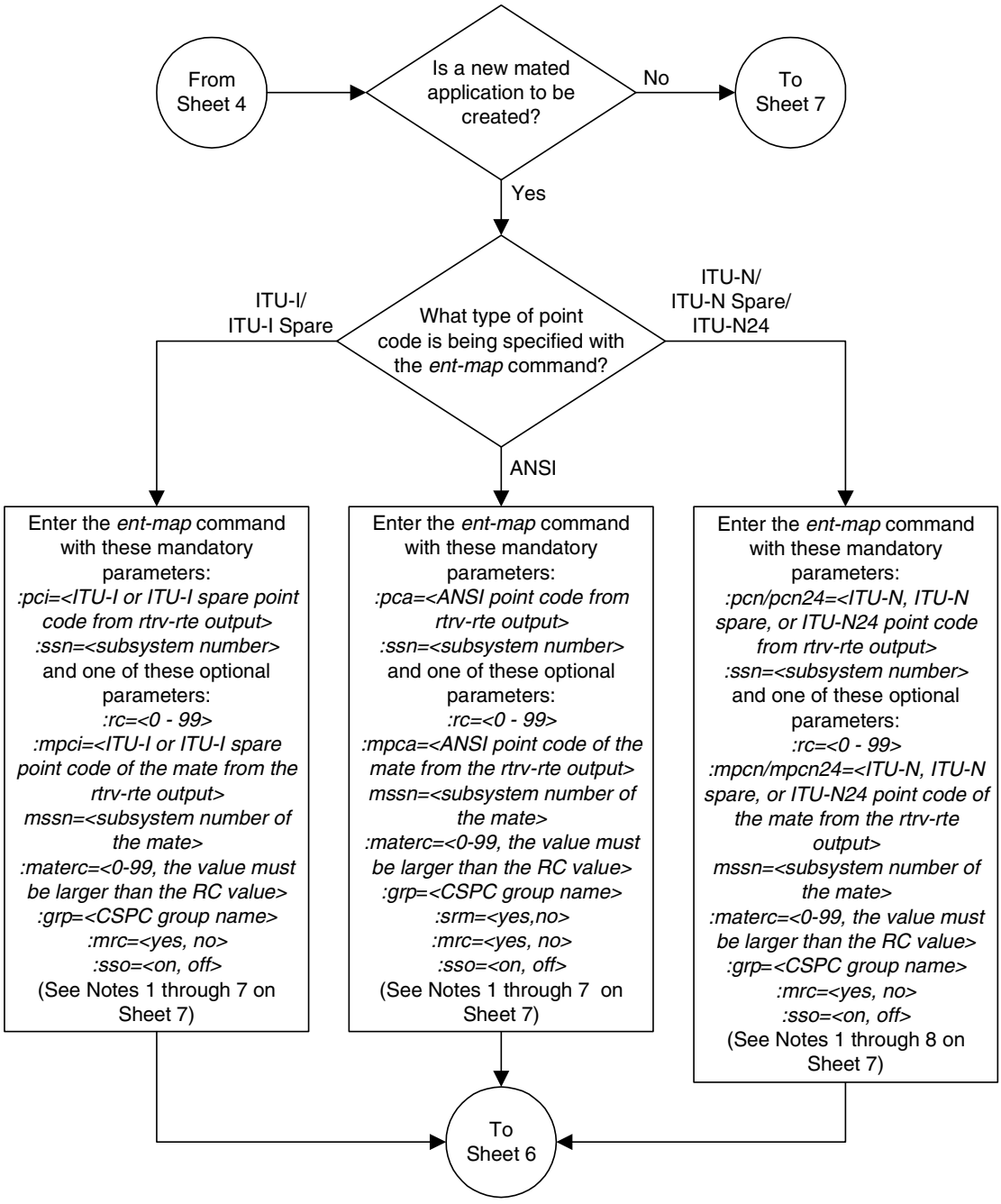
Flowchart 2-8. Provisioning a Mated Application (Sheet 3 of 12)



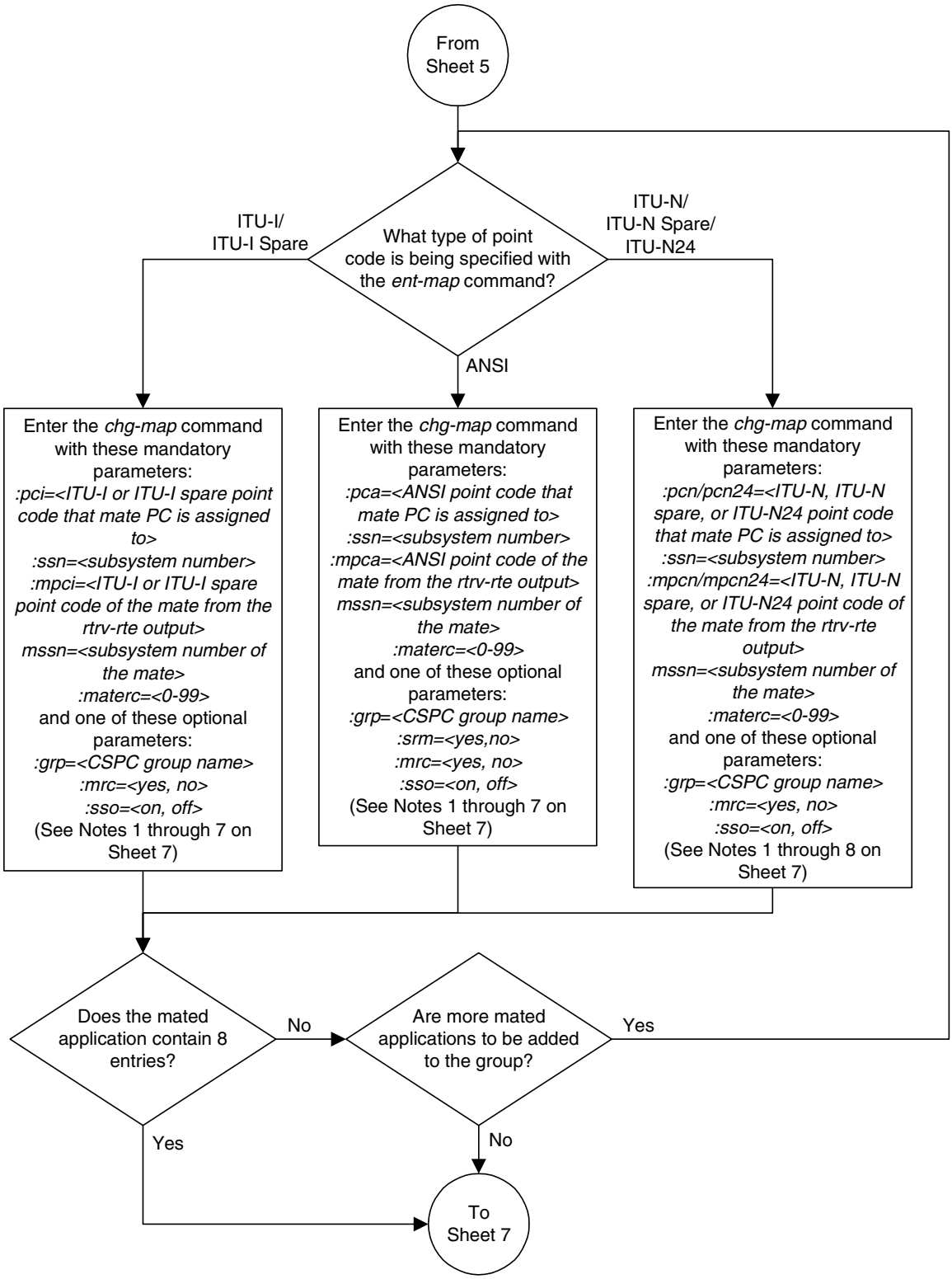
Flowchart 2-8. Provisioning a Mated Application (Sheet 4 of 12)



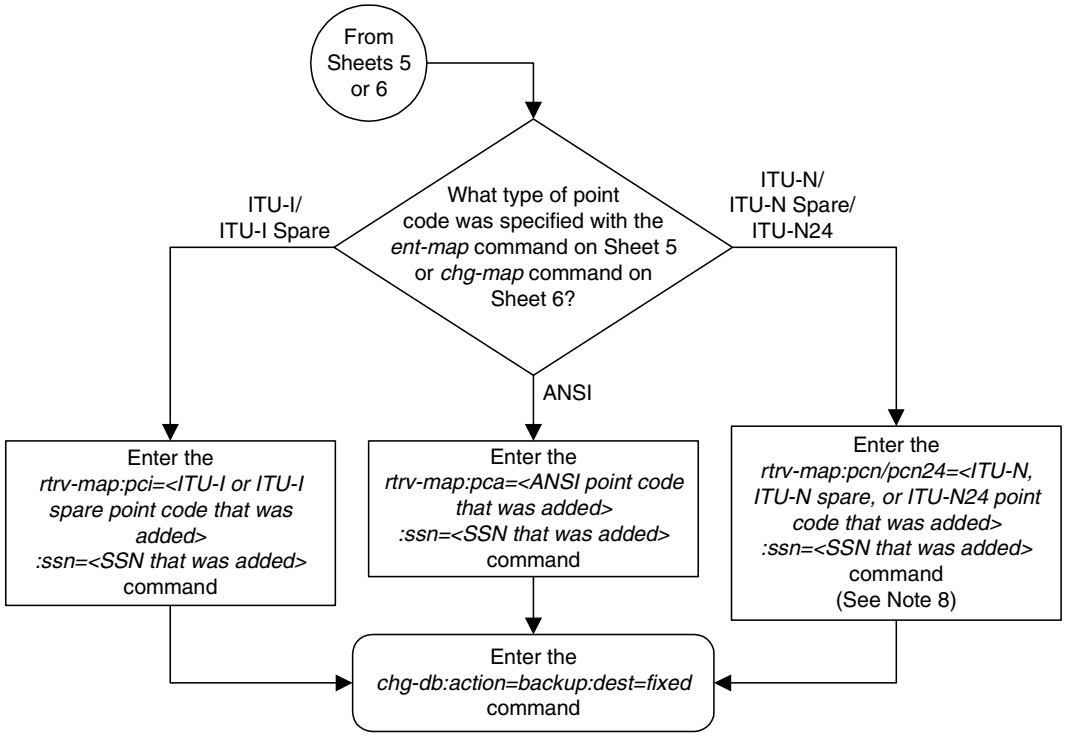
Flowchart 2-8. Provisioning a Mated Application (Sheet 5 of 12)



Flowchart 2-8. Provisioning a Mated Application (Sheet 6 of 12)



Flowchart 2-8. Provisioning a Mated Application (Sheet 7 of 12)



Notes:

1. To create a dominant mated application, the *rc*, *mpc*/*mpca*/*mpci*/*mpcn*/*mpcn24*, *mssn*, and *materc* parameters must be specified. The *materc* values must be larger than the *rc* value. The *materc* values cannot be equal to each other.

2. To create a load shared mated application, the *rc*, *mpc*/*mpca*/*mpci*/*mpcn*/*mpcn24*, *mssn*, and *materc* parameters must be specified. The *materc* values must be equal to the rc value.

3. To create a combined dominant/load shared mated application, the *rc*, *mpc*/*mpca*/*mpci*/*mpcn*/*mpcn24*, *mssn*, and *materc* parameters must be specified. at least one of the *materc* values must be equal to the *rc* value. The other *materc* values in the group must be equal to each other, but these *materc* values must be greater than the *rc* value.

4. If the system's true point code is assigned to a mated application, it must be specified as the *pc*/*pca*/*pci*/*pcn*/*pcn24* value. The *rc* parameter must be used for the relative cost value for this mated application. The system's true point code and subsystem cannot be specified for a load shared or combined dominant/load shared mated application.

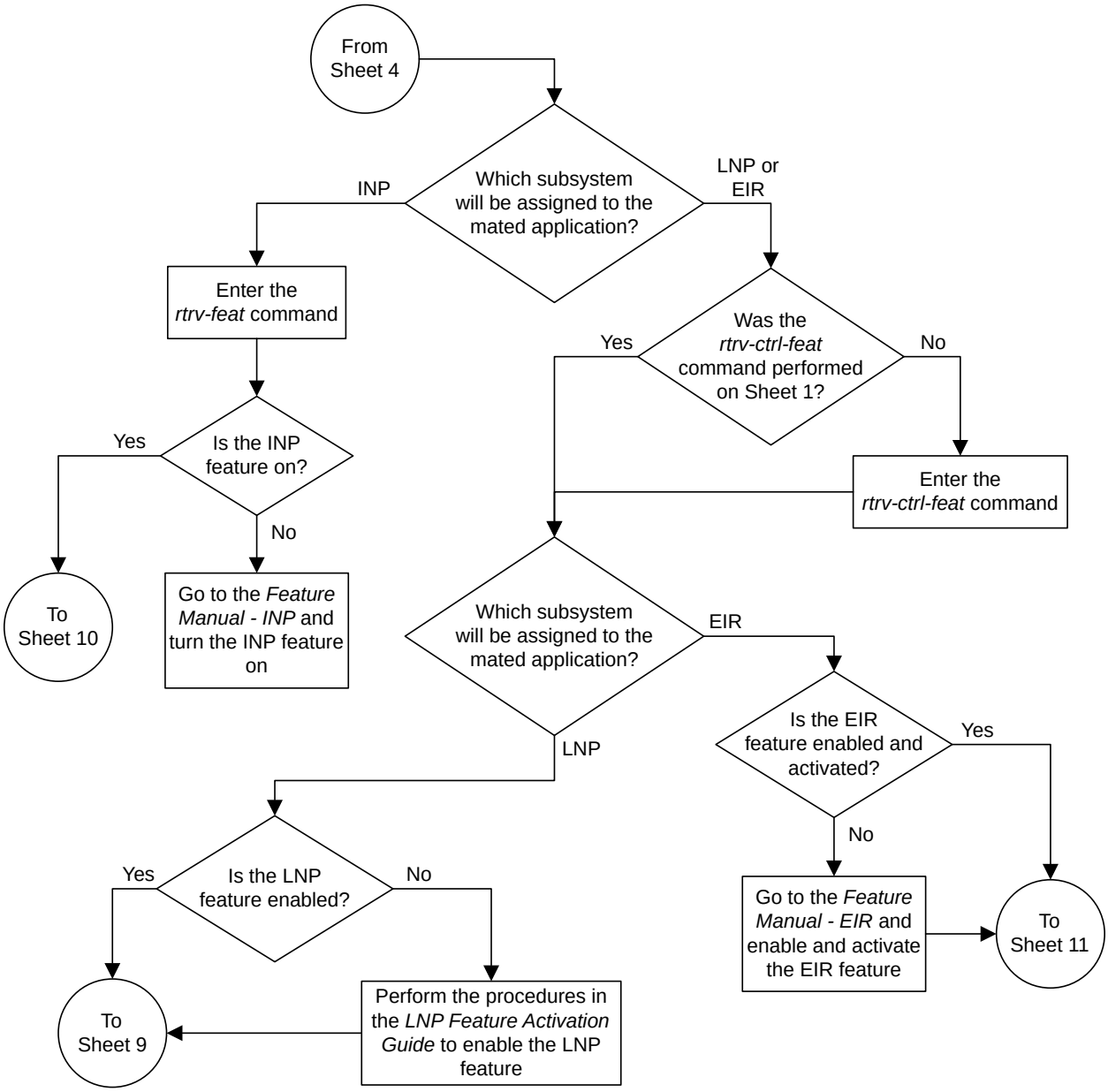
5. The *sso* parameter cannot be specified if the point code value for the mated application is the system's point code.

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 (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.

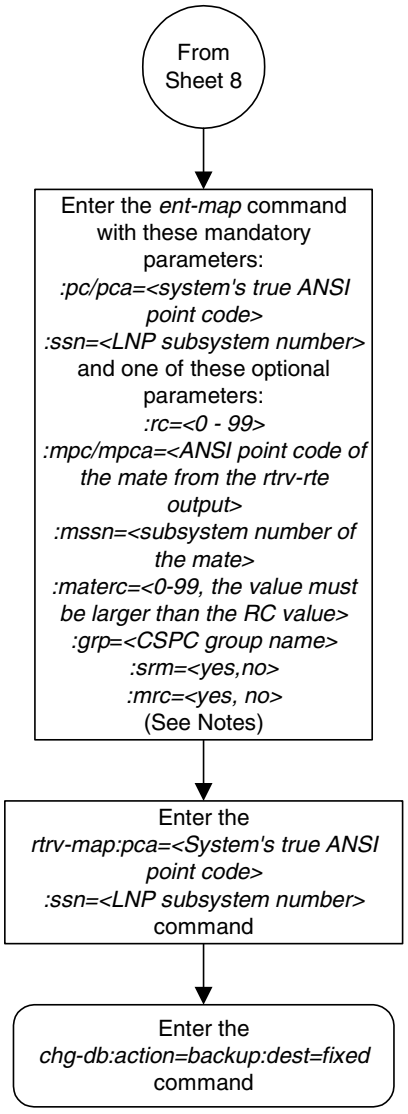
7. The point code type of the mate point code must be the same as the point code type of the primary point code. For example, if the primary point code is a 24-bit ITU-N point code (*pcn24*), the mate point code must be a 24-bit ITU-N point code (*mpcn24*). This is also true for spare point codes. For 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.

8. If the point code shown in the *rtrv-rte* output is a 14-bit ITU-N point code (*dpcn*), then the *pcn*/*mpcn* parameters must be specified. If the point code shown in the *rtrv-rte* output is a 24-bit ITU-N point code (*dpcn24*), then the *pcn24*/*mpcn24* parameters must be specified.

Flowchart 2-8. Provisioning a Mated Application (Sheet 8 of 12)



Flowchart 2-8. Provisioning a Mated Application (Sheet 9 of 12)



Notes:

1. To create a solitary mated application, the only parameters that can be specified are *pc/pca*, *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 0.

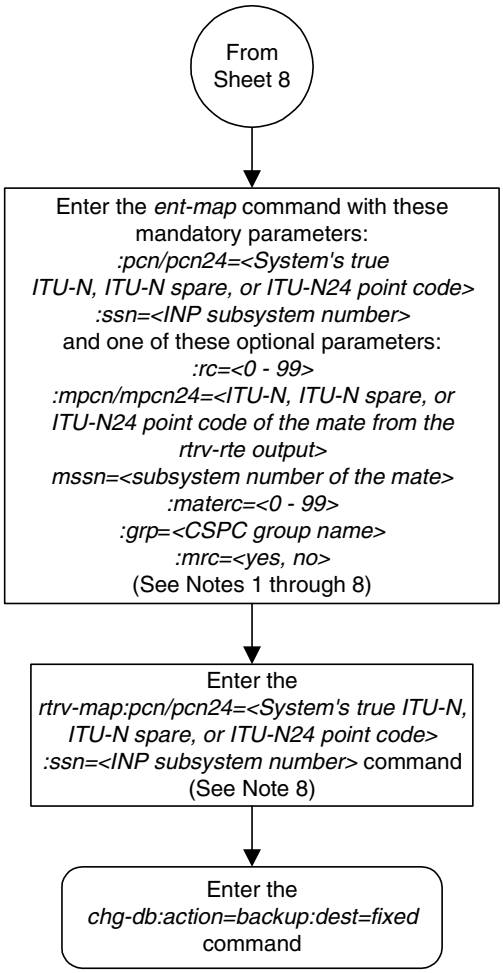
2. To create a dominant mated application, the *rc*, *mpc/mpca*, *mssn*, and *materc* parameters must be specified. The *materc* values must be larger than the *rc* value. The *materc* values cannot be equal to each other.

3. If the system's true point code is assigned to a mated application, it must be specified as the *pc/pca* value. The *rc* parameter must be used for the relative cost value for this mated application. The system's true point code and subsystem cannot be specified for a load shared or combined dominant/load shared mated application.

4. The mated application containing the system's point code can have only one mate point code assigned to it.

5. 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 (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.

Flowchart 2-8. Provisioning a Mated Application (Sheet 10 of 12)



Notes:

1. To create a solitary mated application, the only parameters that can be specified are *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 0.

2. To create a dominant mated application, the *rc*, *mpci*/*mpcn/mpcn24*, *mssn*, and *materc* parameters must be specified. The *materc* values must be larger than the *rc* value. The *materc* values cannot be equal to each other.

3. To create a load shared mated application, the *rc*, *mpci*/*mpcn*/*mpcn24*, *mssn*, and *materc* parameters must be specified. The materc values must be equal to the *rc* value.

4. If the system's true point code is assigned to a mated application, it must be specified as the *pci*/*pcn/pcn24* value. The *rc* parameter must be used for the relative cost value for this mated application. The system's true point code and subsystem cannot be specified for a combined dominant/load shared mated application.

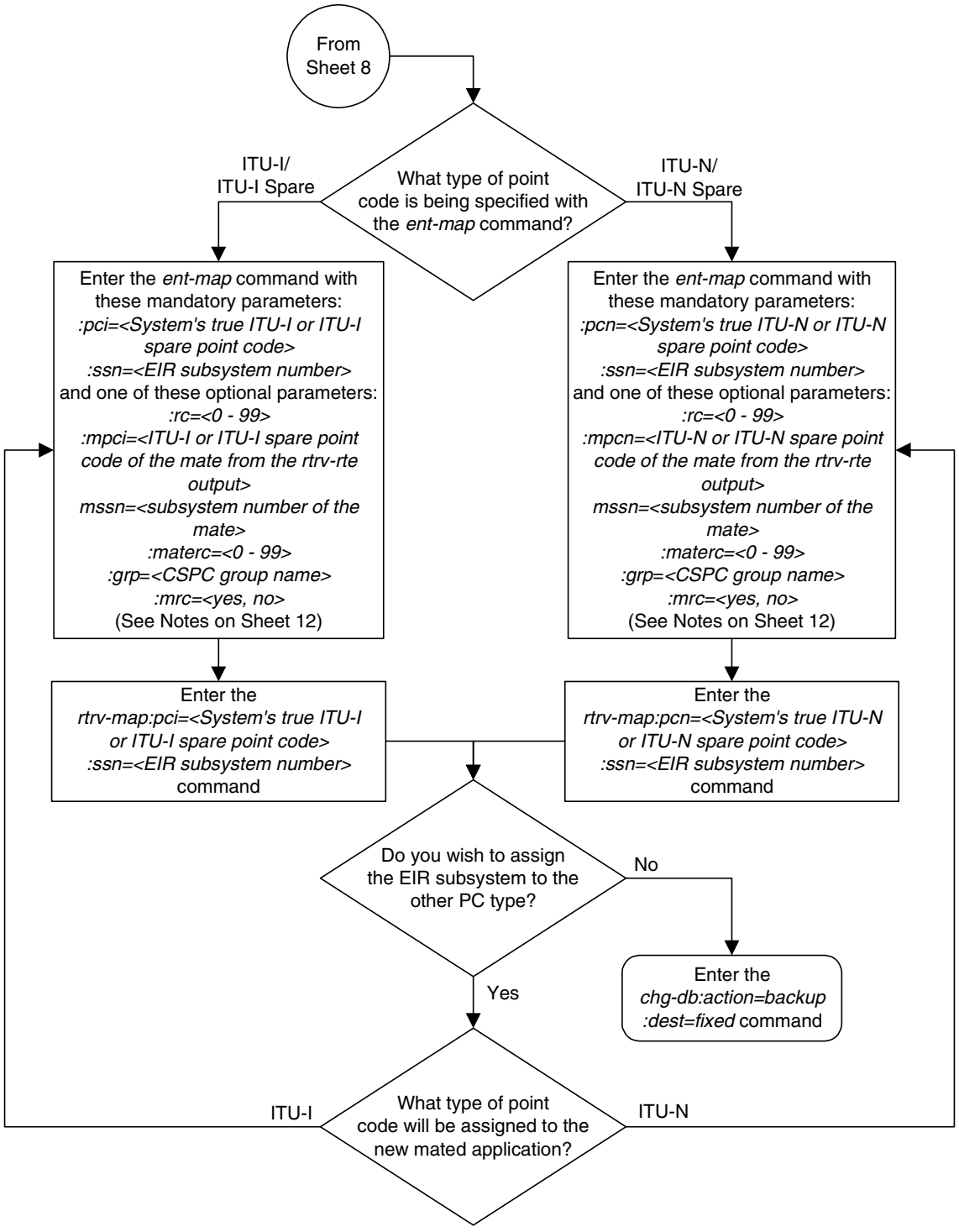
5. The mated application containing the system's point code can have only one mate point code assigned to it.

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 (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.

7. 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-N spare point code, the mate point code must be an ITU-N spare point code.

8. If the system's point code is a 14-bit ITU-N point code (*pcn*), then the *pcn*/*mpcn* parameters must be specified. If the system's point code is a 24-bit ITU-N point code (*pcn24*), then the *pcn24*/*mpcn24* parameters must be specified.

Flowchart 2-8. Provisioning a Mated Application (Sheet 11 of 12)



Flowchart 2-8. Provisioning a Mated Application (Sheet 12 of 12)

Notes:

1. To create a solitary mated application, the only parameters that can be specified are *pci*/*pcn*, *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 0.

2. To create a dominant mated application, the *rc*, *mpci*/*mpcn mssn*, and *materc* parameters must be specified. The *materc* values must be larger than the *rc* value. The *materc* values cannot be equal to each other.

3. To create a load shared mated application, the *rc*, *mpci*/*mpcn, mssn*, and *materc* parameters must be specified. The materc values must be equal to the *rc* value.

4. If the system's true point code is assigned to a mated application, it must be specified as the *pci*/*pcn* value. The *rc* parameter must be used for the relative cost value for this mated application. The system's true point code and subsystem cannot be specified for a combined dominant/load shared mated application.

5. The mated application containing the system's point code can have only one mate point code assigned to it.

6. The EIR subsystem can be assigned to ITU-I and 14-bit ITU-N mated applications.

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 (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.

8. 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.

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: 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 SAS 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.

The examples in this procedure are used to remove the mated application defined by the point code **255-001-002** and the subsystem number **253** from the database.

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.

If the INP feature is on; the LNP feature is enabled; or the EIR feature is enabled and activated, the mated application cannot be removed from the database if the mated application contains the EAGLE 5 SAS's true point code and the LNP, INP, or EIR subsystem number. The EAGLE 5 SAS's true point code is shown in the **PCA**, **PCI**, **PCN**, or **PCN24** field of the **rtrv-sid** command output. The LNP, INP, or EIR subsystem number is shown in the **SSN** field of the **rtrv-ss-appl** command output. Before this mated application can be removed from the database, the LNP, INP, or EIR subsystem must be removed from the database. Go to the *LNP Feature Activation Guide* to remove the LNP subsystem from the database. Go to the *Feature Manual - INP* to remove the INP subsystem from the database. Go to the *Feature Manual - EIR* to remove the EIR subsystem from the database.

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 that 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, go to the *Commands Manual*.

Procedure

1. Display the mated applications in the database using the **rtrv-map** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCA          SSN RC MULT
   002-002-002  250 10 SHR
                            100-130-079  250 10 SHR  YES YES grp15    ON
                            068-135-094  251 10 SHR  YES YES grp05    OFF
   003-003-003  254 10 DOM
                            040-040-040  254 20 DOM  YES YES grp10    ON
   004-004-004  254 10 SHR
                            100-100-100  254 10 SHR  YES YES grp10    OFF
   005-005-005  250 10 DOM
                            060-060-060  250 20 DOM  YES YES grp15    OFF
                            070-070-070  251 30 DOM  YES YES grp05    ON
   006-006-006  250  0 SOL                           --- --- grp15    OFF
   007-007-007  251  0 SOL                           --- --- grp05    ON
   008-008-008  254 10 COM
                            200-147-100  254 10 COM  YES YES grp10    ON
                            179-183-050  250 10 COM  YES YES grp15    OFF
                            031-049-100  250 20 COM  YES YES grp15    ON
                            056-113-200  251 20 COM  YES YES grp05    OFF
   255-001-000  250 10 SOL                           YES YES grp01    ON
   255-001-000  251 10 SHR
                            253-001-002  254 10 SHR  YES YES grp01    OFF
   255-001-000  252 10 SOL                           YES YES grp01    ON
   255-001-000  253 10 SHR
                            253-001-004  254 10 SHR  YES YES grp01    OFF
   255-001-001  255 10 DOM
                            253-001-005  254 20 DOM  YES YES grp01    ON
   255-001-001  250 10 DOM
                            253-001-001  254 20 DOM  YES YES grp01    OFF
   255-001-002  251 10 SHR
                            255-001-002  254 10 SHR  NO  YES grp01    OFF
   255-001-002  252 10 DOM
                            255-001-003  254 20 DOM  YES YES grp01    ON
   255-001-002  253 10 SHR
                            255-001-004  254 10 SHR  YES NO  grp01    ON

   PCI          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCI          SSN RC MULT
   2-001-2      255 10 DOM
                            2-001-1      254 20 DOM  --- --- grp03    OFF

   PCN          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                            PCN          SSN RC MULT
   00347        253 10 SHR
                            01387        254 10 SHR  --- --- grp05    OFF
```

2. Verify whether or not the INP feature is on by entering the **rtrv-feat** command. The entry **INP = on** is shown if the INP 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*.

   NOTE: If the INP feature is on, shown in the rtrv-feat output in step 2, skip this step and go to step 4.

3. Verify whether or not the LNP feature is enabled, or the EIR feature is enabled and activated 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 activated, the status of the EIR feature should be on.

   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, see the rtrv-ctrl-feat command description in the *Commands Manual*.

   NOTE: If the output of steps 2 and 3 shows that INP feature is not on; the LNP feature is not enabled; or the EIR feature is not enabled and activated, skip step 4 and go to step 5.

4. Enter the **rtrv-ss-appl** command to verify the LNP, INP, or EIR subsystem number (depending on which feature is on) that is in the subsystem application table.

   This is an example of the possible output.

```
rlghncxa03w 06-03-28 14:42:38 GMT EAGLE5 34.3.0
APPL       SSN       STAT
LNP        254       ONLINE

SS-APPL table is (1 of 1) 100% full
```

   If the LNP feature is enabled and no subsystem number is shown in the **rtrv-ss-appl** output, go to the *LNP Feature Activation Guide* and remove the LNP subsystem number from the subsystem application table.

   If the INP feature is on and no subsystem number is shown in the **rtrv-ss-appl** output, go to the *Feature Manual - INP* and remove the INP subsystem number from the subsystem application table.

   If the EIR feature is enabled and activated and no subsystem number is shown in the **rtrv-ss-appl** output, go to the *Feature Manual - EIR* and remove the EIR subsystem number from the subsystem application table.

---

5. 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. For this example, enter this command.

   dlt-map:pca=255-001-002:ssn=253

   This message should appear.

   ```
   rlghncxa03w 06-03-07  11:48:16 GMT  EAGLE5 34.3.0
   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.

   NOTE: Removing the last subsystem assigned to a point code removes the point code from the mated application table.

---

6. Verify the changes using the **rtrv-map** command with the point code and subsystem specified in step 5. For this example, enter this command.

   rtrv-map:pca=255-001-002:ssn=253

   The EAGLE 5 SAS 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 5 (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 5. For this example, enter the rtrv-map:pca=255-001-002 command.

   The EAGLE 5 SAS responds with this message showing that the point code is no longer in the database.

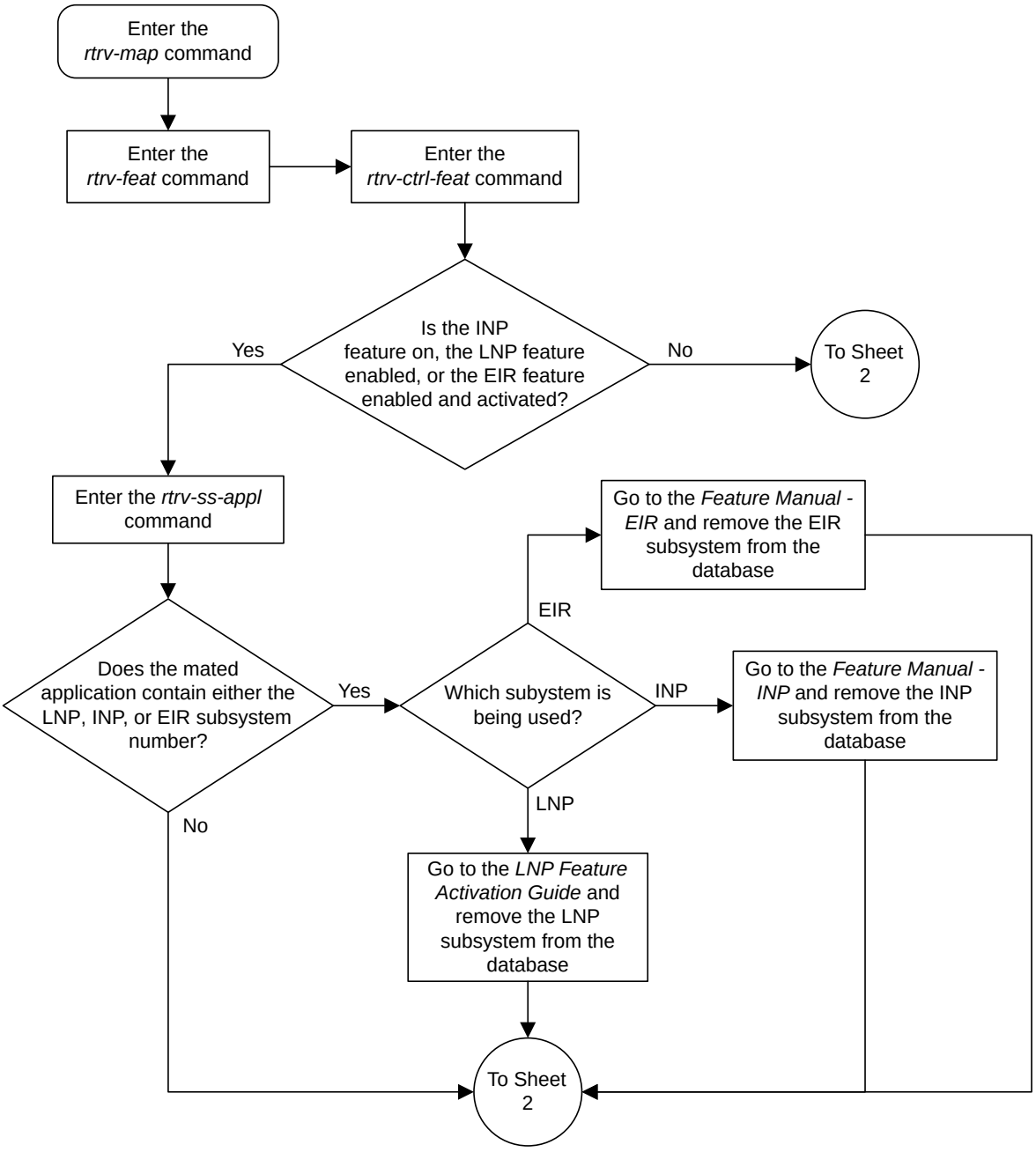
   E2452 Cmd Rej: Remote point code does not exist

---

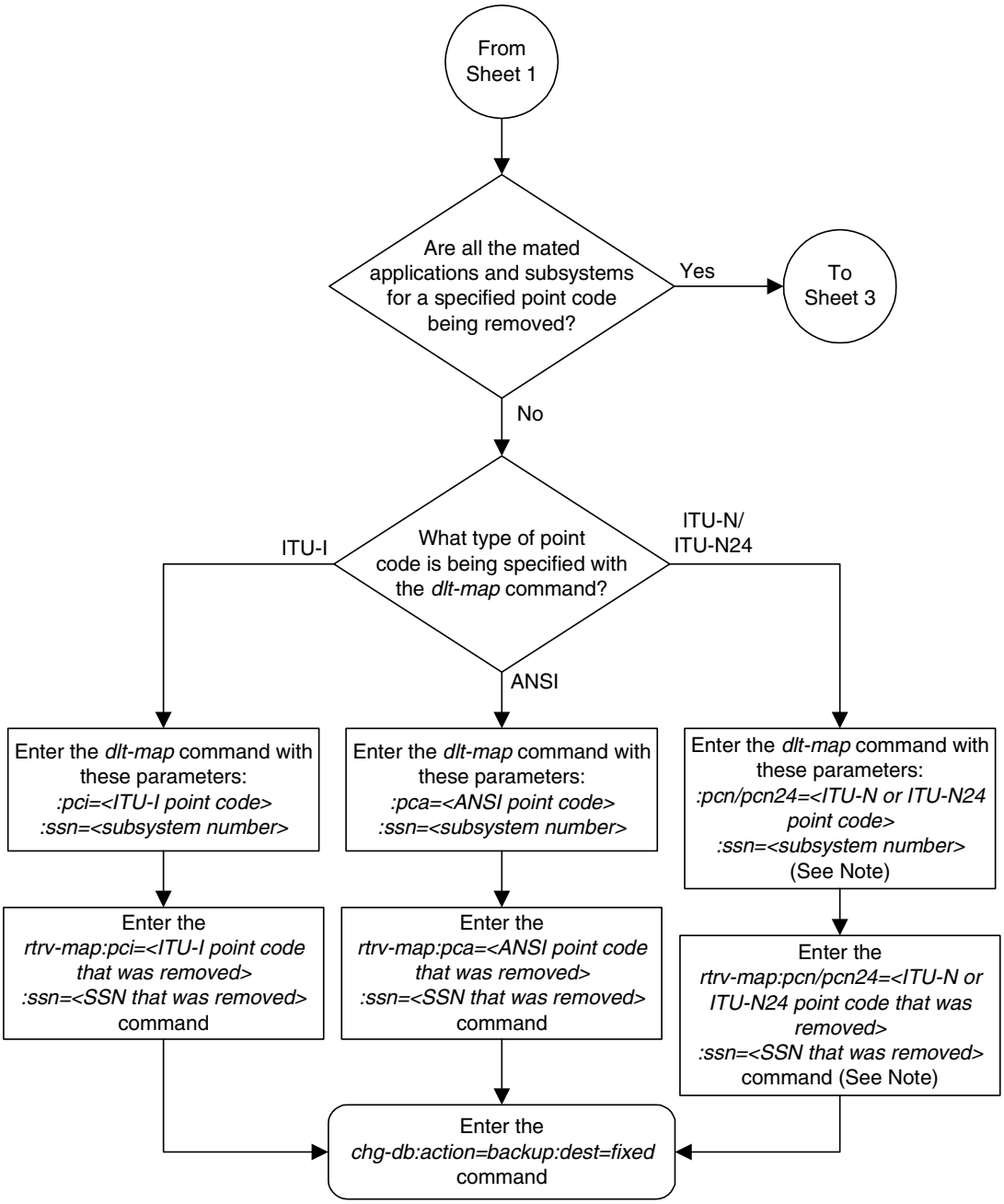
7. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   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.
   ```

Flowchart 2-9. Removing a Mated Application (Sheet 1 of 3)

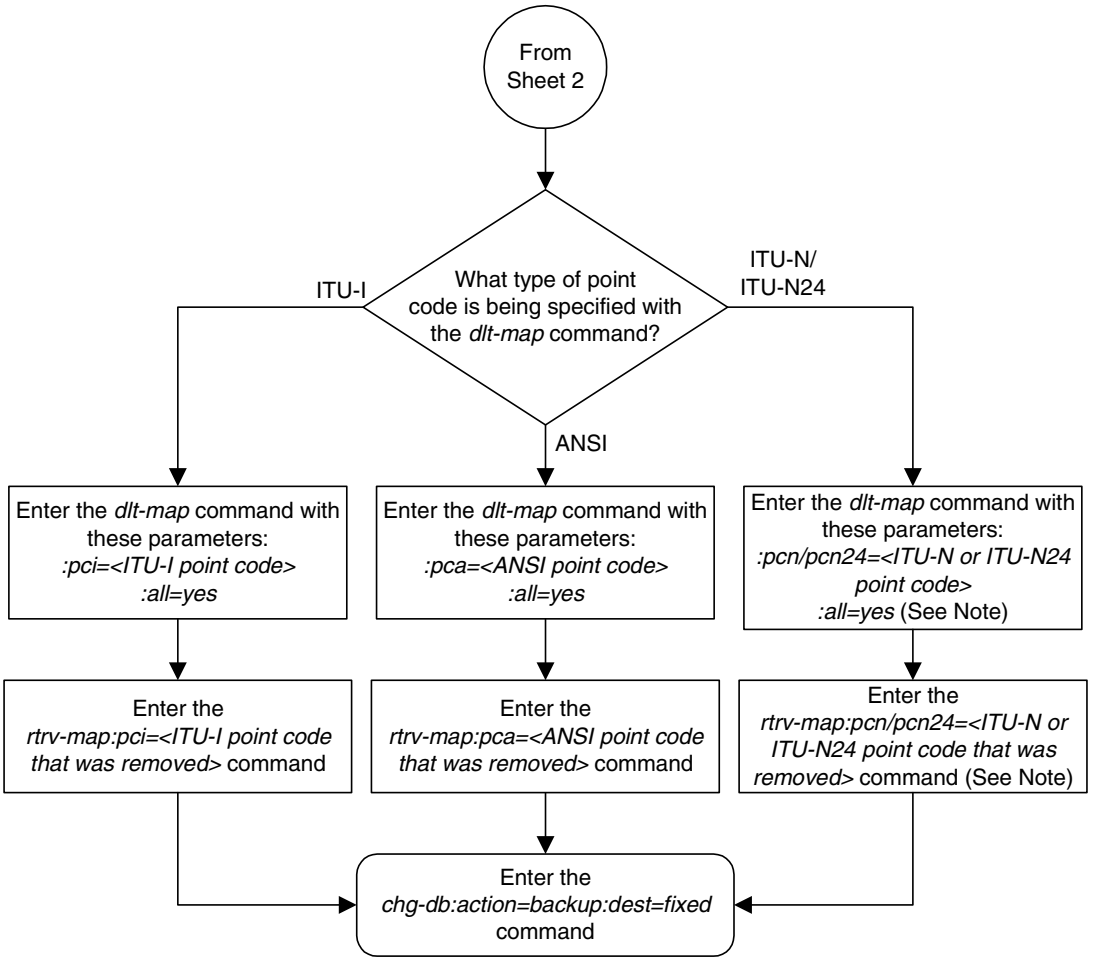


Flowchart 2-9. Removing a Mated Application (Sheet 2 of 3)



Note: If the point code assigned to the mated application being removed is shown in the *PCN* field, then the *pcn* parameter must be specified. If the point code assigned to the mated application being removed is shown in the *PCN24* field, then the *pcn24* parameter must be specified.

Flowchart 2-9. Removing a Mated Application (Sheet 3 of 3)



Note: If the point code assigned to the mated application being removed is shown in the *PCN* field, then the *pcn* parameter must be specified. If the point code assigned to the mated application being removed is shown in the *PCN24* field, then the *pcn24* parameter must be specified.

Changing a Mated Application

This procedure is used to change the definition of a mated application in the database using the **chg-map** command.

The **chg-map** command uses these parameters.

: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: 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 SAS 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.

:mssn – Mate subsystem number – the subsystem address of the backup 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.

: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.

: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 SAS's true point code, shown in the **rtrv-sid** output.

The examples in this procedure are used to change the mated application for the point code **255-001-001** and the subsystem number **250** in the database.

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 CSPC group name can be changed with the **grp** parameter.

The mate point code specified in the **chg-map** command (**mpc**/**mpca**, **mpci**, **mpcn**, or **mpcn24**) must be a full point code in the routing 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 destination point code 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 entered with the **pc** or **pca** parameters, the specified point codes in the concerned point code broadcast group must have been entered with the **pc** or **pca** 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 SAS'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 (see the "Adding a Concerned Signaling Point Code" procedure on page 2-68), 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.

If a new mate point code (**mpc/mpca/mpci/mpcn/mpcn24**) or a new mate subsystem (**mssn**) is specified, the point code and subsystem cannot be in the remote point code table.

The values of the **ssn** and **mssn** parameters must be from 2 to 255.

The EAGLE 5 SAS can contain 1024, 2000, or 3000 mated applications. The EAGLE 5 SAS 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, go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27.

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 that 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, go to the *Commands Manual*.

Procedure

1. Display the mated applications in the database using the **rtrv-map** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCA          SSN RC MULT
   002-002-002  250 10 SHR
                              100-130-079  250 10 SHR  YES YES grp15    ON
                              068-135-094  251 10 SHR  YES YES grp05    OFF
   003-003-003  254 10 DOM
                              040-040-040  254 20 DOM  YES YES grp10    ON
   004-004-004  254 10 SHR
                              100-100-100  254 10 SHR  YES YES grp10    OFF
   005-005-005  250 10 DOM
                              060-060-060  250 20 DOM  YES YES grp15    OFF
                              070-070-070  251 30 DOM  YES YES grp05    ON
   006-006-006  250  0 SOL                             --- --- grp15    OFF
   007-007-007  251  0 SOL                             --- --- grp05    ON
   008-008-008  254 10 COM
                              200-147-100  254 10 COM  YES YES grp10    ON
                              179-183-050  250 10 COM  YES YES grp15    OFF
                              031-049-100  250 20 COM  YES YES grp15    ON
                              056-113-200  251 20 COM  YES YES grp05    OFF
   255-001-000  250 10 SOL                             YES YES grp01    ON
   255-001-000  251 10 SHR
                              253-001-002  254 10 SHR  YES YES grp01    OFF
   255-001-000  252 10 SOL                             YES YES grp01    ON
   255-001-000  253 10 SHR
                              253-001-004  254 10 SHR  YES YES grp01    OFF
   255-001-001  255 10 DOM
                              253-001-005  254 20 DOM  YES YES grp01    ON
   255-001-001  250 10 DOM
                              253-001-001  254 20 DOM  YES YES grp01    OFF
   255-001-002  251 10 SHR
                              255-001-002  254 10 SHR  NO  YES grp01    OFF
   255-001-002  252 10 DOM
                              255-001-003  254 20 DOM  YES YES grp01    ON
   255-001-002  253 10 SHR
                              255-001-004  254 10 SHR  YES NO  grp01    ON

   PCI          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCI          SSN RC MULT
   2-001-2      255 10 DOM
                              2-001-1      254 20 DOM  --- --- grp03    OFF

   PCN          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCN          SSN RC MULT
   00347        253 10 SHR
                              01387        254 10 SHR  --- --- grp05    OFF
```

NOTE: If the `rtrv-map` output in step 1 shows that the maximum number of mated applications is 3000, skip step 2 and go to step 3.

NOTE: If the If the `rtrv-map` output in step 1 shows that the maximum number of mated applications is 2000, and the mated application being added increases the number beyond 2000, do not perform step 2, but go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27 and enable XMAP Table Expansion controlled feature for 3000 mated applications. Then go to step 3.

NOTE: If the `rtrv-map` output in step 1 shows that the maximum number of mated applications is either 1024 or 2000, and the global title translation being added will not increase the number beyond the quantity shown in the `rtrv-map` output in step 1, skip step 2 and go to step 3.

2. Display the status of the XMAP Table Expansion controlled feature by entering the **`rtrv-ctrl-feat`** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
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, go to "Enabling the XMAP Table Expansion Feature" procedure on page A-27 and enable XMAP Table Expansion controlled feature for either 2000 or 3000 global title translations as required. Then go to step 3.

NOTE: If the primary point code and subsystem are not being changed, or if an existing dominant, load shared, or combined dominant/load shared mated application is not being changed to a solitary mated application, skip steps 3, 4, and 5, and go to step 6.

3. Record the mated application data for the mated application that is to be removed from the database.

NOTE: If the existing mated application is not being changed to a solitary mated application, skip this step and go to step 5.

4. Go to the "Removing a Mated Application" procedure on page 2-108 and remove the mated application from the database.

---

5. Provision the new mated application in the database with the data recorded in step 3. Specify the new primary point code and subsystem number if you wish to change the current primary point code and subsystem. Go to the "Provisioning a Mated Application" procedure on page 2-78 to provision the new mated application.

   If the new mated application being added in the "Provisioning a Mated Application" procedure is a solitary mated application, no futher action is necessary. The procedure is finished.

NOTE: If the mated point code value is not being changed, skip this step and go to step 7.

6. Enter the **rtrv-rte** command with the **dpc** parameter specifying the point code to be used with the **chg-map** command to verify whether or not the point code is the DPC of a route. For this example, enter this command.

   rtrv-rte:dpca=009-009-009

   This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   009-009-009 ---------- --------------   ls03       10    009-009-009
                                           ls02       30    150-150-150
                                           lsa2       50    200-200-200
                                           lsa5       50    066-030-100
                                                    CLLI=ls09clli
```

   If the point code is not shown in the **rtrv-rte** output, perform one of "Adding a Route" procedures in the *Database Administration Manual - SS7* and add the required route to the database.

NOTE: If a concerned signaling point code (CSPC) group name is not being changed, skip steps 7 and 8, and go to step 9. If a solitary mated application being changed is to remain a solitary mated application, only the CSPC group name can be changed. If the CSPC group name is not being changed for a solitary mated application, no further action can be performed. This procedure is finished.

7. 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 06-03-25 09:48:31  GMT  EAGLE5 34.3.0
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 06-03-25 09:48:31  GMT  EAGLE5 34.3.0
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, go to the "Adding a Concerned Signaling Point Code" procedure on page 2-68 and add the required CSPC group or point code to the database.

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.

8. 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 (see the "Adding a Concerned Signaling Point Code" procedure on page 2-68), 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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" procedure on page A-36 to enable the ANSI-ITU-China SCCP Conversion feature.

9. The **sso** parameter cannot be specified for a mated application if the **pc/pca/pci/pcn/pcn24** value is the EAGLE 5 SAS's point code. Verify the EAGLE 5 SAS's point code by entering the **rtrv-sid** command. The EAGLE 5 SAS's point code is shown in the **PCA**, **PCI**, **PCN**, and **PCN24** fields. This is an example of the possible output.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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
```

10. Change the mated application configuration using the **chg-map** command with the primary point code and subsystem number from the **rtrv-map** command output shown in step 1.

If either the mated point code value (**mpc/mpca**, **mpci**, **mpcn**, or **mpcn24**), mated subsystem (**mssn**), or the mated relative cost value (**materc**) are being changed, all three parameters must be specified with the **chg-map** command.

The mated relative cost value (**materc**) determines the type of mated application that the existing mated application is being changed to.

- Dominant – All relative cost values are greater that the value for the primary point code and subsystem and different from each other.
- Load Shared – All relative cost values are equal to the value for the primary point code and subsystem.
- Combined dominant/load shared – At least one of the point codes in this mated application has the same relative cost value as the relative cost value as the primary point code and subsystem. The rest of the point codes in this mated application 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 are the same.

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.

For this example, enter this command.

chg-map:pca=255-001-001:ssn=250:mpca=009-009-009:mssn=250 :materc=20:grp=grp05:srm=yes:mrc=yes:sso=on

This message should appear.

```
rlghncxa03w 06-03-25 09:43:31  GMT  EAGLE5 34.3.0
CHG-MAP:  MASP A - COMPLTD
```

11. Verify the changes using the **rtrv-map** command with the primary point code and subsystem specified in step 10. For this example, enter this command.

rtrv-map:pca=255-001-001:ssn=250

This is an example of the possible output.

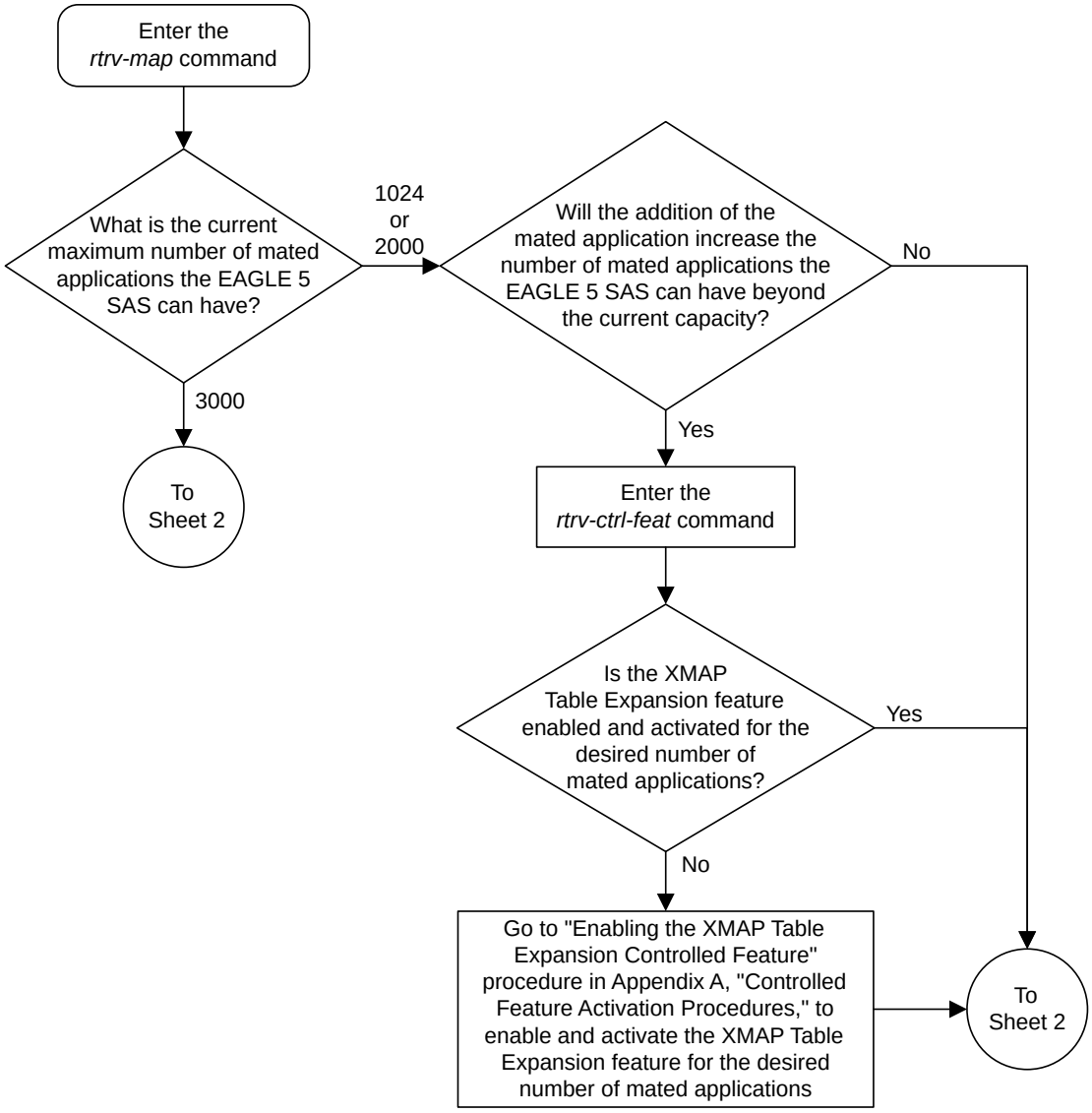
```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

    PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                                PCA          SSN RC MULT
   255-001-001  250 10 DOM
                               009-009-009  250 20 DOM  YES YES grp05    ON
```

Repeat steps 10 and 11 to change other entries in the mated application.

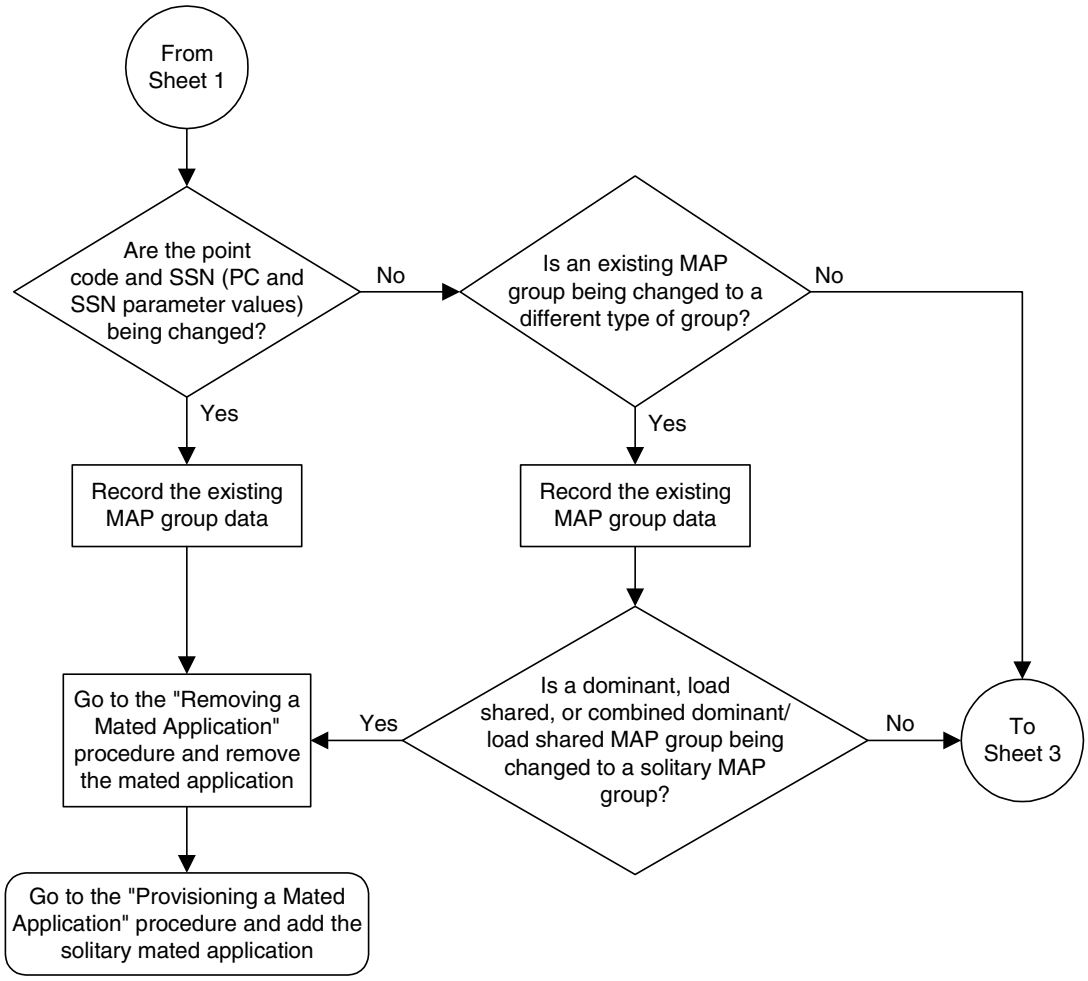
12. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

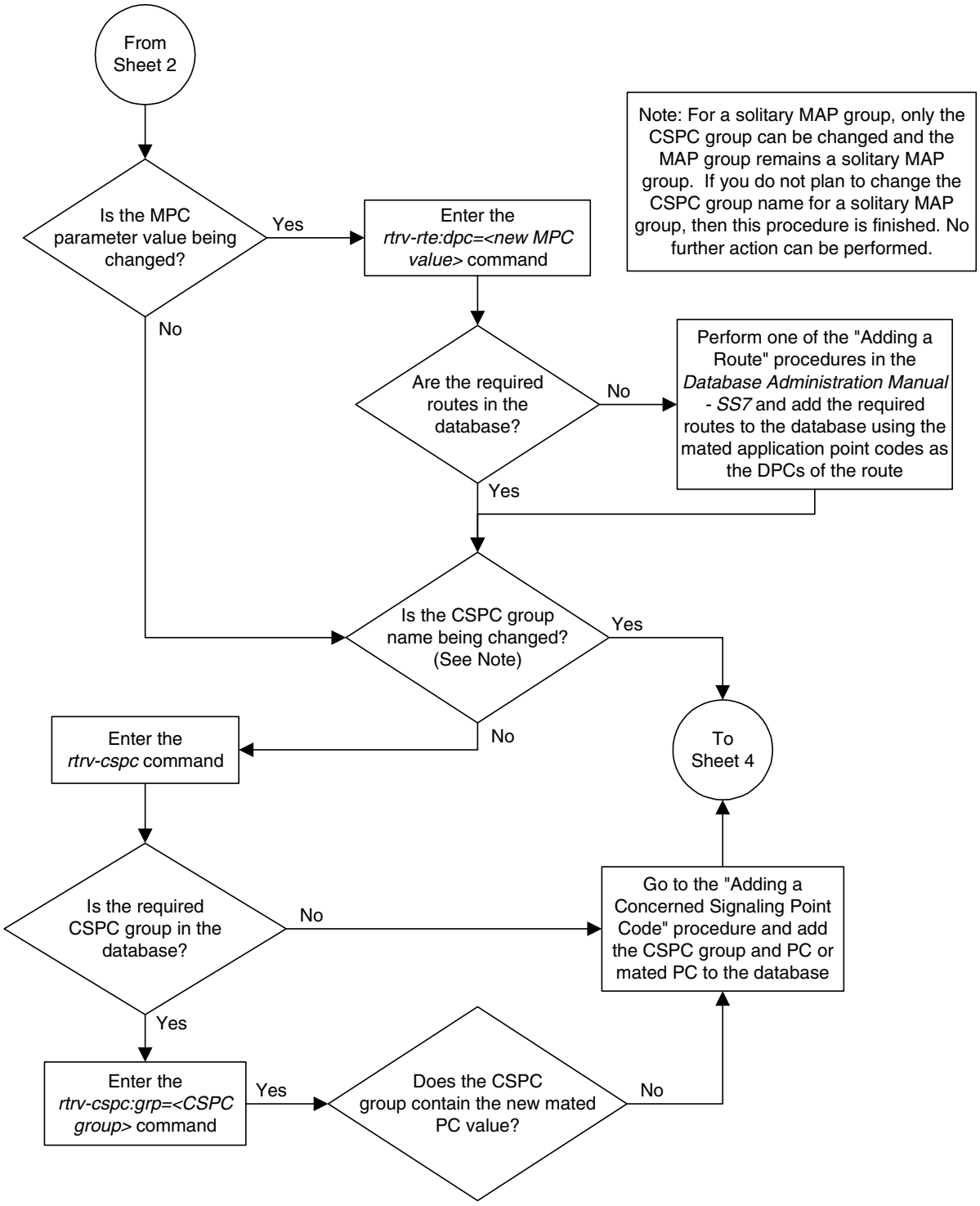
Flowchart 2-10. Changing a Mated Application (Sheet 1 of 10)



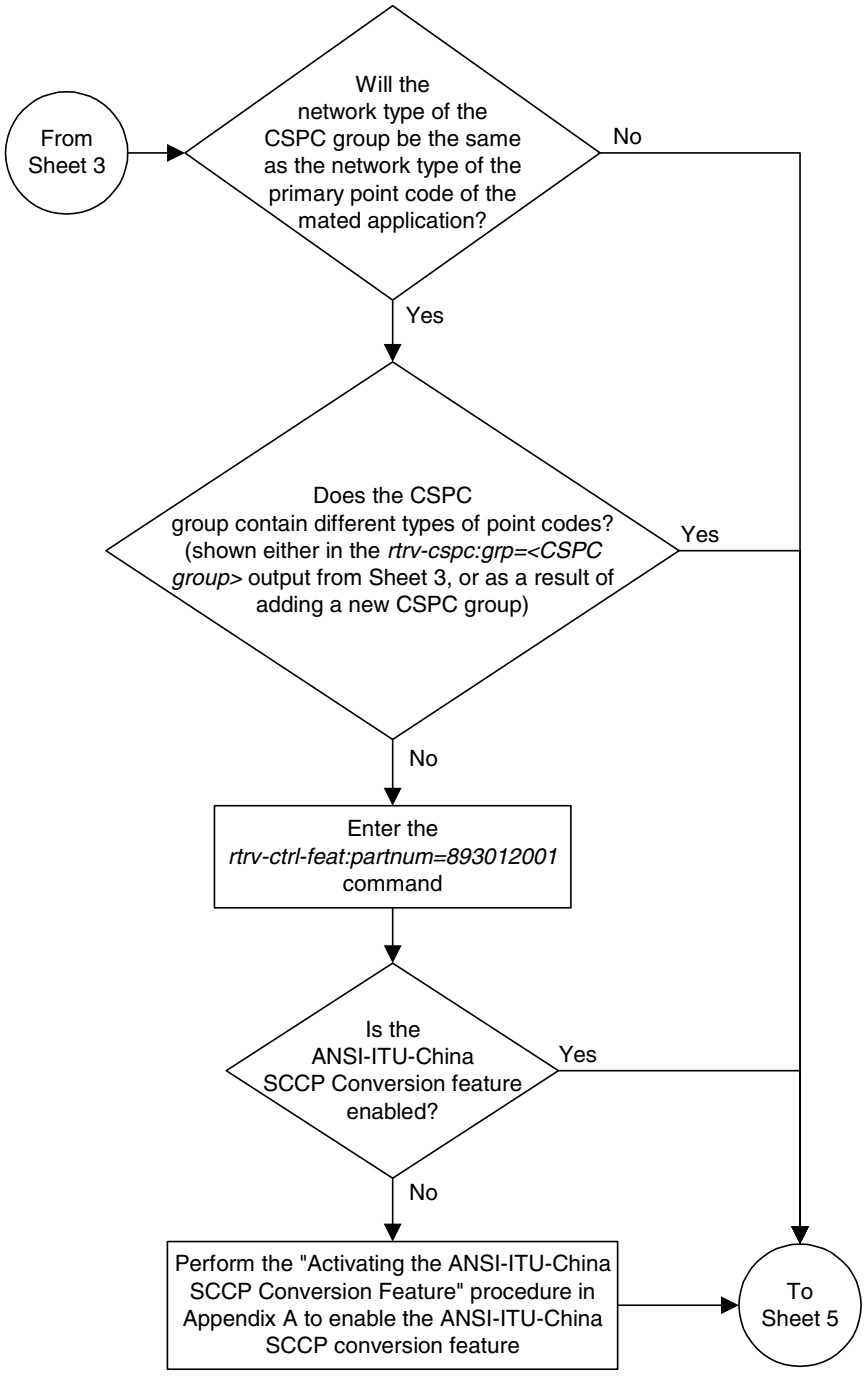
Flowchart 2-10. Changing a Mated Application (Sheet 2 of 10)



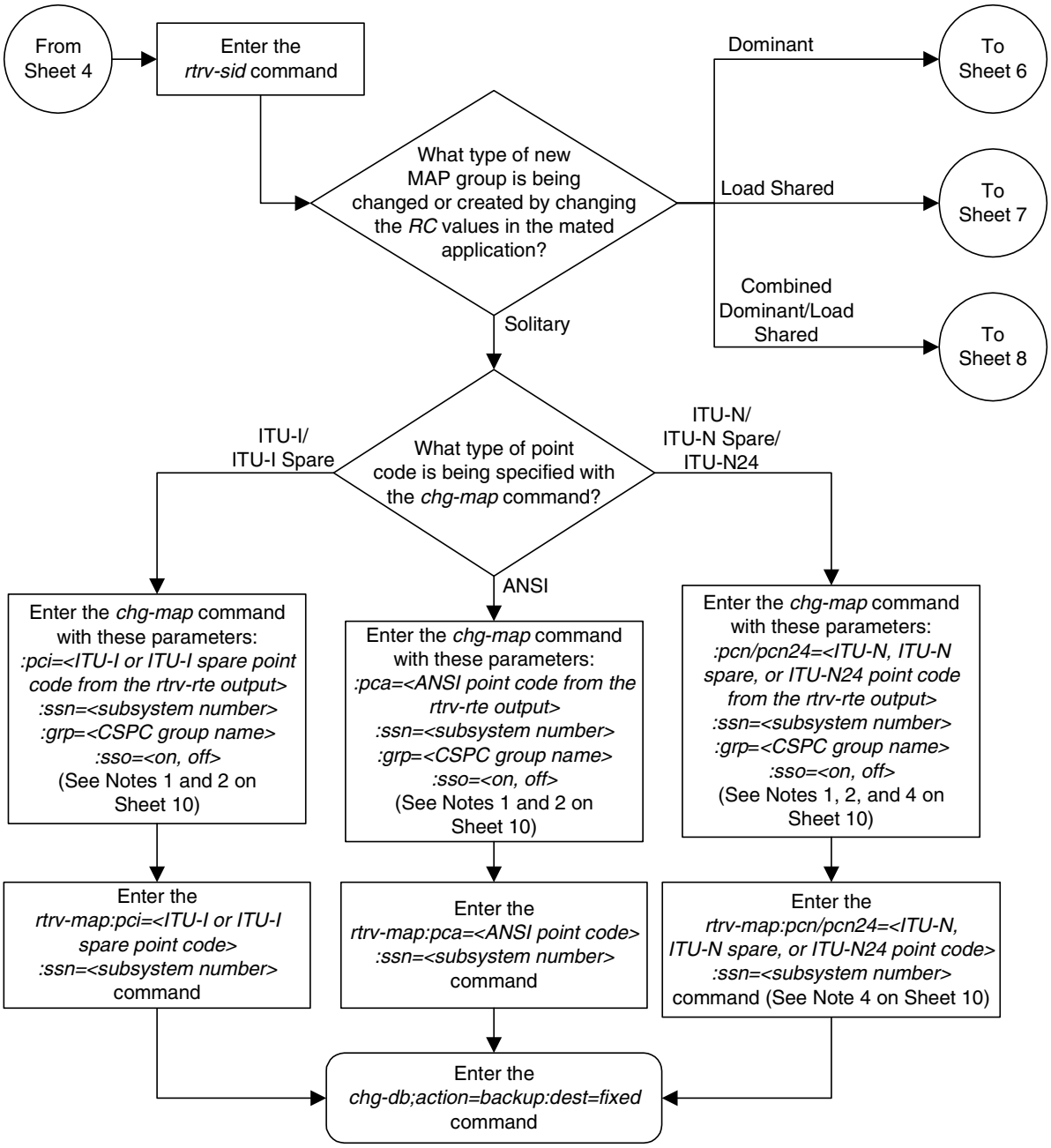
Flowchart 2-10. Changing a Mated Application (Sheet 3 of 10)



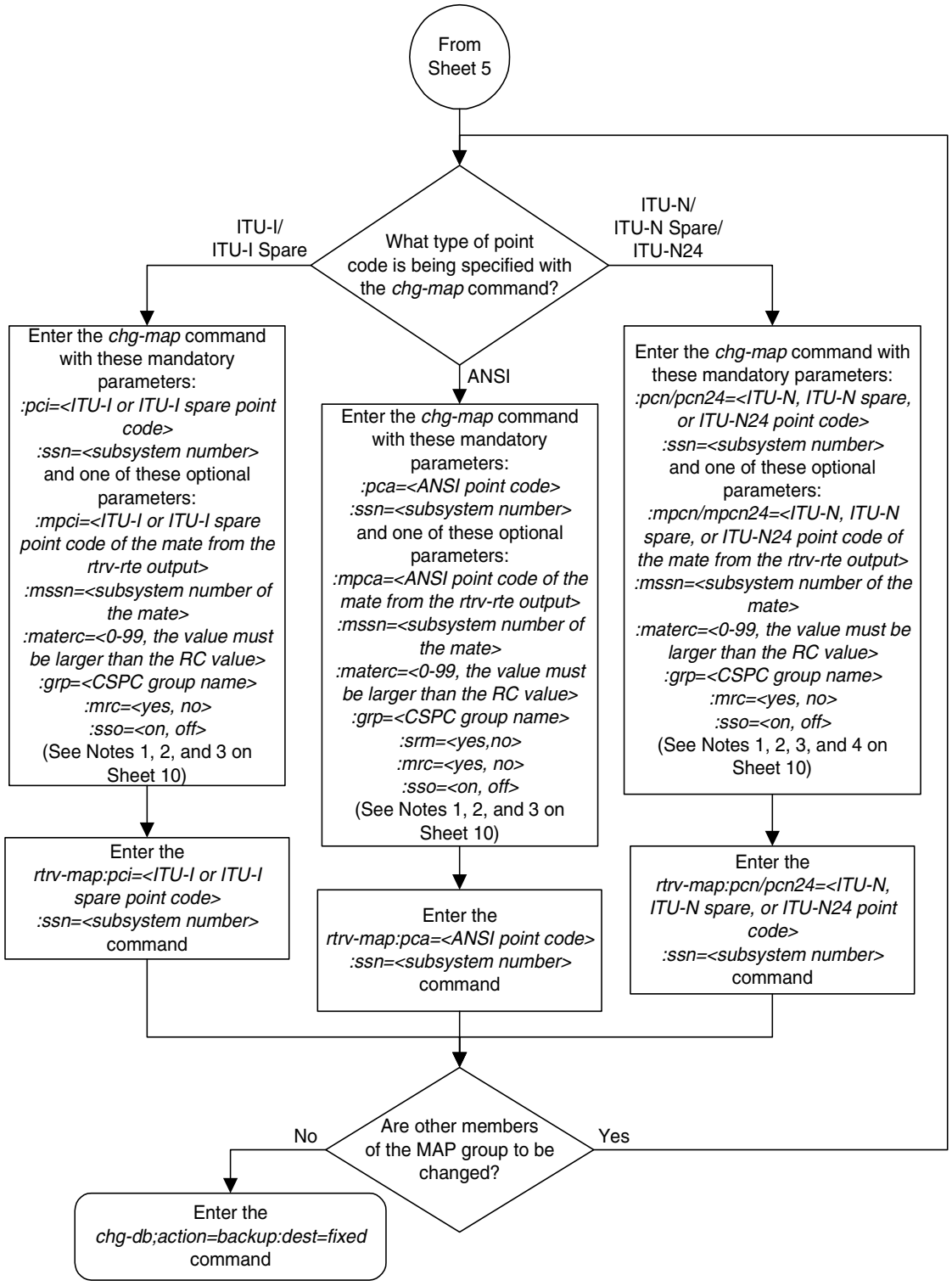
Flowchart 2-10. Changing a Mated Application (Sheet 4 of 10)



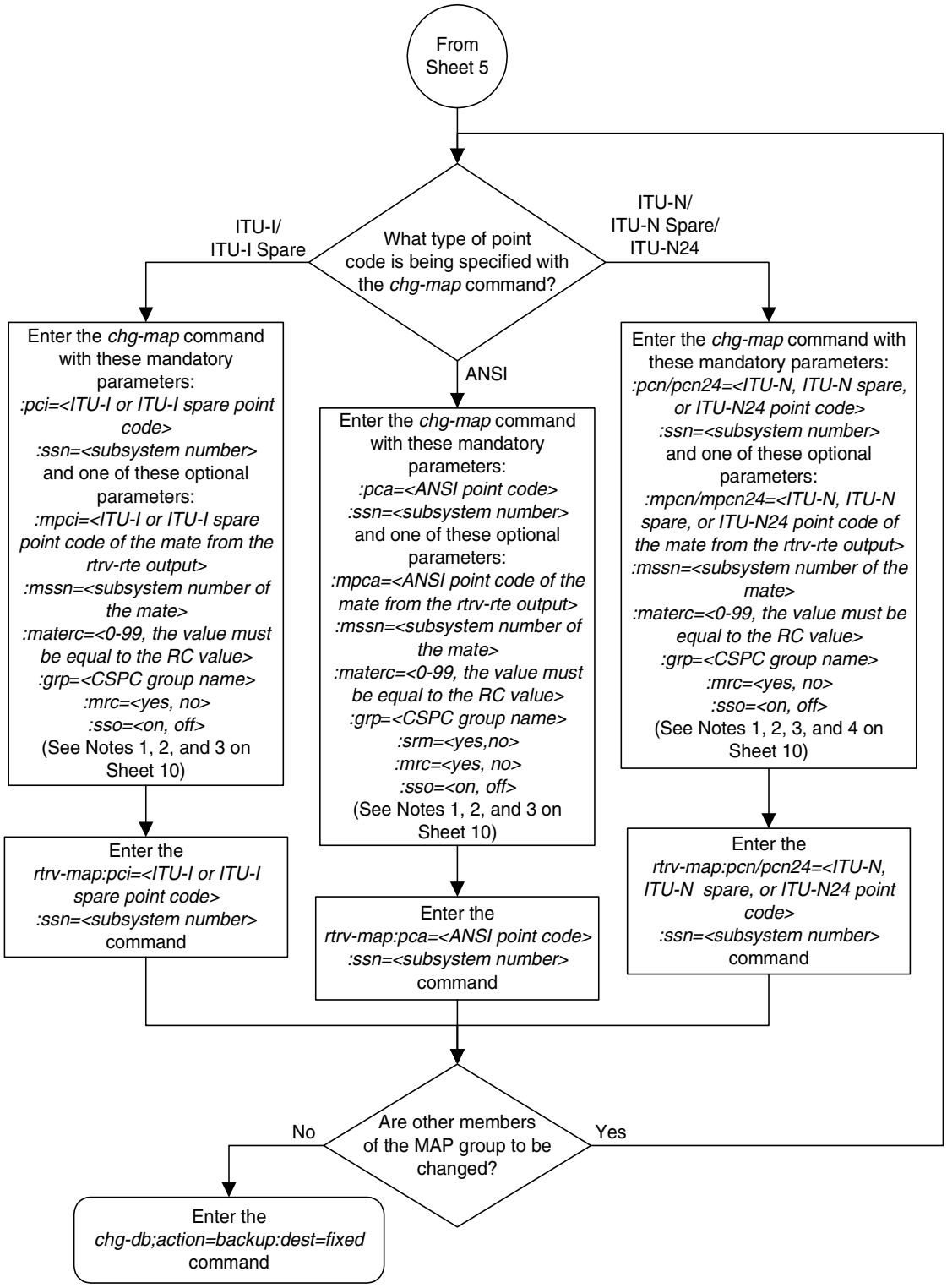
Flowchart 2-10. Changing a Mated Application (Sheet 5 of 10)



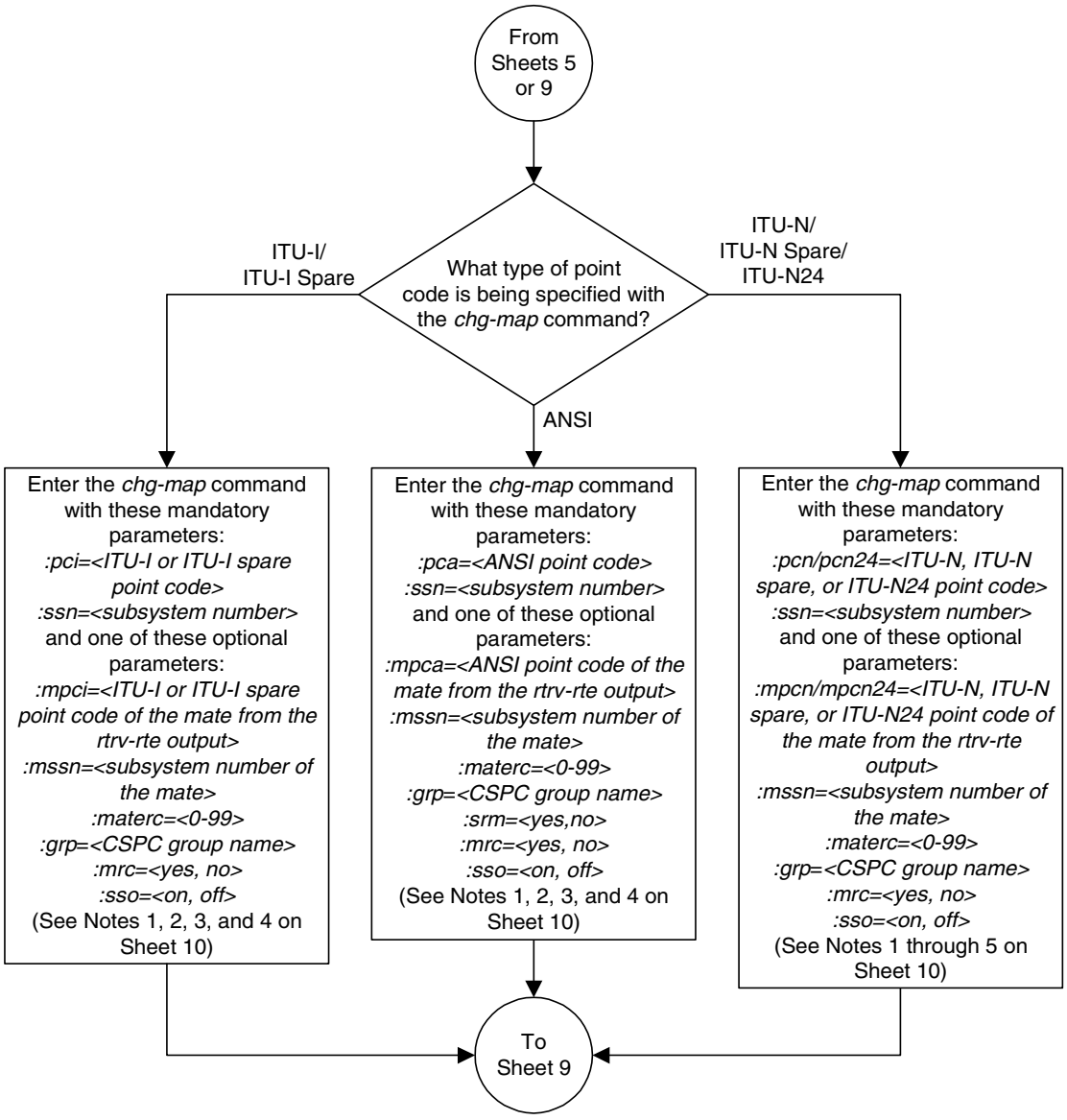
Flowchart 2-10. Changing a Mated Application (Sheet 6 of 10)



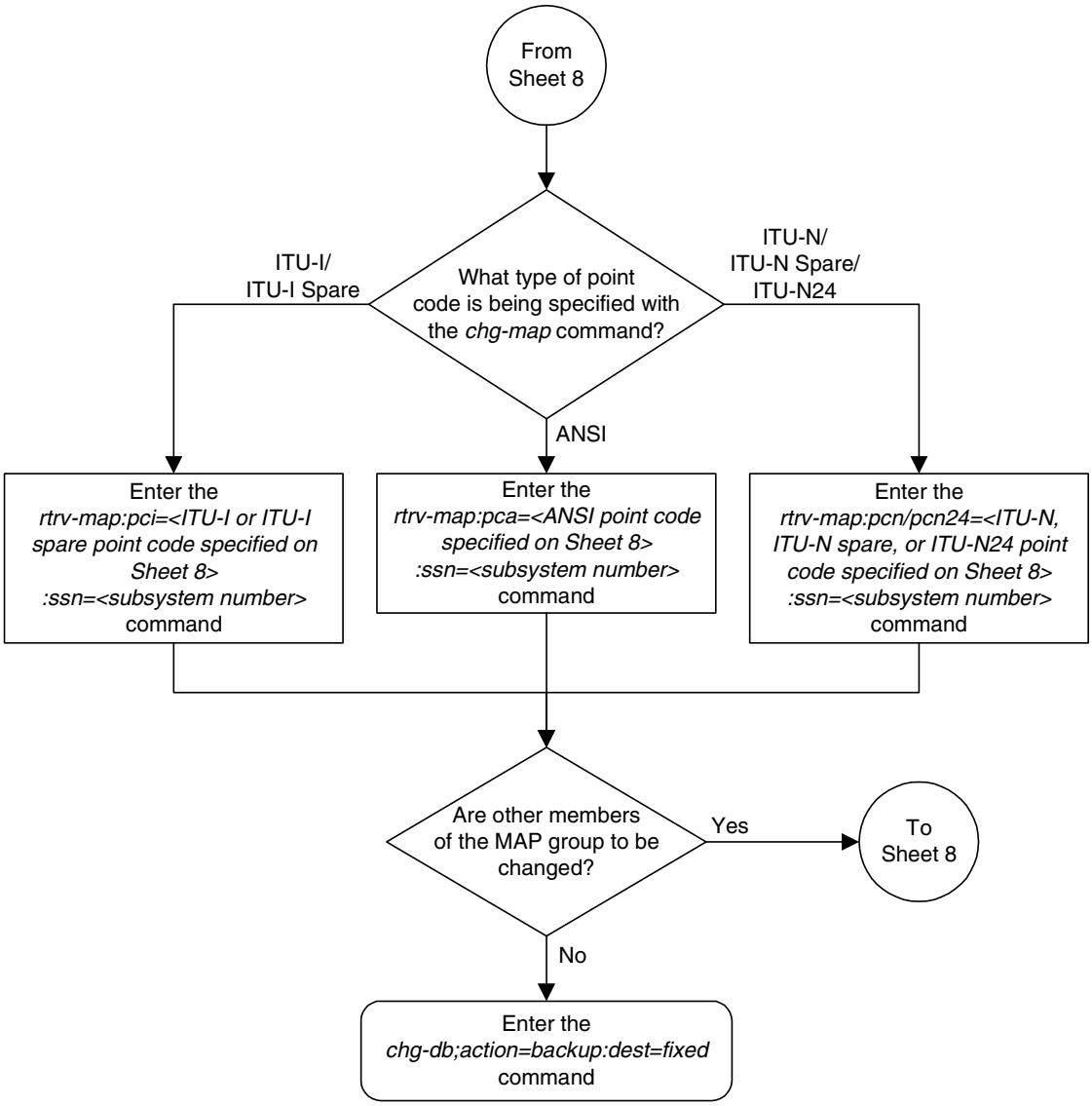
Flowchart 2-10. Changing a Mated Application (Sheet 7 of 10)



Flowchart 2-10. Changing a Mated Application (Sheet 8 of 10)



Flowchart 2-10. Changing a Mated Application (Sheet 9 of 10)



Flowchart 2-10. Changing a Mated Application (Sheet 10 of 10)

Notes:

1. The *sso* parameter cannot be specified if the point code value for the mated application is the system'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 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.

4. If the point code shown in the *rtrv-rte* output is a 14-bit ITU-N point code (*pcn*), then the *pcn* parameter must be specified. If the point code shown in the *rtrv-rte* output is a 24-bit ITU-N point code (*pcn24*), then the *pcn24* parameters must be specified.

5. To have a combined dominant/load shared MAP group, entries in the MAP group must have at least one mate RC value equal to the RC value, and the mate RC values of the other entries in the group must be equal to each other, but these mate RC values must be higher that the RC value. For example, two entries have RC values of 10, and the other entries in the group have RC values of 20.

Provisioning an MRN Group

This procedure is used to provision an Mated Relay Node (MRN) group in the database or a point code to an existing MRN group for the Intermediate Global Title Load Sharing feature using the **ent-mrn** and **chg-mrn** commands.

An MRN group contains alternate point codes, up to eight, that are used for load sharing between multiple nodes when the EAGLE 5 SAS 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/pcn2pcn242 – 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: 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 SAS and for a definition of the different formats that can be used for ITU national point codes.

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 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.

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 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. 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 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 is a combination of the dominant and load sharing MRN groups. At least one of the point codes in this MRN group 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 group 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 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 group and shared between these point codes.

The point codes in the MRN group must be a full point code with a route assigned to it. Cluster point codes, network routing point codes, or the EAGLE 5 SAS's true point code cannot be specified in an MRN group. 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 SAS'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, go to the "Activating the IGTTLS feature" procedure on page A-3 and enable and activate this feature.

The point code type of the alternate point codes 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 alternate point codes must be 24-bit ITU-N point codes (**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 alternate point codes must be ITU-I spare point codes.

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 that 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, go to the *Commands Manual*.

Procedure

1. Display the controlled features that have been purchased and all of the temporary keys that have been issued by entering the **rtrv-ctrl-feat** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 IGTTLS controlled feature has not been enabled or activated, go to the "Activating the IGTTLS feature" procedure on page A-3 and enable and activate this feature.

2. Display the mated relay node groups in the database using the **rtrv-mrn** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

   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
   008-001-007    80
   008-001-008    90
```

3. Display the EAGLE 5 SAS self-identification, using the **rtrv-sid** command.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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
```

4. 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 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                    CLLI=ls05clli
```

rtrv-rte:dpca=006-001-001

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-001 ---------- --------------   ls65       10    006-001-001
                                                    CLLI=ls65clli
```

rtrv-rte:dpca=006-001-002

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-002 ---------- --------------   ls66       10    006-001-002
                                                    CLLI=ls66clli
```

rtrv-rte:dpca=006-001-003

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-003 ---------- --------------   ls67       10    006-001-003
                                                    CLLI=ls67clli
```

rtrv-rte:dpca=006-001-004

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-004 ---------- --------------   ls68       10    006-001-004
                                                     CLLI=ls68clli
```

rtrv-rte:dpca=006-001-005

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-005 ---------- --------------   ls69     10 006-001-005
                                                     CLLI=ls69clli
```

rtrv-rte:dpca=006-001-006

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-006 ---------- --------------   ls70     10 006-001-006
                                                     CLLI=ls70clli
```

rtrv-rte:dpca=006-001-007

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-007 ---------- --------------   ls71       10    006-001-007
                                                     CLLI=ls71clli
```

rtrv-rte:dpca=006-001-008

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   006-001-008 ---------- --------------   ls72       10    006-001-008
                                                     CLLI=ls72clli
```

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.

---

5. Add the mated relay node group to the database using the **ent-mrn** command.

   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 4) and cannot be in the Self ID table (shown in step 3). The MRN group can contain a maximum of eight alternate point code entries. The alternate point code and its corresponding **rc** parameter must be specified together.

   The point code type of the alternate point codes 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 alternate point codes must be 24-bit ITU-N point codes (**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 alternate point codes must be ITU-I spare point codes.

For this example, enter this command.

```
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:rc=50
```

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

```
rlghncxa03w 06-03-07  11:44:13  GMT  EAGLE5 34.3.0
ENT-MRN:  MASP A - COMPLTD
```

NOTE: If the MRN group is to contain no more than four entries, skip this step and go to step 7.

6. Enter the **ent-mrn** or **chg-mrn** command without the **rc** parameter to add from five to eight entries to the MRN group.

   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 4) and cannot be in the Self ID table (shown in step 3). The MRN group can contain a maximum of eight alternate point code entries. The alternate point code and its corresponding **rc** parameter must be specified together.

   For this example, enter one of 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
   :pca4=006-001-008:rc4=90
   ```

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

   ```
   rlghncxa03w 06-03-07  11:44:13  GMT  EAGLE5 34.3.0
   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
   :pca4=006-001-008:rc4=90
   ```

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

   ```
   rlghncxa03w 06-03-07  11:44:13  GMT  EAGLE5 34.3.0
   CHG-MRN:  MASP A - COMPLTD
   ```

---

7. Verify the changes using the **rtrv-mrn** command with the point code (**pca/pci/pcn** parameters) specified in steps 5 and 6. For this example, enter this command.

   rtrv-mrn:pca=005-005-005

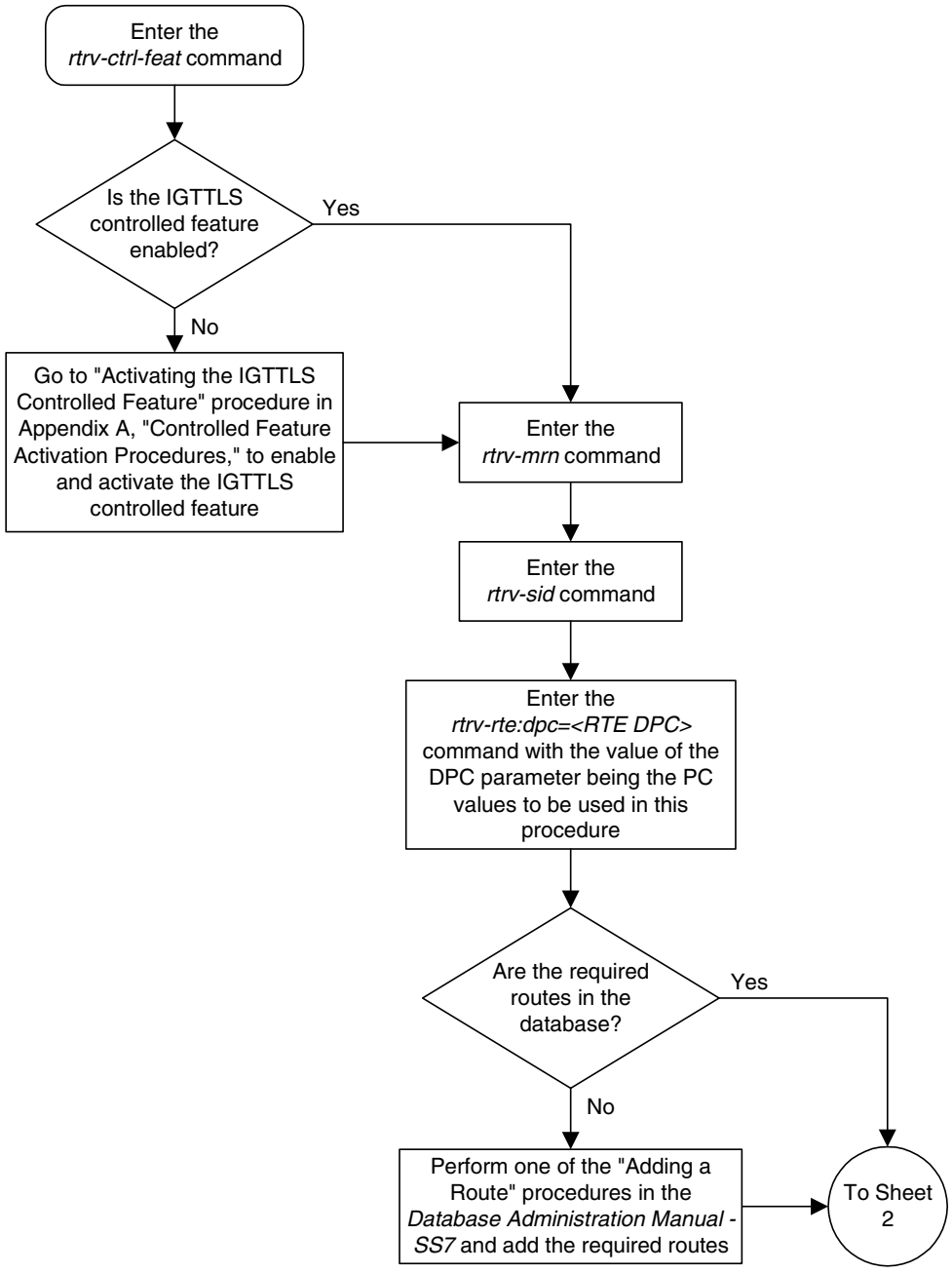
   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

   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
   006-001-008    90
```

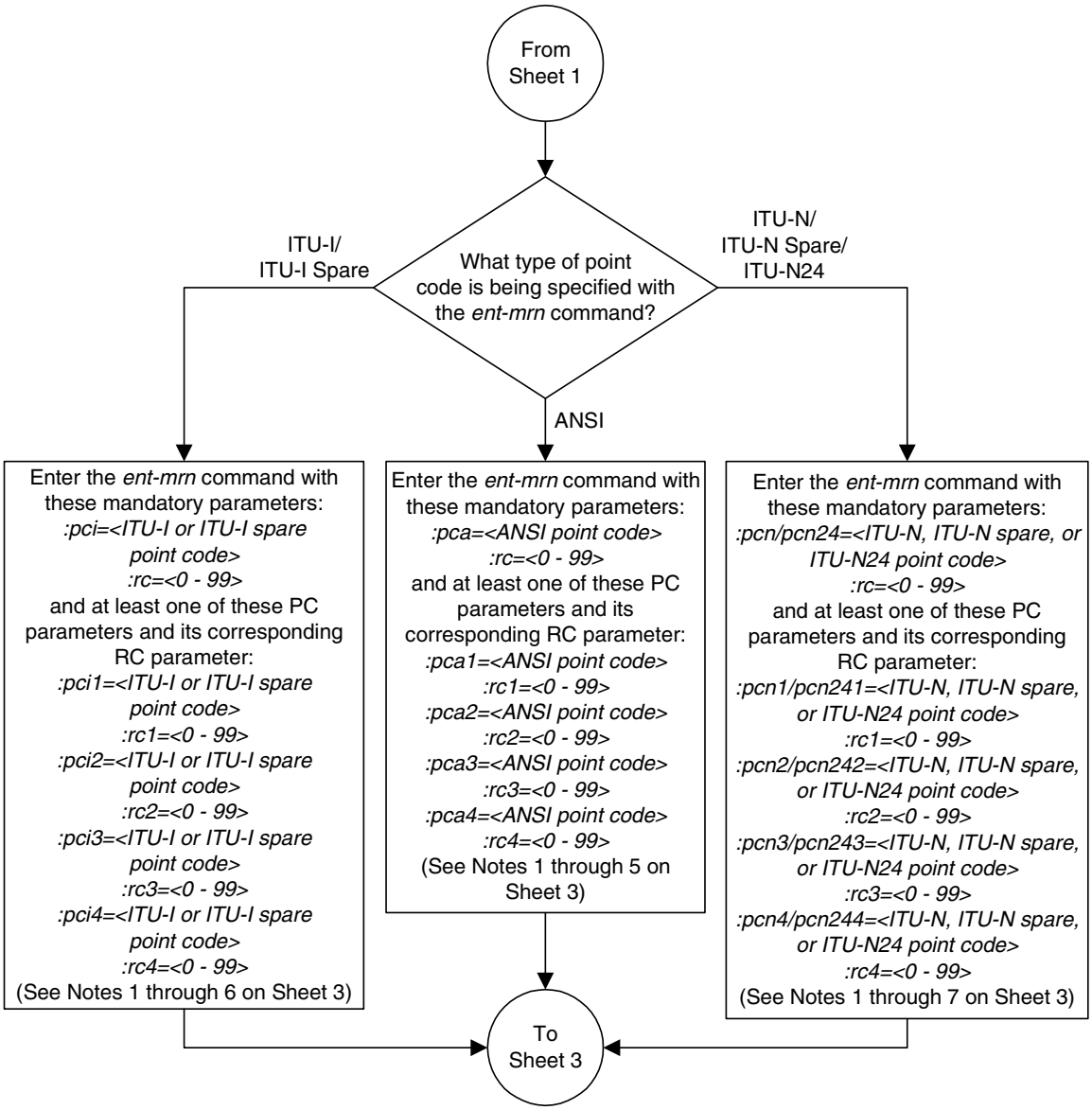
8. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

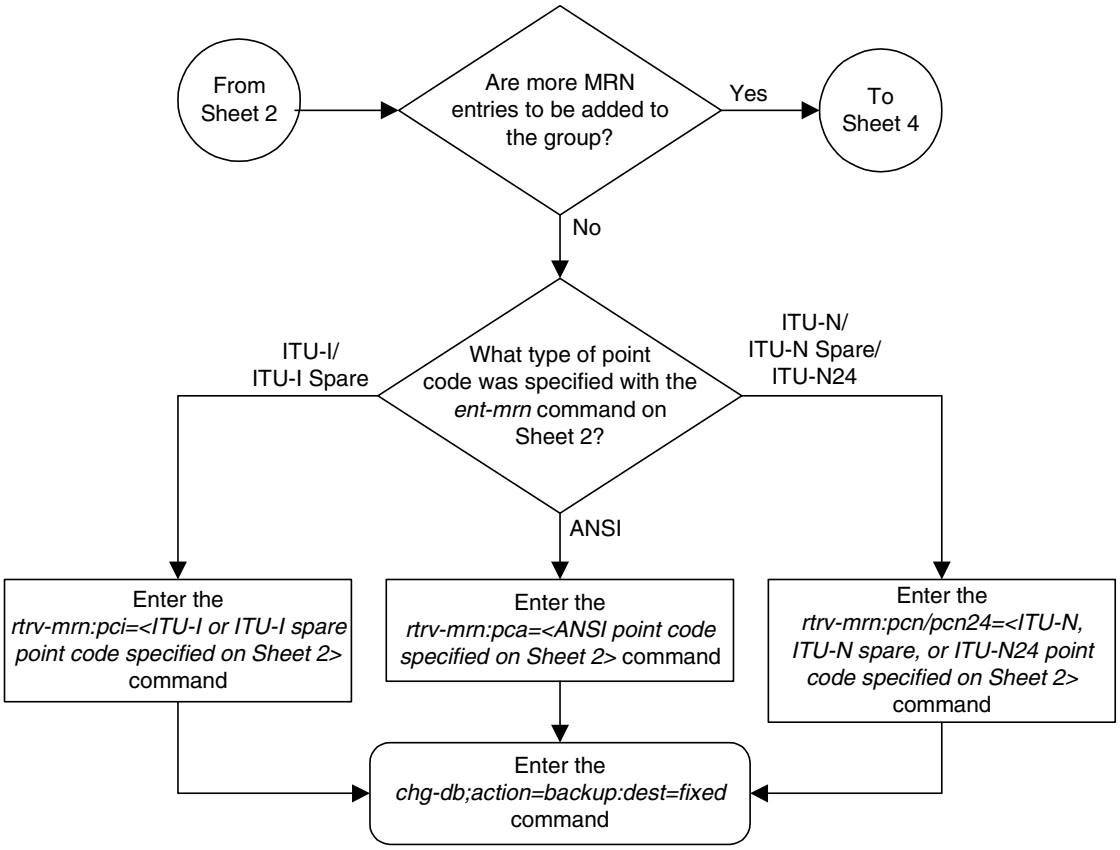
Flowchart 2-11. Provisioning an MRN Group (Sheet 1 of 4)



Flowchart 2-11. Provisioning an MRN Group (Sheet 2 of 4)



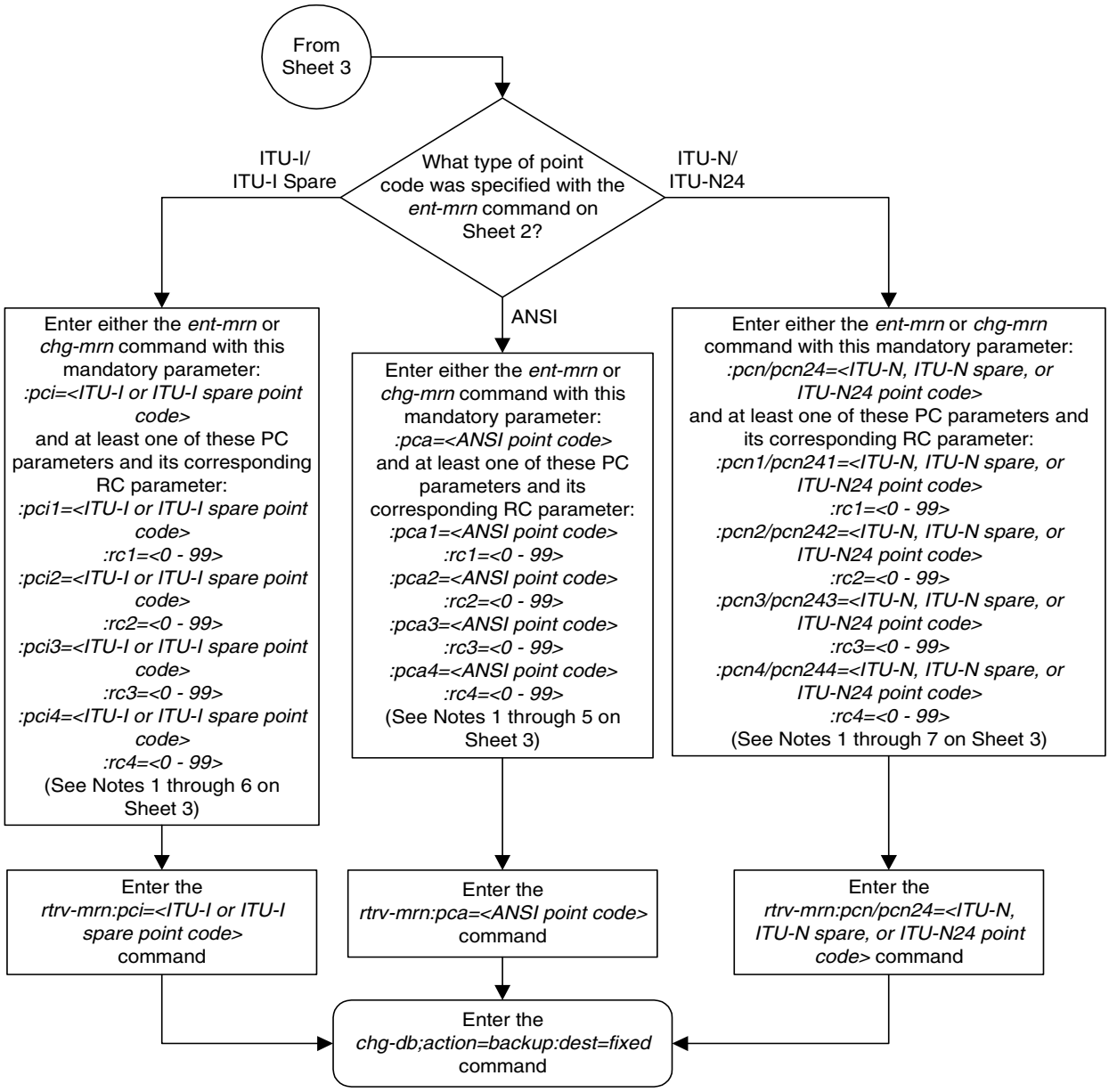
Flowchart 2-11. Provisioning an MRN Group (Sheet 3 of 4)



Notes:

1. To provision a dominant MRN group, the RC parameter values must be unique in the MRN group.
2. To provision a load shared MRN group, the RC parameter values must be equal.
3. To provision a dominant/load shared MRN group, at least one of the RCx values (RC1, RC2, RC3, or RC4) must be equal to the RC value. The other RCx values must be equal, but greater than the RC value.
4. The point codes specified in this procedure must have routes assigned to them, shown in the *rtrv-rte* command executed on Sheet 1, and cannot be in the Self ID table, shown in the *rtrv-sid* command executed on Sheet 1.
5. An MRN group can contain a maximum of 8 entries.
6. The point code type of the alternate point codes 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 alternate point codes must be 24-bit ITU-N point codes (*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 alternate point codes must be ITU-I 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.

Flowchart 2-11. Provisioning an MRN Group (Sheet 4 of 4)



Removing an MRN Group or MRN Group Entry

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: 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 SAS and for a definition of the different formats that can be used for ITU national point codes.

:all – Removes the entire MRN group containing the point code specified by the **:pc/pca/pci/pcn/pcn24** parameter.

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.

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 that 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, go to the *Commands Manual*.

Procedure

1. Display the mated relay nodes in the database using the **rtrv-mrn** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

   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
   006-001-008    90

   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
   008-001-007    80
   008-001-008    90
```

2. Remove the mated relay node from the mated relay node group using the **dlt-mrn** command with a point code from the **rtrv-mrn** command output shown in step 1. For this example, enter this command.

   dlt-mrn:pca=006-001-002

   This message should appear.

```
rlghncxa03w 06-03-07  11:48:16 GMT  EAGLE5 34.3.0
DLT-MRN:  MASP A - COMPLTD
```

   NOTE: If 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.

3. Verify the changes using the **rtrv-mrn** command with the point code specified in step 2. For this example, enter this command.

   rtrv-mrn:pca=006-001-002

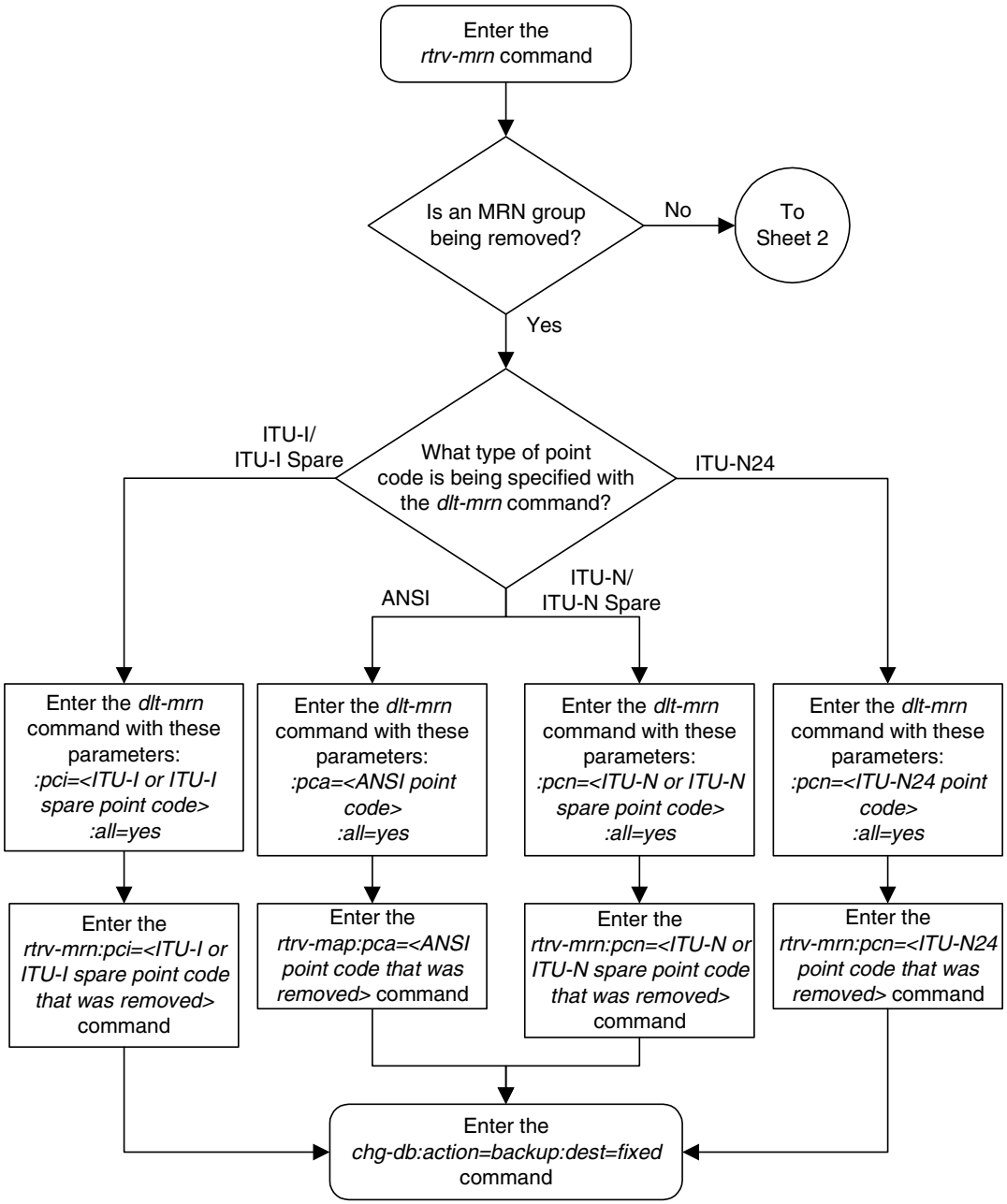
   This message should appear.

   E2849 Cmd Rej: Primary PC must already exist in the MRN table

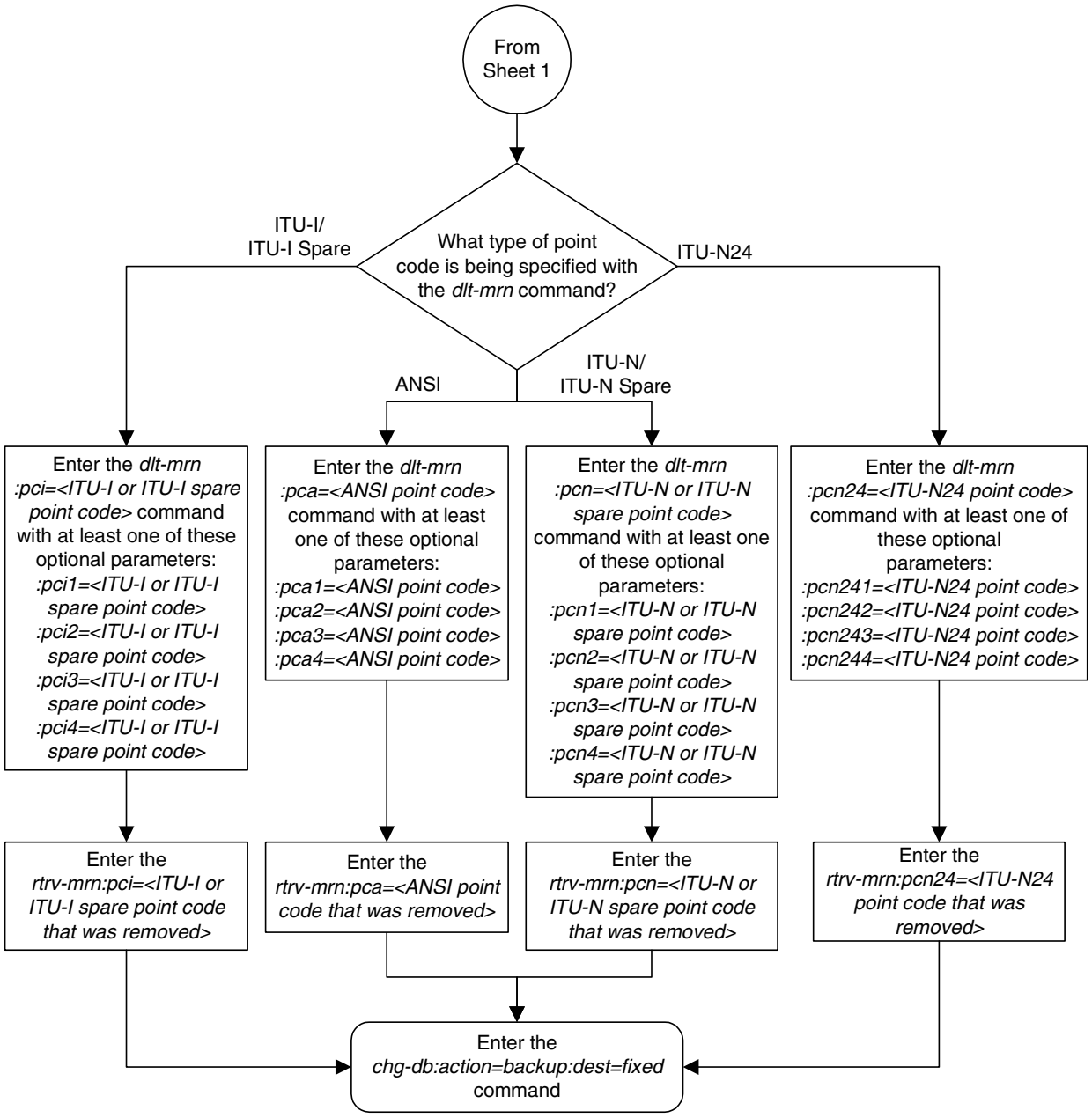
4. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

Flowchart 2-12. Removing an MRN Group or MRN Group Entry (Sheet 1 of 2)



Flowchart 2-12. Removing an MRN Group or MRN Group Entry (Sheet 2 of 2)



Changing an MRN Group

This procedure is used to change the point code or relative cost values in an existing Mated Relay Node (MRN) group, or to add point code entries to an existing MRN group using the **chg-mrn** command.

An MRN group contains alternate point codes, up to eight, that are used for load sharing between multiple nodes when the EAGLE 5 SAS 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: 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 SAS and for a definition of the different formats that can be used for ITU national point codes.

If an existing point code value is not being changed, a point code and **rc** values must be entered as a pair. For example, the **pc3** and **rc3** parameters must be specified together in the **chg-mrn** command.

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.

The point codes specified with the **chg-mrn** command can be in only one MRN group.

All the point codes in a dominant MRN group 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. 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 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 is a combination of the dominant and load sharing MRN groups. At least one of the point codes in this MRN group 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 group 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 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 group and shared between these point codes.

The point codes in the MRN group must be a full point code with a route assigned to it. Cluster point codes, network routing point codes, or the EAGLE 5 SAS's true point code cannot be specified in an MRN group. 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 SAS's true point code is shown in the **PCA**, **PCI**, **PCN**, or **PCN24** fields of the **rtrv-sid** command output.

The point code type of the alternate point codes 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 alternate point codes must be 24-bit ITU-N point codes (**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 alternate point codes must be ITU-I spare point codes.

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 that 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, go to the *Commands Manual*.

Procedure

1. Display the mated relay node groups in the database using the **rtrv-mrn** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

   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
   006-001-008    90

   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
```

NOTE: If only the relative cost value for an existing point code is being changed, skip steps 2 and 3, and go to step 4.

2. Display the EAGLE 5 SAS self-identification, using the **rtrv-sid** command.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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
```

3. Enter the **rtrv-rte** command with the **dpc** parameter specifying the point code to be used with the **chg-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=008-001-007

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   008-001-007 ---------- --------------   ls87       10    008-001-007
                                                     CLLI=l875clli
```

rtrv-rte:dpca=008-001-008

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   008-001-008 ---------- --------------   ls88       10    008-001-008
                                                     CLLI=ls88clli
```

rtrv-rte:dpca=008-001-009

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   DPCA           ALIASI     ALIASN/N24    LSN        RC    APCA
   008-001-009 ---------- --------------   ls89       10    008-001-009
                                                     CLLI=ls89clli
```

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.

4. Change the mated relay node group in the database using the **chg-mrn** command.

   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 3) and cannot be in the Self ID table (shown in step 2). The MRN group can contain a maximum of eight alternate point code entries. The alternate point code and its corresponding **rc** parameter must be specified together.

   The point code type of the alternate point codes 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 alternate point codes must be 24-bit ITU-N point codes (**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 alternate point codes must be ITU-I spare point codes.

   For this example, enter these commands.

   chg-mrn:pca=005-005-005:pca1=008-001-009:rc1=90

   chg-mrn:pca=007-007-007:pca1=008-001-007:rc1=80
   :pca2=008-001-008:rc2=90

   When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-07  11:44:13  GMT  EAGLE5 34.3.0
CHG-MRN:  MASP A - COMPLTD
```

5. Verify the changes using the **rtrv-mrn** command with the point code (**pca/pci/pcn** parameters) specified in step 4. For this example, enter this command.

   rtrv-mrn:pca=005-005-005

   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

   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
   008-001-009   90
```

rtrv-mrn:pca=007-007-007

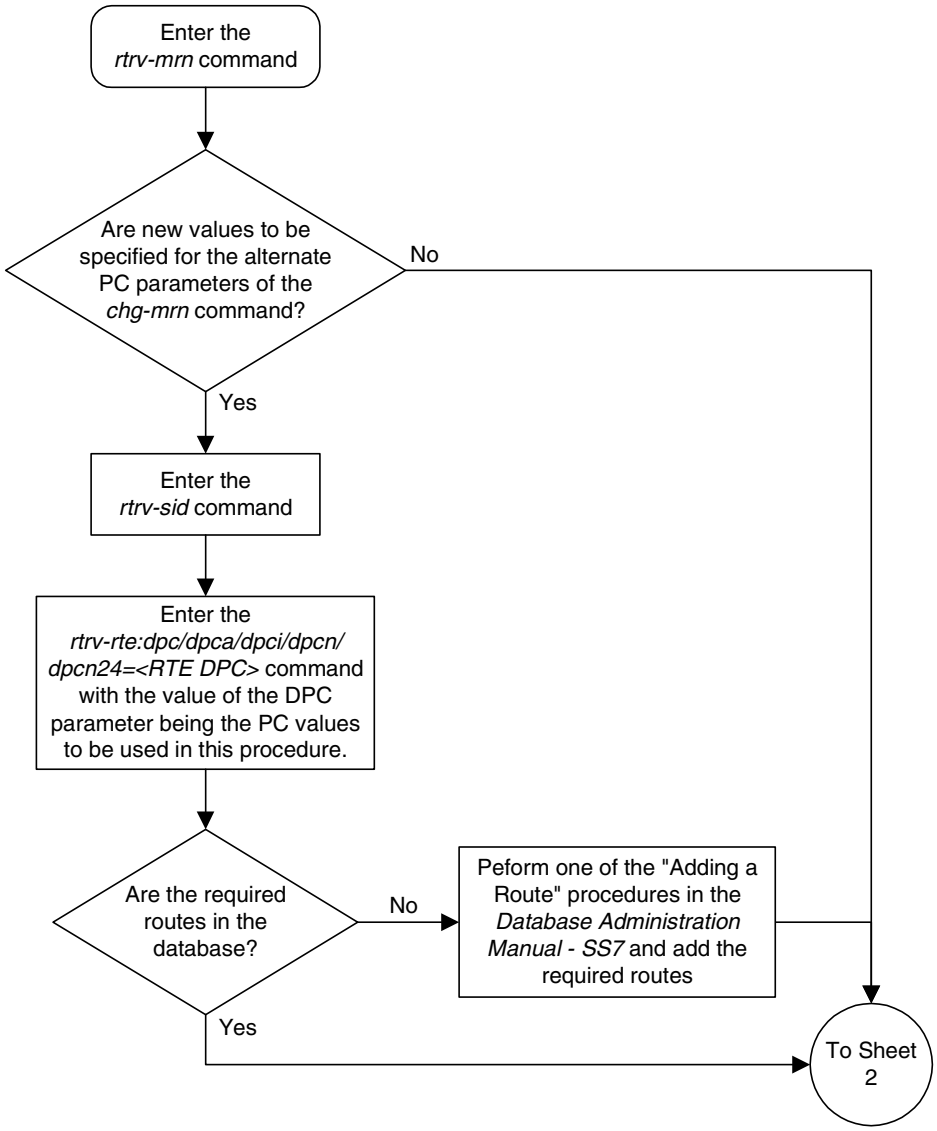
This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:34:31 GMT EAGLE5 34.3.0

   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
   008-001-007    80
   008-001-008    90
```

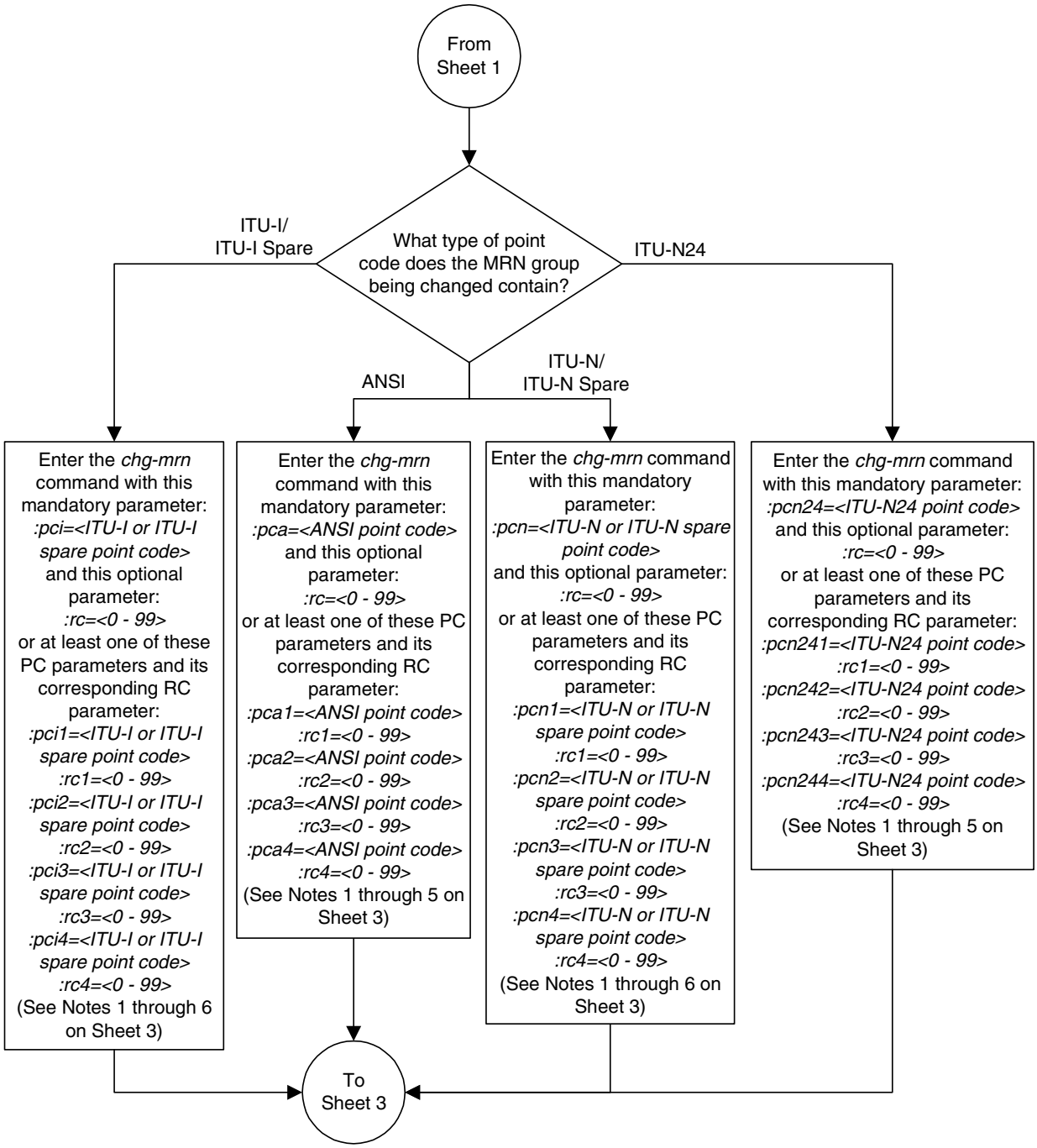
6. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

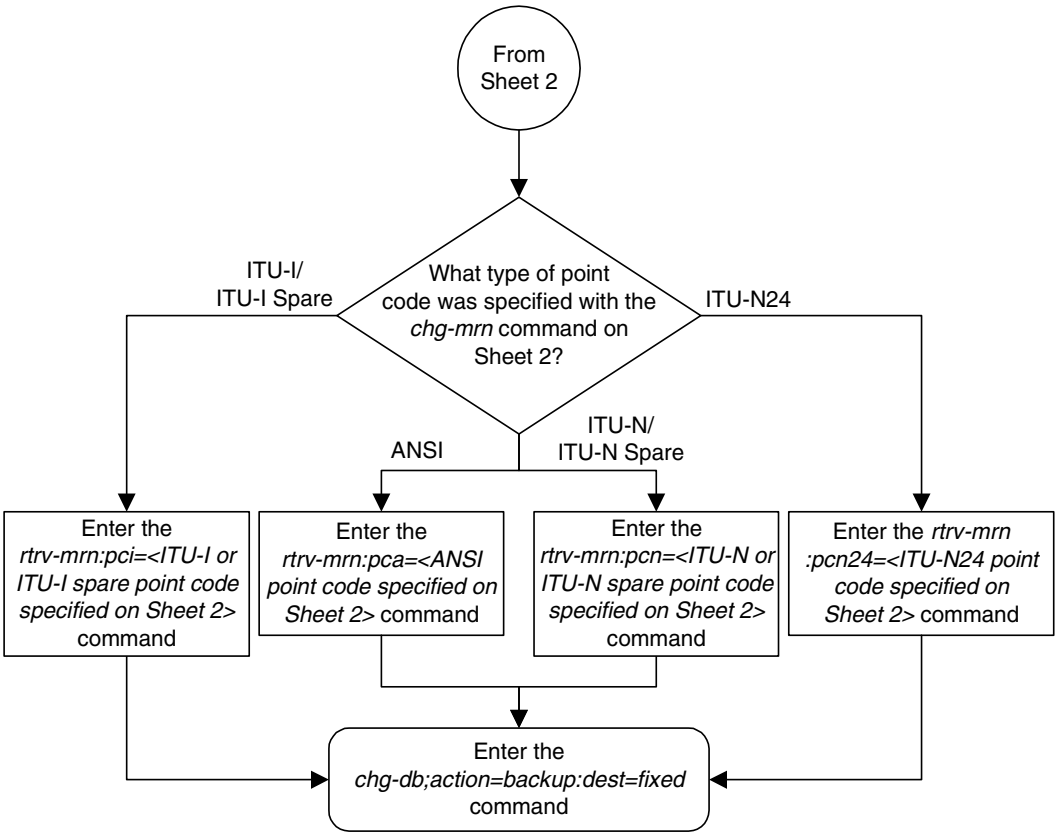
Flowchart 2-13. Changing an MRN Group (Sheet 1 of 3)



Flowchart 2-13. Changing an MRN Group (Sheet 2 of 3)



Flowchart 2-13. Changing an MRN Group (Sheet 3 of 3)



Notes:

1. If the alternate point code specified in the *chg-mrn* command is not in the group being changed, the point code and its corresponding RC value are added to the MRN group.
2. If the alternate point code is in the group being changed, then the RC value for that point code is changed.
3. If the RC value for the post GTT-Translated point code (PCA, PCI, PCN,or PCN24) is not being changed, the RC parameter does not need to be specified.
4. The point codes specified in this procedure must have routes assigned to them, shown in the *rtrv-rte* command executed on Sheet 1, and cannot be in the Self ID table, shown in the *rtrv-sid* command executed on Sheet 1.
5. An MRN group can contain a maximum of 8 entries.
6. The point code type of the alternate point codes 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 alternate point codes must be 24-bit ITU-N point codes (*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 alternate point codes must be ITU-I spare point codes.

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

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

: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" procedure on page A-36 to enabled 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 **itoa** 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 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.

Procedure

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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, go to the "Activating the ANSI-ITU-China SCCP Conversion Feature" procedure on page A-36 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 2-13.

Table 2-13. GT Conversion Parameter Combinations

DIR = ATOI		DIR = ITOA		DIR = BOTH	
GTIXLAT = 22 TTA = 0-255 or TTA = * TTI = 0-255	GTIXLAT = 24 TTA = 0-255 or TTA = * TTI = 0-255 NP = 0-15 NAI = 0-63	GTIXLAT = 22 TTA = 0-255 TTI = 0-255	GTIXLAT = 24 TTA = 0-255 TTI = 0-255 & NP = 0-15 & NAI = 0-63 or TTI = * & NP = * & NAI = *	GTIXLAT = 22 TTA = 0-255 TTI = 0-255	GTIXLAT = 24 TTA = 0-255 TTI = 0-255 NP = 0-15 NAI = 0-63
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=itoi:gtixlat=22:tta=23:tti=57:nsdd=3:nsds=800
ent-gtcnv:dir=itoi:gtixlat=24:tta=33:tti=66:np=3:nai=33
ent-gtcnv:dir=itoi: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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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.

   - **gtixlat=22**
     - **dir** = value specified in step 3
     - **tta** = value specified in step 3
     - **tti** = value specified in step 3
   - **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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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=itoi:gtixlat=22:tta=23:tti=57:nsdd=3:nsds=800

   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itoi    22     23   57   --- ---  3    sfx  800

GTCNV table is (15 of 1000) 1% full
```

   rtrv-gtcnv:dir=itoi:gtixlat=24:tta=33:tti=66:np=3:nai=33

   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itoi    24     33   66   3   33   ---  ---  ---

GTCNV table is (15 of 1000) 1% full
```

rtrv-gtcnv:dir=itoi:gtixlat=24:tta=44:tti=*:np=*:nai=*

This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itoi    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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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

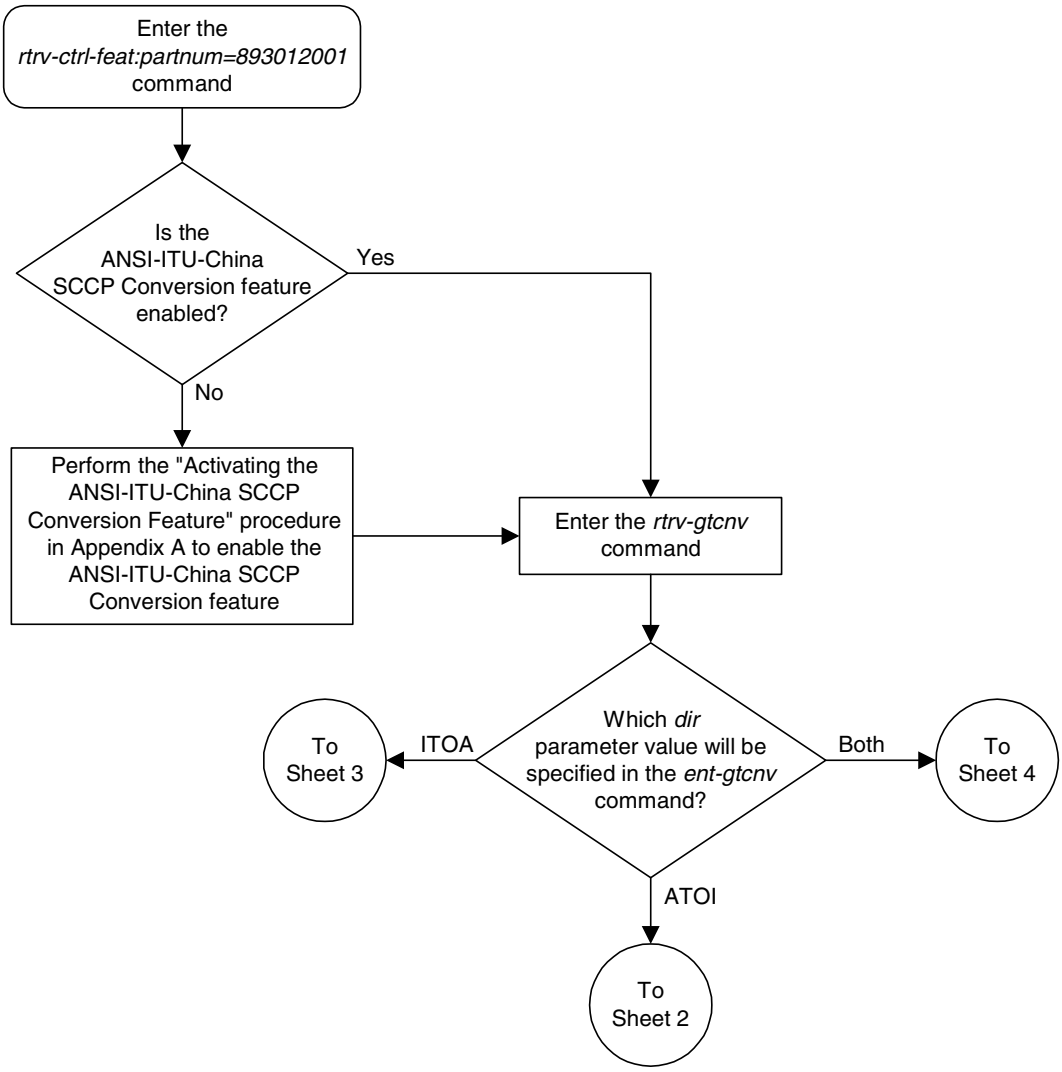
This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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
```

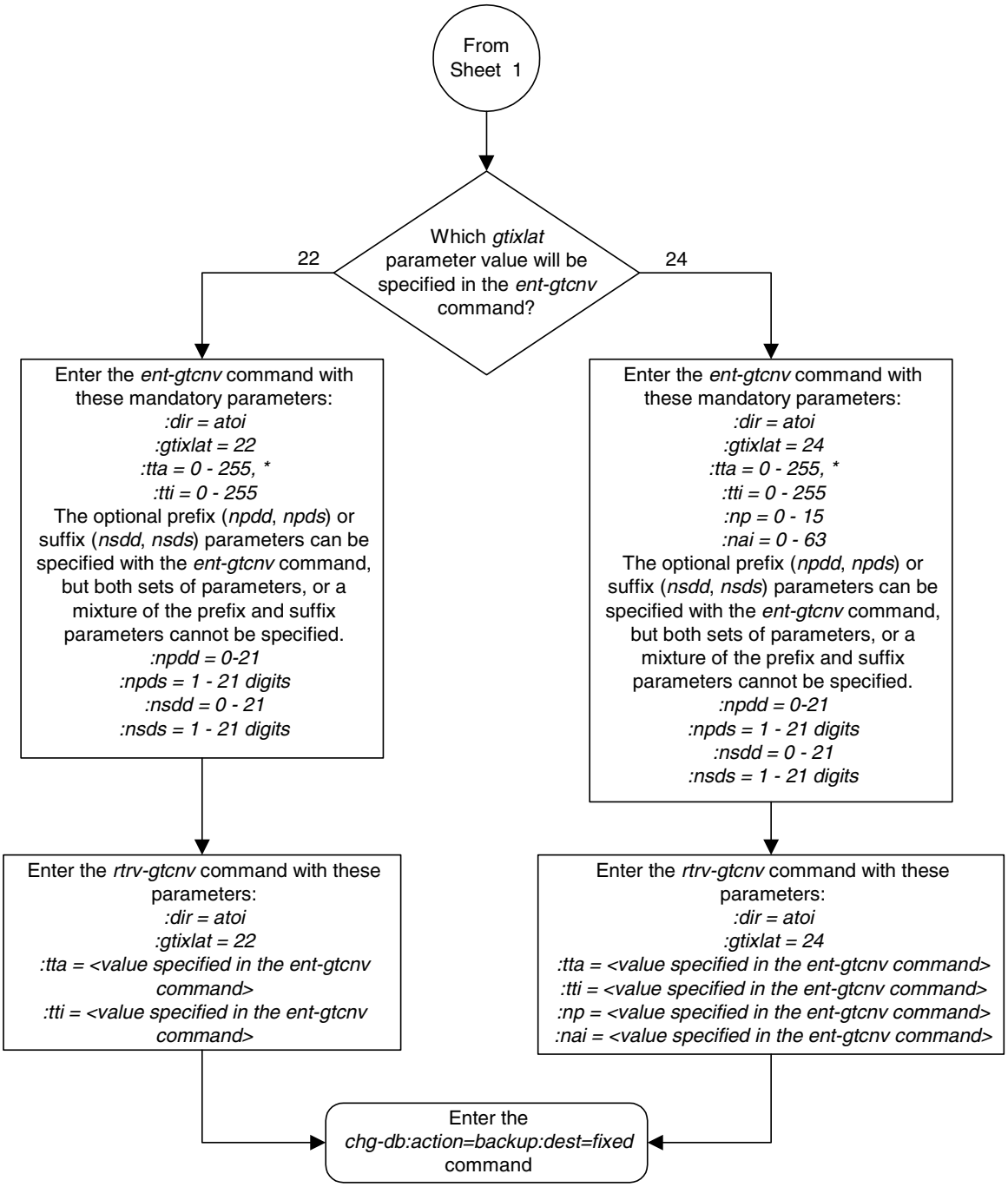
5. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

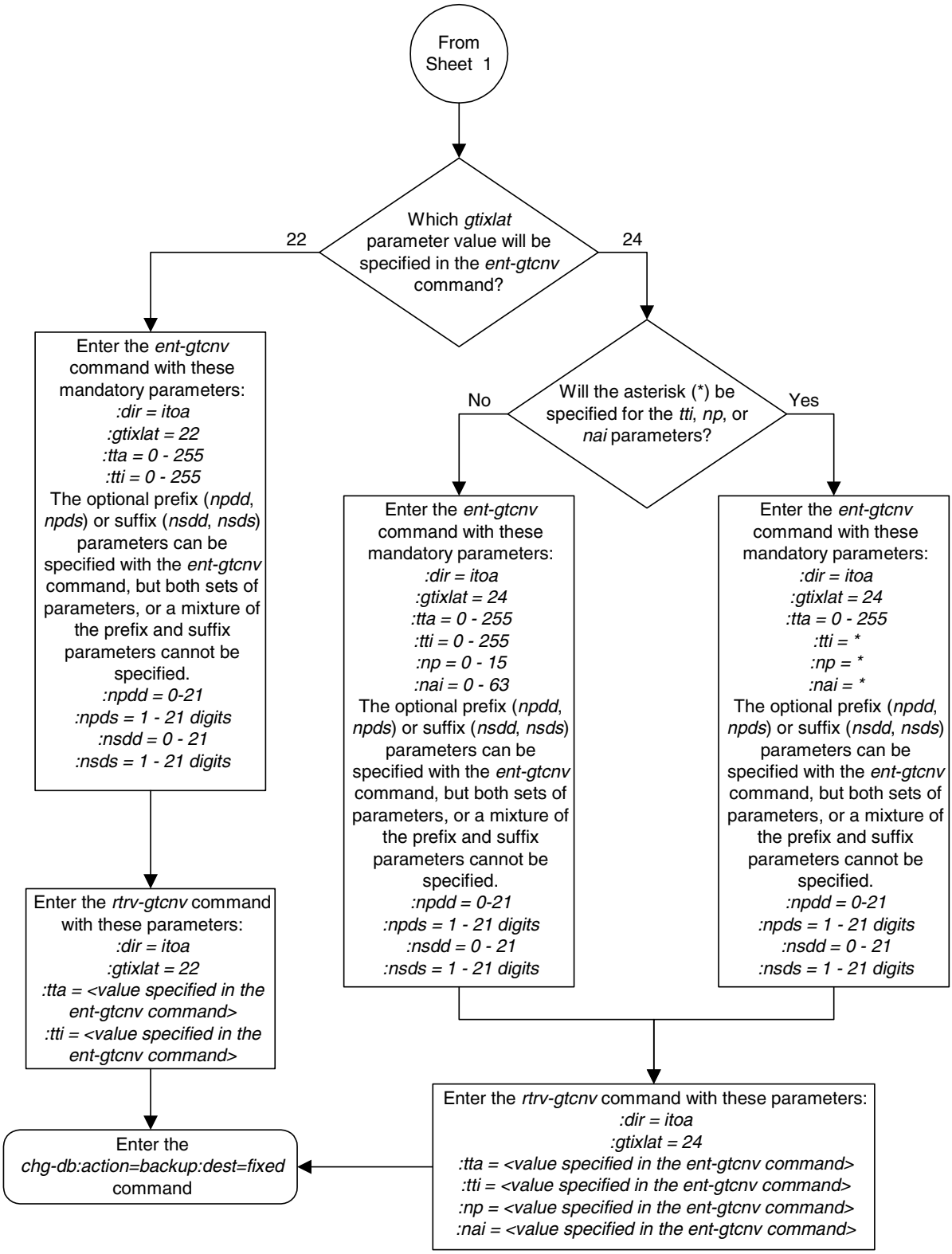
Flowchart 2-14. Adding a GT Conversion Table Entry (Sheet 1 of 4)



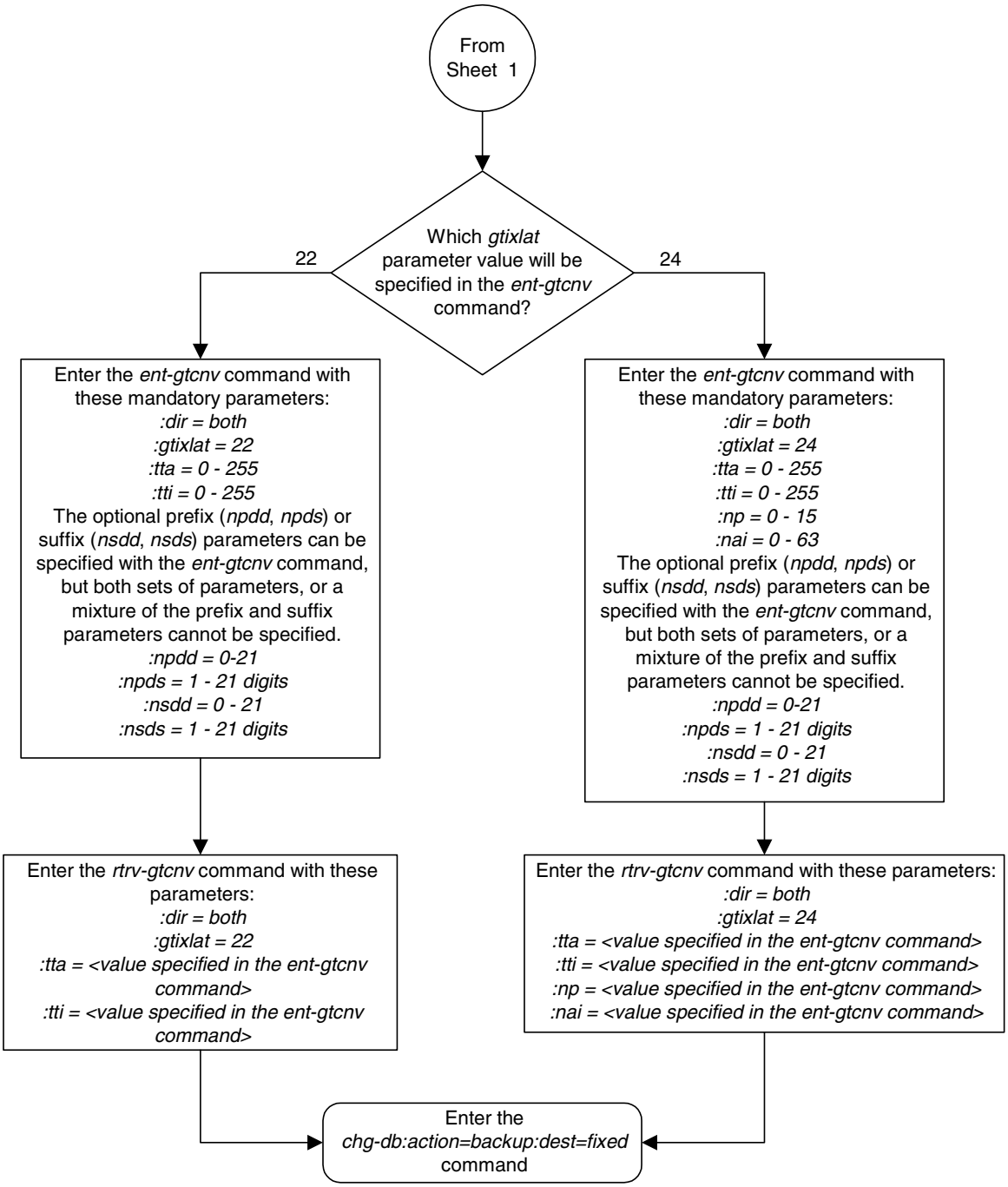
Flowchart 2-14. Adding a GT Conversion Table Entry (Sheet 2 of 4)



Flowchart 2-14. Adding a GT Conversion Table Entry (Sheet 3 of 4)



Flowchart 2-14. Adding a GT Conversion Table Entry (Sheet 4 of 4)



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 **itoa** and the **gtixlat** parameter is **22**, only the **dir=itoa** and **tti** parameter can be and must be specified with the **dlt-gtcnv** command.
- If the **dir** parameter is **itoa** and the **gtixlat** parameter is **24**, only the **dir=itoa**, **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.

Procedure

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi    24     *    29   4   87   ---  ---  ---
atoi    22     10   43   --- ---  3    pfx  919
itoi    22     23   57   --- ---  3    sfx  800
atoi    22     24   12   --- ---  ---  ---  ---
both    22     26   13   --- ---  ---  ---  ---
itoa    22     2    5    --- ---  ---  ---  ---
itoi    24     33   66   3   33   ---  ---  ---
both    24     37   59   3   33   3    pfx  423
itoa    24     3    6    4   8    ---  ---  ---
itoi    24     44   *    *   *    ---  ---  ---
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
```

If no entries are shown in the **rtrv-gtcnv** output, this procedure cannot be performed.

3. 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 2.

   - **dir=atoi**, **tta**
   - **dir-itoa**, **gtixlat=22**, **tti**
   - **dir=itoa**, **gtixlat=24**, **tti**, **np**, **nai**
   - **dir=both**, **gtixlat=22**, **tta**, **tti**
   - **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=itoi:tta=33:tti=66:np=3:nai=33
   dlt-gtcnv:dir=itoi: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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   DLT-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 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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=itoi:gtixlat=24:tta=33:tti=66:np=3:nai=33

   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itoi    24     33   66   3   33   ---  ---  ---

GTCNV table is (11 of 1000) 1% full
```

   rtrv-gtcnv:dir=itoi:gtixlat=24:tta=44:tti=*:np=*:nai=*

   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itoi    24     44   *    *   *    ---  ---  ---

GTCNV table is (11 of 1000) 1% full
```

   rtrv-gtcnv:dir=both:gtixlat=22:tta=26:tti=13

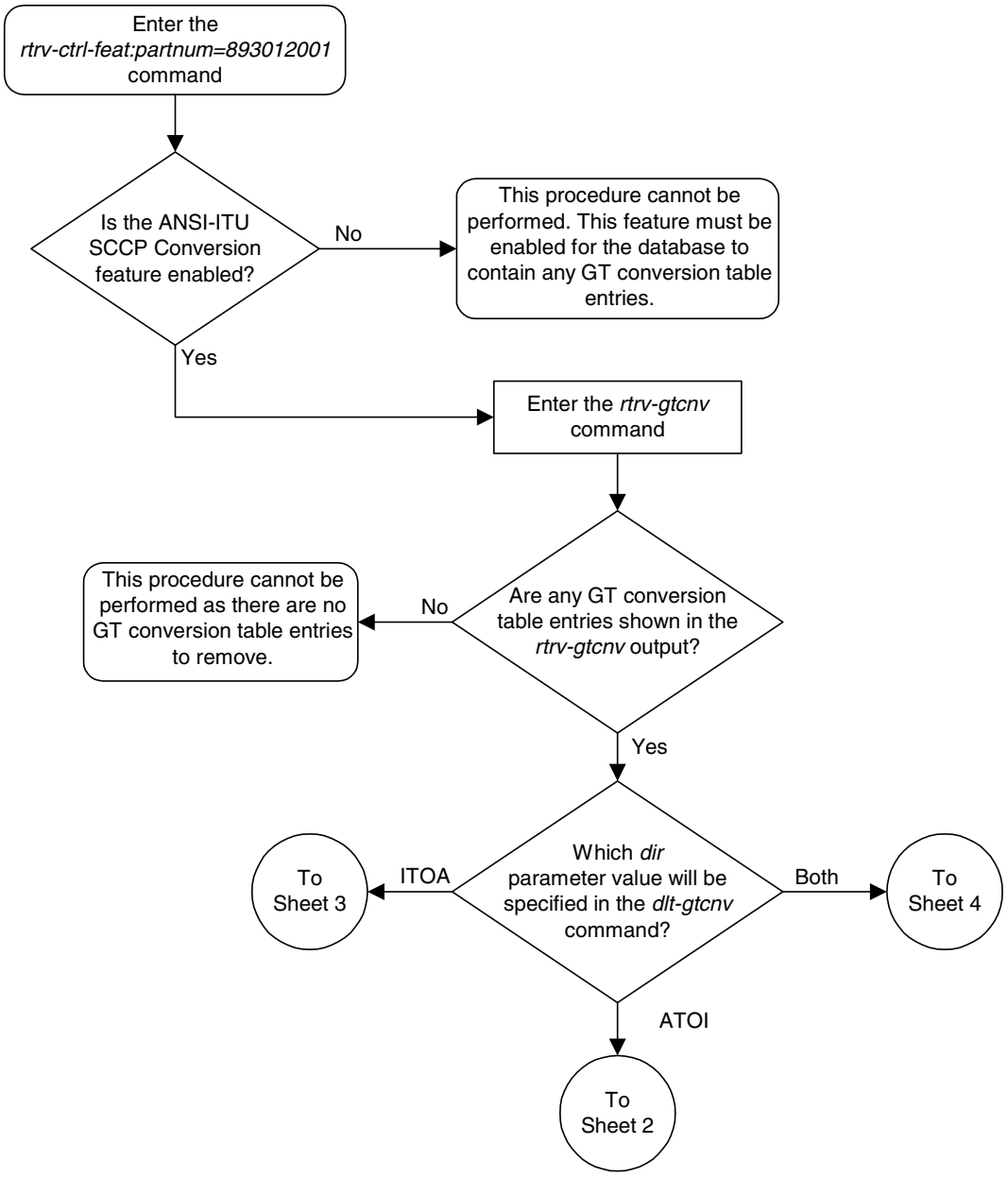
   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
both    22     26   13   --- ---  ---  ---  ---

GTCNV table is (11 of 1000) 1% full
```

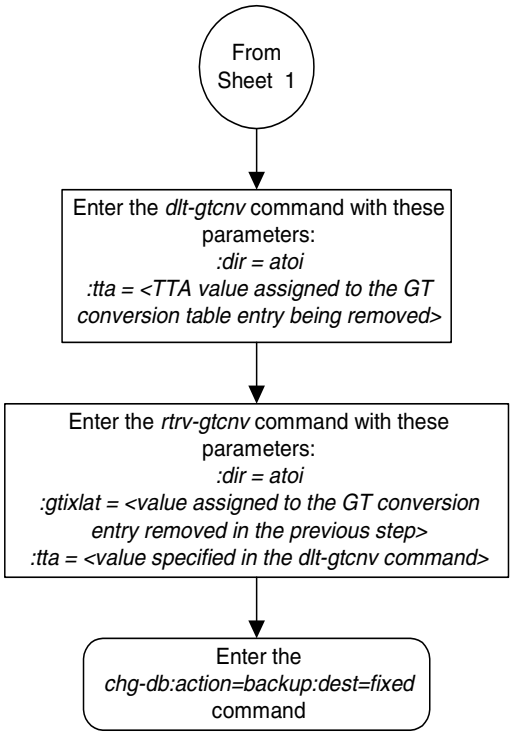
5. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

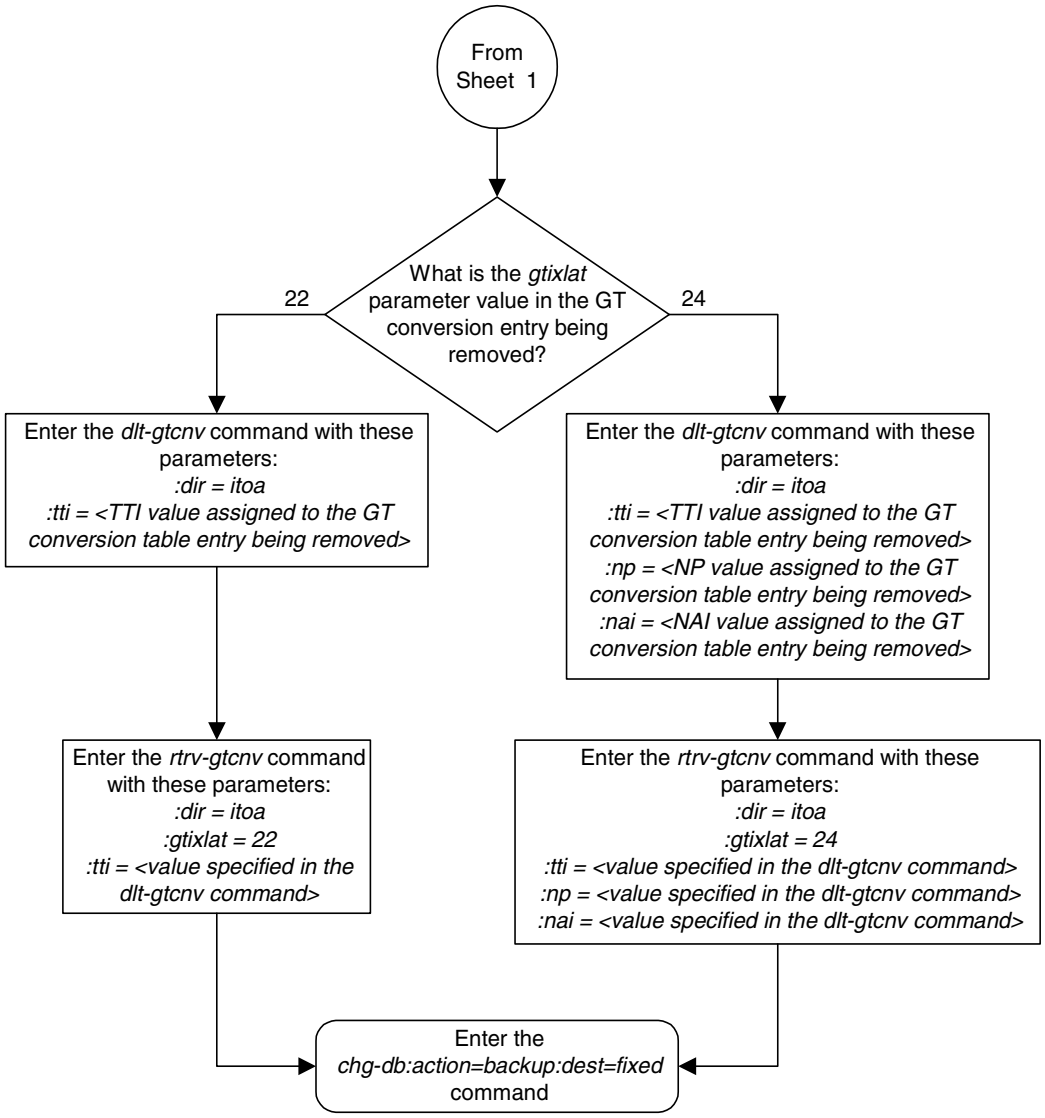
Flowchart 2-15. Removing a GT Conversion Table Entry (Sheet 1 of 4)



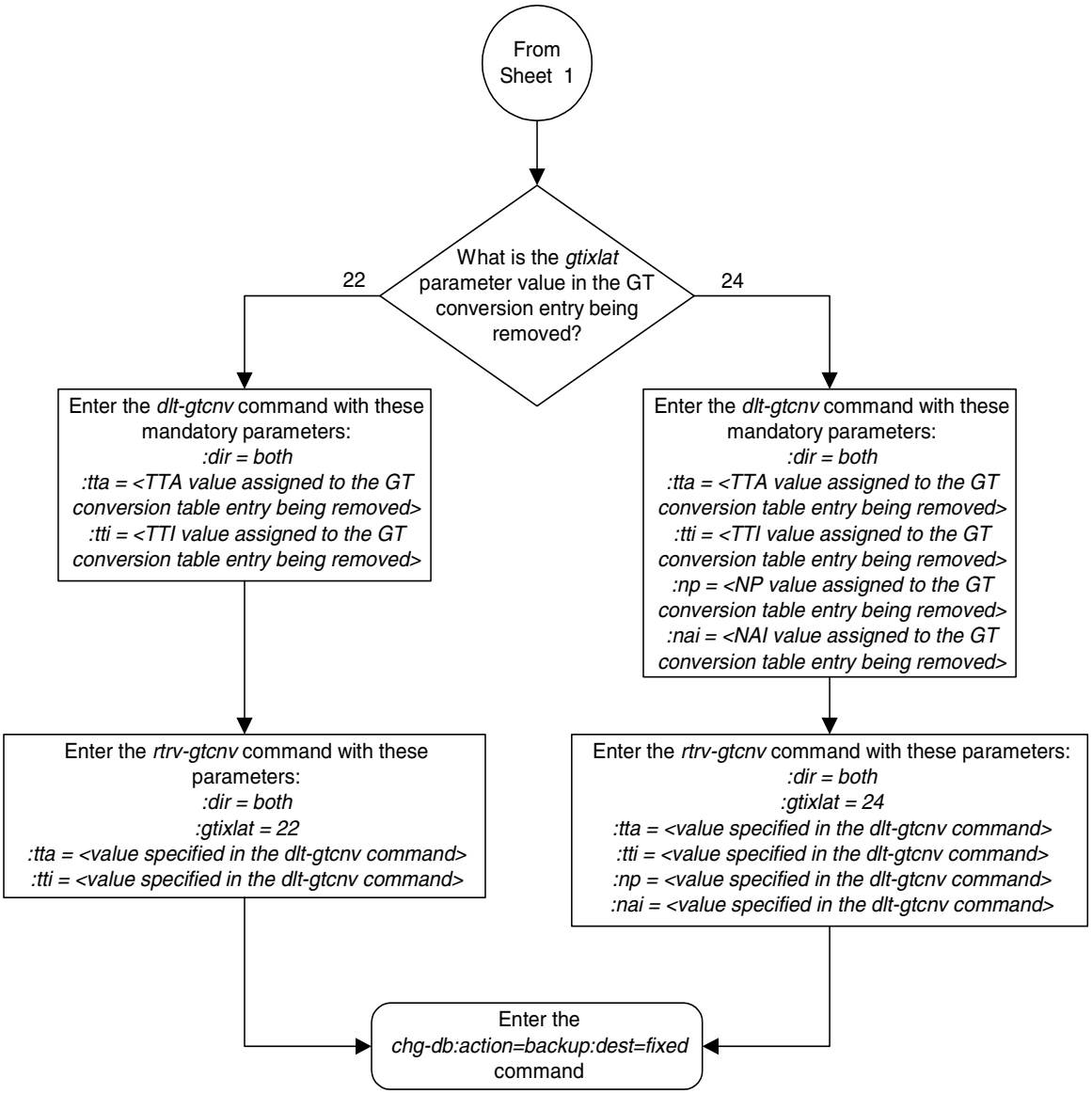
Flowchart 2-15. Removing a GT Conversion Table Entry (Sheet 2 of 4)



Flowchart 2-15. Removing a GT Conversion Table Entry (Sheet 3 of 4)



Flowchart 2-15. Removing a GT Conversion Table Entry (Sheet 4 of 4)



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

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

: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**, **tti**, **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 **tti**, **npdd**, **npds**, **nsdd**, **nsds**, and **rdmod** can be specified with the **chg-gtcnv** command. If the **gtixlat** parameter is **24**, the optional

parameters **tti**, **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 **tti** 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 **tti**, **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 **tti** 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**, **tti**, **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.

Procedure

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi    24     *    29   4   87   ---  ---  ---
atoi    22     10   43   --- ---  3    pfx  919
itoi    22     23   57   --- ---  3    sfx  800
atoi    22     24   12   --- ---  ---  ---  ---
both    22     26   13   --- ---  ---  ---  ---
itoa    22     2    5    --- ---  ---  ---  ---
itoi    24     33   66   3   33   ---  ---  ---
both    24     37   59   3   33   3    pfx  423
itoa    24     3    6    4   8    ---  ---  ---
itoi    24     44   *    *   *    ---  ---  ---
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 (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 **tta=<0-255>** can be specified with the **chg-gtcnv** command.
   - **dir=itoa**, **gtixlat=24**, **tti**, **np**, **nai**. The optional parameter **tta=<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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
atoi    22     10   43   --- ---  ---  ---  ---

GTCNV table is (11 of 1000) 1% full
```

   rtrv-gtcnv:dir=itoi:gtixlat=24:tti=7

   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itoa    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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
both    24     37   59   3   33   ---  ---  ---
GTCNV table is (11 of 1000) 1% full
```

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.

5. Change the desired GT Conversion Table entry by entering the **chg-gtcnv** command 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.

Table 2-14. GT Conversion Parameter Combinations

GTIXLAT=22			GTIXLAT=24		
DIR = ATOI	**DIR = ITOA**	**DIR = BOTH**	**DIR = ATOI**	**DIR = ITOA**	**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>
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

Notes:

1. The **gtixlat** parameter cannot be specified with the **chg-gtcnv** command, but is used to determine the parameter combinations that can be specified with the **chg-gtcnv** command.
2. If the GT Conversion Table entry contains no prefix (**npdd**, **npds**) or suffix (**nsdd**, **nsds**) parameter values, the prefix or suffix parameters can be specified with the **chg-gtcnv** 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 **chg-gtcnv** command.
4. If the GT Conversion Table entry contains suffix parameter values, the prefix parameters cannot be specified with the **chg-gtcnv** command.

For this example, enter these commands.

```
chg-gtcnv:dir=atoi:tta=10:tti=35:nsdd=3:nsds=818
```

```
chg-gtcnv:dir=itoi: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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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=itoi:gtixlat=24:tti=7

   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
DIR   GTIXLAT  TTA  TTI  NP  NAI  DEL  POS  ADD
itoa    24     40   7    4   8    3    pfx  202

GTCNV table is (11 of 1000) 1% full
```

   rtrv-gtcnv:dir=both:gtixlat=24:tta=8:tti=9

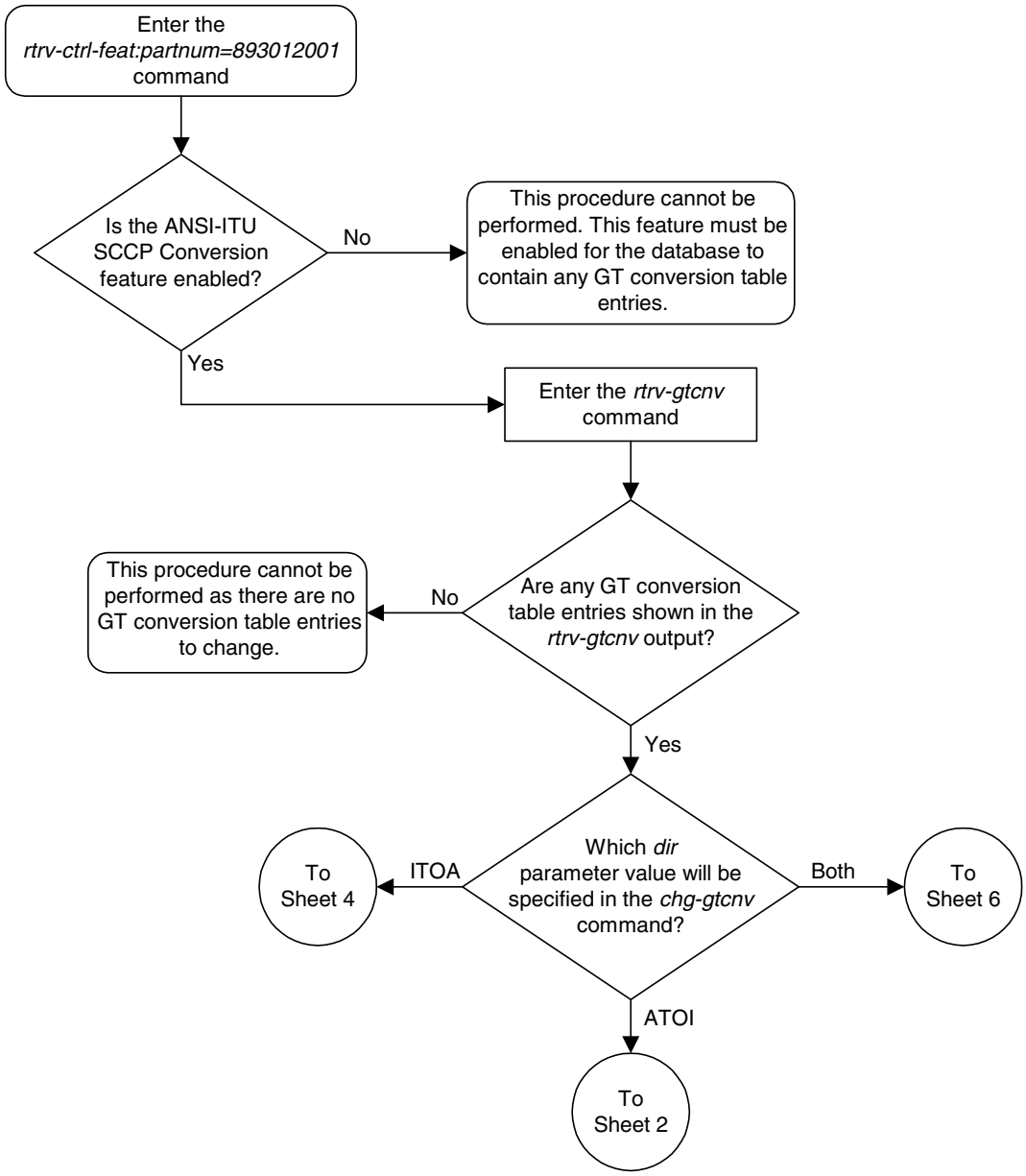
   This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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
```

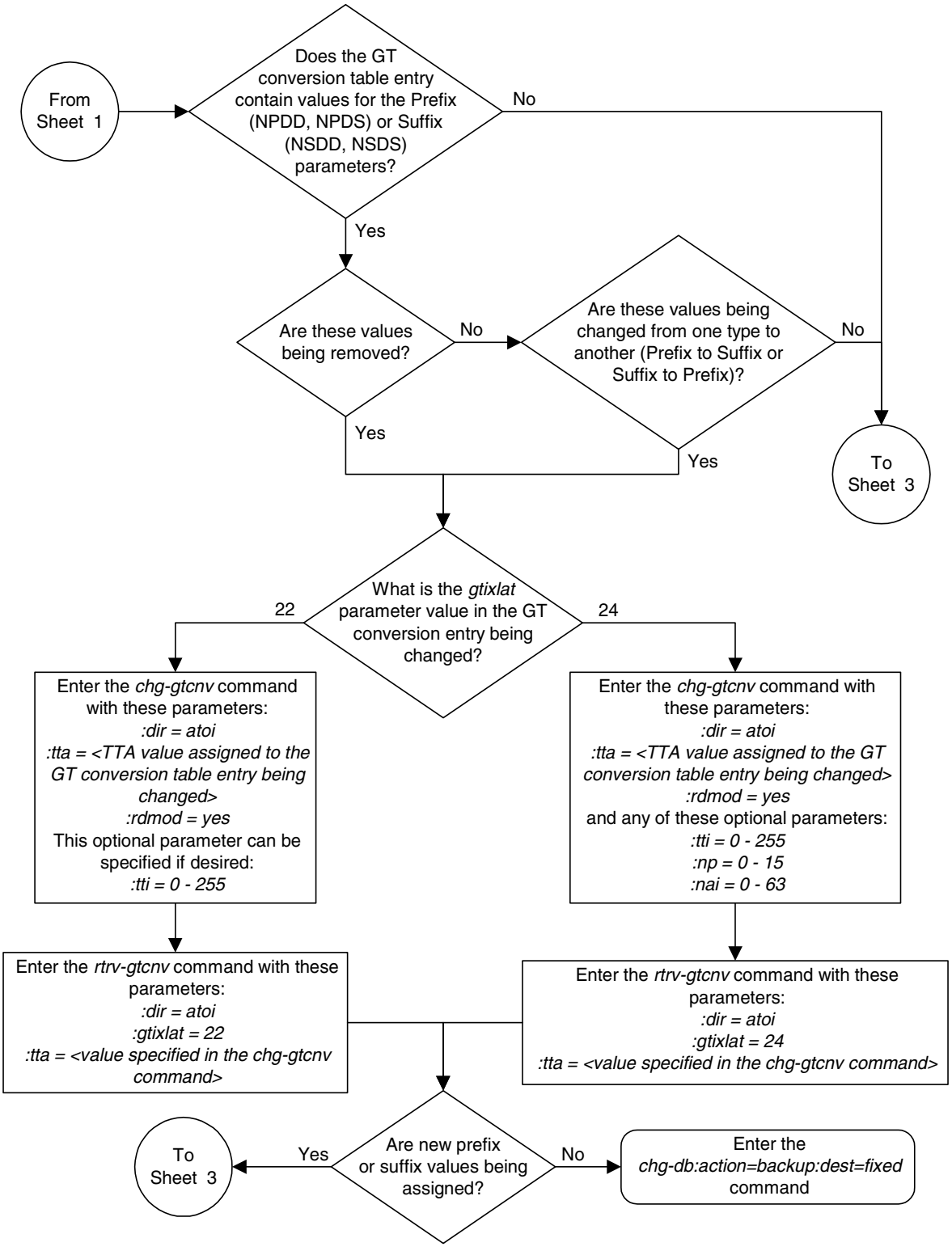
7. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

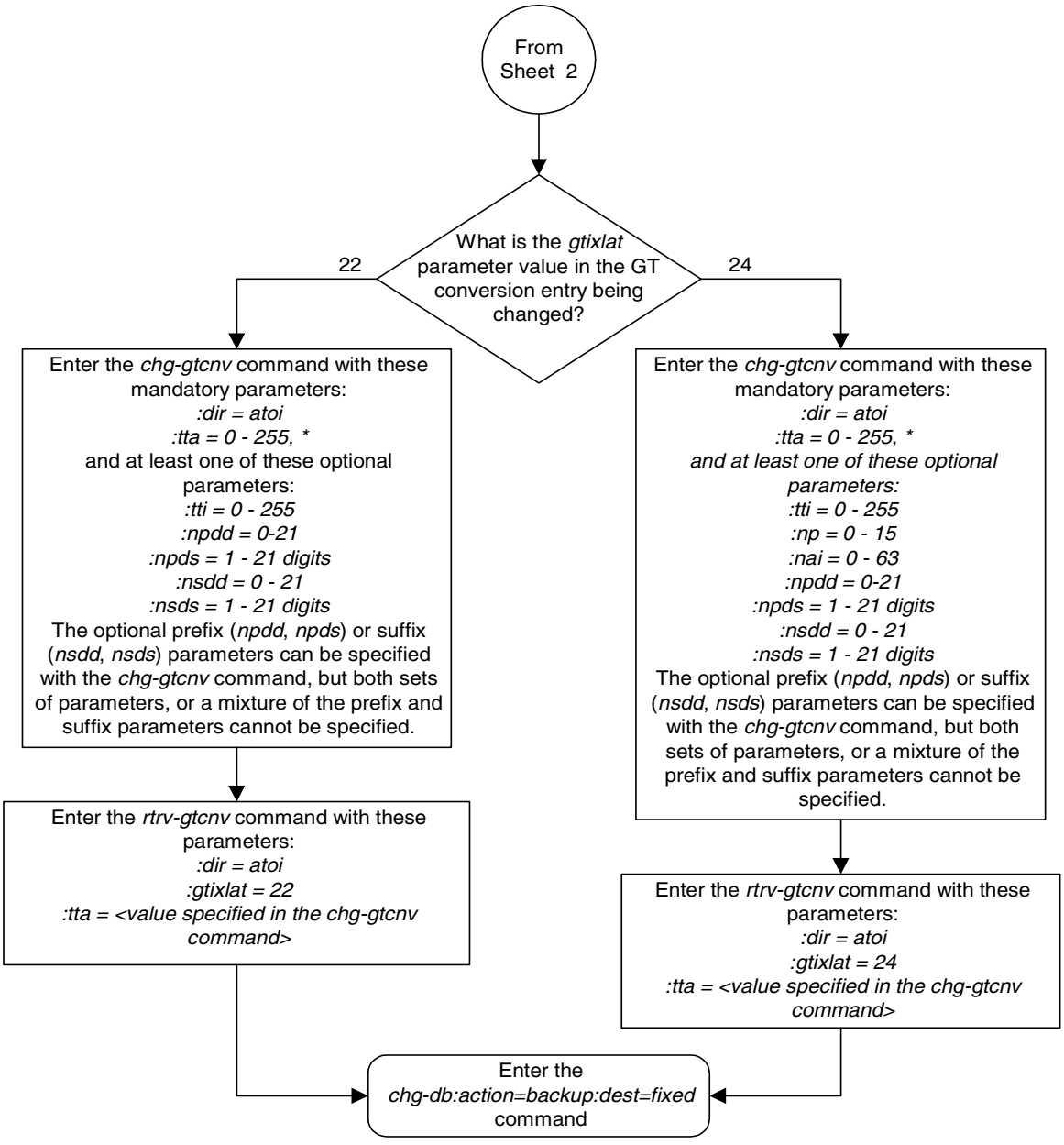
Flowchart 2-16. Changing a GT Conversion Table Entry (Sheet 1 of 7)



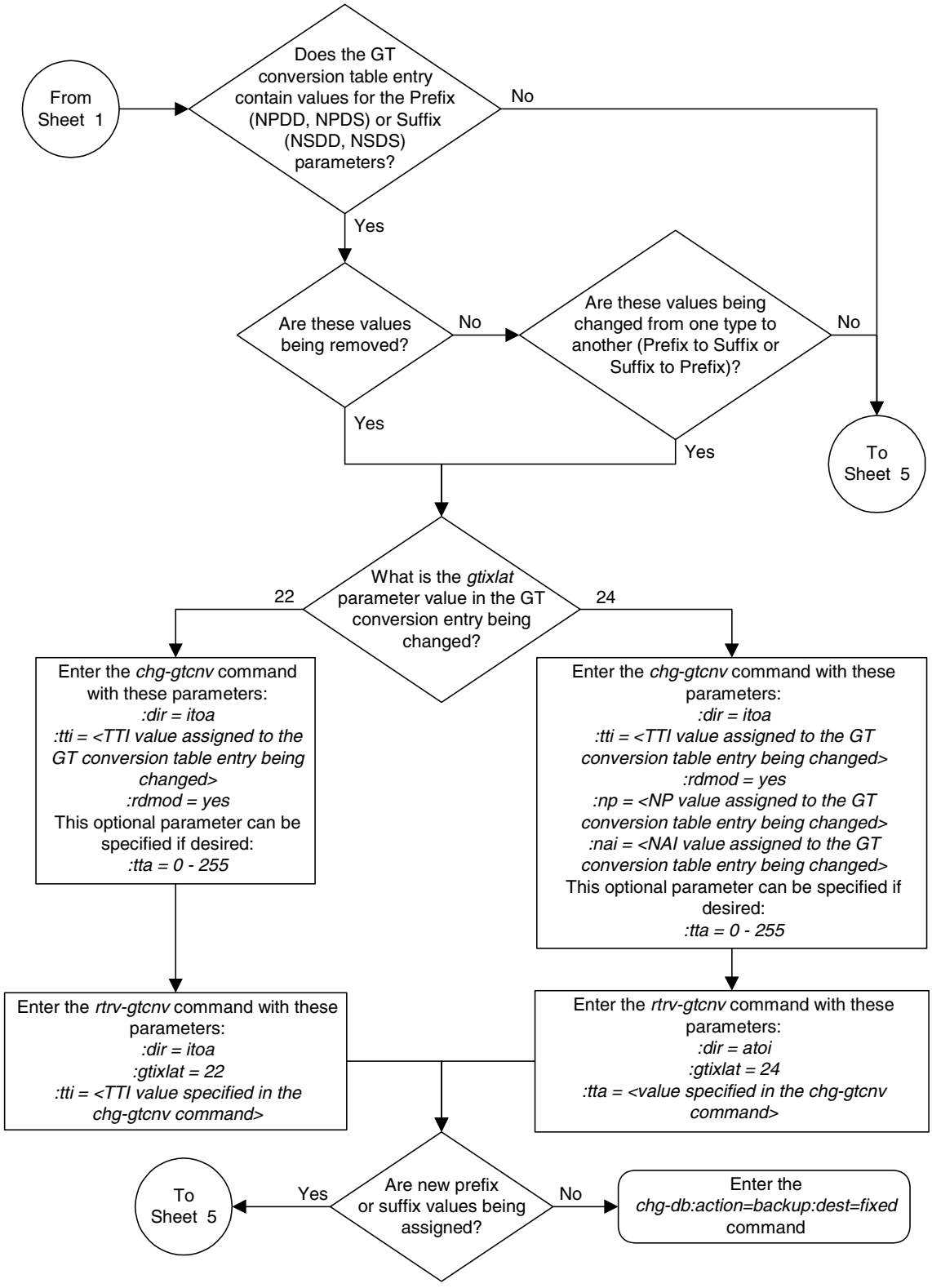
Flowchart 2-16. Changing a GT Conversion Table Entry (Sheet 2 of 7)



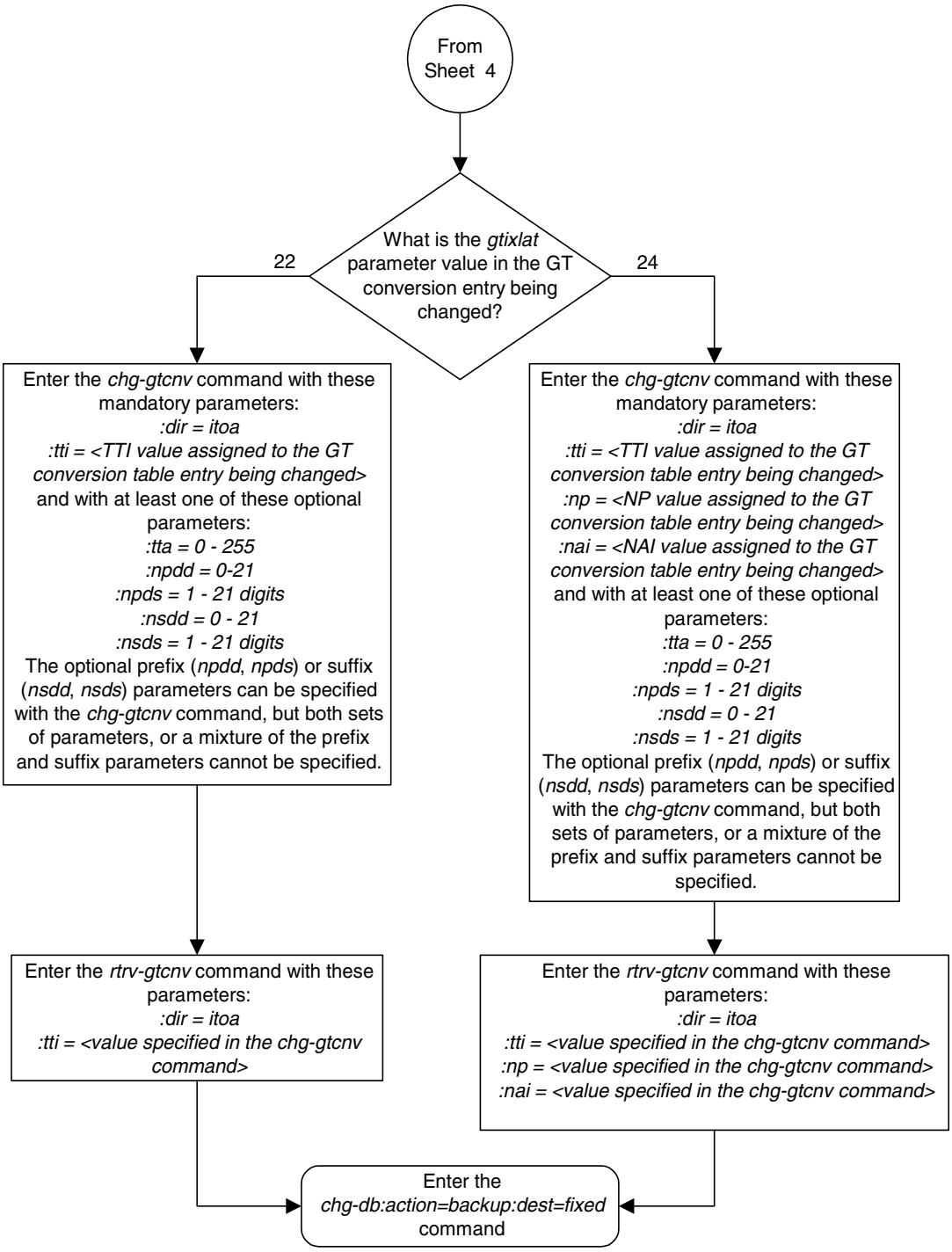
Flowchart 2-16. Changing a GT Conversion Table Entry (Sheet 3 of 7)



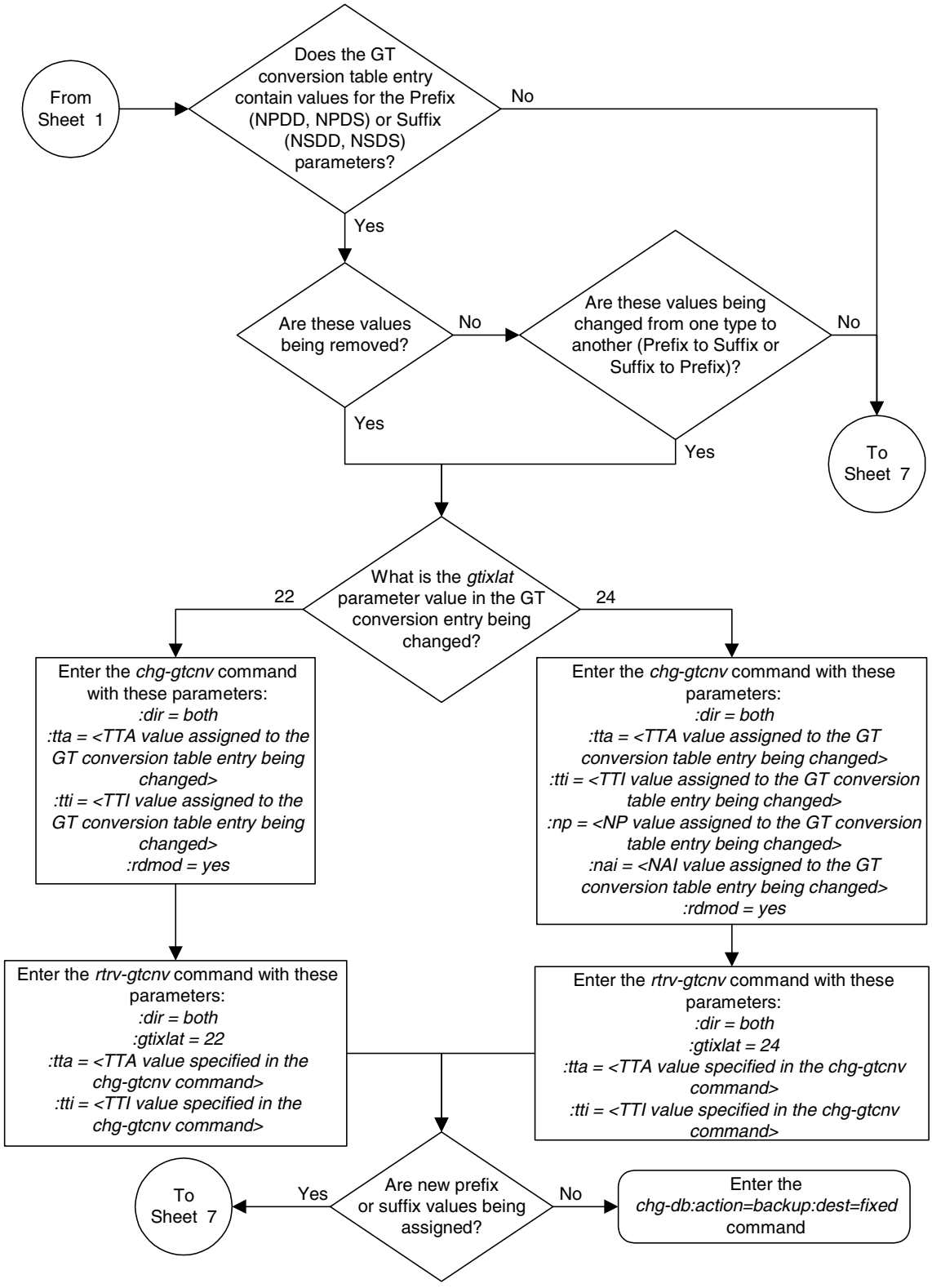
Flowchart 2-16. Changing a GT Conversion Table Entry (Sheet 4 of 7)



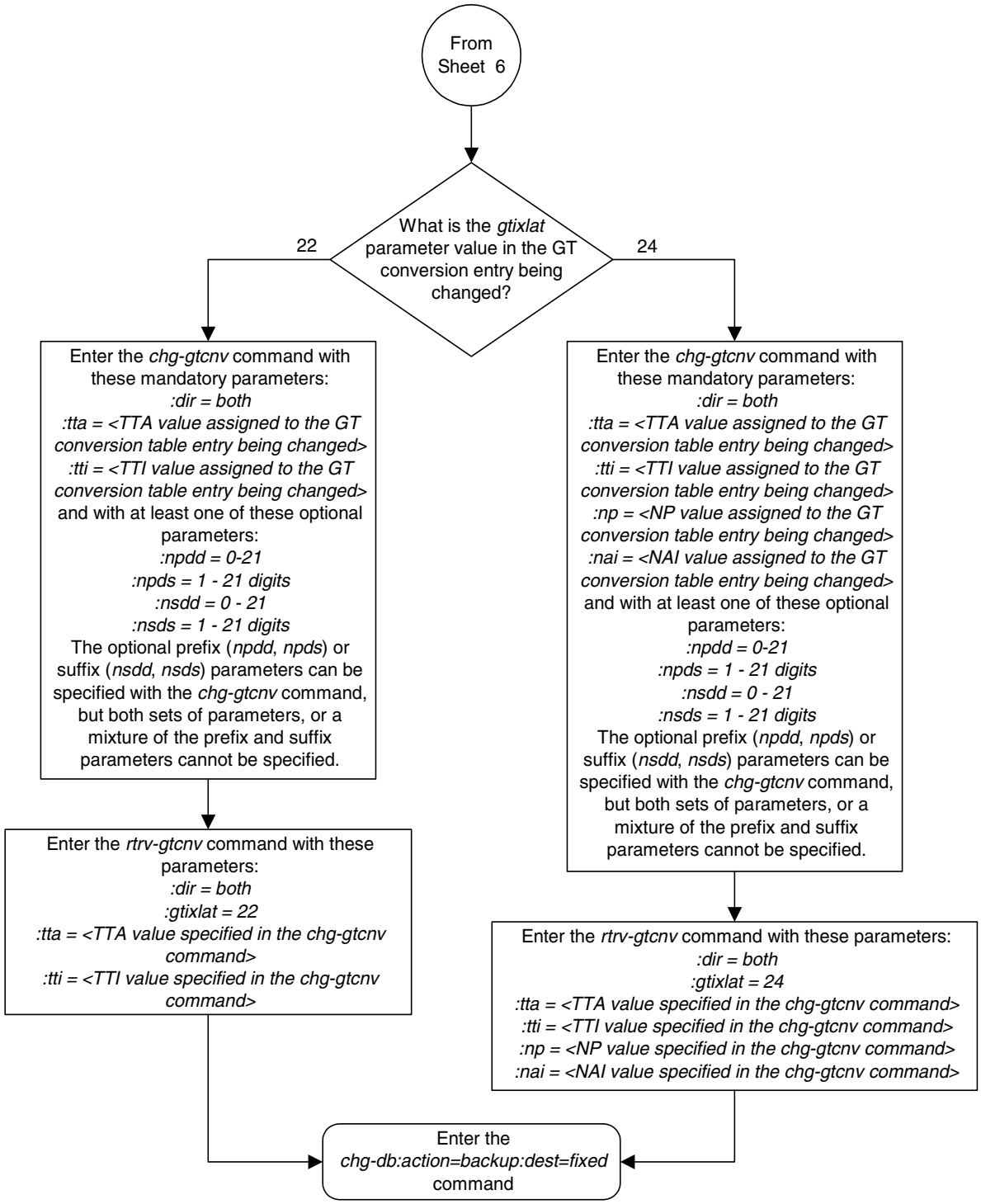
Flowchart 2-16. Changing a GT Conversion Table Entry (Sheet 5 of 7)



Flowchart 2-16. Changing a GT Conversion Table Entry (Sheet 6 of 7)



Flowchart 2-16. Changing a GT Conversion Table Entry (Sheet 7 of 7)



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.

:**gtcnvdflt** – 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" procedure on page A-36 to enabled the ANSI-ITU-China SCCP Conversion feature.

NOTE: The ANSI-ITU-China SCCP Conversion feature can only be permanently enabled.

Procedure

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 06-03-17 16:02:05 GMT  EAGLE5 34.3.0
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, see 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" procedure on page A-36 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:gtcnvdflt=yes
```

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

```
rlghncxa03w 06-03-07 00:22:57 GMT  EAGLE5 34.3.0
CHG-STPOPTS: MASP A - COMPLTD
```

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

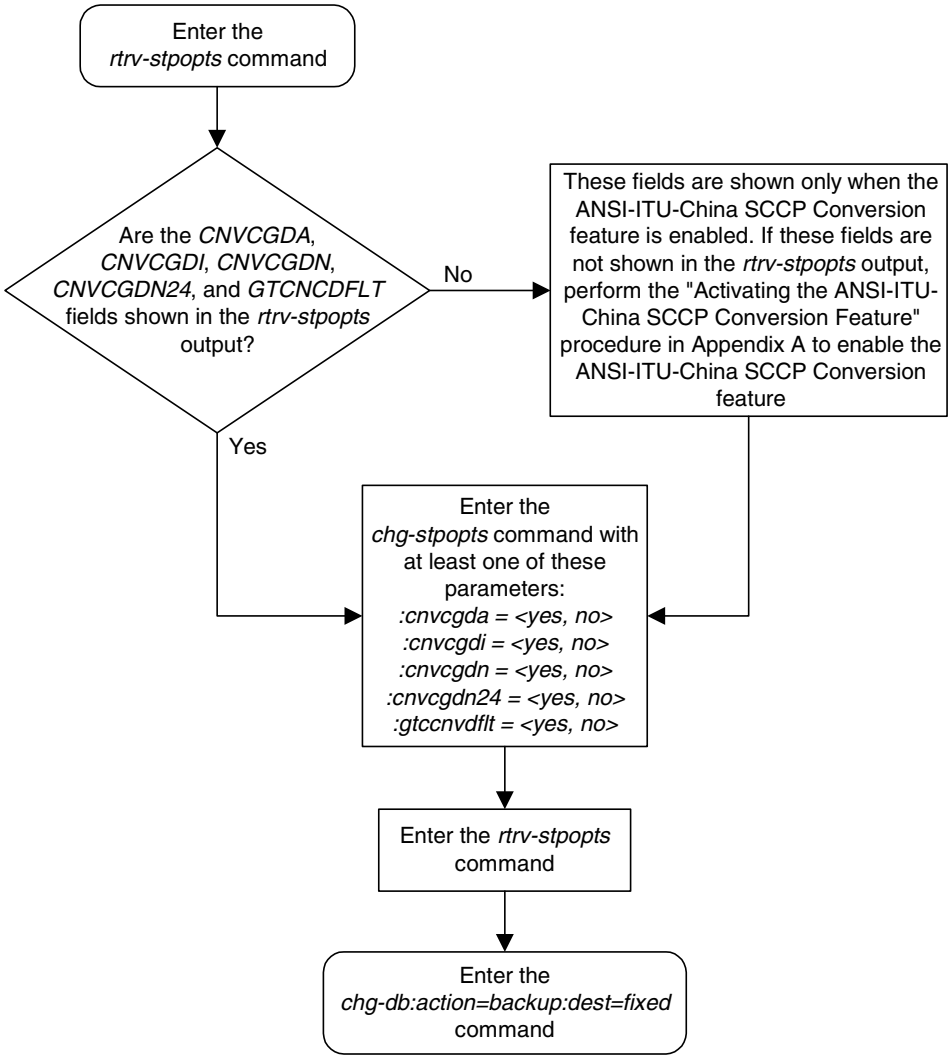
```
rlghncxa03w 06-03-17 16:02:05 GMT  EAGLE5 34.3.0
STP OPTIONS
----------------------
CNVCGDA             no
CNVCGDI            yes
CNVCGDN             no
CNVCGDN24           no
GTCNVDFLT          yes
```

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, see 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.
```

Flowchart 2-17. 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 SAS. 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.

Procedure

1. Display the existing value for the **class1seq** parameter by entering the **rtrv-sccpopts** command. This is an example of the possible output.

```
rlghncxa03w 04-10-17 16:02:05 GMT  EAGLE5 31.6.3

SCCP OPTIONS
---------------------------
CLASS1SEQ               off
```

NOTE: If the class1seq parameter value in step 1 is on, skip step 2 and 3, and go to step 4.

2. Verify the value of the **randsls** parameter of the **chg-stpopts** command by entering the **rtrv-stpopts** command.

   This is an example of the possible output.

```
rlghncxa03w 04-10-17 16:02:05 GMT  EAGLE5 31.6.3
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, see 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 SAS.

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.

---

3. Change the **randsls** parameter value to either **off** or **class0**. See the "Configuring the EAGLE 5 SAS 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.

   chg-stpopts:randsls=class0

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

   ```
   rlghncxa03w 04-10-07 00:22:57 GMT  EAGLE5 31.6.3
   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 04-10-07 00:22:57 GMT  EAGLE5 31.6.3
   CHG-STPOPTS: MASP A - COMPLTD
   ```

---

5. Verify the changes using the **rtrv-sccpopts** command. This is an example of the possible output.

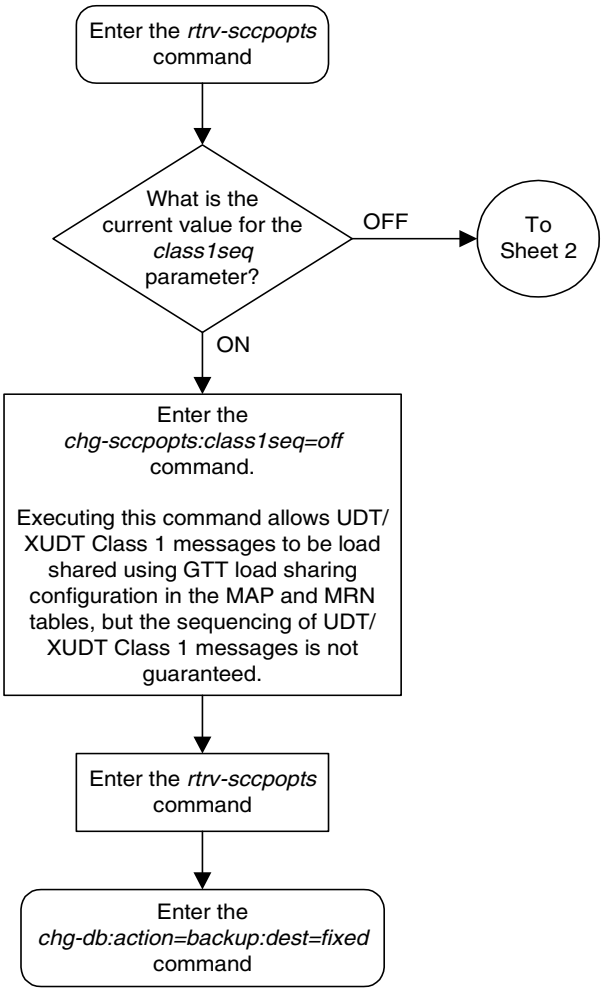
   ```
   rlghncxa03w 04-10-17 16:02:05 GMT  EAGLE5 31.6.3

   SCCP OPTIONS
   ---------------------------
   CLASS1SEQ                on
   ```

---

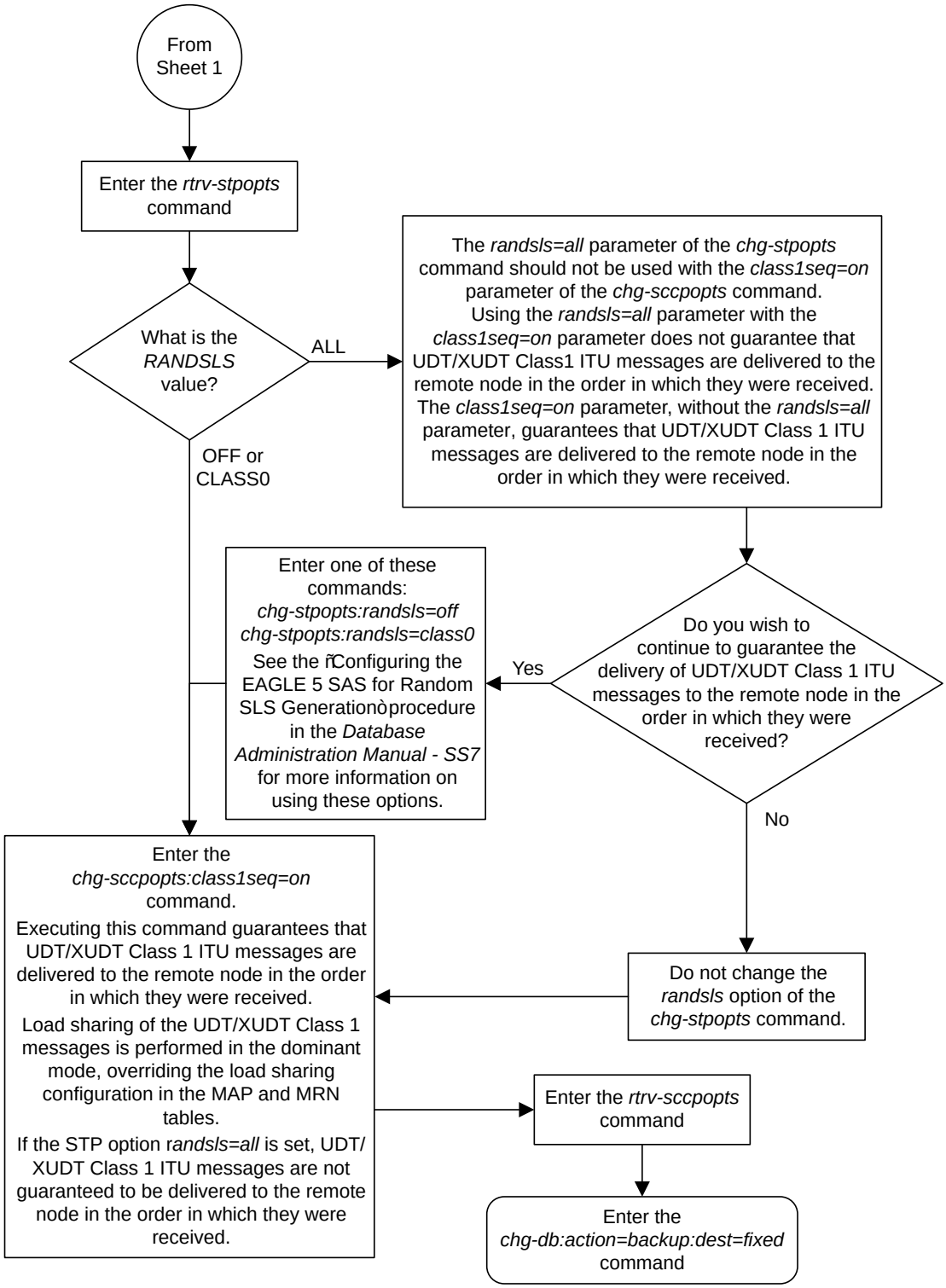
6. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   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.
   ```

Flowchart 2-18. Changing the SCCP Class 1 Sequencing Options (Sheet 1 of 2)



Flowchart 2-18. Changing the SCCP Class 1 Sequencing Options (Sheet 2 of 2)



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.

:sccpcalcmthd – 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.

  There are two types of SCCP cards that can be used, TSMs and DSMs. Each type of SCCP card supports a certain number of transactions per second (TPS), TSMs - 850, DSMs - 1700. If the **sccpcalcmthd=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 SCCP cards, shown with the entry **IS-NR** in the **PST** column in the **rept-stat-sccp** output.

  If the **sccpcalcmthd=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 SCCP cards, 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 SAS contains only TSMs or only DSMs as SCCP cards, then the TPS rating of one of the TSM or DSM, as applicable, is subtracted from the sum of the TPS ratings of all the in-service normal SCCP cards. If the EAGLE 5 SAS contains both TSMs and DSMs, then the TPS rating of one of the DSMs is subtracted from the sum of the TPS ratings of all the in-service normal SCCP cards.

:gttservl1 – The percentage of the SCCP GTT service errors, shown in the **FAIL RATIO** column for the **GTT** row of the **TOTAL SERVICE STATISTICS:** section **rept-stat-sccp** output, from 0 to 100, that when exceeded, generates major alarm UAM 0452. The system default value is 10.

:gttservl2 – The percentage of the SCCP GTT service errors, shown in the **FAIL RATIO** column for the **GTT** row of the **TOTAL SERVICE STATISTICS:** section **rept-stat-sccp** output, from 0 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 gttservl2 parameter value must be greater than the gttservl1 parameter value.

:nongttservl1 – 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 0 to 100, that when exceeded, generates major alarm UAM 0452. The system default value is 10.

:nongttservl2 – 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 0 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 nongttservl2 parameter value must be greater than the nongttservl1 parameter value.

For more information on these alarms, go to the *Maintenance 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*.

Procedure

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 06-03-28 09:12:36 GMT EAGLE5 34.3.0
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%
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, see 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
- **sccpcalcmthd** – n
- **gttservl1** – 10
- **gttservl2** – 20
- **nongttservl1** – 10
- **nongttservl2** – 20.

NOTE: After the chg-th-alm command is performed, the gttservl2 parameter value must be greater than the gttservl1 parameter value, and the nongttservl2 parameter value must be greater than the nongttservl1 parameter value.

For this example, enter this command.

```
chg-th-alm:sccptpscap=70:gttservl1=70:gttservl2=80
:nongttservl1=30:nongttservl2=40
```

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

```
rlghncxa03w 06-03-28 09:12:36 GMT EAGLE5 34.3.0
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 06-03-28 09:12:36 GMT EAGLE5 34.3.0
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%
Command Executed
```

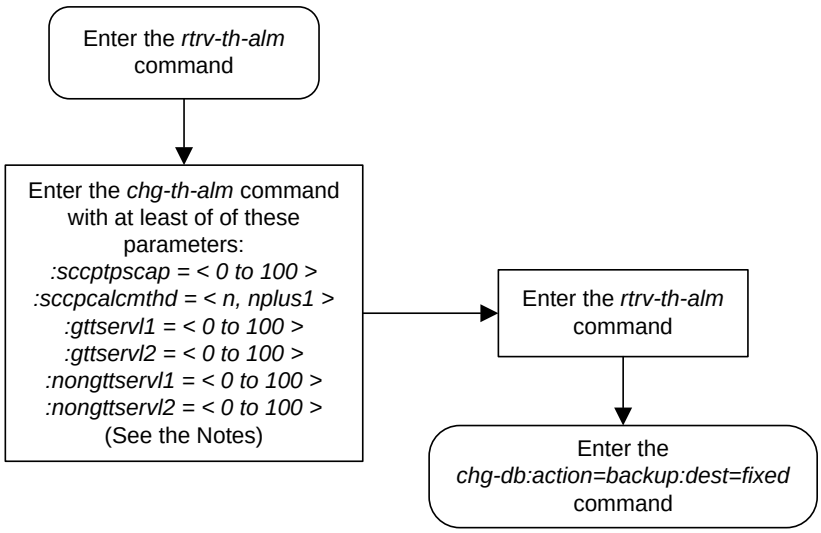
NOTE: The rtrv-th-alm command output contains other fields that are not used in this procedure. If you wish to see all the fields displayed by the rtrv-th-alm command, see the rtrv-th-alm command description in the *Commands Manual*.

---

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.
```

Flowchart 2-19. Changing the SCCP Alarm Thresholds



Notes:

1. If any parameter is not specified with the *chg-th-alm* command, that parameter value will not be changed.

2. The system default values for the parameters used in this procedure are:

sccptpscap ï 80	*sccpcalcmthd ï n*
gttservl1 ï 10	*gttservl2 ï 20*
nongttservl1 ï 10	*nongttservl2 ï 20.*

3. After the *chg-th-alm* command is performed, the *gttservl2* parameter value must be greater than the *gttservl1* parameter value.

4. After the *chg-th-alm* command is performed, the *nongttservl2* parameter value must be greater than the *nongttservl1* parameter value.

3

Global Title Translation (GTT) Configuration

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Adding a Translation Type 3–3
Removing a Translation Type 3–12
Adding a Global Title Translation 3–17
Removing a Global Title Translation 3–43
Changing a Global Title Translation 3–49

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 Chapter 2, "Global Title Translation (GTT) Overview."

- SCCP cards
- 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*.

Figure 2-9 on page 2-41 shows the relationships of the database elements that are configured in these procedures.

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 Chapter 4, "Enhanced Global Title Translation (EGTT) Configuration."**
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)" section on page 2-21.**

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 examples in this procedure are used to add the translation type data shown in Table 3-1.

Table 3-1. Example Translation Type Configuration Table

Translation Type	Translation Type Name	Number of Digits	Alias Translation Type
5	scp1	6	30
10	scp2	6	40
15	scp3	3	--

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.

If the Variable-length Global Title Translation Feature (VGTT) is being used, shown by the entry **VGTT = on** in the **rtrv-feat** command 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. For more information on the VGTT feature and the length of global title addresses, see the "Variable-length Global Title Translation Feature" section on page 2-12 and the "Adding a Global Title Translation" procedure on page 3-17.

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 disabled.

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, 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. For more information on the VGTT feature and the length of global title addresses, see the "Variable-length Global Title Translation Feature" section on page 2-12 and the "Adding a Global Title Translation" procedure on page 3-17.

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 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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.

Procedure

1. Display the translation types in the database using the **rtrv-tt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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
```

NOTE: If you do not wish to use the Variable-length Global Title Translation Feature (VGTT) feature, skip steps 2, 3, and 4, and go to step 5.

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*.

NOTE: If the Variable-length Global Title Translation (VGTT) feature is on in step 2, skip steps 3 and 4, and go to step 5.

3. Display the cards in the EAGLE 5 SAS using the **rtrv-card** command. This is an example of the possible output.

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

If the VGTT feature is to be enabled, either TSMs or DSMs must be in the EAGLE 5 SAS before this feature can be enabled. See Table 2-4 on page 2-48 to determine whether TSMs or DSMs are required. Contact the Customer Care Center before replacing any SCCP cards. Refer to "Customer Care Center" on page 1-8 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 06-03-25 09:57:41 GMT EAGLE5 34.3.0
   CHG-FEAT: MASP A - COMPLTD
   ```

5. 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, 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 06-03-25 09:57:41 GMT  EAGLE5 34.3.0
   ENT-TT: MASP A - COMPLTD
   ```

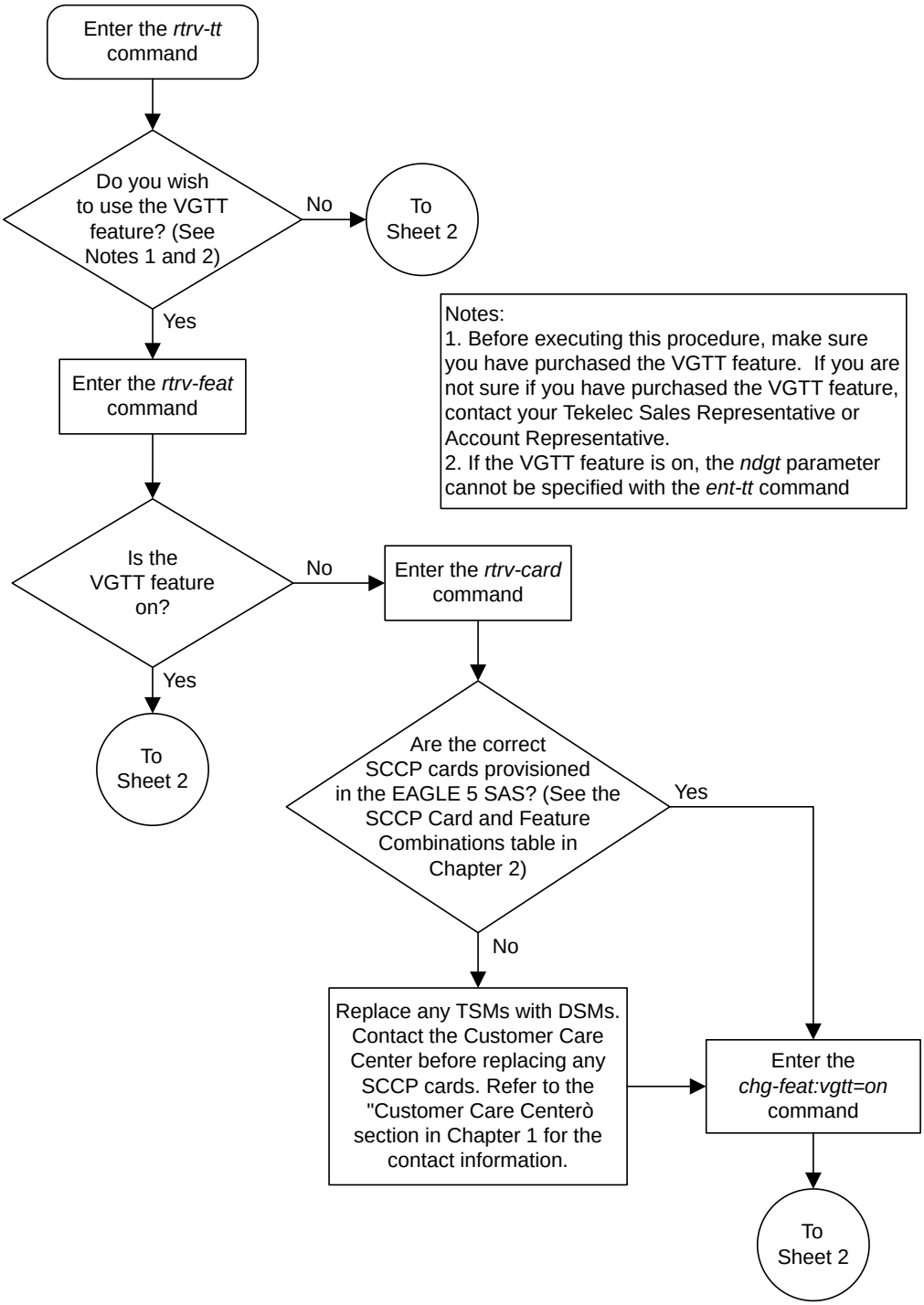
6. Verify the changes using the **rtrv-tt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:51 GMT  EAGLE5 34.3.0
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
```

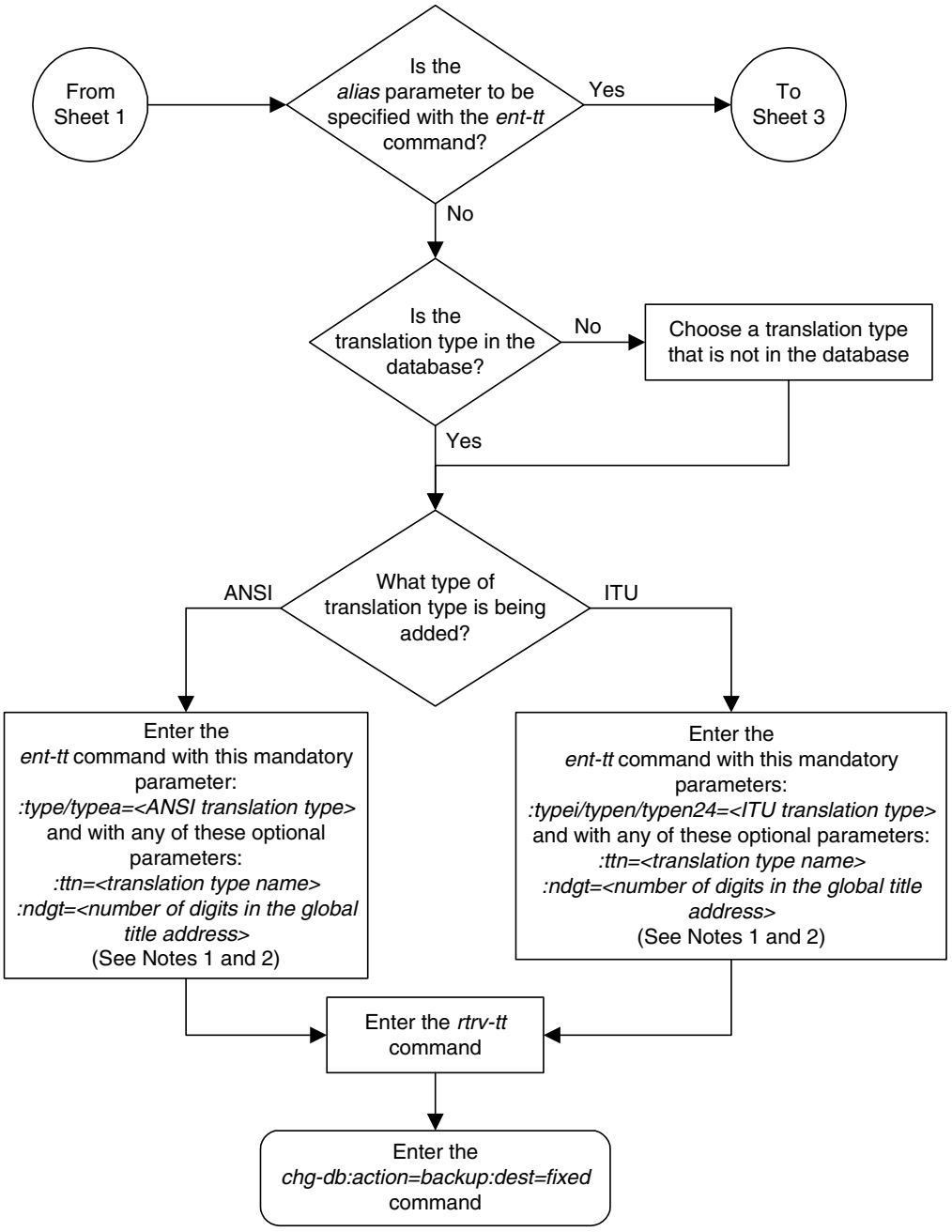
7. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

Flowchart 3-1. Adding a Translation Type (Sheet 1 of 3)

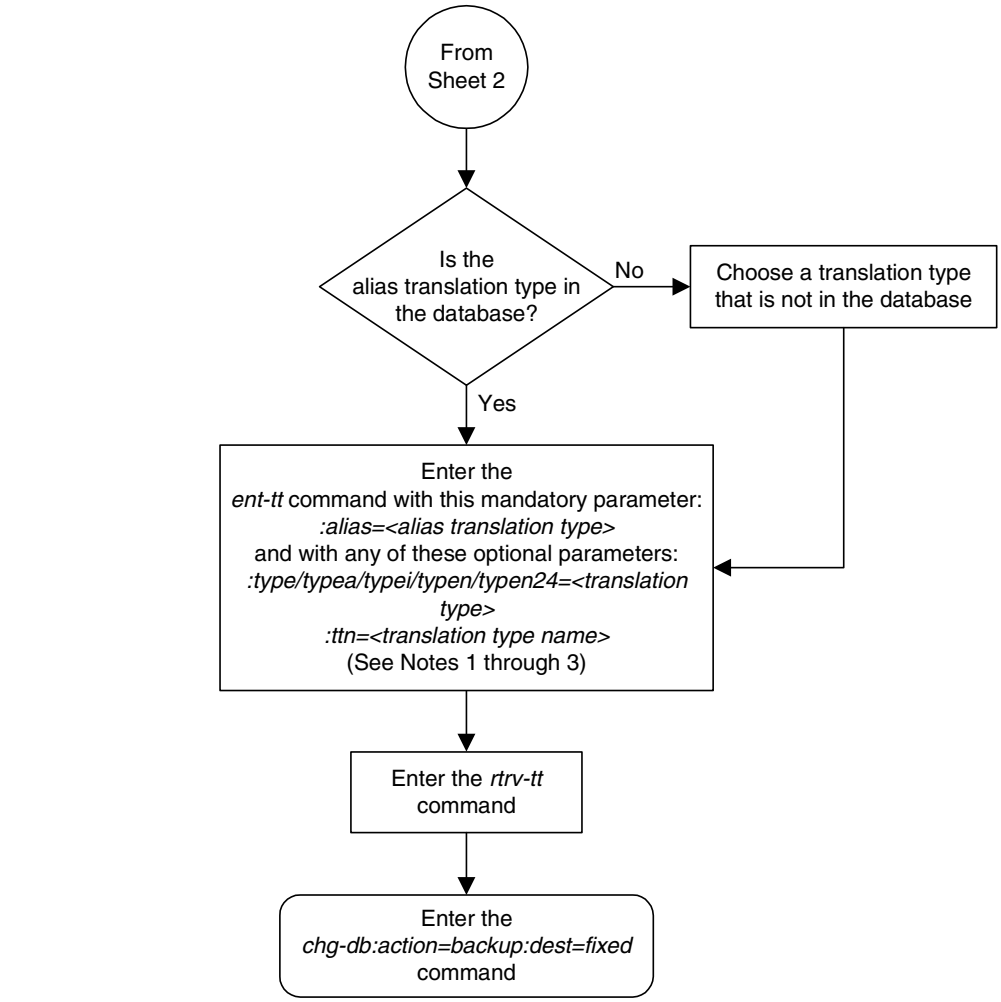


Flowchart 3-1. Adding a Translation Type (Sheet 2 of 3)



Notes:
1. If the VGTT feature is on, the *ndgt* parameter cannot be specified with the *ent-tt* command.
2. The translation type value specified by the *type* or *typea* parameters cannot be defined in the database as an ANSI translation type, or as an alias translation type associated with and 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, or as an alias translation type associated with an ITU translation type.

Flowchart 3-1. Adding a Translation Type (Sheet 3 of 3)



Notes:

1. 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.
2. If an alias translation type is being assigned to an ANSI translation type (*type* or *typea*), 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.
3. If an alias translation type is being assigned to an ITU translation type (*typei*, *typen*, *typen24*), 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.

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.

:ttn – 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" procedure on page 3-43 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 that 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*.

Procedure

1. Display the translation types in the database using the **rtrv-tt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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 06-03-25 09:46:31 GMT  EAGLE5 34.3.0
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=
```

   If global title translations are shown in the output of the **rtrv-gtt** command output, go to the "Removing a Global Title Translation" procedure on page 3-43 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 06-03-25 09:57:41 GMT  EAGLE5 34.3.0
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.

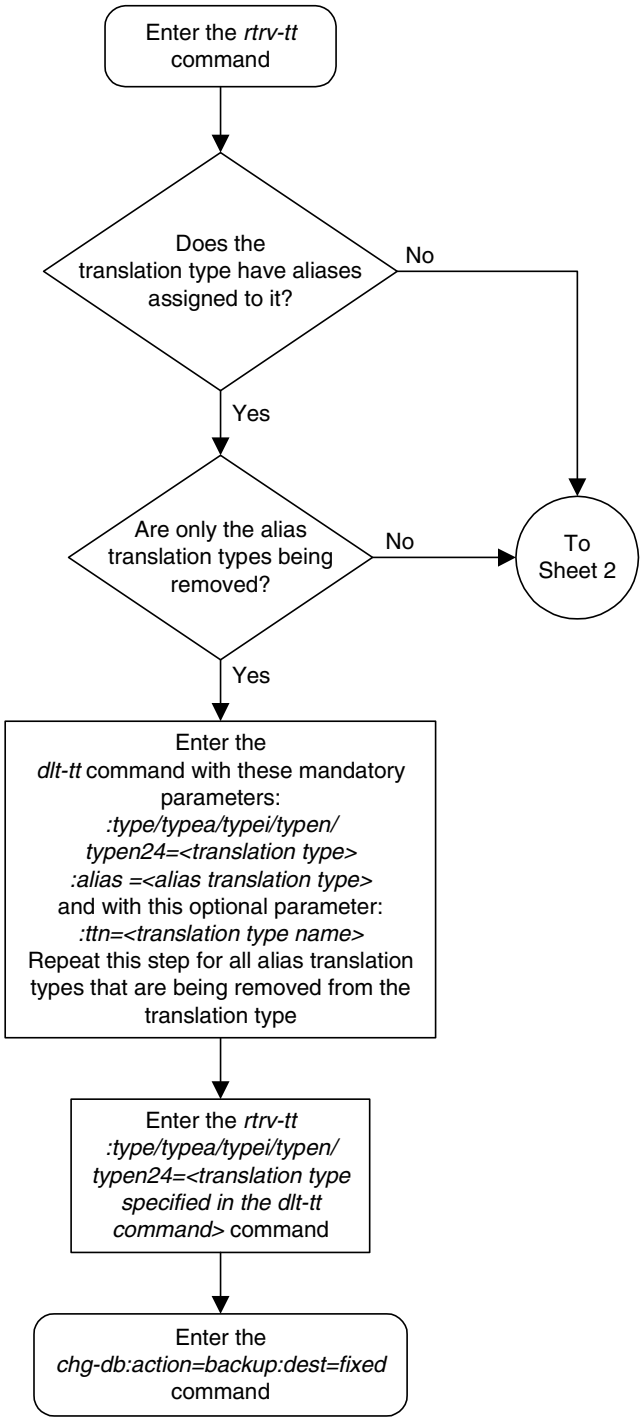
```
E2466 Cmd Rej: Translation TYPE specified does not exist
```

---

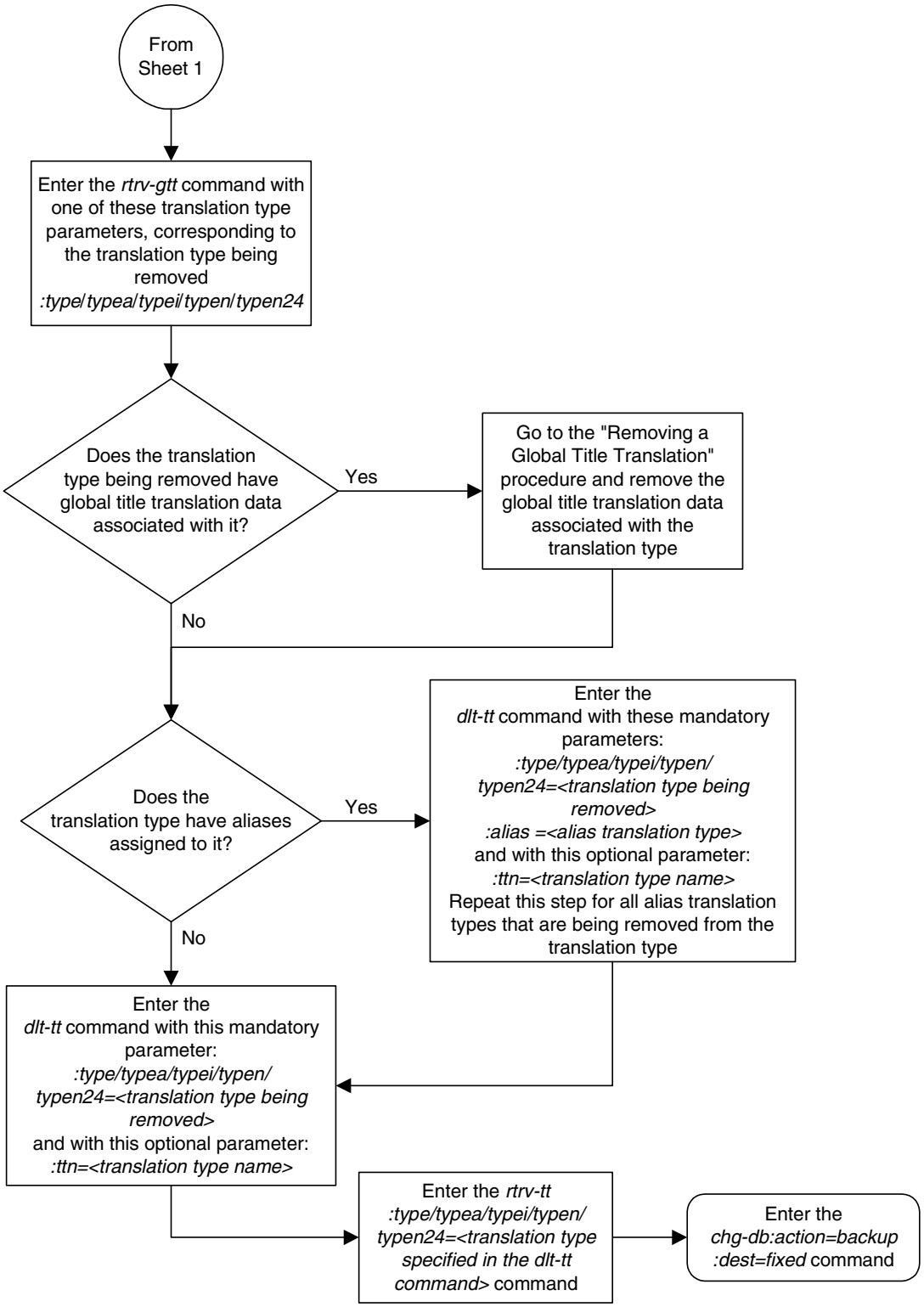
5. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

Flowchart 3-2. Removing a Translation Type (Sheet 1 of 2)



Flowchart 3-2. Removing a Translation Type (Sheet 2 of 2)



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 **ngt** 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.
:**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

: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 STP for translation.

:ngt – 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 SAS 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

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 SAS parameters and values shown in Table 3-2.

Table 3-2. 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:

- 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.
- 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 Table 3-3.

Table 3-3. Example Global Title Translation Configuration Table

TYPE	GTA	EGTA	XLAT	RI	PC	NGT	SSN	TTN	NNP	NNAI	NPDD	NPDS
5	910460	---	dpcngt	gt	007-007-007	6	---	scp1	3	120	2	N/A
10	615370	615380	dpcssn	ssn	003-003-003	---	254	scp2	N/A	N/A	N/A	N/A
15	800	900	dpc	ssn	005-005-005	---	---	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** (**xlat=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, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the point code and subsystem number to the database as a mated application.

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**
- **xlat=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 SAS 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 EIR features must be enabled or the INP feature must be 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, the entry **EIR** is shown in the **rtrv-ctrl-feat** command output as being permanently or temporarily enabled. If the INP feature is on, the entry **INP = on** is shown in the **rtrv-feat** command output.

NOTE: The Local Number Portability (LNP), Equipment Identity Register (EIR) or INAP Number Portability (INP) feature must be purchased before you either enable the LNP or EIR features or turn the INP feature on. If you are not sure whether you have purchased the LNP, EIR, or INP feature, contact your Tekelec Sales Representative or Account Representative.

Once the LNP is enabled with the enable-ctrl-feat command, or the INP feature is turned on with the chg-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 SAS'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 SAS's point code is specified with the **ent-gtt** command, then the **xlat=dpcssn** and **ri=ssn** parameters must be specified. The EAGLE 5 SAS'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. 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 10 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 10 lengths already assigned to the translation type. If the length of the global title address does not match one of the 10 lengths already assigned to the translation type, the **ent-gtt** command is rejected with this message.

```
E2958 Cmd Rej: No more than 10 GTA lengths supported per TT for
VGTT
```

If the translation type has less than 10 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.

Go to the "Variable-length Global Title Translation Feature" section on page 2-12 for more information about this feature.

NOTE: The Variable-Length Global Title Translation (VGTT) feature allows a variable-length global title address. Before enabling the VGTT feature, make sure you have purchased this feature. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

If you have purchased this feature, refer to section "Variable-length Global Title Translation Feature" on page 2-12 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
```

Along with error message 2401, a list of the overlapped global title addresses is displayed as shown in the following example.

```
rlghncxa03w 06-03-24 08:29:15 GMT EAGLE5 34.3.0
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 Global Title Translation Modification (MGTT) 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 MGTT feature is on. This can be verified with the entry **MGTT = on** in the **rtrv-feat** command output. If the MGTT feature is not on, the EAGLE 5 SAS must contain the hardware specified in Table 2-4 on page 2-48 before the MGTT feature can be turned on. Before turning on the MGTT feature, make sure you have purchased this feature. If you are not sure whether you have purchased the MGTT feature, contact your Tekelec Sales Representative or Account Representative.

The **ngti=2** parameter can be specified only with an ANSI point code and not with the **nnp** and **nai** parameters.

The **ngti=4** parameter can be specified only with an ITU point code. The **nnp** and **nai** 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 MGTT feature must be on 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 3-4 shows the valid combinations for the **xlat**, **ri**, **ssn**, and **ngt** parameters. All other combinations are rejected.

Table 3-4. 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 **ngt** parameter can be specified with the **xlat=dpc** and **ri=gt** parameters only if the ANSI-ITU-China SCCP Conversion feature is enabled. Otherwise, the **ngt** parameter cannot be specified with the **xlat=dpc** and **ri=gt** parameters.				

The EAGLE 5 SAS 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, go to "Enabling the XGTT Table Expansion feature" procedure on page A-17.

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 that 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*.

Procedure

1. Display the translation types in the database using the **rtrv-tt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:42:31 GMT  EAGLE5 34.3.0
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 not shown in the **rtrv-tt** output, go to the "Adding a Translation Type" procedure on page 3-3 and add the translation type to the database.

2. Display the global title translations in the database using the **rtrv-gtt** command specifying a translation type (**type**), translation type name (**ttn**), or both from the **rtrv-tt** command output shown in step 1 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
```

NOTE: If the `rtrv-gtt` output in step 2 shows that the maximum number of global title translations is 1,000,000, skip step 3 and go to step 4.

NOTE: If the If the `rtrv-gtt` output in step 2 shows that the maximum number of global title translations is 400,000, and the global title translation being added increases the number beyond 400,000, do not perform step 3, but go to "Enabling the XGTT Table Expansion feature" procedure on page A-17 and enable XGTT Table Expansion controlled feature for 1,000,000 global title translations. Then go to step 4.

NOTE: If the If the `rtrv-gtt` output in step 2 shows that 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 quantity shown in the `rtrv-gtt` output in step 2, skip step 3 and go to step 4.

3. Display the status of the XGTT Table Expansion controlled feature by entering the **`rtrv-ctrl-feat`** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
XGTT Table Expansion      893006101  off     ----
XMAP Table Expansion      893007710  on      3000
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 XGTT Table Expansion controlled feature is not enabled or on, go to "Enabling the XGTT Table Expansion feature" procedure on page A-17 and enable XGTT Table Expansion controlled feature for either 400,000 or 1,000,000 global title translations as required. Then go to step 4.

NOTE: If the MGTT feature is not to be used with global title translation on the EAGLE 5 SAS, skip steps 4, 5, and 6, and go to step 7.

4. Verify whether or not either the MGTT feature is on by entering the **`rtrv-feat`** command. The entry **`MGTT = on`** is shown if the MGTT 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 MGTT feature is on, skip steps 5 and 6, and go to step 7.

---

5. Display the cards in the EAGLE 5 SAS using the **`rtrv-card`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

Either TSMs or DSMs must be in the EAGLE 5 SAS before the MGTT feature can be turned on. See Table 2-4 on page 2-48 to determine whether TSMs or DSMs are required. Contact the Customer Care Center before replacing any SCCP cards. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

6. Turn the MGTT feature on by entering this command.

`chg-feat:mgtt=on`

NOTE: Once the MGTT feature is turned on with the `chg-feat` command, it cannot be turned off.

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

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

```
rlghncxa03w 06-03-25 09:57:41 GMT EAGLE5 34.3.0
CHG-FEAT: MASP A - COMPLTD
```

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 `ngti` 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 step 3 shows that the ANSI-ITU-China SCCP Conversion feature is enabled, skip this step and go to step 8.

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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" procedure on page A-36 and the ANSI-ITU-China SCCP Conversion feature.

NOTE: If the EAGLE 5 SAS's point code is not going to used for the `pc` parameter of the `ent-gtt` command, skip steps 8 and 9, and go to step 10.

8. If the **`ri=ssn`** and **`xlat=dpcssn`** parameters are specified with the **`ent-gtt`** command, and you wish to use the EAGLE 5 SAS'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 SAS's self ID table. Display the EAGLE 5 SAS self-identification, using the **`rtrv-sid`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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. Enter the **`rtrv-ss-appl`** command to verify that either the LNP, EIR, 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 06-03-28 14:42:38 GMT EAGLE5 34.3.0
APPL       SSN       STAT
LNP        254       ONLINE

SS-APPL table is (1 of 1) 100% full
```

   If the subsystem number is shown in the **`rtrv-ss-appl`** output, go to step 10.

   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 enabled 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*
   - LNP subsystem – go to the *LNP Feature Activation Guide*

NOTE: If the `ri=ssn` and `xlat=dpc` parameters are not being specified with the `ent-gtt` command, or if the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are not being specified with the `ent-gtt` command, skip this step and go to step 11.

10. If the **`ri=ssn`** and **`xlat=dpc`** parameters are being specified with the **`chg-gtt`** command, the point code must be in the mated application table.

If the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the **`ri=ssn`** and **`xlat=dpcssn`** parameters are being specified with the **`chg-gtt`** command, the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number must be in the mated application table.

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`

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:42:31  GMT  EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                               PCA          SSN RC MULT
   005-005-005  250 10 SOL                              YES YES GRP01    ON
```

If the point code is not shown in the **`rtrv-map`** output, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the required point code and subsystem number to the mated application table.

NOTE: If the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are being specified with the `ent-gtt` command, skip this step and go to step 12.

11. The point code specified with the **`ent-gtt`** command must be the DPC of a route, unless the point code is the EAGLE 5 SAS'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:dpca=007-007-007`

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                   CLLI=ls03clli
```

rtrv-rte:dpca=003-003-003

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                   CLLI=ls07clli
```

rtrv-rte:dpca=005-005-005

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                   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.

---

12. Add the global title translation to the database using the **ent-gtt** command. 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

ent-gtt:typea=10:gta=615370:egta=615380:xlat=dpcssn:ri=ssn :pca=003-003-003:ssn=254:ttn=scp2

ent-gtt:typea=15:gta=800:egta=900:xlat=dpc:ri=ssn :pca=005-005-005:ttn=scp3

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-07 11:44:13 GMT  EAGLE5 34.3.0
ENT-GTT:  MASP A - COMPLTD
```

NOTES:

1. If the **rtrv-feat** command output in step 4 shows that the VGTT feature is off (**VGTT = off**), the length of the global title address specified with the **gta** and **egta** parameters must contain the number of digits specified in the **NDGT** field of the **rtrv-tt** command output in step 1.

2. If the **rtrv-feat** command output in step 4 shows that the VGTT feature is on (**VGTT = on**) and the translation type has 10 different length global title addresses assigned to it (shown in the **START GTA** field of the **rtrv-gtt** output in step 2), the length of the global title address specified with the **gta** and **egta** parameters must match the length of one of the global title addresses already assigned to the translation type. If the translation type has less than 10 different length global title addresses

assigned to the translation type, the length of the global title address can be from one to 21 digits.

3. If the translate indicator is equal to **dpc** (**xlat=dpc**) and the routing indicator is equal to **ssn** (**ri=ssn**), the point code specified in the **ent-gtt** command must be defined in the database as a mated application in step 8. If the point code is not shown in step 8, the **force=yes** parameter must be specified with the **ent-gtt** command.

4. The **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, and **nsds** parameters cannot be specified if the MGTT feature is off.

5. If the VGTT feature is off, and the MGTT feature is on, the number of digits specified with the **npds** parameter must be equal to the value of the **npdd** parameter, or the number of digits specified with the **nsds** parameter must be equal to the value of the **nsdd** parameter.

6. 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 and turned on, a GTT 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 disabled, the translation type parameters **typei**, **typen**, or **typen24** can be specified with either the **pci**, **pcn**, or **pcn24** parameters.

7. The **ngti** parameter can be specified only if the MGTT feature is on and if the ANSI-ITU-China SCCP Conversion feature is enabled.

8. The **ngt** parameter can be specified only with the **ri=gt** parameter and either the **xlat=dpcngt** or **xlat=dpc** parameters. The **xlat=dpc** parameter can be specified with the **ngt** parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.

9. The **ngti=2** parameter can be specified only with an ANSI point code, and not with the **nnp** and **nnai** parameters.

10. 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 global title translation.

11. The prefix parameters (**npdd** and **npds**) and the suffix parameters (**nsdd** and **nsds**) cannot be specified in 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.

13. Verify the changes using the **rtrv-gtt** command. For this command, enter these commands.

rtrv-gtt:typea=5:gta=910460:egta=910460

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:46:31 GMT  EAGLE5 34.3.0
TYPEA  TTN        NDGT
5      scp1       6
GTT TABLE IS  10 % FULL    (27000 of 269999)

START GTA             END GTA               XLAT   RI     PC
910460                919460                DPCNGT GT     007-007-007
     SSN=--- NGT= 6
     NNP=3 NNAI=120 NPDD=3 NPDS=34
     NGTI=
```

rtrv-gtt:typea=10:gta=615370:egta=615380

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:47:31 GMT  EAGLE5 34.3.0
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=---
```

rtrv-gtt:typea=15:gta=800:egta=900

This is an example of the possible output.

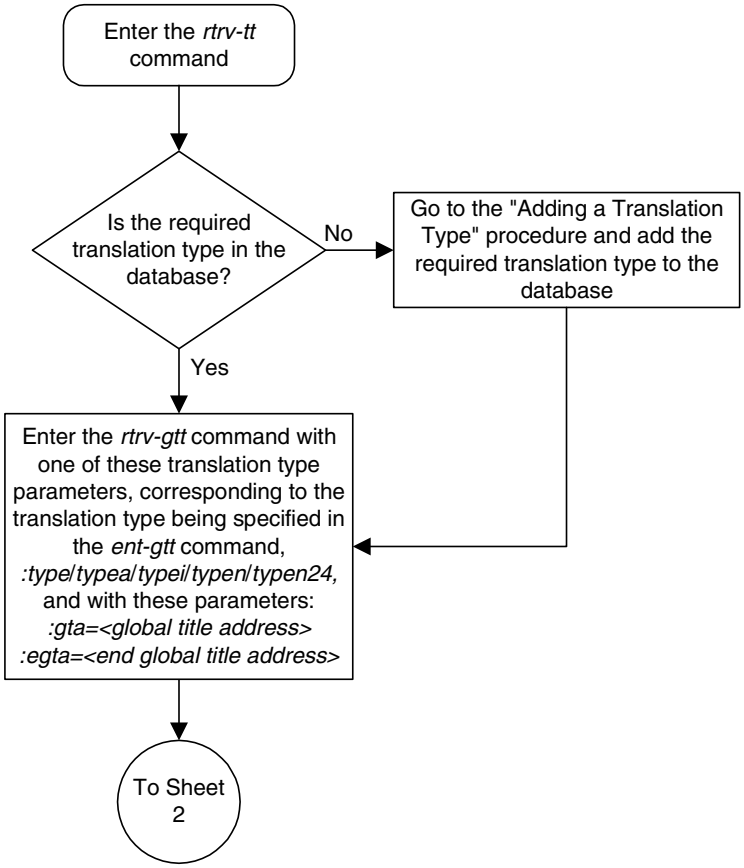
```
rlghncxa03w 06-03-25 09:48:31 GMT  EAGLE5 34.3.0
TYPEA  TTN        NDGT
15     scp3       3
GTT TABLE IS  10 % FULL    (27000 of 269999)

START GTA             END GTA               XLAT   RI     PC
800                   900                   DPC    SSN    005-005-005
     SSN=--- NGT=---
```

14. 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.

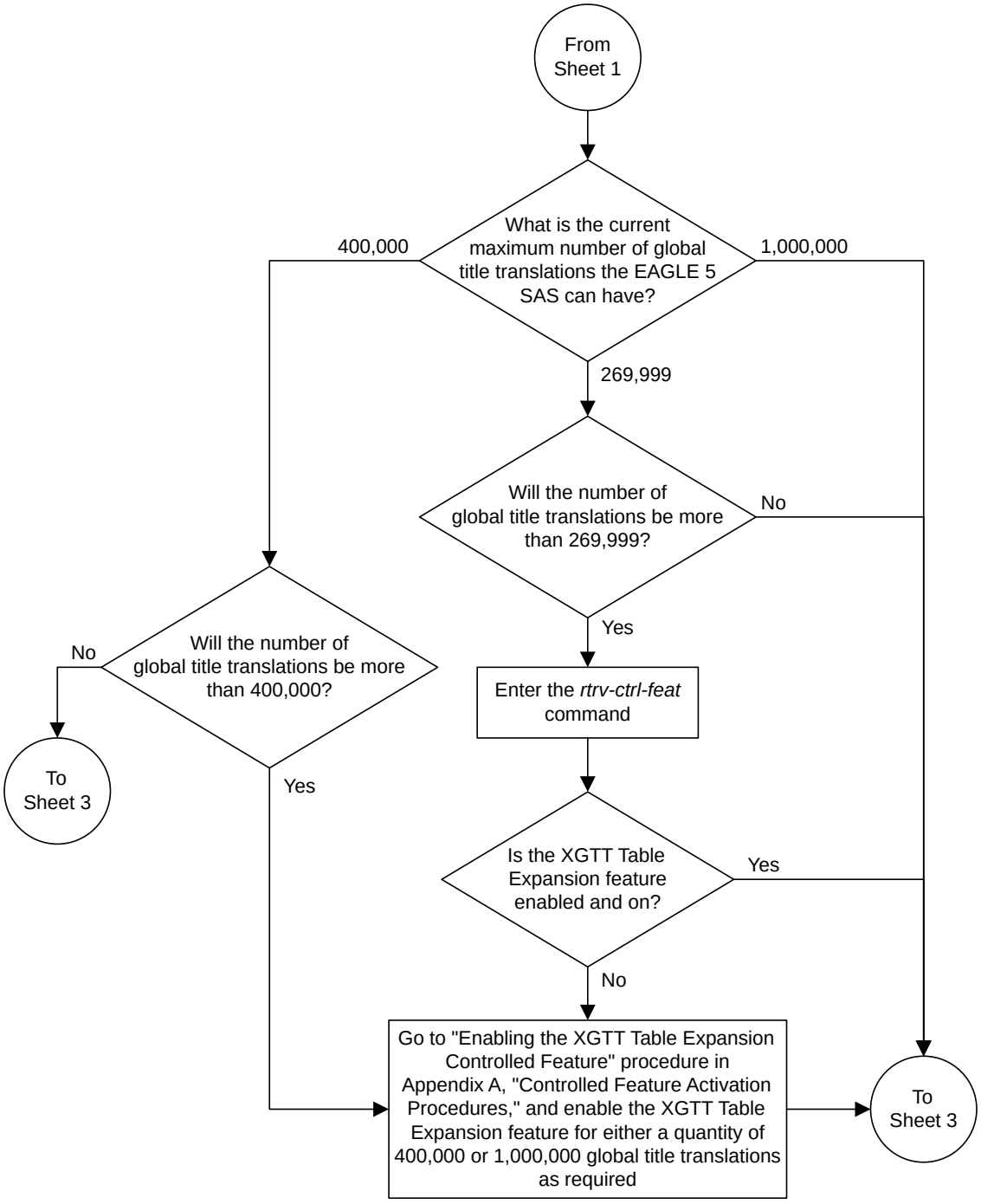
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Flowchart 3-3. Adding a Global Title Translation (Sheet 1 of 9)

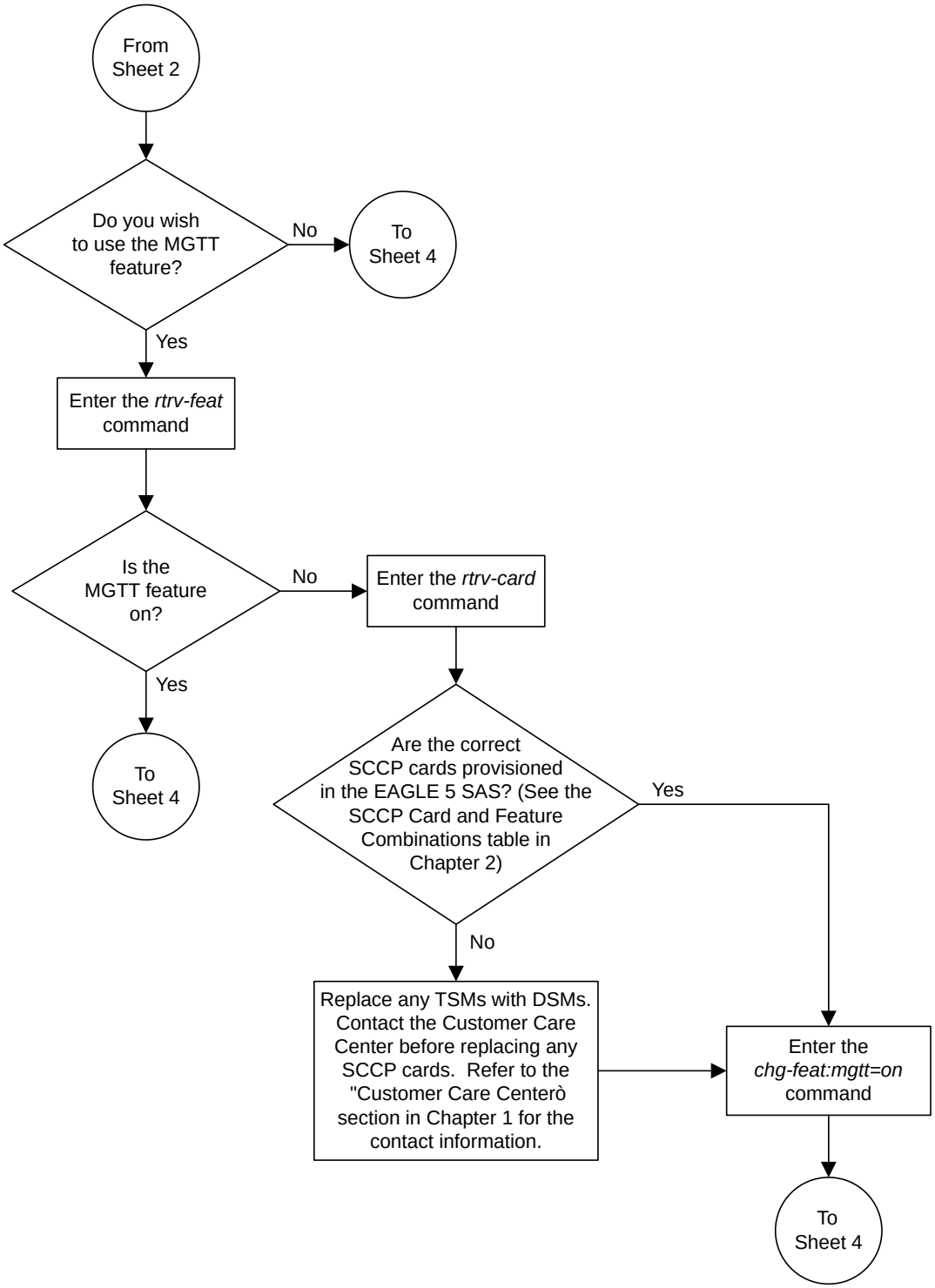
NOTE: Before executing this procedure, make sure you have purchased the MGTT feature. If you are not sure if you have purchased the MGTT feature, contact your Tekelec Sales Representative or Account Representative.



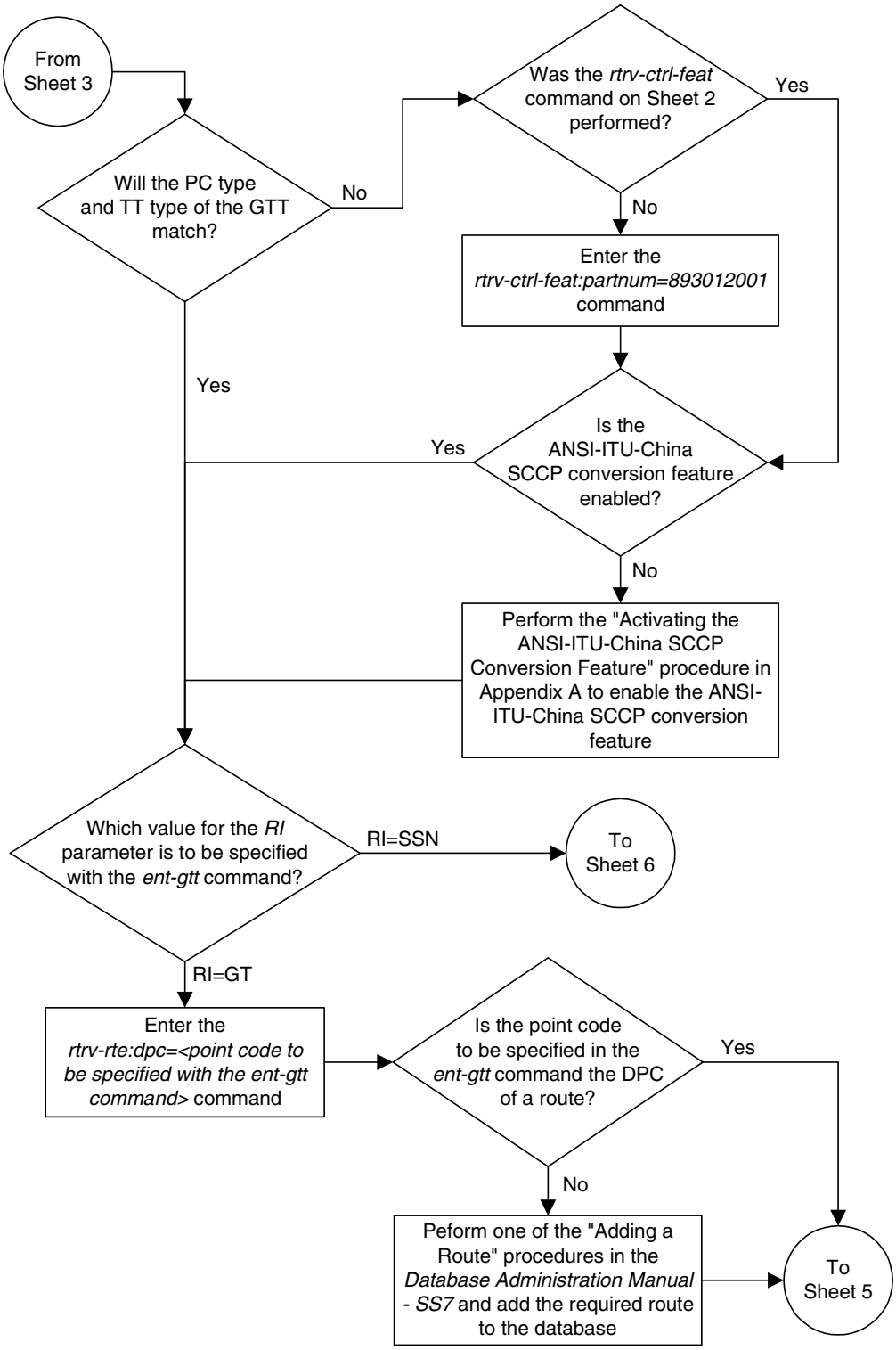
Flowchart 3-3. Adding a Global Title Translation (Sheet 2 of 9)



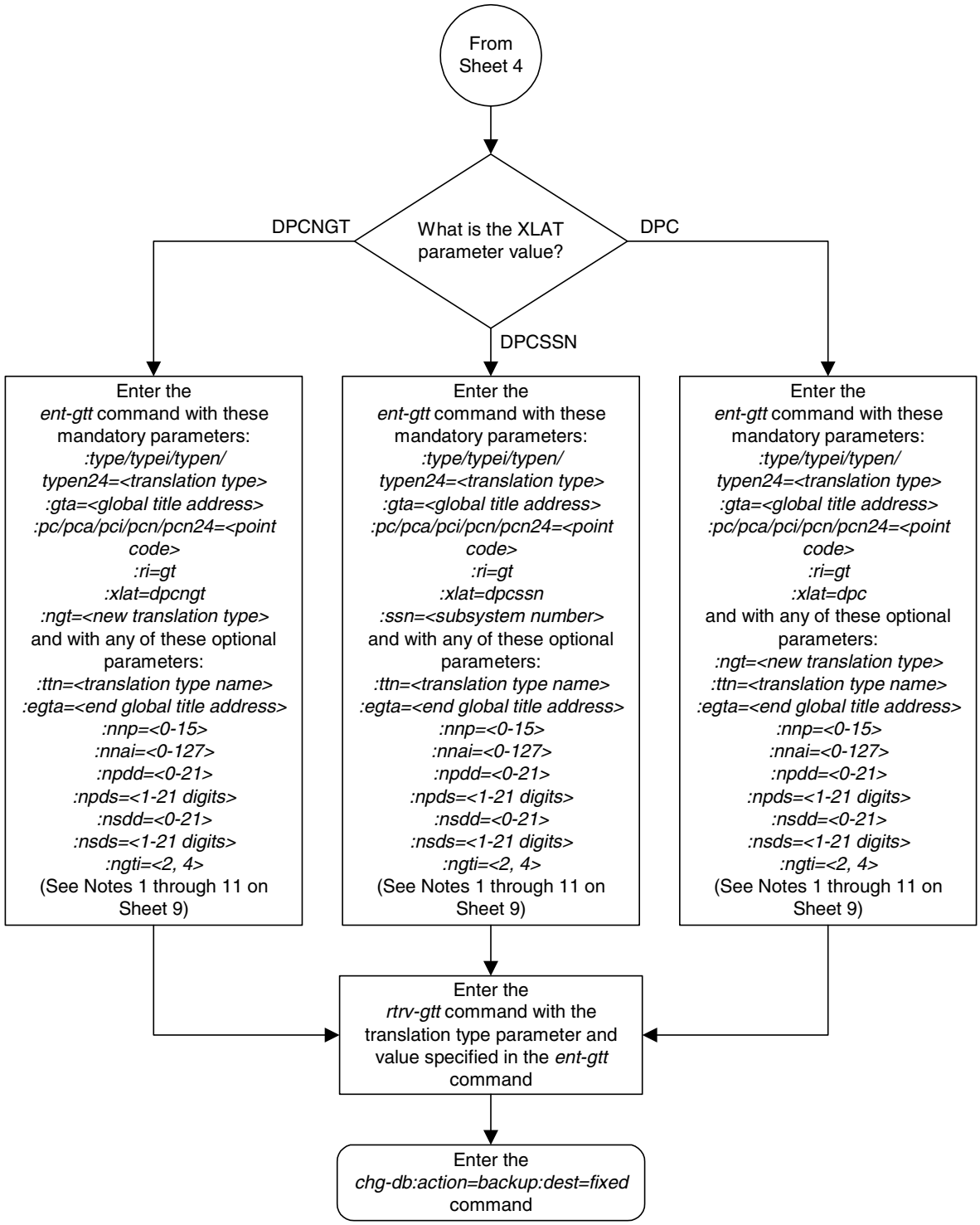
Flowchart 3-3. Adding a Global Title Translation (Sheet 3 of 9)



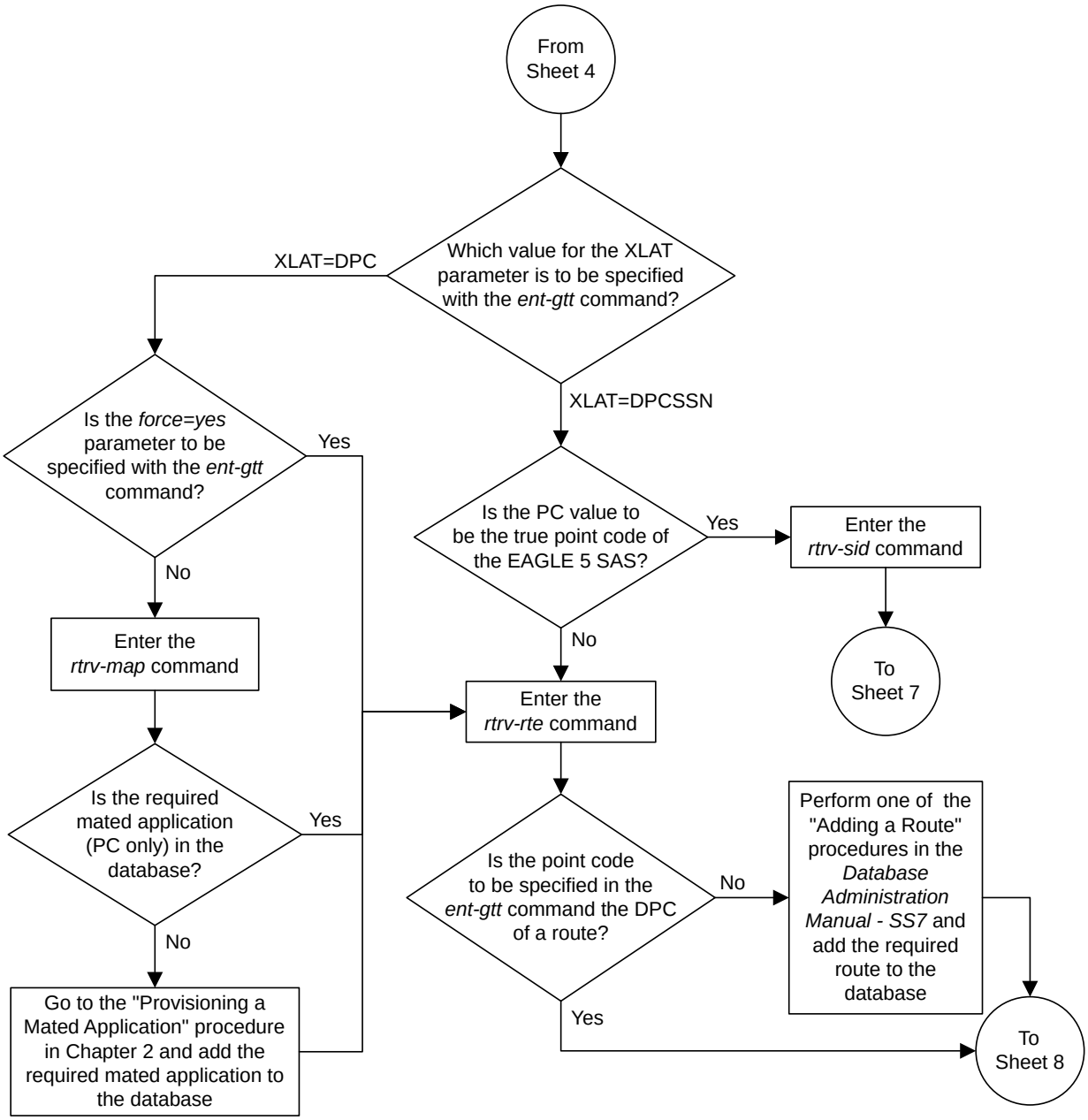
Flowchart 3-3. Adding a Global Title Translation (Sheet 4 of 9)



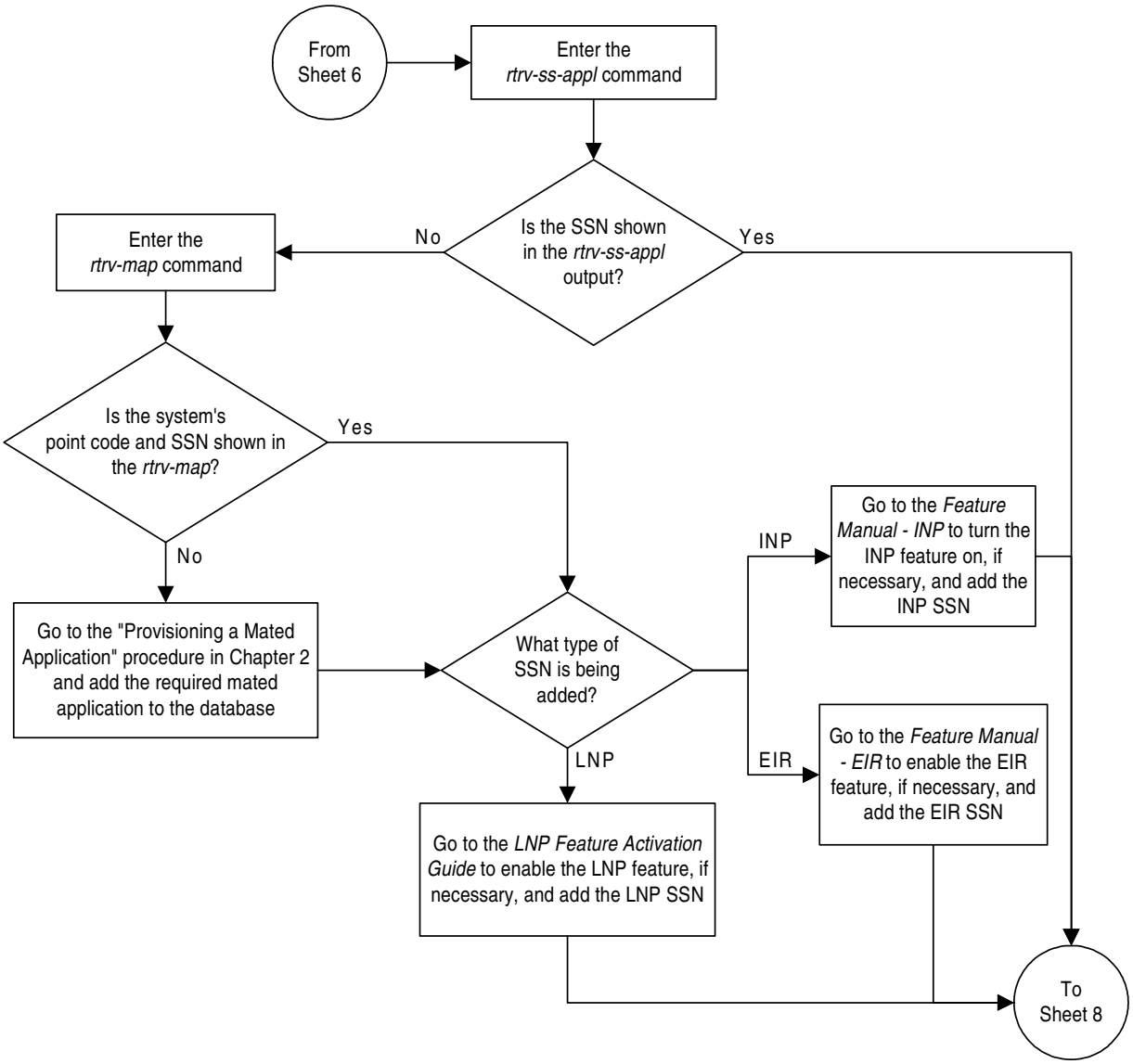
Flowchart 3-3. Adding a Global Title Translation (Sheet 5 of 9)



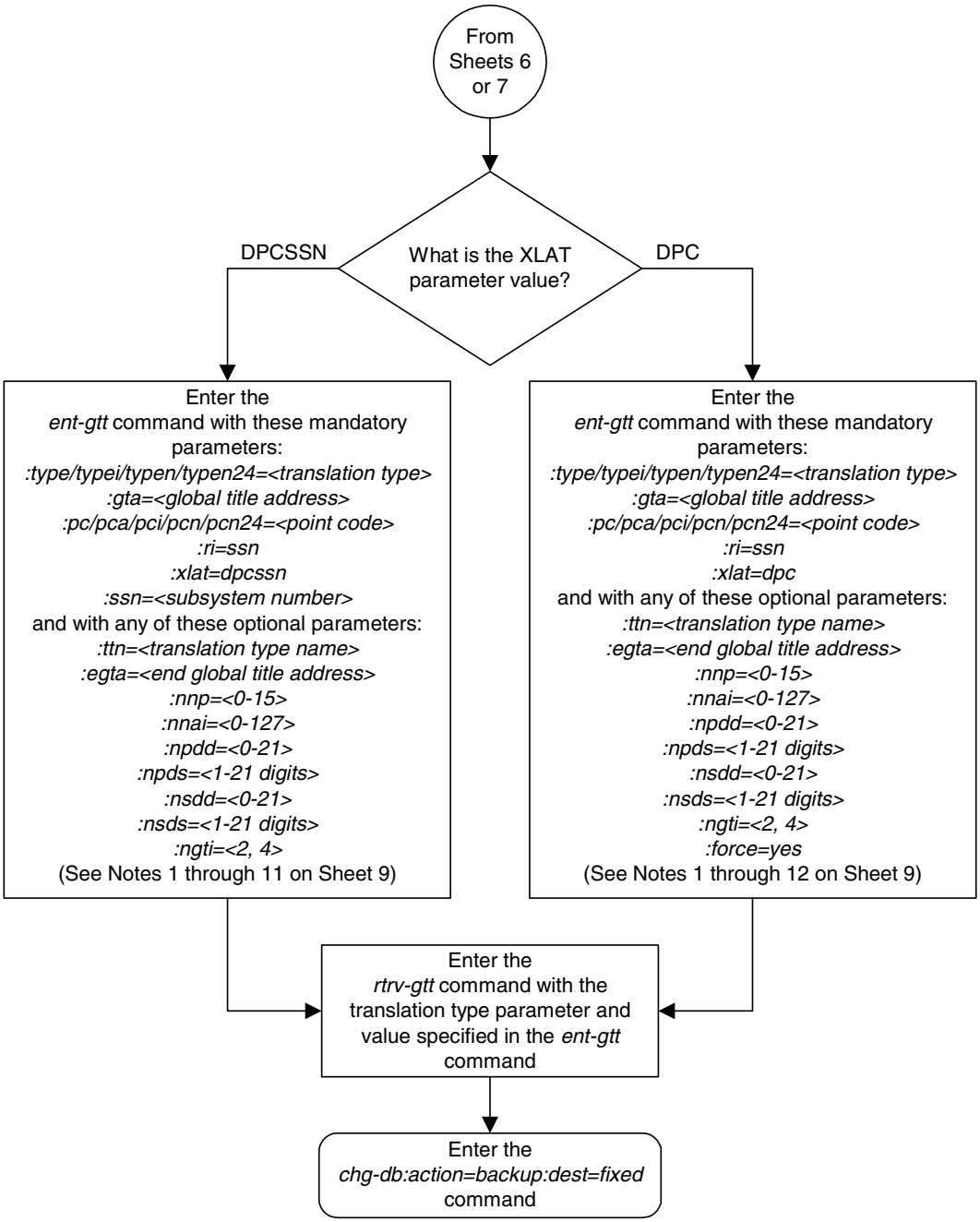
Flowchart 3-3. Adding a Global Title Translation (Sheet 6 of 9)



Flowchart 3-3. Adding a Global Title Translation (Sheet 7 of 9)



Flowchart 3-3. Adding a Global Title Translation (Sheet 8 of 9)



Flowchart 3-3. Adding a Global Title Translation (Sheet 9 of 9)

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:
   - *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.
2. The *type*/*typea*/*typei*/*typen*/*typen24* parameters specify the translation type and the network type of the translation type:
   - *type*/*typea* = ANSI translation type
   - *typei* = ITU-I translation type
   - *typen/typen24* = ITU-N translation type.
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 and turned on, a GTT 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 disabled, the translation type parameters *typei, typen,* or *typen24* can be specified with either the *pci*, *pcn*, or *pcn24* parameters.
4. If the VGTT feature is on, shown by the *VGTT = on* in the *rtrv-feat* output, and the translation type contains 10 different length GTAs, the length of the GTA must match any existing GTA assigned to the translation type.
5. If the translation type contains less than 10 different length GTAs, the length of the GTA can be from 1 to 21 digits.
6. 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-tt* output.
7. The *nnp*, *nnai*, *npdd*, *npds*, *nsdd*, and *nsds* parameters can be specified only if the MGTT feature is on. The *ngti* parameter can be specified only if the MGTT feature is on and if the ANSI-ITU-China SCCP Conversion feature is enabled.
8. If the *ngt* parameter can be specified only with the *ri=gt* parameter and either the *xlat=dpcngt* or *xlat=dpc* parameters. The *xlat=dpc* parameter can be specified with the *ngt* parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.
9. The *ngti=2* parameter can be specified only with an ANSI point code, and not with the *nnp* and *nnai* parameters.
10. 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 global title translation.
11. The prefix parameters (*npdd* and *npds*) and the suffix parameters (*nsdd* and *nsds*) cannot be specified in 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.
12. If the *pc*/*pca*/*pci*/*pcn*/*pcn24* parameter value is not shown in the *rtrv-map* output on Sheet 6, the *force=yes* parameter must be specified with the *ent-gtt* command.

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 SAS 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 SAS 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

The examples in this procedure are used to remove the global title translation data for translation type **10** from the database.

If the translation type is defined as an alias, it cannot be used in the **dlt-gtt** command.

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.

```
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 06-03-24 08:29:15 GMT EAGLE5 34.3.0
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
```

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. 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, 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 06-03-25 09:57:31 GMT  EAGLE5 34.3.0
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, 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 that 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*.

Procedure

1. Display the translation types in the database using the **rtrv-tt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:42:31 GMT  EAGLE5 34.3.0
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. For this example, enter this command.

rtrv-gtt:typea=10

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:43:31 GMT  EAGLE5 34.3.0
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=---
```

3. 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 06-03-25 09:44:31 GMT  EAGLE5 34.3.0
DLT-GTT:  MASP A - COMPLTD
```

4. Verify the changes using the **rtrv-gtt** command specifying the translation type, translation type name, or both used in step 3. For this example, enter this command.

   rtrv-gtt:typea=10

   This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:43:31 GMT  EAGLE5 34.3.0
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=---
```

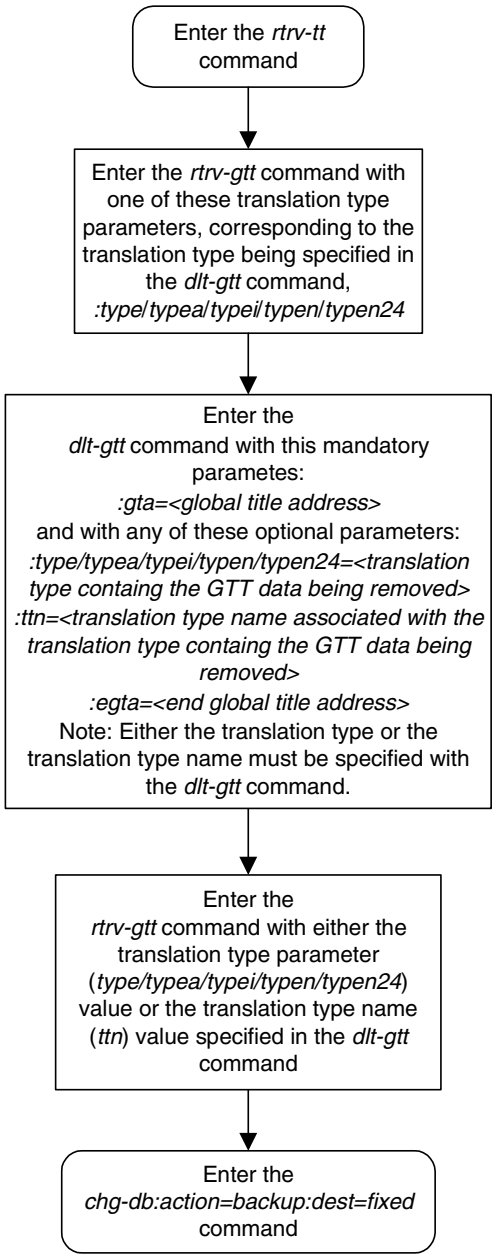
   If all the entries for the translation type have been removed in step 3, then this message should appear.

```
E2466 Cmd Rej: Translation TYPE specified does not exist
```

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.
```

Flowchart 3-4. 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/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

: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 **ngt** 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 SAS 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

:rmgtt – removes the current values for the **npdd**, **npds**, **nsdd**, and **nsds** parameters.

: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

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 SAS parameters and values shown in Table 3-5.

Table 3-5. 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:

- 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.
- 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 is not defined as a mated application, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the point code to the database as a mated application.

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 SAS 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.

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 SAS's point code is specified with the **ent-gtt** command, then the **xlat=dpcssn** and **ri=ssn** parameters must be specified. The EAGLE 5 SAS'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 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**, and the translation type has 10 different length global title addresses assigned to it, the length of the new global title address must be the same as one of the 10 lengths already assigned to the translation type. If the length of the global title address does not match one of the 10 lengths already assigned to the translation type, the **chg-gtt** command is rejected with this message.

```
E2960 Cmd Rej: The GTA length is not defined for the specified TT
```

If the translation type has less than 10 different length global title addresses assigned to it, 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.

If the Variable-Length Global Title Translation (VGTT) feature is on, 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.

Go to the "Variable-length Global Title Translation Feature" section on page 2-12 for more information about this feature.

NOTE: The Variable-Length Global Title Translation (VGTT) feature allows a variable-length global title address. Before enabling the VGTT feature, make sure you have purchased this feature. If you are not sure whether you have purchased the VGTT feature, contact your Tekelec Sales Representative or Account Representative.

If you have purchased this feature, refer to section "Variable-length Global Title Translation Feature" on page 2-12 for more information about this feature.

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 06-03-24 08:29:15 GMT EAGLE5 34.3.0
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 **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, and **nsds** parameters are used by the Global Title Translation Modification (MGTT) 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 **npdd**, **npds**, **nsdd**, or **nsds** parameters.

The **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, **nsds**, and **rmgtt** parameters can be specified only when the MGTT feature is on. This can be verified with the entry **MGTT = on** in the **rtrv-feat** command output. If the MGTT feature is not on, the EAGLE 5 SAS must contain the hardware specified in Table 2-4 on page 2-48 before the MGTT feature can be turned on. The hardware requirements are dependent on whether or not the LNP is enabled and the VGTT feature is on in addition to the MGTT and GTT features. Before turning on the MGTT feature, make sure you have purchased this feature. If you are not sure whether you have purchased the MGTT feature, contact your Tekelec Sales Representative or Account Representative.

The **ngti=2** parameter can be specified only with an ANSI point code and not with the **nnp** and **nai** parameters.

The **ngti=4** parameter can be specified only with an ITU point code. The **nnp** and **nai** 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 MGTT feature must be on and the ANSI-ITU-China SCCP Conversion feature must be enabled before the **ngti** parameter can be specified with the global title translation.

Table 3-6 shows the valid combinations for the **xlat**, **ri**, **ssn**, and **ngt** parameters. All other combinations are rejected.

Table 3-6. 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.

Table 3-6. 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
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 **ngt** parameter can be specified with the **xlat=dpc** and **ri=gt** parameters only if the ANSI-ITU-China SCCP Conversion feature is enabled. If this type of entry is changed by specifying the **xlat=dpc** parameter without specifying the **ngt** parameter, the existing **ngt** 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 that 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*.

Procedure

1. Display the translation types in the database using the **rtrv-tt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:42:31 GMT  EAGLE5 34.3.0
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. For this example, enter this command.

rtrv-gtt:typea=15:gta=800:egta=900

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:43:31 GMT  EAGLE5 34.3.0
TYPEA  TTN        NDGT
15     scp3       3

GTT TABLE IS  10 % FULL    (27000 of 269999)

START GTA             END GTA               XLAT   RI     PC
800                   900                   DPC    SSN    005-005-005
     SSN=--- NGT=---
```

NOTE: If the MGTT feature is not to be used with global title translation on the EAGLE 5 SAS, skip steps 3, 4, and 5, and go to step 6.

3. Verify whether or not either the MGTT feature is on by entering the **rtrv-feat** command. The entry **MGTT = on** is shown if the MGTT 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 MGTT feature is on, skip steps 4 and 5, and go to step 6.

4. Display the cards in the EAGLE 5 SAS using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

   Either TSMs or DSMs must be in the EAGLE 5 SAS before the MGTT feature can be turned on. See Table 2-4 on page 2-48 to determine whether TSMs or DSMs are required. Contact the Customer Care Center before replacing any SCCP cards. Refer to "Customer Care Center" on page 1-8 for the contact information.

5. Turn the MGTT feature on by entering this command.

   chg-feat:mgtt=on

   NOTE: Once the MGTT feature is turned on with the chg-feat command, it cannot be turned off.

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

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

```
rlghncxa03w 06-03-25 09:57:41 GMT EAGLE5 34.3.0
CHG-FEAT: MASP A - COMPLTD
```

NOTE: 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 ngti 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, skip this step and go to step 7.

6. 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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" procedure on page A-36 and the ANSI-ITU-China SCCP Conversion feature.

NOTE: If the EAGLE 5 SAS's point code is not going to used for the `pc` parameter of the `chg-gtt` command, skip steps 7 and 8, and go to step 9.

7. If the **`ri=ssn`** and **`xlat=dpcssn`** parameters are specified with the **`chg-gtt`** command, and you wish to use the EAGLE 5 SAS'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 SAS's self ID table. Display the EAGLE 5 SAS self-identification, using the **`rtrv-sid`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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
```

8. Enter the **`rtrv-ss-appl`** command to verify that either the LNP, EIR, 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 06-03-28 14:42:38 GMT EAGLE5 34.3.0
APPL       SSN       STAT
LNP        254       ONLINE

SS-APPL table is (1 of 1) 100% full
```

   If the subsystem number is shown in the **`rtrv-ss-appl`** output, go to step 10.

   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 enabled 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*
   - LNP subsystem – go to the *LNP Feature Activation Guide*

NOTE: If the `ri=ssn` and `xlat=dpc` parameters are not being specified with the `chg-gtt` command, or if the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are not being specified with the `chg-gtt` command, skip this step and go to step 10.

9. If the **`ri=ssn`** and **`xlat=dpc`** parameters are being specified with the **`chg-gtt`** command, the point code must be in the mated application table.

If the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the **`ri=ssn`** and **`xlat=dpcssn`** parameters are being specified with the **`chg-gtt`** command, the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number must be in the mated application table.

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`

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:42:31  GMT  EAGLE5 34.3.0

MAP TABLE IS   4 % FULL    (37 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCA          SSN RC MULT
   005-005-005  250 10 SOL                              YES YES GRP01    ON
```

If the point code, and subsystem number if applicable, is not shown in the **`rtrv-map`** output, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the required point code and subsystem number to the mated application table.

NOTE: If the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are being specified with the `ent-gtt` command, skip this step and go to step 11.

10. The point code specified with the **`chg-gtt`** command must be the DPC of a route, unless the point code is the EAGLE 5 SAS'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 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                   CLLI=ls07clli
```

rtrv-rte:dpca=005-005-005

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                   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.

---

11. Change the global title translation using the **chg-gtt** command. For this example, enter this command.

chg-gtt:type=15:gta=800:egta=850:xlat=dpcssn:ri=gt :pc=003-003-003:ssn=254

This message should appear.

```
rlghncxa03w 06-03-25 09:44:31  GMT  EAGLE5 34.3.0
CHG-GTT:  MASP A - COMPLTD
```

NOTES:

1. If the **rtrv-feat** command output in step 3 shows that the VGTT feature is off (**VGTT = off**), the length of the global title address specified with the **gta** and **egta** parameters must contain the number of digits specified in the NDGT field of the **rtrv-tt** command output in step 1.

2. If the **rtrv-feat** command output in step 3 shows that the VGTT feature is on (**VGTT = on**) and the translation type has 10 different length global title addresses assigned to it (shown in the **START GTA** field of the **rtrv-gtt** output in step 2), the length of the global title address specified with the **gta** and **egta** parameters must match the length of one of the global title addresses already assigned to the translation type. If the translation type has less than 10 different length global title addresses assigned to the translation type, the length of the global title address can be from one to 21 digits.

3. The **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, **nsds**, **rmgtt**, and **ngti** parameters cannot be specified if the MGTT feature is off.

4. The **rmgtt** parameter cannot be specified with the **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, **nsds**, **rmgtt**, and **ngti** parameters.

5. If the VGTT feature is off, and the MGTT feature is on, the number of digits specified with the **npds** parameter must be equal to the value of the **npdd** parameter, or the number of digits specified with the **nsds** parameter must be equal to the value of the **nsdd** parameter.

6. 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 and turned on, a GTT 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 disabled, the translation type parameters **typei**, **typen**, or **typen24** can be specified with either the **pci**, **pcn**, or **pcn24** parameters.

7. If the **ngt** parameter can be specified only with the **ri=gt** parameter and either the **xlat=dpcngt** or **xlat=dpc** parameters. The **xlat=dpc** parameter can be specified with the **ngt** parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.

8. The **ngti=2** parameter can be specified only for a global title translation containing an ANSI point code. The **nnp** and **nnai** parameters cannot be specified with the **ngti=2** parameter.

9. The **ngti=4** parameter can be specified only for a global title translation containing ITU point code. The **nnp** and **nnai** parameters must be specified for the global title translation, or the global title translation must contain values for the **nnp** and **nnai** parameters.

10. The **nnp** and **nnai** parameters can be specified only for a global title translation containing an ITU point code.

11. 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.

12. The **ngti** parameter can be specified only if the domain of the point code and translation type are different and if the ANSI-ITU-China SCCP Conversion feature is enabled.

12. Verify the changes using the **rtrv-gtt** command specifying the translation type, translation type name, or both used in step 11. For this example, enter this command.

rtrv-gtt:typea=15:gta=800:egta=900

This is an example of the possible output.

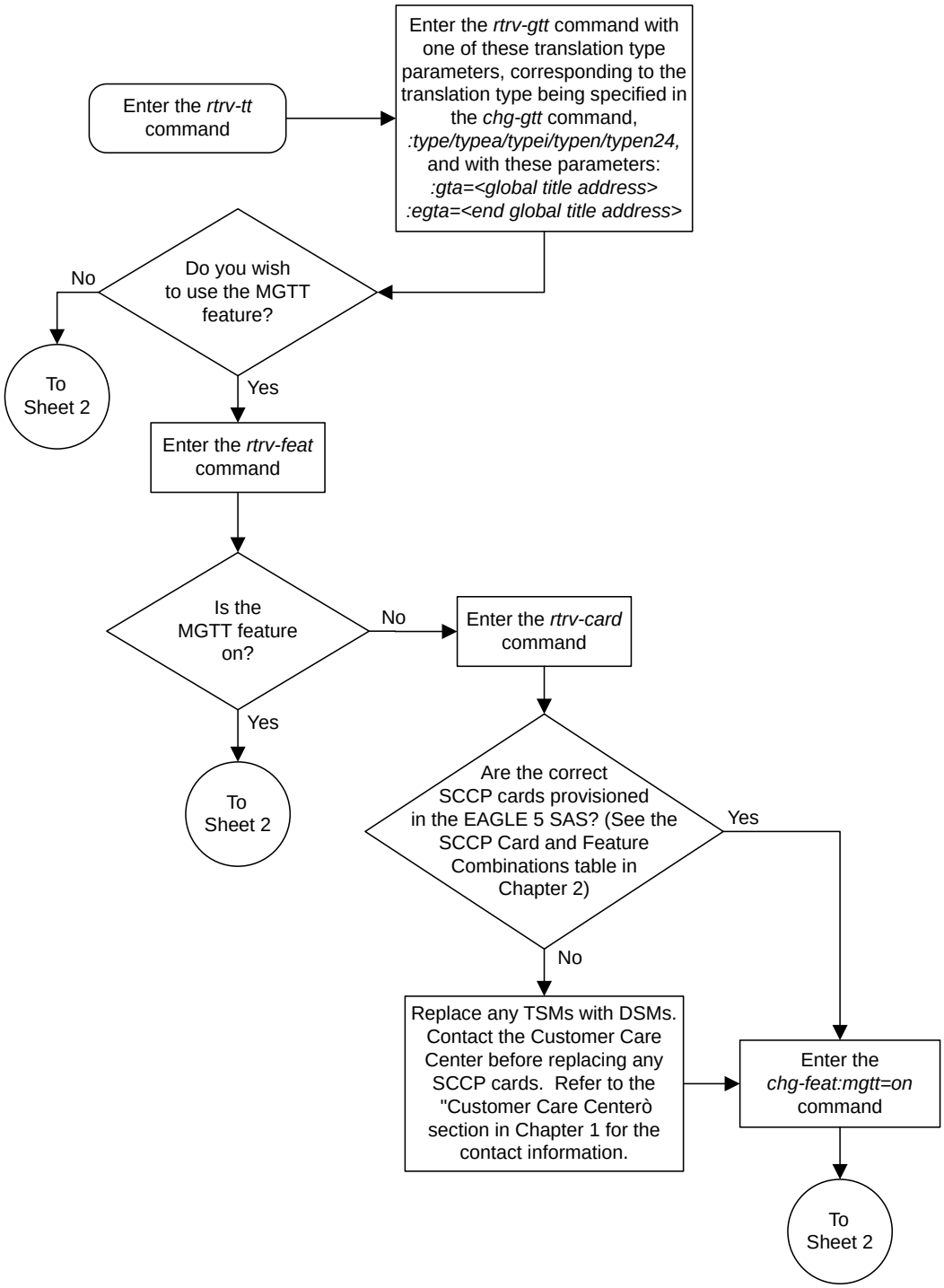
```
rlghncxa03w 06-03-25 09:45:31 GMT  EAGLE5 34.3.0
TYPEA  TTN        NDGT
15     scp3       3

GTT TABLE IS  10 % FULL    (27000 of 269999)

START GTA             END GTA               XLAT   RI     PC
800                   850                   DPCSSN GT     003-003-003
     SSN=254 NGT=---
851                   900                   DPCSSN GT     005-005-005
     SSN=250 NGT=---
```

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.

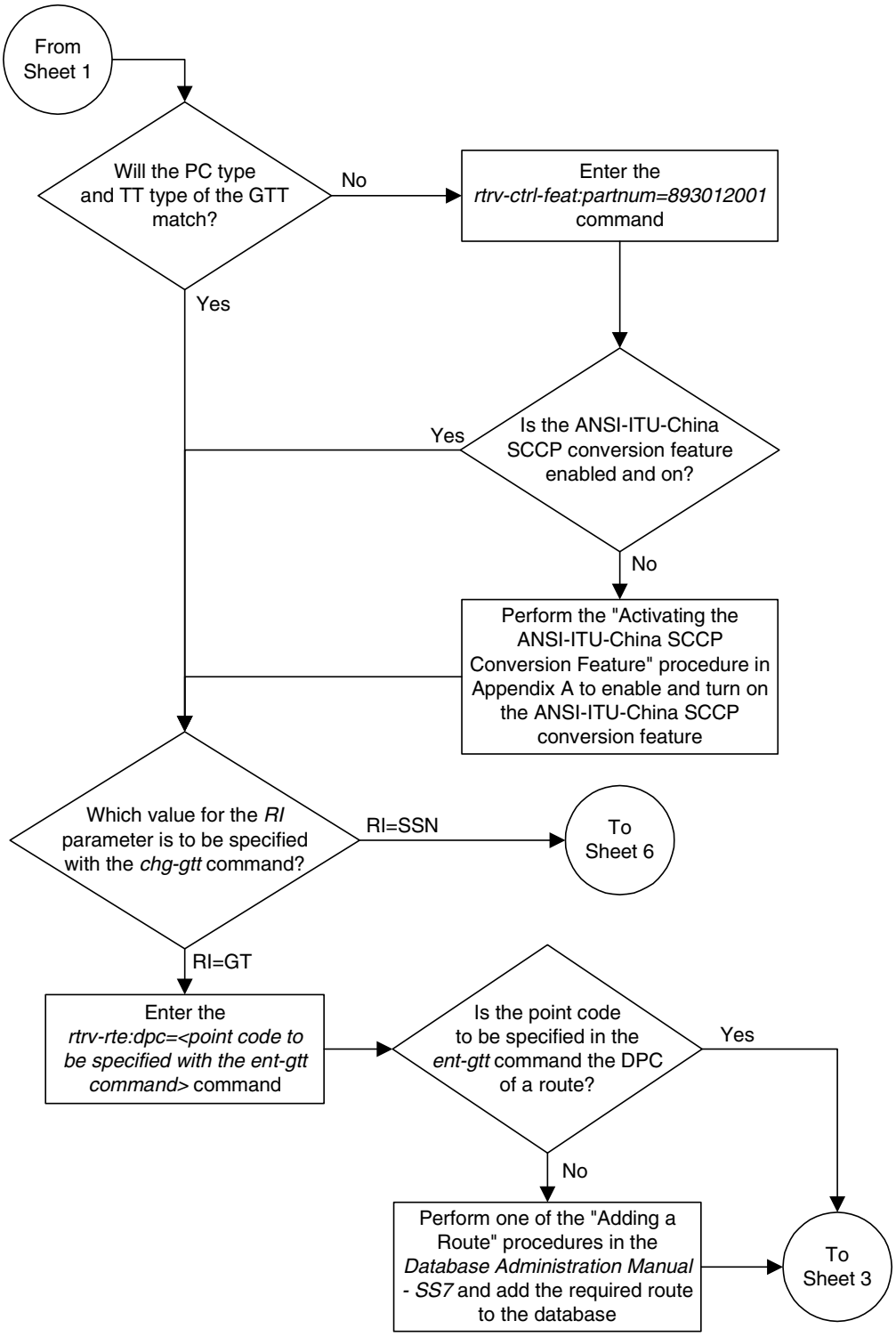
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Flowchart 3-5. Changing a Global Title Translation (Sheet 1 of 11)

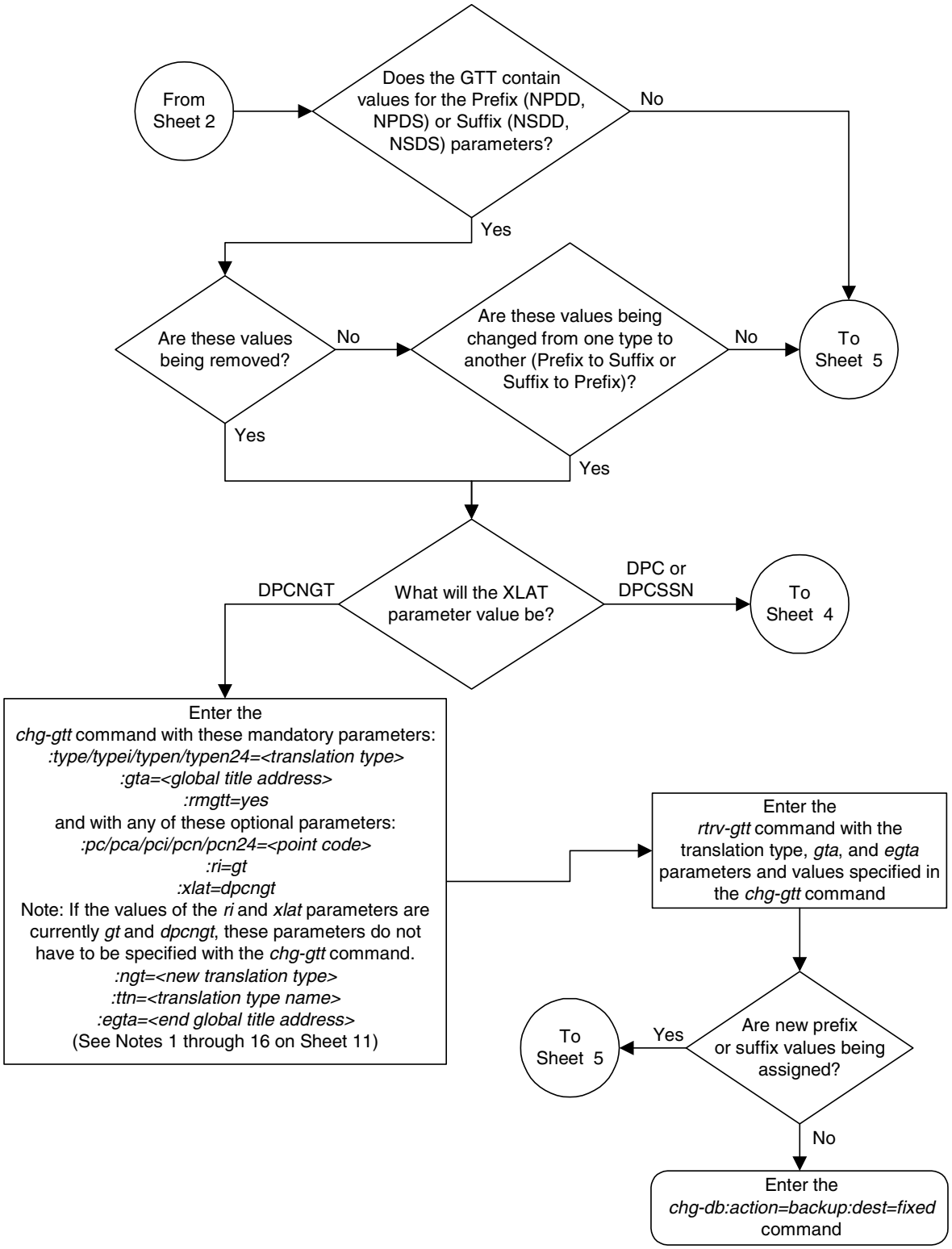
NOTE: Before executing this procedure, make sure you have purchased the MGTT feature. If you are not sure if you have purchased the MGTT feature, contact your Tekelec Sales Representative or Account Representative.



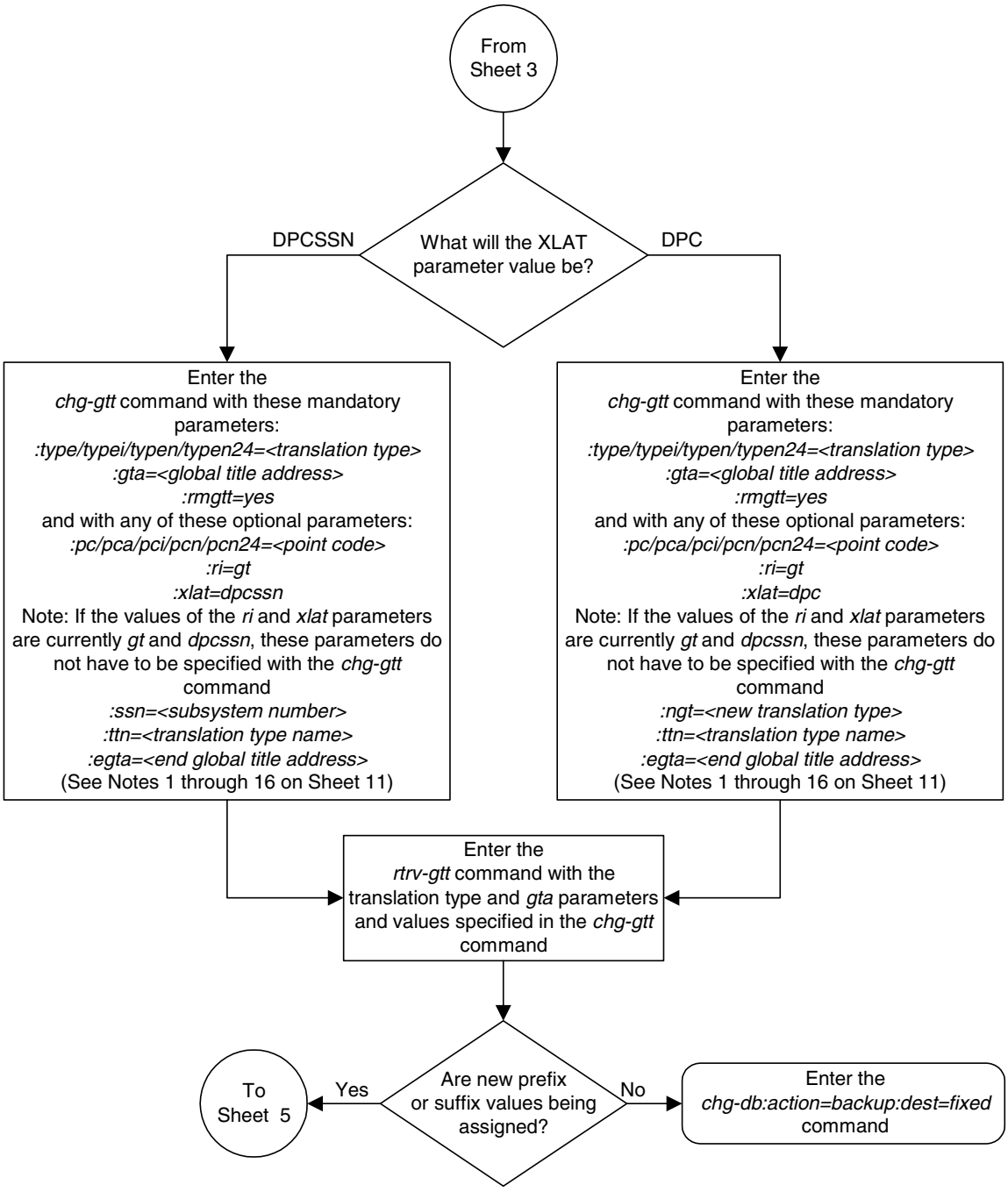
Flowchart 3-5. Changing a Global Title Translation (Sheet 2 of 11)



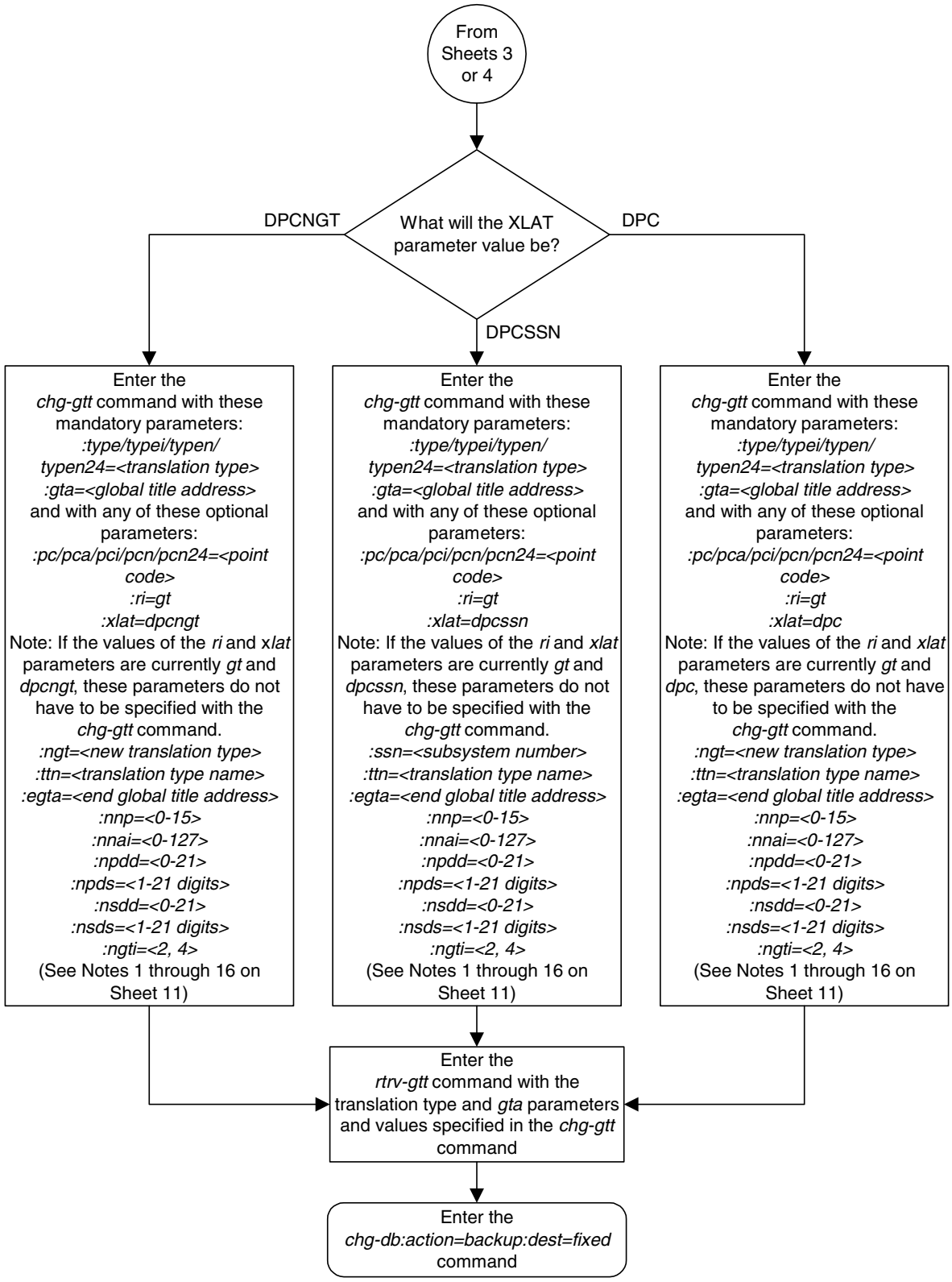
Flowchart 3-5. Changing a Global Title Translation (Sheet 3 of 11)



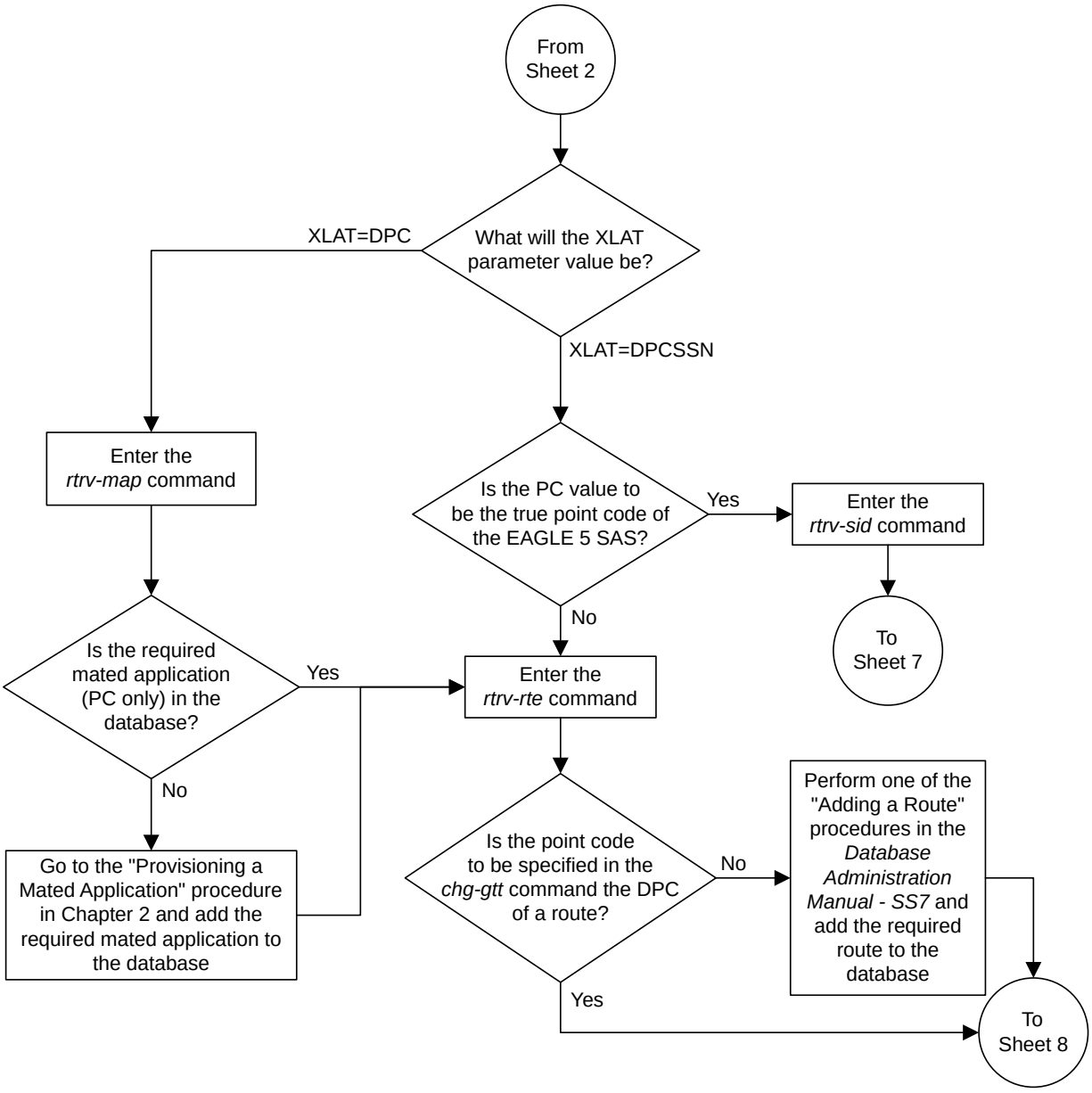
Flowchart 3-5. Changing a Global Title Translation (Sheet 4 of 11)



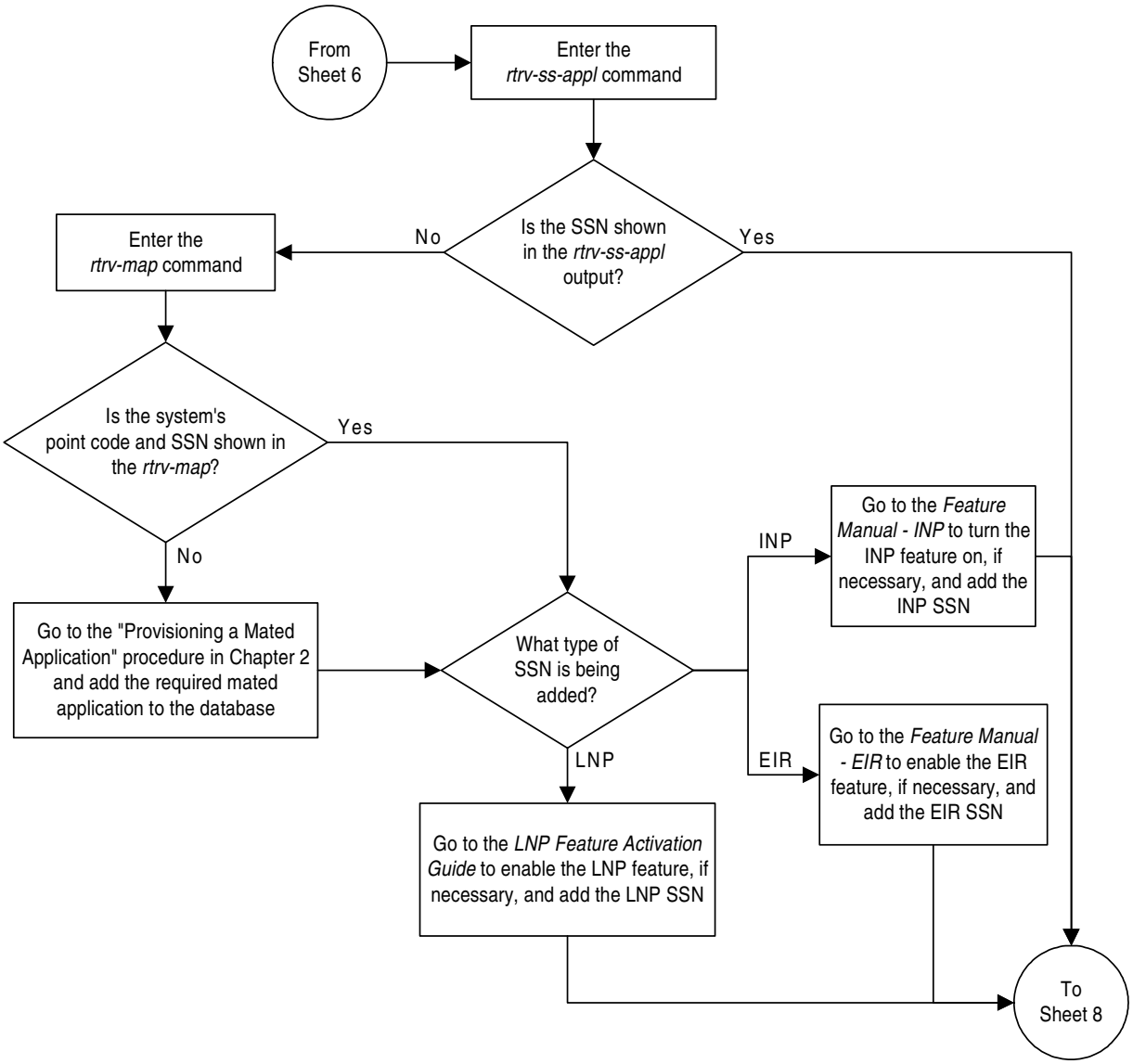
Flowchart 3-5. Changing a Global Title Translation (Sheet 5 of 11)



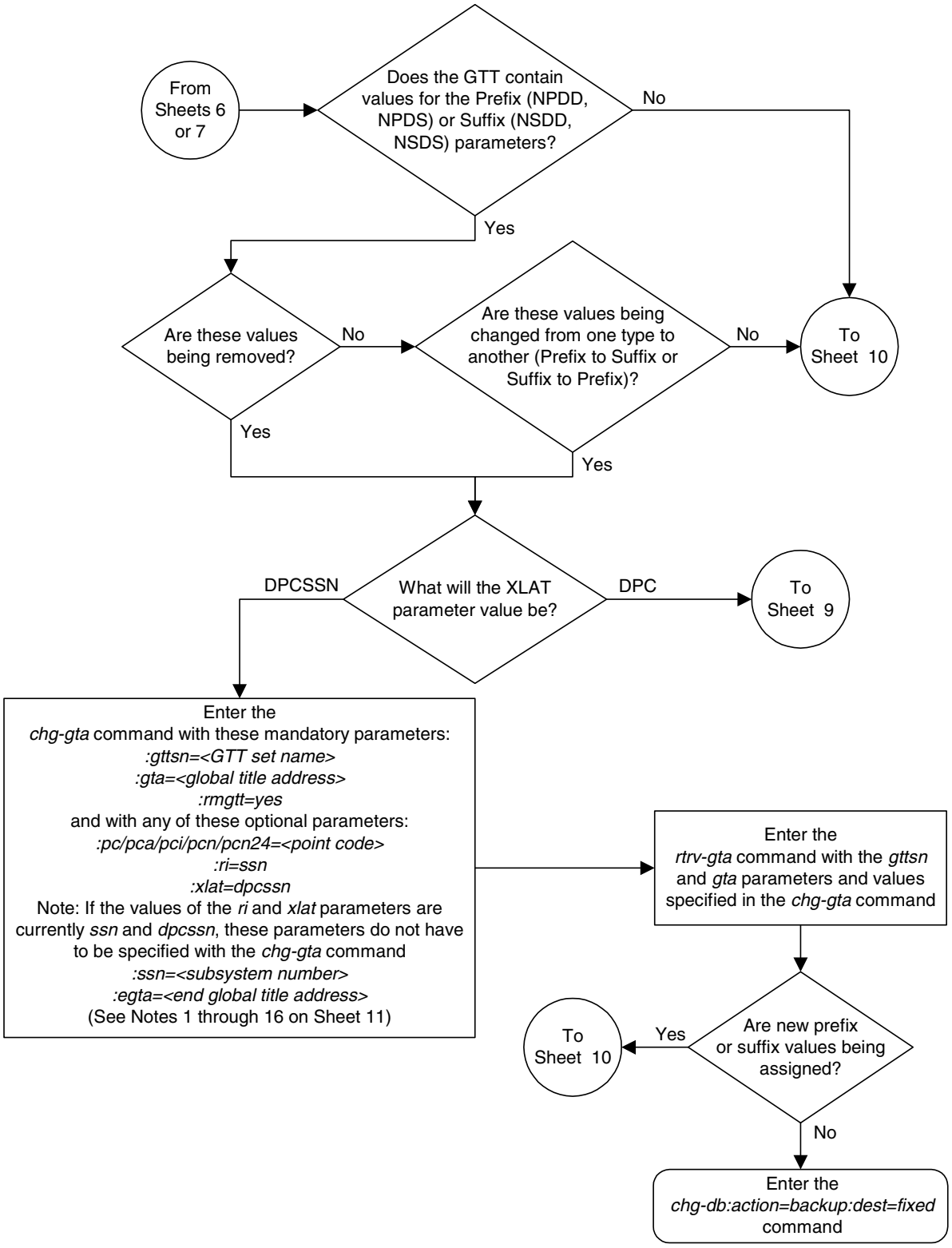
Flowchart 3-5. Changing a Global Title Translation (Sheet 6 of 11)



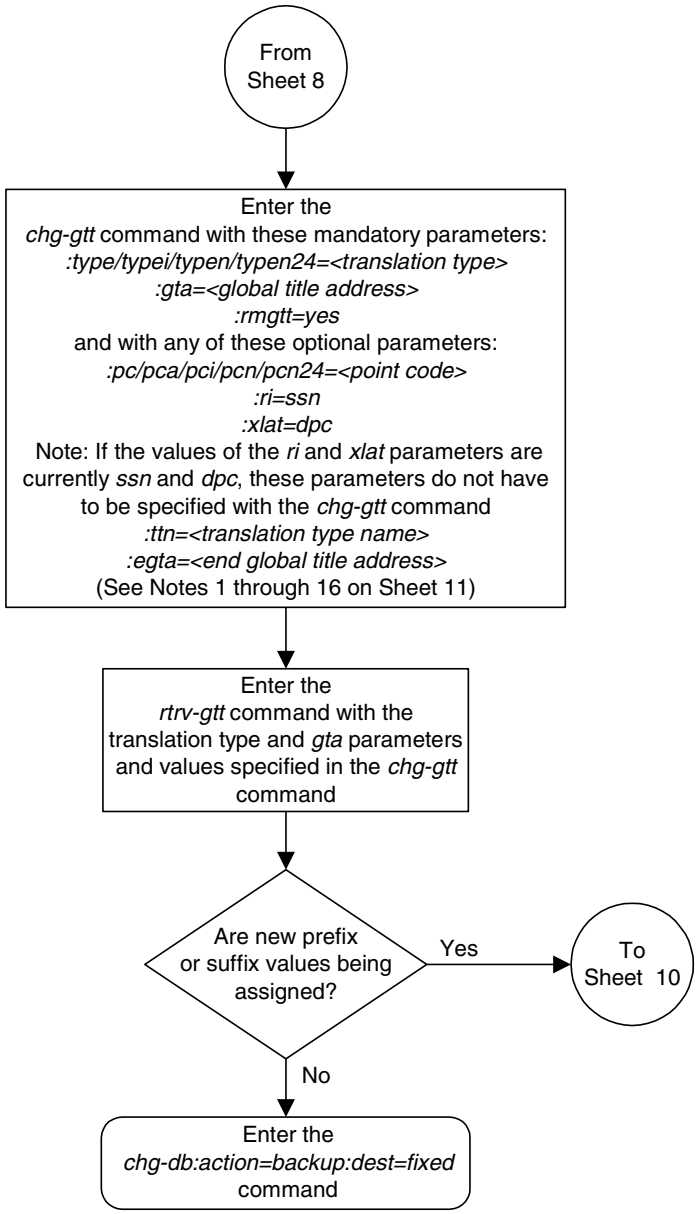
Flowchart 3-5. Changing a Global Title Translation (Sheet 7 of 11)



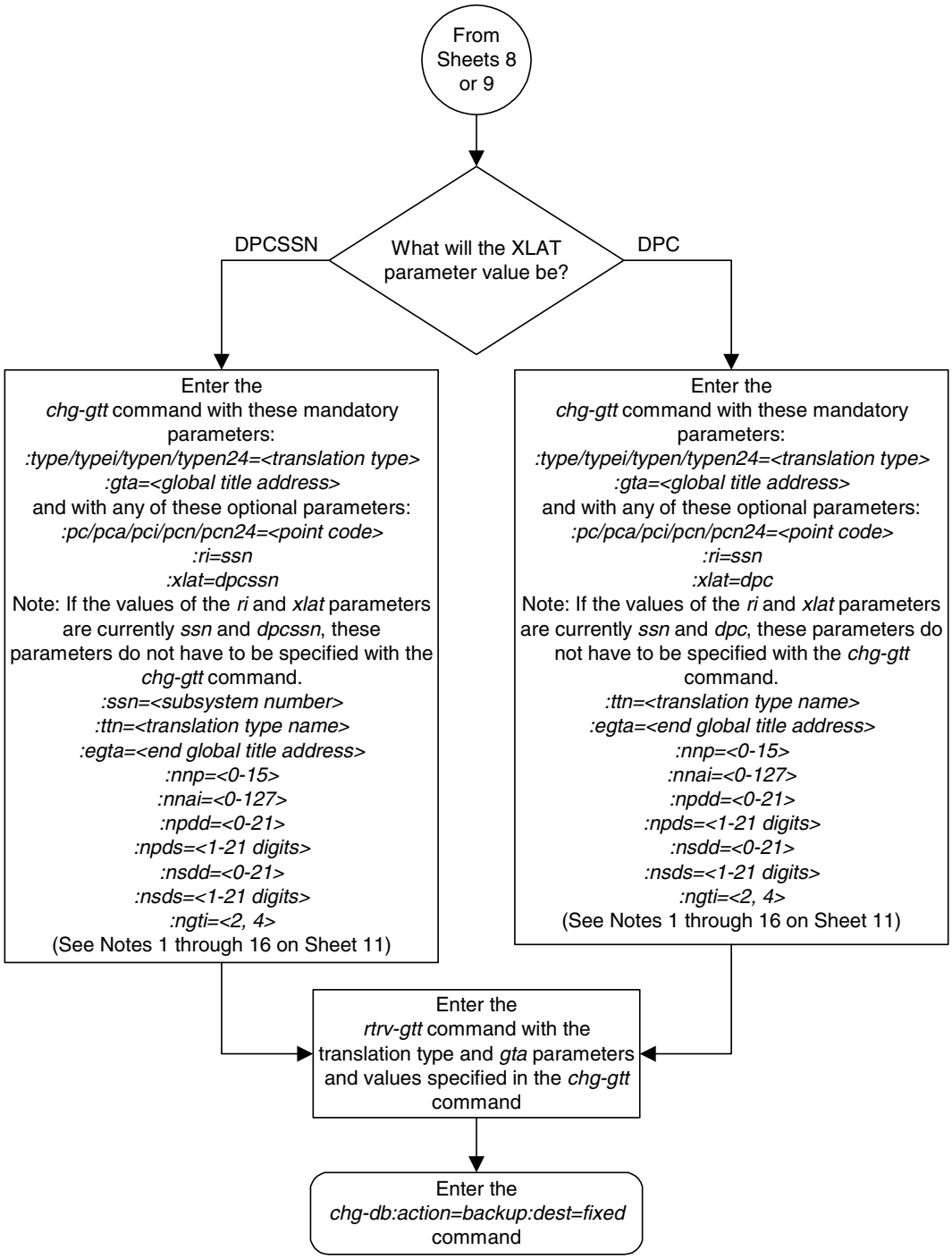
Flowchart 3-5. Changing a Global Title Translation (Sheet 8 of 11)



Flowchart 3-5. Changing a Global Title Translation (Sheet 9 of 11)



Flowchart 3-5. Changing a Global Title Translation (Sheet 10 of 11)



Flowchart 3-5. Changing a Global Title Translation (Sheet 11 of 11)

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:
   - *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.
2. The *type*/*typea*/*typei*/*typen*/*typen24* parameters specify the translation type and the network type of the translation type:
   - *type*/*typea* = ANSI translation type
   - *typei* = ITU-I translation type
   - *typen/typen24* = ITU-N translation type.
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 and turned on, a GTT 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 disabled, the translation type parameters *typei, typen,* or *typen24* can be specified with either the *pci*, *pcn*, or *pcn24* parameters.
4. If the VGTT feature is on, shown by the *VGTT = on* in the *rtrv-feat* output, and the translation type contains 10 different length GTAs, the length of the GTA must match any existing GTA assigned to the translation type.
5. If the translation type contains less than 10 different length GTAs, the length of the GTA can be from 1 to 21 digits.
6. 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-tt* output.
7. The *nnp*, *nnai*, *npdd*, *npds*, *nsdd*, *nsds*, *rmgtt*, and *ngti* parameters can be specified only if the MGTT feature is on. The *nnp*, *nnai*, *npdd*, *npds*, *nsdd*, *nsds*, and *ngti* parameters cannot be specified with the *rmgtt* parameter.
8. If the *ngt* parameter can be specified only with the *ri=gt* parameter and either the *xlat=dpcngt* or *xlat=dpc* parameters. The *xlat=dpc* parameter can be specified with the *ngt* parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.
9. The *ngti=2* parameter can be specified only for a global title translation containing an ANSI point code. The *nnp* and *nnai* parameters cannot be specified with the *ngti=2* parameter.
10. The *ngti=4* parameter can be specified only for a global title translation containing ITU point code. The *nnp* and *nnai* parameters must be specified for the global title translation, or the global title translation must contain values for the *nnp* and *nnai* parameters.
11. The *nnp* and *nnai* parameters can be specified only for a global title translation containing an ITU point code.
12. 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.
13. The *ngti* parameter can be specified only if the domain of the point code and translation type are different and if the ANSI-ITU-China SCCP Conversion feature is enabled.
14. The translation type cannot be defined as an alias translation type in the *rtrv-tt* output.
15. If either the *xlat=dpcssn* or *ssn* parameters are specified with the *chg-gtt* command, both parameters must be specified with the *chg-gtt* command.
16. If the *xlat=dpcngt* parameter is specified with the *chg-gtt* command, the *ngt* parameter must be specified with the *chg-gtt* command.

4

Enhanced Global Title Translation (EGTT) Configuration

Introduction 4–2

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Adding a GTT Selector 4–12

Removing a GTT Selector 4–17

Changing a GTT Selector 4–21

Adding Global Title Address Information 4–26

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Changing Global Title Address Information 4–54

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 Chapter 2, "Global Title Translation (GTT) Overview."

- SCCP cards
- 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*.

Figure 2-10 on page 2-45 shows the relationships of the database elements that are configured in these procedures.

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 SAS 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)" section on page 2-21.**

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 or ITU.

:ndgt – The number of digits contained in the global title translation.

NOTE: The domain ANSI or ITU is specified for all GTT set commands. These commands do not distinguish between ITU-N and ITU-I since the Enhanced Global Title Translation (EGTT) database does not yet distinguish ITU-National and ITU-International translations.

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, go to the "Adding an SCCP Card" procedure on page 2-48 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 950 entries.

The following examples use the data shown in Table 4-1 to add a GTT set to the database.

Table 4-1. Example Global Title Translation Set Configuration Table

GTT Set Name	Network Domain	Number of Digits
LIDB	ANSI	10
T800	ANSI	6
SI000	ITU	15

If the Variable-length Global Title Translation Feature (VGTT) is on, shown by the entry **VGTT = on** in the **rtrv-feat** command output, the **ndgt** parameter cannot be specified with the **ent-gttset** command. 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 the "Variable-length Global Title Translation Feature" section on page 2-12 and the "Adding Global Title Address Information" procedure on page 4-26.

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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 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.

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.

Procedure

1. Verify that the Enhanced Global Title Translation (EGTT) feature is on by entering the **rtrv-feat** command. If the EGTT feature is on, the **EGTT** field should be set to **on**. For this example, the **EGTT** feature are 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 are off, go to the "Adding an SCCP Card" procedure on page 2-48 to turn the EGTT feature on and to make sure that the correct hardware is installed to support the EGTT feature and other GTT features that may be used.

2. Display the existing GTT sets in the database using the **rtrv-gttset** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:29:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
imsi      itu     15
abcd1234  itu     12
```

NOTE: If the Variable-length Global Title Translation (VGTT) feature is on in step 1, or if the VGTT feature is not being used, skip step 3, and go to step 4.

3. 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 06-03-07 00:28:31 GMT EAGLE5 34.3.0
CHG-FEAT: MASP A - COMPLTD
```

---

4. Add the GTT sets to the database using the **ent-gttset** command. 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
```

NOTE: If the VGTT feature is on (shown by the entry VGTT = on in the rtrv-feat command output in step 1, or was turned on in step 3), the ndgt parameter cannot be used with the ent-gttset command.

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-07 00:29:31 GMT EAGLE5 34.3.0
GTT set table is (  5 of 950)  1% full
ENT-GTTSEL: MASP A - COMPLTD
```

---

5. Verify the changes using the **rtrv-gttset** command. This is an example of the possible output.

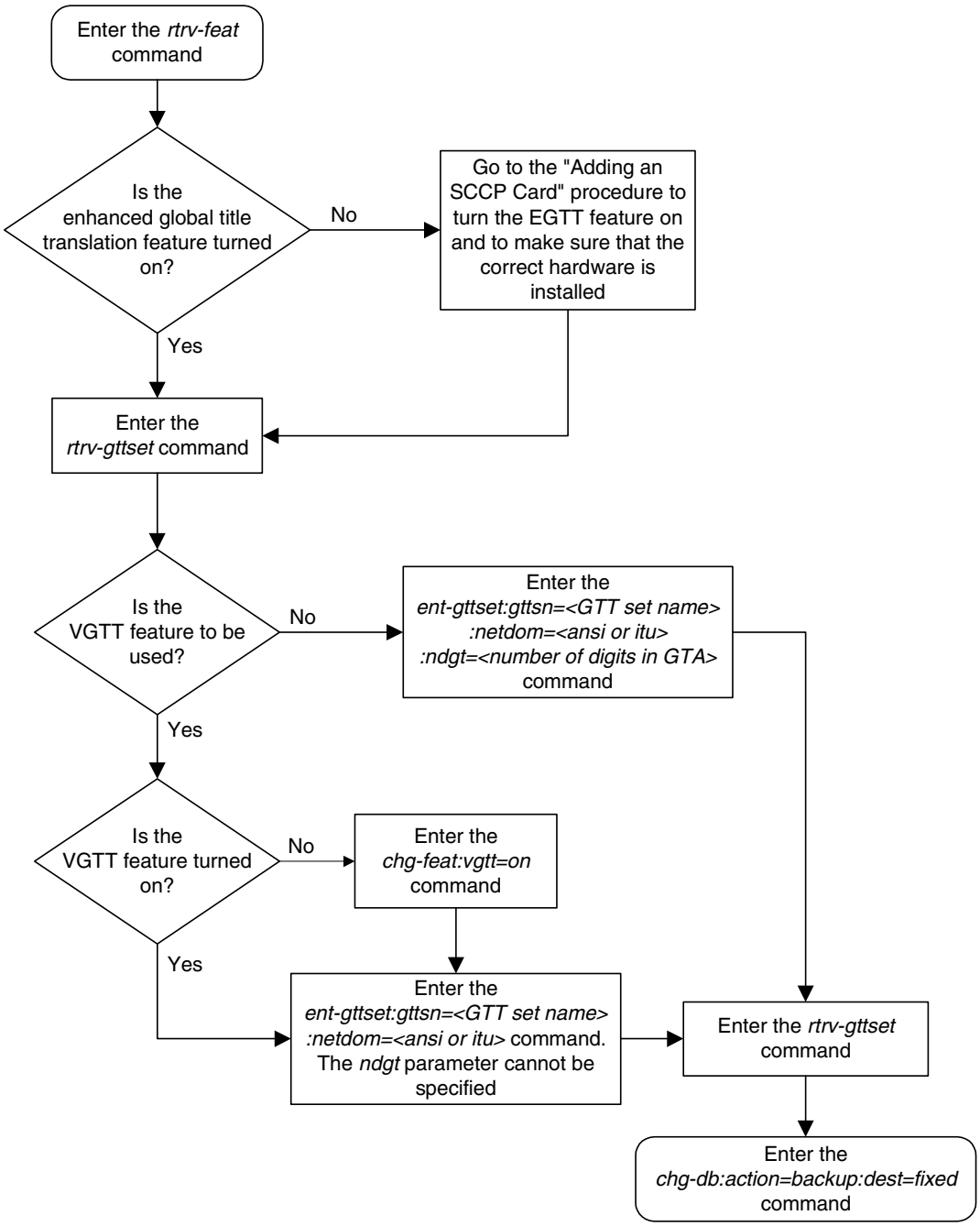
```
rlghncxa03w 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
t800      ansi    6
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

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.
```

Flowchart 4-1. Adding a GTT Set

NOTE: Before executing this procedure, make sure you have purchased the Enhanced Global Title Translation (EGTT) and the Variable-length Global Title Translation Feature (VGTT) feature. If you are not sure if you have purchased the EGTT or the VGTT features, contact your Tekelec Sales Representative or Account Representative.



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 specified GTT set cannot have any GTT selectors or GTAs using it.

Use the **rtrv-gta:gttsn=** command to view the global title address information using the specified GTT set name. If any GTAs are assigned to this GTT set name, go to the "Removing Global Title Address Information" procedure on page 4-49 and remove the global title address information from the database.

Use the **rtrv-gttsel:gttsn=** command to view the GTT selectors using the specified GTT set name. If any GTT selectors are assigned to this GTT set name, go to the "Removing a GTT Selector" procedure on page 4-17 and remove the selector from the database.

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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 digits.

The examples in this procedure are used to remove the GTT set name **t800** from the database.

Procedure

1. Display the existing GTT sets from the database using the **rtrv-gttset** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
t800      ansi    10
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

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 06-03-07 00:28:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
t800      ansi    10
GTA TABLE IS   1 % FULL  (17 of 269999)

START GTA  END GTA    XLAT   RI     PC
8005550000 8005551999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005552000 8005553999 dpc    gt     001-254-255
     SSN=0   CCGT=no  NTT=---
8005554000 8005555999 dpcngt gt     001-254-255
     SSN=--- CCGT=no  NTT=123
8005556000 8005557999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005558000 8005559999 dpcssn ssn    001-254-255
     SSN=255 CCGT=yes NTT=---
9195551212 9195551212 dpcssn ssn    008-001-001
     SSN=222 CCGT=no  NTT=---
9194600000 9194600000 dpc    gt     001-255-252
     SSN=0   CCGT=no  NTT=---
9194610000 9194680000 dpcssn ssn    001-255-252
     SSN=222 CCGT=no  NTT=---
9762428487 9762428487 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9766423277 9766423277 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9769388928 9769388928 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
```

   Go to the "Removing Global Title Address Information" procedure on page 4-49 and remove any global title address information that is shown in the **rtrv-gta** command output.

3. Verify that no GTT selectors reference the GTT set name being removed from the database. Use the **rtrv-gttsel** command with the **gttsn** parameter specifying the GTT set name being removed from the database. For this example, enter this command.

   rtrv-gttsel:gttsn=t800

   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:29:31 GMT EAGLE5 34.3.0
GTIA  TT   NP       NAI   GTTSN
2     10   --       ---   t800
```

   Go to the "Removing a GTT Selector" procedure on page 4-17 and remove any GTT selectors that are shown in the **rtrv-gttsel** command output.

4. 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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTT Set table is (  4 of 950)  1% full
DLT-GTTSET: MASP A - COMPLTD
```

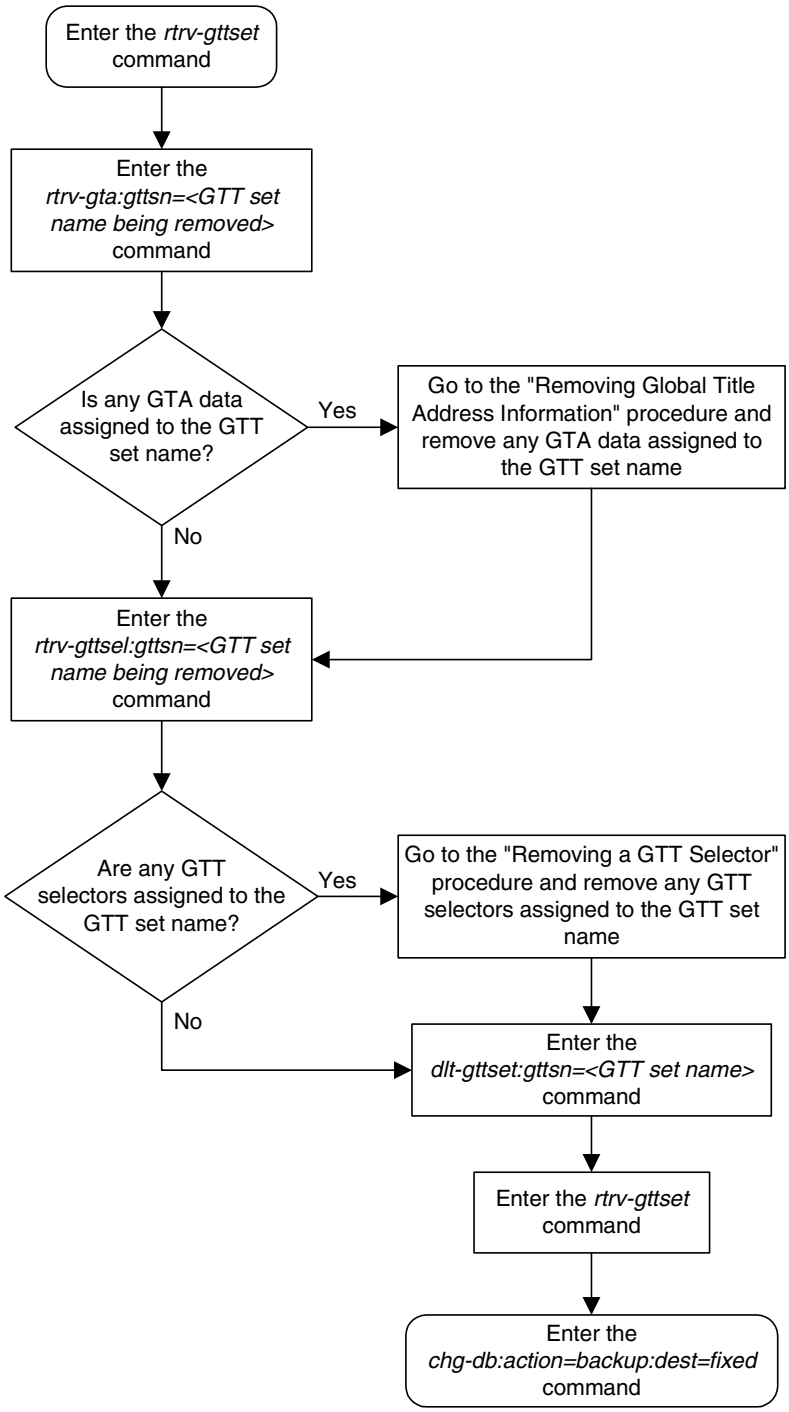
5. Verify the changes using the **rtrv-gttset** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:31:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

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.
```

Flowchart 4-2. Removing 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-gttsel** command.

The **ent-gttsel** 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) (See Table 4-2 on page 4-13 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 4-2 shows the mapping between the naiv and the nai parameters.

:np – The numbering plan.

:npv – The numbering plan value. (0-15) (See Table 4-3 on page 4-13 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 4-3 shows the mapping between the npv and the np parameters.

:gttsn – The GTT set name.

Table 4-2. 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 4-3. 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 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.

An entry must not already exist that exactly matches the specified **gti**, **tt**, **npv**, and **naiv** parameter combination.

The GTT set name (**gttsn**) may not already exist and must have the same network domain as the specified selector entry. Use the **rtrv-gttset** command to view the GTT set names. Use the **rtrv-gttsel** command to view the GTT selectors.

The GTT selector table may not have more than 20,992 entries:

- 256 ANSI selectors
- 256 ITU selectors with GTI=2
- 20,480 ITU selectors with GTI=4 (256 TTs * 16 NPs per TT * 5 NAIs per NP)

For the **gtin=4** (or **gtin24=4**) parameter, although the entry **DFLT** may appear in the **rtrv-gttsel** output, the value **dflt** cannot be specified as value for the **np** or **nai** parameters when you specify the **ent-gttsel** 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-gttsel** or **dlt-gttsel** commands to change or delete the **dflt** value. The parameter combination **npv/naiv** cannot be specified if **gtin=2** (or **gtin24=2**) or **gtii=2**. **GTIA=4** is not supported.

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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 digits.

The examples in this procedure are used to assign a GTT selector to the GTT set **si000** using the data shown in Table 4-4.

Table 4-4. Example GTT Selector Configuration Table

GTI	GTTSN	TT	NP	NAI
4	SI000	0	e164	intl

Procedure

1. Display the GTT set that the GTT selector will be assigned to using the **rtrv-gttset** command.

   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
t800      ansi    10
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

2. Display the GTT selectors assigned to the GTT set name that you wish to assign the new GTT selector to using the **rtrv-gttsel** command with the **gttsn** parameter specifying the name of the GTT set the GTT selector data was added to.

   For this example, enter this command.

   rtrv-gttsel:gttsn=si000

   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:28:31 GMT EAGLE5 34.3.0
GTII  TT   NP       NAI   GTTSN
4     0    dflt     dflt  si000
2     0    --       ---   si000
```

3. Add the GTT selector to the database with the **ent-gttsel** command. For this example, enter these commands:

   ent-gttsel:gtii=4:tt=0:gttsn=si000:np=e164:nai=intl

   When each of these commands has successfully completed, this message appears.

```
rlghncxa03w 06-03-07 00:29:31 GMT EAGLE5 34.3.0
GTT Selector table is (114 of 1024) 11% full
ENT-GTTSEL: MASP A - COMPLTD
```

4. Verify the changes using the **rtrv-gttsel** command with the gttsn parameter specifying the name of the GTT set the GTT selector data was added to. For this example, enter this command.

   rtrv-gttsel:gttsn=si000

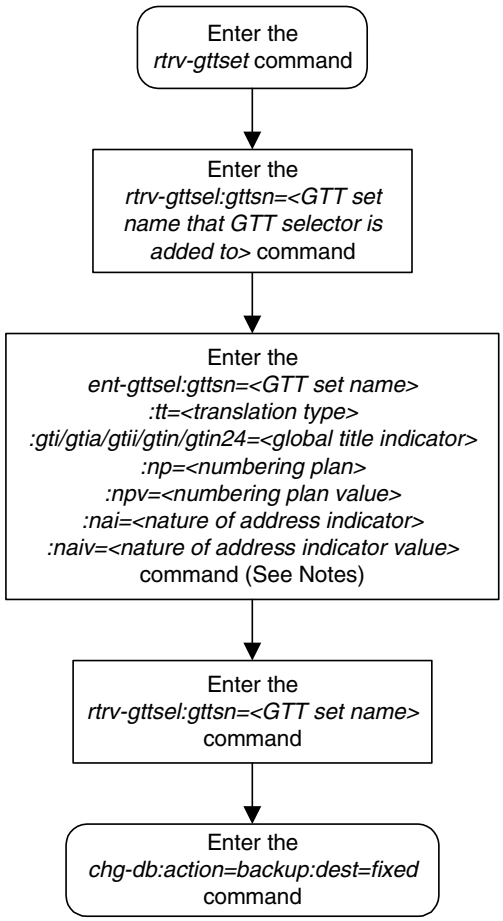
   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTII  TT   NP       NAI   GTTSN
4     0    dflt     dflt  si000
2     0    --       ---   si000
4     0    e164     intl  si000
```

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.
```

Flowchart 4-3. Adding a GTT Selector



Notes:

1. The *np* and *npv*, and the *nai* and *naiv* parameters cannot be specified together in the *ent-gttsel* command. See the NAIV/NAI Mapping table in this procedure for the *nai* and *naiv* parameter values. See the NPV/NP Mapping table in this procedure for the *np* and *npv* parameter values.

2. If the *gttsn* parameter value is an ANSI GTTSN, the *gtia* parameter value can only be 2.

3. If the *gttsn* parameter value is an ITU GTTSN, the *gtia* parameter value can only be 2 or 4

4. The *np* (or *npv*) and *nai* (or *naiv*) parameters can be specified only if the *gtii*/*gtin*/*gtin24* parameter value is 4. If the

gtii/*gtin*/*gtin24* parameter value is 4, the *np*/*npv* and *nai*/*naiv* parameters must be specified. The *np*/*npv* and *nai*/*naiv* parameters cannot be specified if the GTI (*gti*/*gtia*/*gtii*/*gtin*/*gtin24*) value is 2.

5. The domain of the new selector (*gti*/*gtia*/*gtii*/*gtin*/*gtin24*), must match the domain of the GTT set name (the *netdom* parameter value shown in the *rtrv-gttset* output).

6. The GTT selector table can contain a maximum of 1024 entries.

Removing a GTT Selector

Use the following procedure to delete the global title selector using the **dlt-gttsel** command.

The **dlt-gttsel** 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) (See Table 4-5 on page 4-18 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 4-5 shows the mapping between the naiv and the nai parameters.

:np – The numbering plan.

:npv – The numbering plan value. (0-15) (See Table 4-6 on page 4-18 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 4-6 shows the mapping between the npv and the np parameters.

Table 4-5. 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 4-6. 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 entry being removed, specified **gti**, **tt**, **npv**, and **naiv** parameter combination, must be in the database. If the GTI (**gtii**, **gtin**, **gtin24**) parameter value is 4, the **np/npv** and **nai/naiv** parameters must be specified. The **np/npv** and **nai/naiv** parameter combination cannot be specified if the GTI (**gti/gtia/gtii/gtin/gtin24**) parameter value is 2. The **gti/gtia=4** parameter is not supported.

Procedure

1. Display the GTT selectors assigned to a specified domain using the **rtrv-gttsel** command.

   NOTE: The rtrv-gttsel command cannot be canceled. Avoid lengthy output by specifying parameter combinations, for example, :gti and :tt, to filter the output.

   For this procedure, enter the following command:

   rtrv-gttsel:gtii=4:tt=0

   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTII  TT   NP       NAI   GTTSN
4     0    e164     sub   setint000
4     0    dflt     dflt  setint000
4     0    e164     intl  si000
```

2. Delete a GTT selector from the database using the **dlt-gttsel** command. For this example, enter this command:

   dlt-gttsel:gtii=4:tt=0:np=e164:nai=intl

   When the command has successfully completed, this message should appear:

```
rlghncxa03w 06-03-07 00:28:31 GMT EAGLE5 34.3.0
GTT Selector table is (113 of 1024) 11% full
DLT-GTTSEL: MASP A - COMPLTD
```

3. Verify the changes using the **rtrv-gttsel** command. For this procedure, enter the following command:

   rtrv-gttsel:gtii=4:tt=0

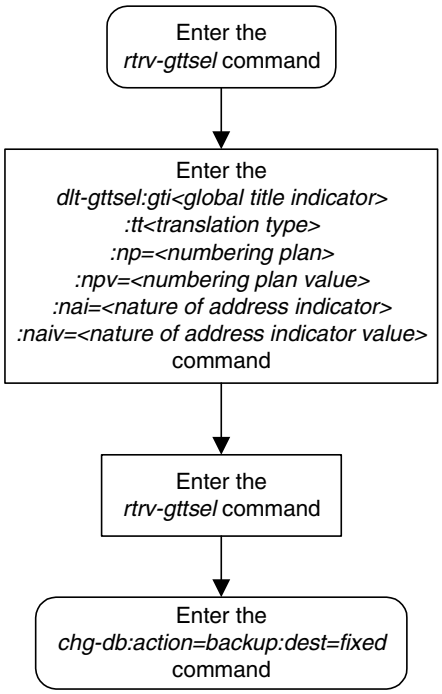
   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTII  TT   NP       NAI   GTTSN
4     0    e164     sub   setint000
4     0    dflt     dflt  setint000
```

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.
```

Flowchart 4-4. Removing a GTT Selector



Changing a GTT Selector

Use the following procedure to change the GTT set linked to a selector using the **chg-gttsel** command.

The **chg-gttsel** 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) (See Table 4-7 on page 4-22 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 4-7 shows the mapping between the naiv and the nai parameters.

:np – The numbering plan.

:npv – The numbering plan value. (0-15) (See Table 4-8 on page 4-22 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 4-8 shows the mapping between the npv and the np parameters.

:gttsn – The GTT set name.

Table 4-7. 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 4-8. 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 **np** (or **npv**) and **nai** (or **naiv**) parameters can be specified only if the **gtii/gtin/gtin24** parameter value is 4. If the **gtii/gtin/gtin24** parameter value is 4, the **np/npv** and **nai/naiv** parameters must be specified. The **np/npv** and **nai/naiv** parameters cannot be specified if the GTI (**gti/gtia/gtii/gtin/gtin24**) value is 2.

Since the **np/npv** and **nai/naiv** parameters can be specified only if the GTI value is 4, and the **gttsn**, **gti**, and **tt** parameters are mandatory for the **chg-gttsel** command, only GTT selectors containing the GTI value of 4 can be changed. To change a GTT selector with a GTI value of 2, remove the GTT selector using the "Removing a GTT Selector" procedure on page 4-17, then re-enter the GTT selector using the "Adding a GTT Selector" procedure on page 4-12.

The GTT selector table may not have more than 20,992 entries:

- 256 ANSI selectors
- 256 ITU selectors with GTI=2
- 20,480 ITU selectors with GTI=4 (256 TTs * 16 NPs per TT * 5 NAIs per NP)

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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 digits.

Procedure

1. Display the GTT set names in the database using the **rtrv-gttset** command.

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
t800      ansi    10
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

2. Display the GTT selector you wish to change using the **rtrv-gttsel** command with the **gttsn** parameter specifying the name of the GTT set containing the GTT selector being changed.

NOTE: The rtrv-gttsel command cannot be canceled. Avoid lengthy output by specifying parameter combinations, for example, :gti and :tt, to filter the output.

For this procedure, enter the following command:

rtrv-gttsel:gttsn=imsi:gtii=4:tt=0

This is an example of the possible output.

```
GTII  TT   NP       NAI   GTTSN
4     0    e164     sub   imsi
4     0    dflt     dflt  imsi
```

3. Change the selector using the **chg-gttsel** command. For example, enter this command.

   chg-gttsel:gtii=4:tt=0:np=e164:nai=intl:gttsn=imsi

   After the successful completion of this command, this message appears:

```
rlghncxa03w 06-03-07 00:28:31 GMT EAGLE5 34.3.0
GTT Selector table is (114 of 1024) 11% full
CHG-GTTSEL: MASP A - COMPLTD
```

4. Verify the changes using the **rtrv-gttsel** command with the parameters specified in step 3. For example, enter this command.

   rtrv-gttsel:gtii=4:tt=0:np=e164:nai=intl:gttsn=imsi

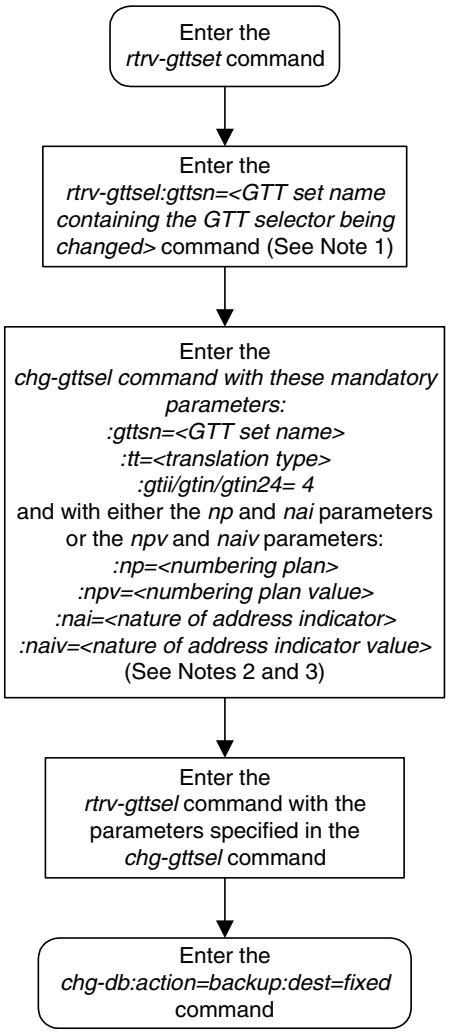
   This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTII  TT   NP       NAI   GTTSN
4     0    e164     intl  imsi
```

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.
```

Flowchart 4-5. Changing a Global Title Translation Selector



Notes:

1. The *rtrv-gttsel* command cannot be canceled. To avoid lengthy outputs, the *gti* and *tt* parameters can be specified to filter the output.

2. Since the *np*/*npv* and *nai*/*naiv* parameters can be specified only if the GTI value is 4, and the *gttsn*, *gti*, and *tt* parameters are mandatory, only GTT selectors containing the GTI value of 4 can be changed. To change a GTT selector with a GTI value of 2, remove the GTT selector using the "Removing a GTT Selector" procedure, then re-enter the GTT selector using the "Adding a GTT Selector" procedure.

3. The *np* and *npv*, and the *nai* and *naiv* parameters cannot be specified together in the *ent-gttsel* command. See the NAIV/NAI Mapping table in this procedure for the *nai* and *naiv* parameter values. See the NPV/NP Mapping table in this procedure for the *np* and *npv* parameter values.

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 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 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

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

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 SAS and for a definition of the different formats that can be used for ITU national point codes.

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 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 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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 digits.

If the translation type has 10 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 being added to the GTT set name must be the same as one of the 10 lengths already assigned to the GTT set name. If the length of the global title address does not match one of the 10 lengths already assigned to the GTT set name, the **ent-gta** command is rejected with this message.

E2959 Cmd Rej: No more than 10 GTA lengths supported per GTTSET for VGTT

If the GTT set name has less than 10 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.

Go to the "Variable-length Global Title Translation Feature" section on page 2-12 for more information about this feature.

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 GTA range cannot overlap a currently existing range for the specified GTT set in the active data base.

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 06-03-24 08:29:15 GMT EAGLE5 34.3.0
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 set to **DPCNGT**.

The translation type (**tt**) must match that of an existing ANSI GTT selector which is assigned to a GTT set and may not be defined as an alias.

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 EIR features must be enabled or the INP feature must be 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, the entry **EIR** is shown in the **rtrv-ctrl-feat** command output as being permanently or temporarily enabled. If the INP feature is on, the entry **INP = on** is shown in the **rtrv-feat** command output.

NOTE: The Local Number Portability (LNP), Equipment Identity Register (EIR) or INAP Number Portability (INP) feature must be purchased before you either enable the LNP or EIR features or turn the INP feature on. If you are not sure whether you have purchased the LNP, EIR, or INP feature, contact your Tekelec Sales Representative or Account Representative.

Once the LNP is enabled with the enable-ctrl-feat command, or the INP feature is turned on with the chg-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, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the point code and subsystem number to the database as a mated application.

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 SAS 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 **ccgt=yes** parameter is specified, then the **ri** parameter must be set to **ssn**. If the point code is the STP's point code or concerned point codes, then the value of the **ccgt** parameter must be set to **no**.

The **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, and **nsds** parameters are used by the Global Title Translation Modification (MGTT) 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 MGTT feature is on. This can be verified with the entry **MGTT = on** in the **rtrv-feat** command output. If the MGTT feature is not on, the EAGLE 5 SAS must contain the hardware specified in Table 2-4 on page 2-48 before the MGTT feature can be turned on. Before turning on the MGTT feature, make sure you have purchased this feature. If you are not sure whether you have purchased the MGTT feature, contact your Tekelec Sales Representative or Account Representative.

The **ngti=2** parameter can be specified only with an ANSI point code and not with the **nnp** and **nai** parameters.

The **ngti=4** parameter can be specified only with an ITU point code. The **nnp** and **nai** 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 MGTT feature must be on and the ANSI-ITU-China SCCP Conversion feature must be enabled before the **ngti** parameter can be specified with the global title translation.

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.

The prefix parameters (**npdd** and **npds**) and the suffix parameters (**nsdd** and **nsds**) cannot be specified with 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.

The EAGLE 5 SAS 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, go to the "Enabling the XGTT Table Expansion feature" procedure on page A-17.

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 that 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*.

Procedure

1. Display the existing GTT sets in the database using the **rtrv-gttset** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
t800      ansi    10
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

If the desired GTT set is not in the database, perform the "Adding a GTT Set" procedure on page 4-3 to add the desired GTT set. Skip step 2 and go to step 3.

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. 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 06-03-07 00:28:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
t800      ansi    10
GTA TABLE IS   1 % FULL  (17 of 269999)

START GTA  END GTA    XLAT   RI     PC
8005550000 8005551999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005552000 8005553999 dpc    gt     001-254-255
     SSN=0   CCGT=no  NTT=---
8005554000 8005555999 dpcngt gt     001-254-255
     SSN=--- CCGT=no  NTT=123
8005556000 8005557999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005558000 8005559999 dpcssn ssn    001-254-255
     SSN=255 CCGT=yes  NTT=---
9195551212 9195551212 dpcssn ssn    008-001-001
     SSN=222 CCGT=no  NTT=---
9762428487 9762428487 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9766423277 9766423277 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9769388928 9769388928 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
```

NOTE: If the rtrv-gta output in step 2 shows that the maximum number of global title addresses is 1,000,000, skip step 3 and go to step 4.

NOTE: If the If the rtrv-gta output in step 2 shows that the maximum number of global title addresses is 400,000, and the global title address being added increase the number beyond 400,000, do not perform step 3 but go to the "Enabling the XGTT Table Expansion feature" procedure on page A-17 and enable XGTT Table Expansion controlled feature for 1,000,000 global title addresses. Then go to step 4.

NOTE: If the If the rtrv-gta output in step 2 shows that 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 quantity shown in the rtrv-gta output in step 2, skip step 3 and go to step 4.

3. Display the status of the XGTT Table Expansion controlled feature by entering the **rtrv-ctrl-feat** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
XGTT Table Expansion      893006101  off     ----
HC-MIM SLK Capacity       893012707  on      64

XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  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.
```

If the XGTT Table Expansion controlled feature is not enabled, go to "Enabling the XGTT Table Expansion feature" procedure on page A-17 and enable XGTT Table Expansion controlled feature for either 400,000 or 1,000,000 global title addresses as required. Then go to step 4.

NOTE: If the MGTT feature is not to be used with the enhanced global title translation feature, skip steps 4, 5, and 6, and go to step 7.

4. Verify whether or not either the MGTT feature is on by entering the **rtrv-feat** command. The entry **MGTT = on** is shown if the MGTT 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 MGTT feature is on, skip steps 5 and 6, and go to step 7.

---

5. Display the cards in the EAGLE 5 SAS using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

Either TSMs or DSMs must be in the EAGLE 5 SAS before the MGTT feature can be turned on. See Table 2-4 on page 2-48 to determine whether TSMs or DSMs are required. Contact the Customer Care Center before replacing any SCCP cards. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

6. Turn the MGTT feature on by entering this command.

chg-feat:mgtt=on

NOTE: Once the MGTT feature is turned on with the chg-feat command, it cannot be turned off.

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

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

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
CHG-FEAT: MASP A - COMPLTD
```

NOTE: If the domain (ANSI or ITU) of the point code and the GTT set assigned to the GTA will be different, and the ngti parameter will be specified with the GTA, 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 step 3 shows that the ANSI-ITU-China SCCP Conversion feature is enabled, skip this step and go to step 8.

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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" procedure on page A-36 and the ANSI-ITU-China SCCP Conversion feature.

NOTE: If the EAGLE 5 SAS's point code is not going to used for the `pc` parameter of the `ent-gta` command, skip steps 8 and 9, and go to step 10.

---

8. If the **`ri=ssn`** and **`xlat=dpcssn`** parameters are specified with the **`ent-gta`** command, and you wish to use the EAGLE 5 SAS'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 SAS's self ID table. Display the EAGLE 5 SAS self-identification, using the **`rtrv-sid`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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. Enter the **rtrv-ss-appl** command to verify that either the LNP, EIR, 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 06-03-28 14:42:38 GMT EAGLE5 34.3.0
APPL       SSN       STAT
LNP        254       ONLINE

SS-APPL table is (1 of 1) 100% full
```

If the subsystem number is shown in the **rtrv-ss-appl** output, go to step 10.

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 enabled 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*
- LNP subsystem – go to the *LNP Feature Activation Guide*

NOTE: If the ri=ssn and xlat=dpc parameters are not being specified with the ent-gta command, or if the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the ri=ssn and xlat=dpcssn parameters, are not being specified with the ent-gta command, skip this step and go to step 11.

10. 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. 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

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:42:31  GMT  EAGLE5 34.3.0

MAP TABLE IS   1 % FULL    (11 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCA          SSN RC MULT
   001-255-001  250 10 SOL                             YES YES GRP01    ON
```

If the point code is not shown in the **rtrv-map** output, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the required point code and subsystem number to the mated application table.

NOTE: If the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are being specified with the `ent-gta` command, skip this step and go to step 12.

11. The point code specified with the **`ent-gta`** command must be the DPC of a route, unless the point code is the EAGLE 5 SAS'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 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                    CLLI=ls03clli
```

`rtrv-rte:dpca=001-255-252`

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                    CLLI=ls07clli
```

`rtrv-rte:dpca=001-255-001`

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                    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.

12. Add a global title address to a GTT set using the **ent-gta** command. For this example, enter these commands:

```
ent-gta:gttsn=t800:gta=9194605555:xlat=dpcngt:ri=gt
:pc=001-255-100:nnp=3:nnai=120:npdd=2:npds=34

ent-gta:gttsn=t800:gta=9194610000:egta=9194689999:xlat=dpcssn
:ri=ssn:pc=001-255-252:ssn=254

ent-gta:gttsn=t800:gta=3365840000:egta=3365849999:xlat=dpc
:ri=ssn:pc=001-255-001
```

When each of these commands has successfully completed, this message appears.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
ENT-GTA: MASP A - COMPLTD
```

NOTES:

1. If the **rtrv-feat** command output in step 4 shows that the VGTT feature is off (**VGTT = off**), the length of the global title address specified with the **gta** and **egta** parameters must contain the number of digits specified in the **NDGT** field of the **rtrv-gttset** command output in step 1.

2. If the **rtrv-feat** command output in step 4 shows that the VGTT feature is on (**VGTT = on**) and the GTT set has 10 different length global title addresses assigned to it (shown in the **START GTA** field of the **rtrv-gta** output in step 2), the length of the global title address specified with the **gta** and **egta** parameters must match the length of one of the global title addresses already assigned to the GTT set. If the GTT set contains less than 10 different length global title addresses, the length of the global title address can be from one to 21 digits.

3. If the translate indicator is equal to **dpc** (**xlat=dpc**) and the routing indicator is equal to **ssn** (**ri=ssn**), the point code specified in the **ent-gta** command must be defined in the database as a mated application in step 10. If the point code is not shown in step 10, the **force=yes** parameter must be specified with the **ent-gta** command.

4. 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.

5. The **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, and **nsds** parameters cannot be specified if the MGTT feature is off.

6. The **ngti** parameter can be specified only if the MGTT feature is on and if the ANSI-ITU-China SCCP Conversion feature is enabled.

7. The **ntt** parameter can be specified only with the **ri=gt** parameter and either the **xlat=dpcngt** or **xlat=dpc** parameters. The **xlat=dpc** parameter can be specified with the **ntt** parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.

8. The **ngti=2** parameter can be specified only with an ANSI point code, and not with the **nnp** and **nnai** parameters.

9. 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 global title translation.

10. The prefix parameters (**npdd** and **npds**) and the suffix parameters (**nsdd** and **nsds**) cannot be specified in 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.

11. If the point code is the STP's point code or concerned point codes, then the value of the **ccgt** parameter must be set to no.

12. 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.

13. Verify the changes to the GTT set using the **rtrv-gta** command with the **gttsn** parameter value specified in step 12. 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.

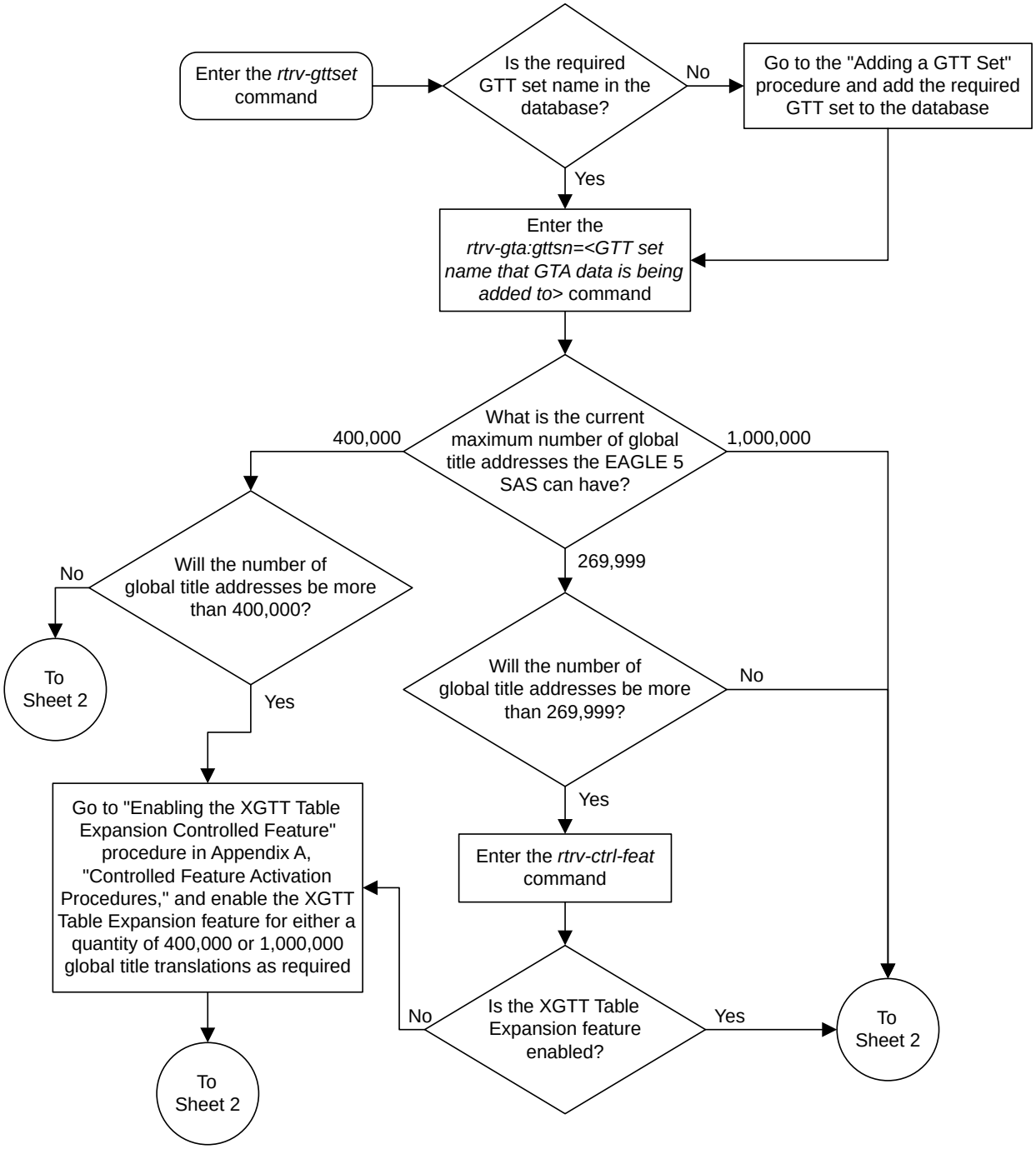
```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
t800      ansi    10
GTA TABLE IS   1 % FULL  (17 of 269999)

START GTA  END GTA    XLAT   RI     PC
3365840000 3365849999 dpc    ssn    001-255-001
     SSN=0   CCGT=no  NTT=---
8005550000 8005551999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005552000 8005553999 dpc    gt     001-254-255
     SSN=0   CCGT=no  NTT=---
8005554000 8005555999 dpcngt gt     001-254-255
     SSN=--- CCGT=no  NTT=123
8005556000 8005557999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005558000 8005559999 dpcssn ssn    001-254-255
     SSN=255 CCGT=yes NTT=---
9194605555 9194605555 dpcngt gt     001-255-100
     SSN=--- CCGT=no  NTT=75
     NNP=3 NNAI=120 NPDD=2 NPDS=34
     NGTI=
9194610000 9194689999 dpcssn ssn    001-255-252
     SSN=254 CCGT=no  NTT=---
9195551212 9195551212 dpcssn ssn    008-001-001
     SSN=222 CCGT=no  NTT=---
9762428487 9762428487 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9766423277 9766423277 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9769388928 9769388928 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
```

14. 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.

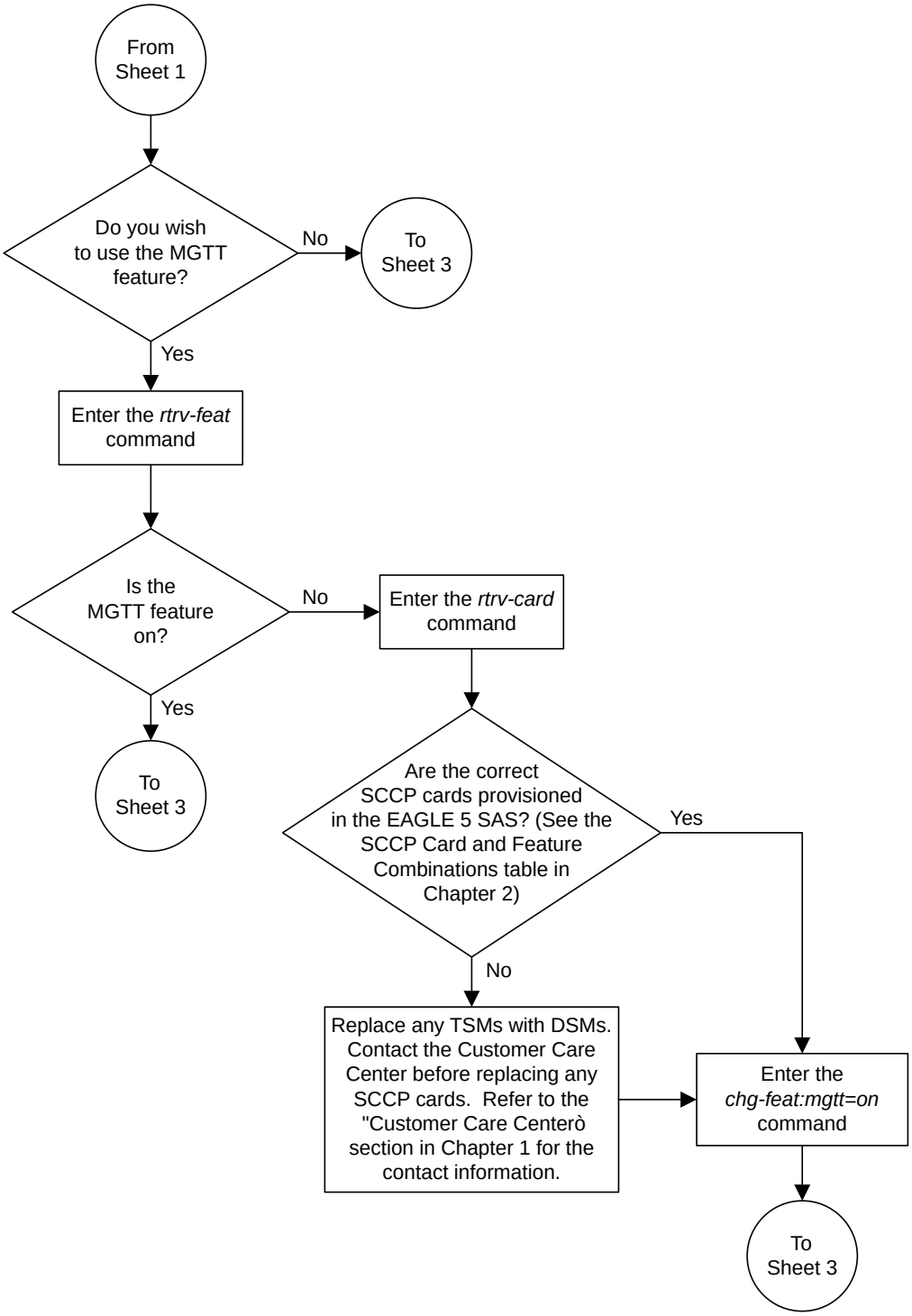
```
BACKUP (FIXED): MASP A - Backup starts on active MASP.
BACKUP (FIXED): MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED): MASP A - Backup starts on standby MASP.
BACKUP (FIXED): MASP A - Backup on standby MASP to fixed disk complete.
```

Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 1 of 8)

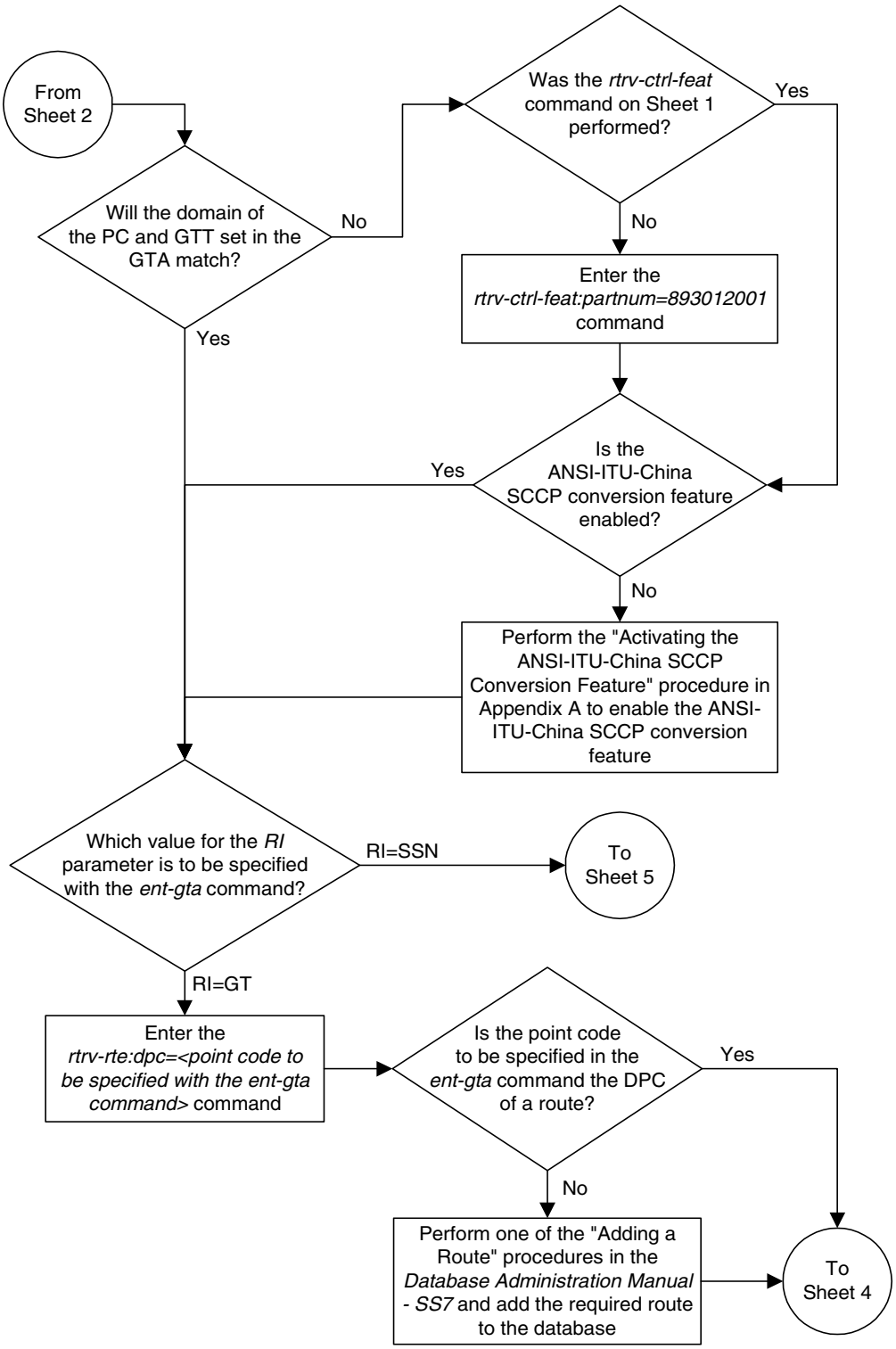
Note: Before executing this procedure, make sure you have purchased the Global Title Translation (GTT) feature, the Enhanced Global Title Translation (EGTT) feature, and if applicable, Interim GTT Modification, the Global Title Translation Modification (MGTT), Local Number Portability (LNP), and INAP Number Portability (INP) features. If you are not sure whether you have purchased these features, contact your Tekelec Sales Representative or Account Representative.



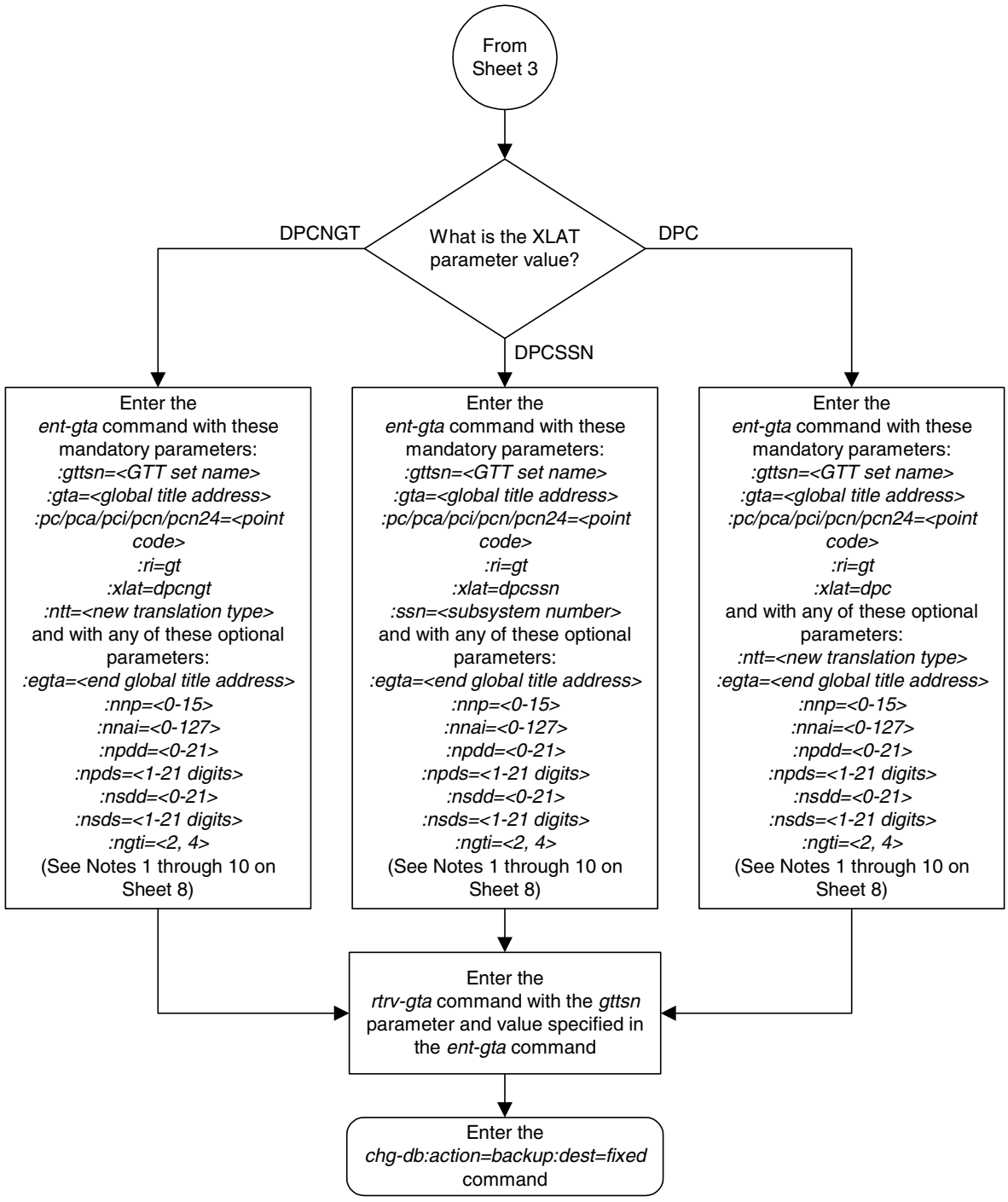
Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 2 of 8)



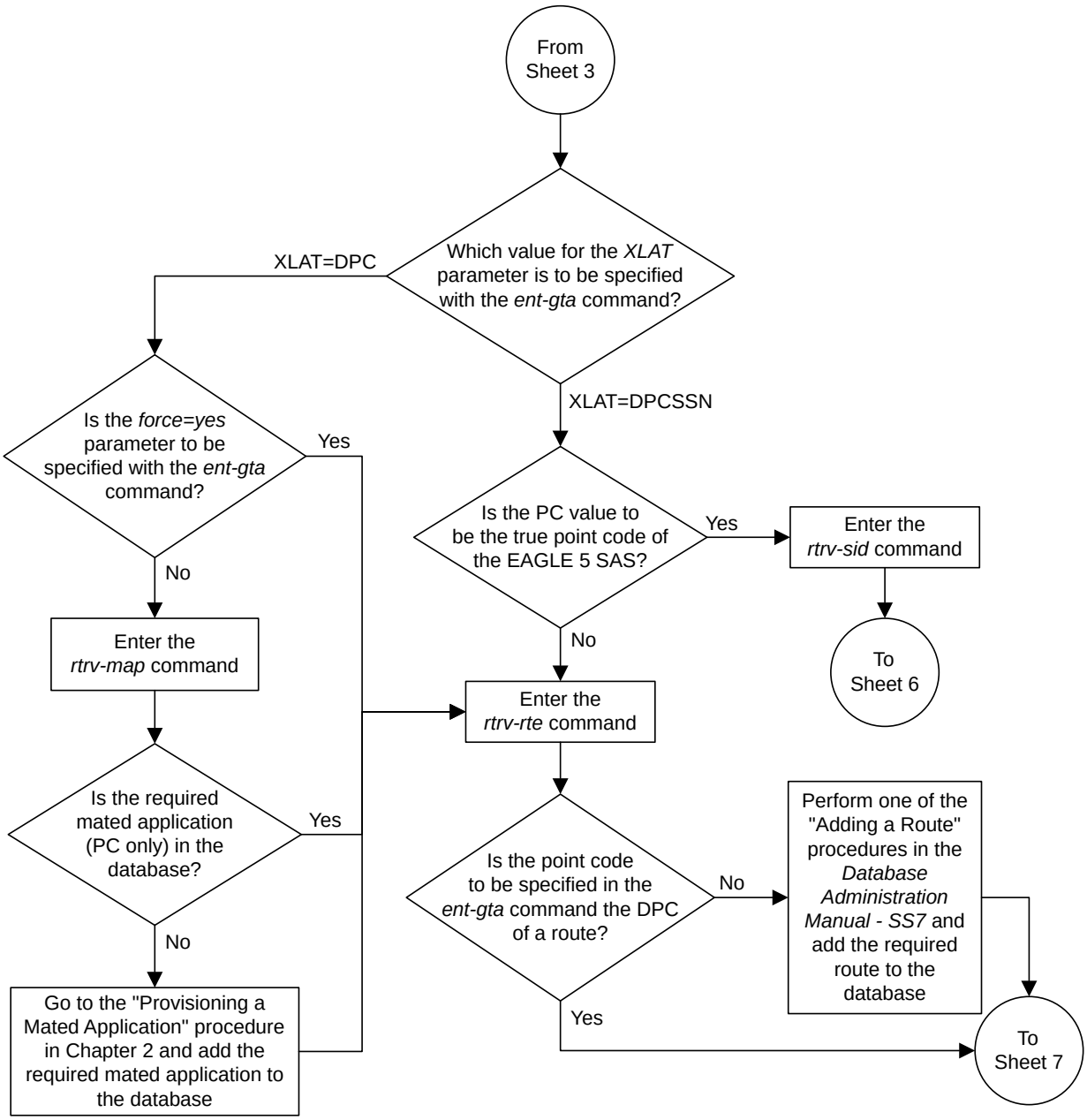
Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 3 of 8)



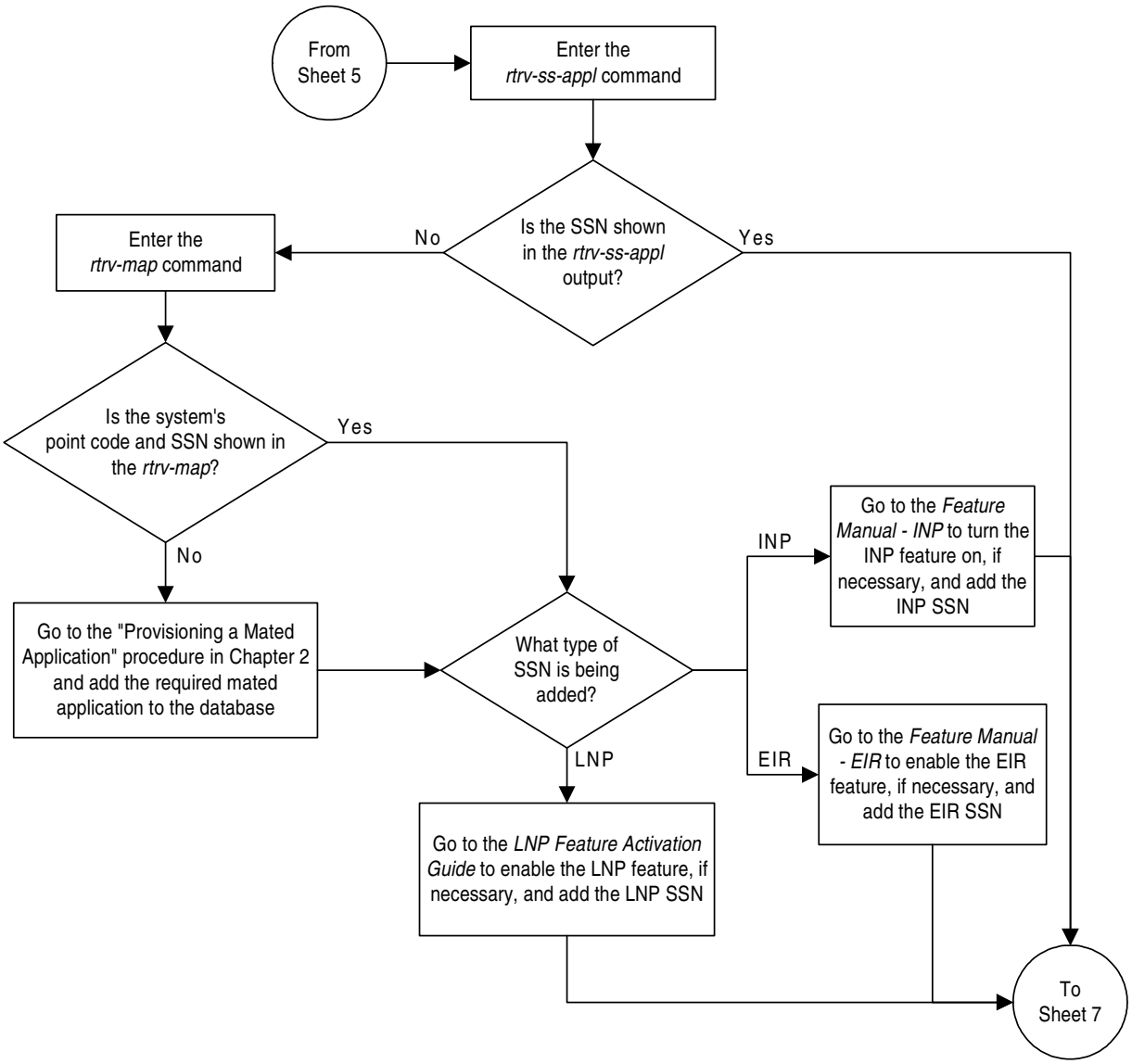
Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 4 of 8)



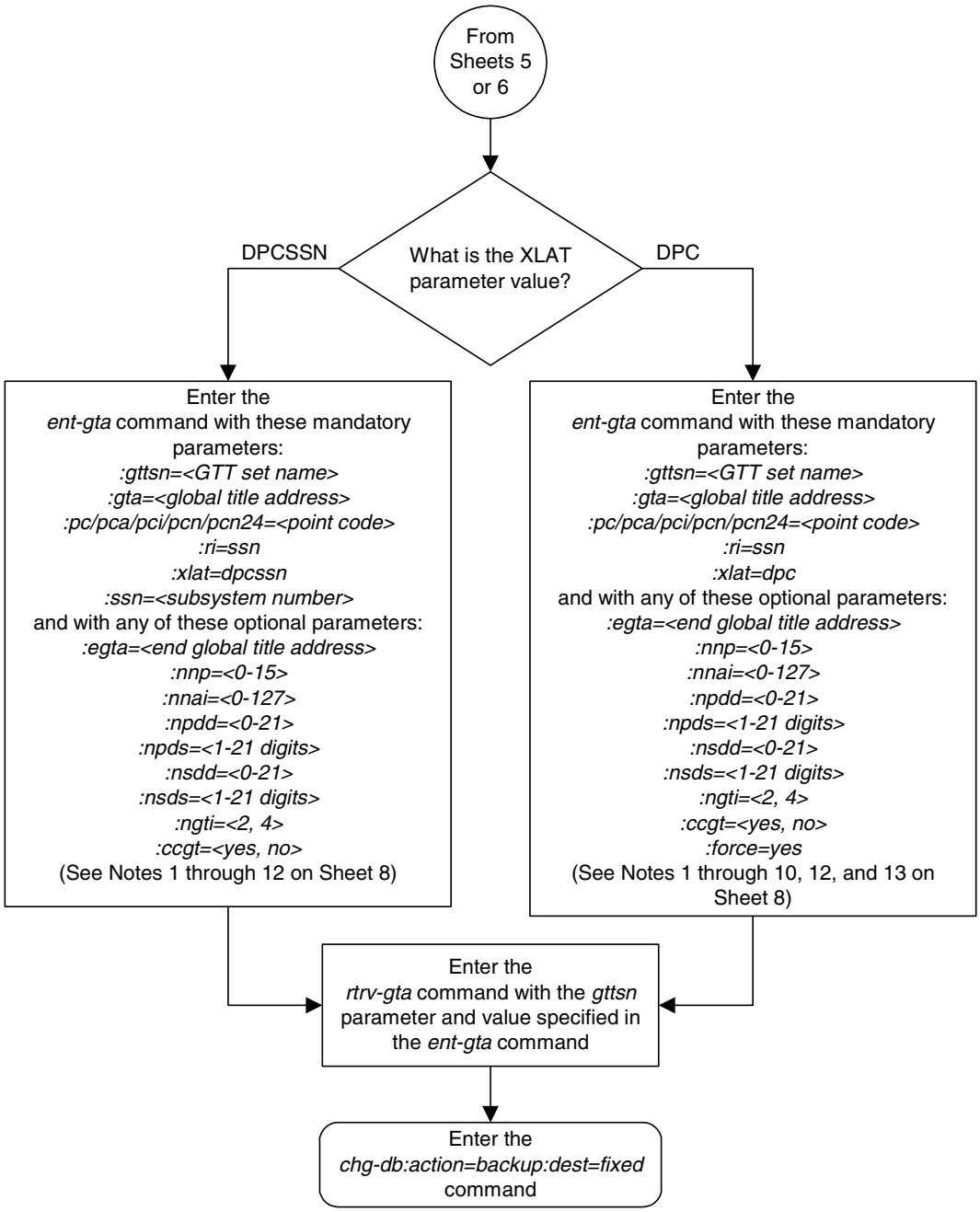
Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 5 of 8)



Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 6 of 8)



Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 7 of 8)



Flowchart 4-6. Adding Global Title Address Information to the Database (Sheet 8 of 8)

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 address (GTA):
   - *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.
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.
3. If the VGTT feature is on, shown by the *VGTT = on* 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 .
4. If the GTT set name contains less than 10 different length GTAs, the length of the GTA can be from 1 to 21 digits.
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.
6. The *nnp*, *nnai*, *npdd*, *npds*, *nsdd*, and *nsds* parameters can be specified only if the MGTT feature is on. The *ngti* parameter can be specified only if the MGTT feature is on and if the ANSI-ITU-China SCCP Conversion feature is enabled.
7. If the *ntt* parameter can be specified only with the *ri=gt* parameter and either the *xlat=dpcngt* or *xlat=dpc* parameters. The *xlat=dpc* parameter can be specified with the *ntt* parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.
8. The *ngti=2* parameter can be specified only with an ANSI point code, and not with the *nnp* and *nnai* parameters.
9. 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.
10. 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.
11. If the point code is the STP's point code or concerned point codes, then the value of the *ccgt* parameter must be set to *no*.
12. 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.
13. If the *pc*/*pca*/*pci*/*pcn*/*pcn24* parameter value is not shown in the *rtrv-map* output on Sheet 5, the *force=yes* parameter must be specified with the *ent-gta* command.

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 start of global title address.

:egta – The end of global title address.

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. 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 06-03-24 08:29:15 GMT EAGLE5 34.3.0
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
```

The translation type (**tt**) must match that of an existing ANSI GTT Selector which is assigned to a GTT set and may not be defined as an alias.

The GTT table may not be full in case a delete command causes a split requiring more entries to be added.

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 GTT set name. The lengths are shown in the **START GTA** and **END GTA** fields of the **rtrv-gta** command output, or in the **NDGT** field of the **rtrv-gttset** command output. If the length of the global title address does not match one of the lengths already assigned to the GTT set name, the **dlt-gta** command is rejected with this message.

```
E2961 Cmd Rej: The GTA length is not defined for the specified
GTTSET
```

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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** contains three different length global title addresses; global title addresses containing three digits, seven 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 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 **lidb** (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 **lidb** 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 that 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*.

Procedure

1. Display the existing GTT sets in the database using the **rtrv-gttset** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
t800      ansi    10
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

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. 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 06-03-07 00:27:31 GMT EAGLE5 34.3.0
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
     SSN=0   CCGT=no  NTT=---
8005550000 8005551999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005552000 8005553999 dpc    gt     001-254-255
     SSN=255 CCGT=no  NTT=---
8005554000 8005555999 dpcngt gt     001-254-255
     SSN=255 CCGT=no  NTT=123
8005556000 8005557999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005558000 8005559999 dpcssn ssn    001-254-255
     SSN=255 CCGT=yes NTT=---
9194605555 9194605555 dpcngt gt     001-255-100
     SSN=0   CCGT=no  NTT=75
     NNP=3 NNAI=120 NPDD=2 NPDS=34
     NGTI=
```

```
9194610000 9194689999 dpcssn ssn    001-255-252
     SSN=254 CCGT=no  NTT=---
9195551212 9195551212 dpcssn ssn    008-001-001
     SSN=222 CCGT=no  NTT=---
9762428487 9762428487 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9766423277 9766423277 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9769388928 9769388928 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
```

3. Remove the GTA information using the **dlt-gta** command. For this example, specify the start and end point of the address by entering this command.

dlt-gta:gttsn=t800:gta=919461:egta=919468

When this command has successfully completed, this message appears.

```
rlghncxa03w 06-03-07 00:29:31 GMT EAGLE5 34.3.0
DLT-GTA: MASP A - COMPLTD
```

4. Verify the changes to the GTT set using the **rtrv-gta** command with the **gttsn** parameter value specified in step 3. 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

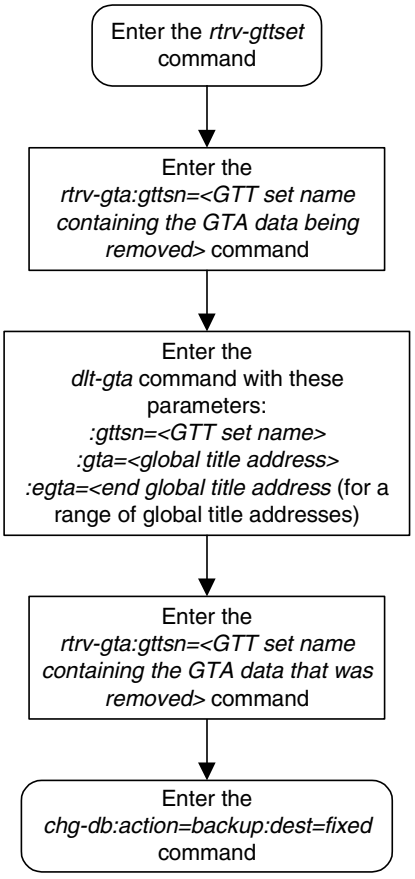
This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
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
     SSN=0   CCGT=no  NTT=---
8005550000 8005551999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005552000 8005553999 dpc    gt     001-254-255
     SSN=0   CCGT=no  NTT=---
8005554000 8005555999 dpcngt gt     001-254-255
     SSN=--- CCGT=no  NTT=123
8005556000 8005557999 dpcssn ssn    001-254-255
     SSN=255 CCGT=no  NTT=---
8005558000 8005559999 dpcssn ssn    001-254-255
     SSN=255 CCGT=yes  NTT=---
9194605555 9194605555 dpcngt gt     001-255-100
     SSN=0   CCGT=no  NTT=75
     NNP=3 NNAI=120 NPDD=2 NPDS=34
     NGTI=
9195551212 9195551212 dpcssn ssn    008-001-001
     SSN=222 CCGT=no  NTT=---
9762428487 9762428487 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9766423277 9766423277 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
9769388928 9769388928 dpcssn ssn    001-254-255
     SSN=222 CCGT=no  NTT=---
```

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.
```

Flowchart 4-7. 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 prefix digits being deleted from the called party address

:npds – The prefix digits being added to the called party address.

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 SAS **and for a definition of the different formats that can be used for ITU national point codes.**

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**, and the GTT set name has 10 different length global title

addresses assigned to it, the length of the new global title address must be the same as one of the 10 lengths already assigned to the translation type. If the length of the global title address does not match one of the 10 lengths already assigned to the GTT set name, the **chg-gta** command is rejected with this message.

E2961 Cmd Rej: The GTA length is not defined for the specified GTTSET

If the translation type has less than 10 different length global title addresses assigned to it, 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.

If the Variable-Length Global Title Translation (VGTT) feature is on, 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 06-03-07 00:30:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      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 **lidb** contains three different length global title addresses; global title addresses containing three digits, seven digits, and 10 digits.

Go to the "Variable-length Global Title Translation Feature" section on page 2-12 for more information about this feature.

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 06-03-24 08:29:15 GMT EAGLE5 34.3.0
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
```

The translate indicator (**xlat**) must be set to **dpcssn** if the **ssn** parameter is specified. If the translate indicator is set to **dpcngt**, the **ri** value must be set to **gt**. If the translate indicator is set to **dpcngt**, the new translation type (**ntt**) must be specified and **ntt** value must be set to **dpcngt**.

The translation type (**tt**) must match that of an existing ANSI GTT Selector which is assigned to a GTT Set and may not be defined as an alias.

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 EIR features must be enabled or the INP feature must be 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, the entry **EIR** is shown in the **rtrv-ctrl-feat** command output as being permanently or temporarily enabled. If the INP feature is on, the entry **INP = on** is shown in the **rtrv-feat** command output.

NOTE: The Local Number Portability (LNP), Equipment Identity Register (EIR) or INAP Number Portability (INP) feature must be purchased before you either enable the LNP or EIR features or turn the INP feature on. If you are not sure whether you have purchased the LNP, EIR, or INP feature, contact your Tekelec Sales Representative or Account Representative.

Once the LNP is enabled with the enable-ctrl-feat command, or the INP feature is turned on with the chg-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, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the point code and subsystem number to the database as a mated application.

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 SAS 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 **ccgt=yes** parameter is specified, then the **ri** value must be set to **ssn**.

If the point code is any of the STP's point codes or concerned point codes, then the **ccgt** parameter must be set to **no**.

The GTT table may not be full.

If the **ccgt=yes** parameter is specified, then the **ri** parameter must be set to **ssn**. If the point code is the STP's point code or concerned point codes, then the value of the **ccgt** parameter must be set to **no**.

The **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, and **nsds** parameters are used by the Global Title Translation Modification (MGTT) 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 MGTT feature is on. This can be verified with the entry **MGTT = on** in the **rtrv-feat** command output. If the MGTT feature is not on, the EAGLE 5 SAS must contain the hardware specified in Table 2-4 on page 2-48 before the MGTT feature can be turned on. Before turning on the MGTT feature, make sure you have purchased this feature. If you are not sure whether you have purchased the MGTT feature, contact your Tekelec Sales Representative or Account Representative.

The **ngti=2** parameter can be specified only with an ANSI point code and not with the **nnp** and **nai** parameters.

The **ngti=4** parameter can be specified only with an ITU point code. The **nnp** and **nai** 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 MGTT feature must be on and the ANSI-ITU-China SCCP Conversion feature must be enabled before the **ngti** parameter can be specified with the global title translation.

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.

The prefix parameters (**npdd** and **npds**) and the suffix parameters (**nsdd** and **nsds**) cannot be specified with 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.

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 that 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*.

Procedure

1. Display the existing GTT sets in the database using the **rtrv-gttset** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:25:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
lidb      ansi    10
t800      ansi    10
si000     itu     15
imsi      itu     15
abcd1234  itu     12
```

2. Display the global title address (GTA) information for the GTT set that contains the global title address information to be changed. Use the **rtrv-gta** command with the **gttsn** parameter value shown in the output of step 1. 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

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
LIDB      ansi    10
GGTA 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
```

NOTE: If the MGTT feature is not to be used with global title translation on the EAGLE 5 SAS, skip steps 3, 4, and 5, and go to step 6.

3. Verify whether or not either the MGTT feature is on by entering the **rtrv-feat** command. The entry **MGTT = on** is shown if the MGTT 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 MGTT feature is on, skip steps 4 and 5, and go to step 6.

---

4. Display the cards in the EAGLE 5 SAS using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

Either TSMs or DSMs must be in the EAGLE 5 SAS before the MGTT feature can be turned on. See Table 2-4 on page 2-48 to determine whether TSMs or DSMs are required. Contact the Customer Care Center before replacing any SCCP cards. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

5. Turn the MGTT feature on by entering this command.

   chg-feat:mgtt=on

   NOTE: Once the MGTT feature is turned on with the chg-feat command, it cannot be turned off.

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

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

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
CHG-FEAT: MASP A - COMPLTD
```

NOTE: If the domain (ANSI or ITU) of the point code and the GTT set assigned to the GTA will be different, and the ngti parameter will be specified with the GTA, 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 step 3 shows that the ANSI-ITU-China SCCP Conversion feature is enabled, skip this step and go to step 8.

6. 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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" procedure on page A-36 and the ANSI-ITU-China SCCP Conversion feature.

NOTE: If the EAGLE 5 SAS's point code is not going to used for the `pc` parameter of the `chg-gta` command, skip steps 7, 8, 9, and 10, and go to step 11.

7. If the **`ri=ssn`** and **`xlat=dpcssn`** parameters are specified with the **`chg-gta`** command, and you wish to use the EAGLE 5 SAS'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 SAS's self ID table. Display the EAGLE 5 SAS self-identification, using the **`rtrv-sid`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-10 11:43:04 GMT EAGLE5 34.3.0
   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
```

8. Enter the **`rtrv-ss-appl`** command to verify that either the LNP, EIR, 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 06-03-28 14:42:38 GMT EAGLE5 34.3.0
APPL       SSN       STAT
LNP        254       ONLINE

SS-APPL table is (1 of 1) 100% full
```

   If the subsystem number is shown in the **`rtrv-ss-appl`** output, go to step 10.

   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 enabled 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*
   - LNP subsystem – go to the *LNP Feature Activation Guide*

NOTE: If the `ri=ssn` and `xlat=dpc` parameters are not being specified with the `ent-gta` command, or if the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are not being specified with the `ent-gta` command, skip this step and go to step 10.

9. If the `ri=ssn` and `xlat=dpc` parameters are being specified with the `chg-gta` command, the point code must be in the mated application table. Enter the `rtrv-map` command with the `pc` paramater 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=001-255-252
```

This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:42:31  GMT  EAGLE5 34.3.0

MAP TABLE IS   1 % FULL    (11 of 1024)

   PCA          SSN RC MULT |----------MATE-----------| SRM MRC GRP NAME SSO
                              PCA          SSN RC MULT
   001-255-252  254 10 SOL                             YES YES GRP01    ON
```

If the point code is not shown in the `rtrv-map` output, go to the "Provisioning a Mated Application" procedure on page 2-78 and add the required point code and subsystem number to the mated application table.

NOTE: If the EAGLE 5 SAS's true point code and the EAGLE 5 SAS's subsystem number, along with the `ri=ssn` and `xlat=dpcssn` parameters, are being specified with the `ent-gta` command, skip this step and go to step 12.

10. The point code specified with the `chg-gta` command must be the DPC of a route, unless the point code is the EAGLE 5 SAS'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:dpca=001-255-252
```

This is an example of the possible output.

```
rlghncxa03w 06-03-07 11:43:04 GMT  EAGLE5 34.3.0
   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
                                                    CLLI=ls07clli
```

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.

---

11. Change the global title address for GTT set **LIDB** using the **chg-gta** command. For this example, enter this command:

```
chg-gta:gttsn=lidb:gta=9195554321:xlat=dpcssn:ri=ssn
:pc=001-255-252:ssn=254
```

When the command has successfully completed, this message appears:

```
rlghncxa03w 06-03-07 00:27:31 GMT EAGLE5 34.3.0
CHG-GTA: MASP A - COMPLTD
```

NOTES:

1. If the **rtrv-feat** command output in step 3 shows that the VGTT feature is off (**VGTT = off**), the length of the global title address specified with the **gta** and **egta** parameters must contain the number of digits specified in the NDGT field of the **rtrv-gttset** command output in step 1.

2. If the **rtrv-feat** command output in step 3 shows that the VGTT feature is on (**VGTT = on**) and the translation type has 10 different length global title addresses assigned to it (shown in the **START GTA** field of the **rtrv-gta** output in step 2), the length of the global title address specified with the **gta** and **egta** parameters must match the length of one of the global title addresses already assigned to the translation type. If the translation type has less than 10 different length global title addresses assigned to the translation type, the length of the global title address can be from one to 21 digits.

3. If the translate indicator is equal to **dpc** (**xlat=dpc**) and the routing indicator is equal to **ssn** (**ri=ssn**), the point code specified in the **chg-gta** command must be defined in the database as a mated application in step 9. If the point code is not shown in step 9, the **force=yes** parameter must be specified with the **chg-gta** command.

4. 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.

5. The **nnp**, **nnai**, **npdd**, **npds**, **nsdd**, and **nsds** parameters cannot be specified if the MGTT feature is off.

6. The **ngti** parameter can be specified only if the MGTT feature is on and if the ANSI-ITU-China SCCP Conversion feature is enabled.

7. The **ntt** parameter can be specified only with the **ri=gt** parameter and either the **xlat=dpcngt** or **xlat=dpc** parameters. The **xlat=dpc** parameter can be specified with the **ntt** parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.

8. The **ngti=2** parameter can be specified only with an ANSI point code, and not with the **nnp** and **nnai** parameters.

9. 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 global title translation.

10. 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.

11. If the point code is the STP's point code or concerned point codes, then the value of the **ccgt** parameter must be set to no.

12. 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. Verify the changes to the GTT set using the **rtrv-gta** command with the **gttsn** parameter value specified in step 11. 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

This is an example of the possible output.

```
rlghncxa03w 06-03-07 00:28:31 GMT EAGLE5 34.3.0
GTTSN     NETDOM  NDGT
LIDB      ansi    10
GTA TABLE IS   1 % FULL  (17 of 269999)

START GTA  END GTA    XLAT   RI     PC
9195554321 9195554321 dpcssn ssn    001-255-252
     SSN=254 CCGT=no  NTT=---
```

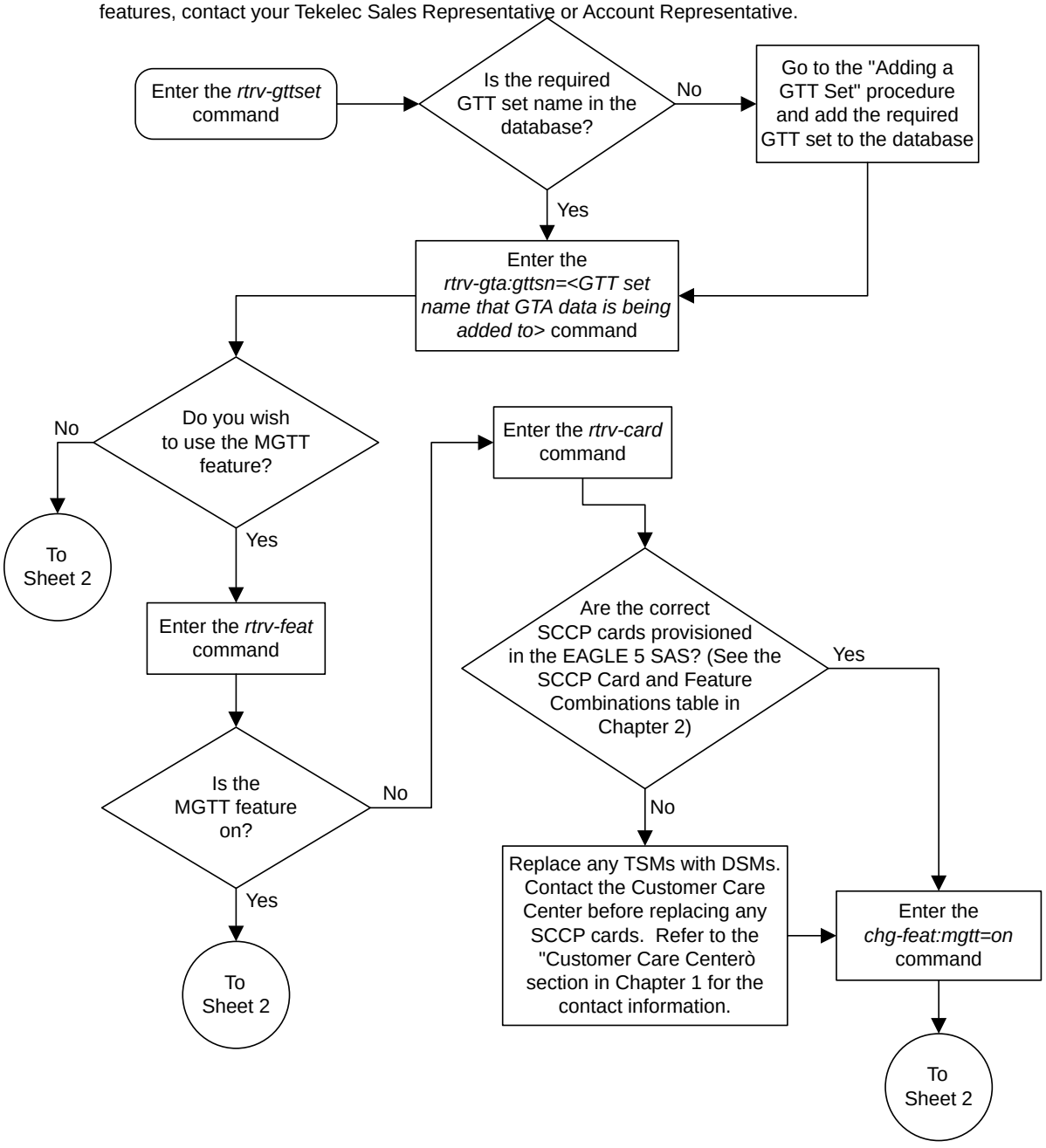
---

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.

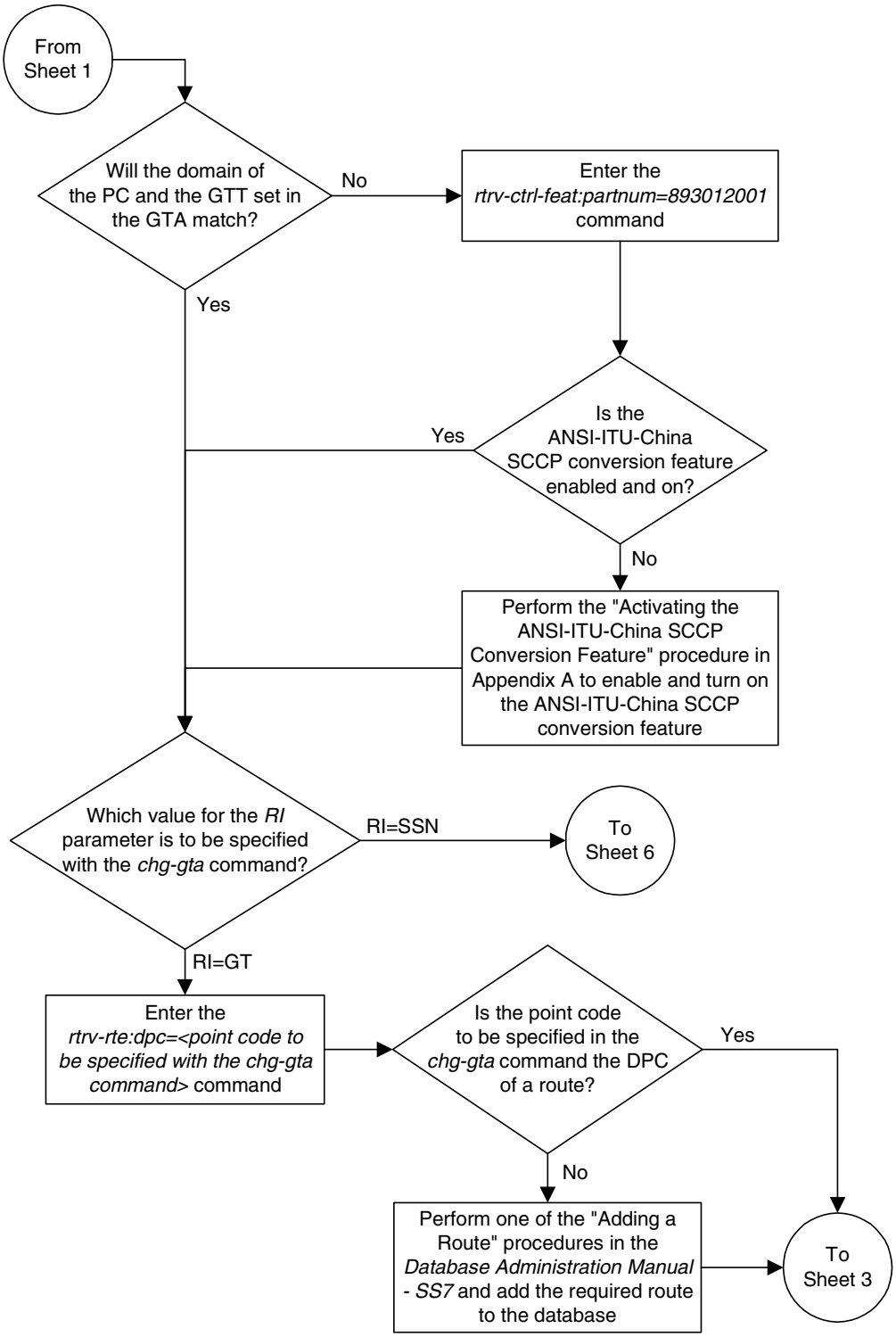
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Flowchart 4-8. Changing Global Title Address Information (Sheet 1 of 11)

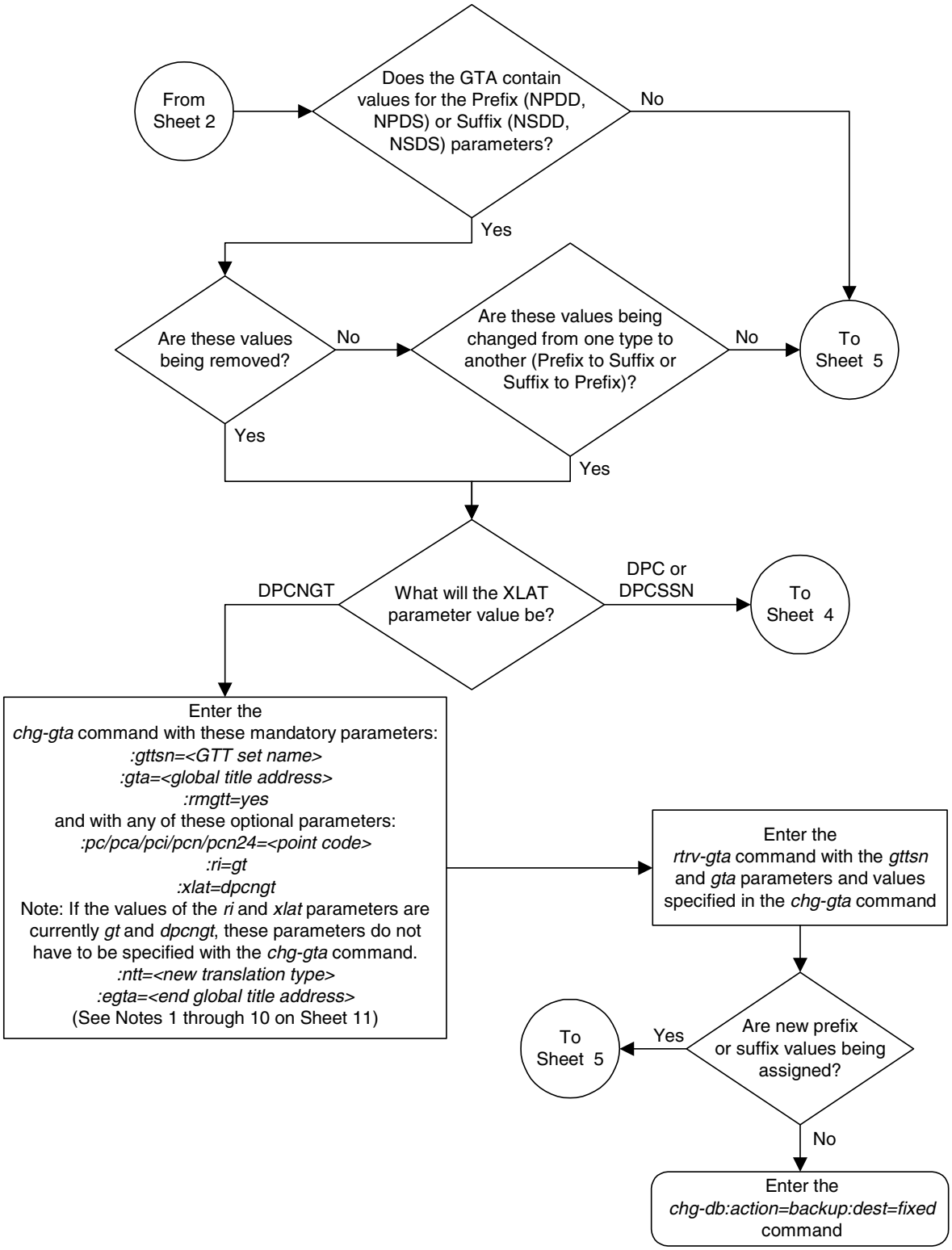
Note: Before performing this procedure, make sure you have purchased the Global Title Translation (GTT) feature, the Enhanced Global Title Translation (EGTT) feature, and if applicable, the Global Title Translation Modification (MGTT) feature. If you are not sure whether you have purchased these features, contact your Tekelec Sales Representative or Account Representative.



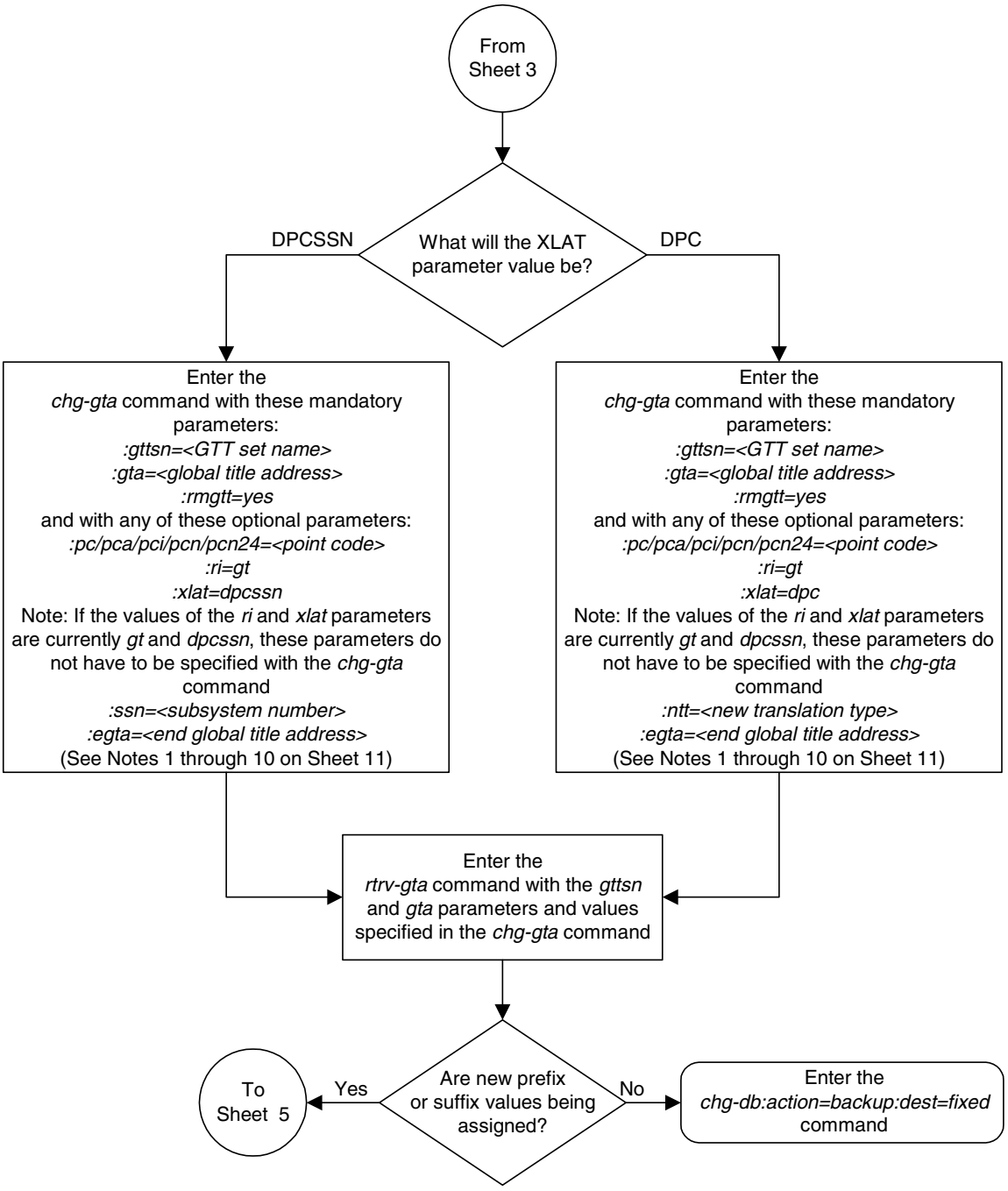
Flowchart 4-8. Changing Global Title Address Information (Sheet 2 of 11)



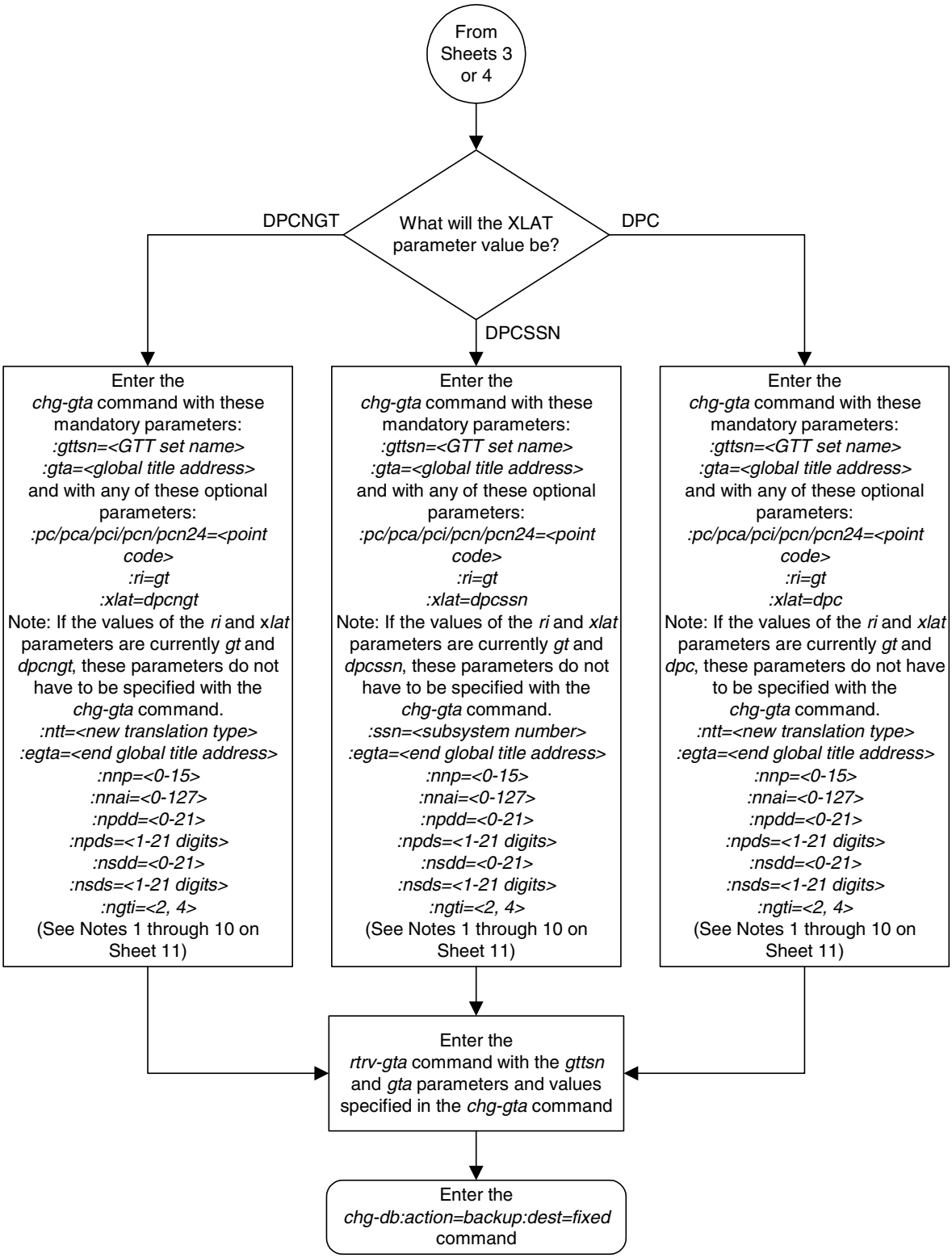
Flowchart 4-8. Changing Global Title Address Information (Sheet 3 of 11)



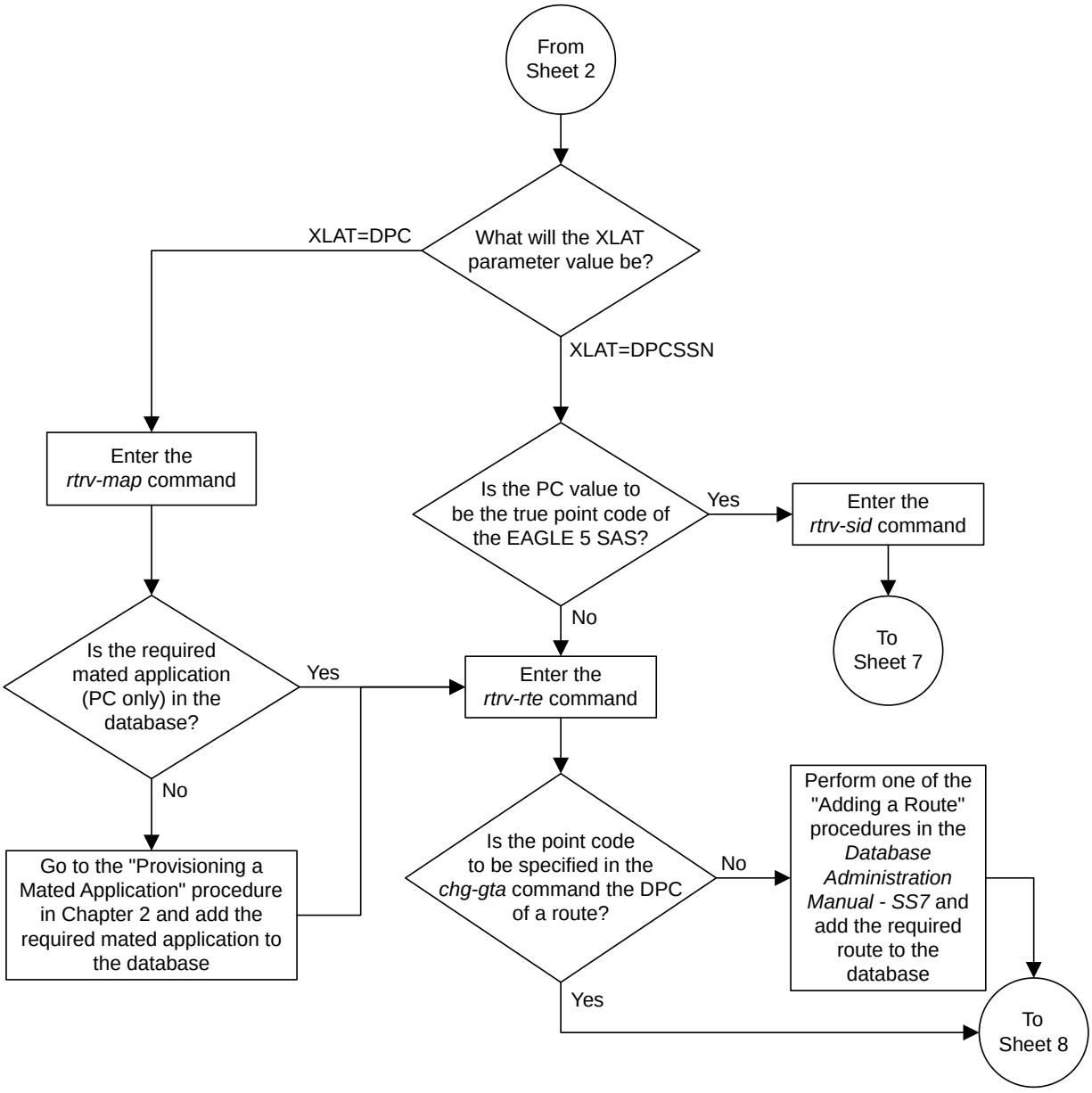
Flowchart 4-8. Changing Global Title Address Information (Sheet 4 of 11)



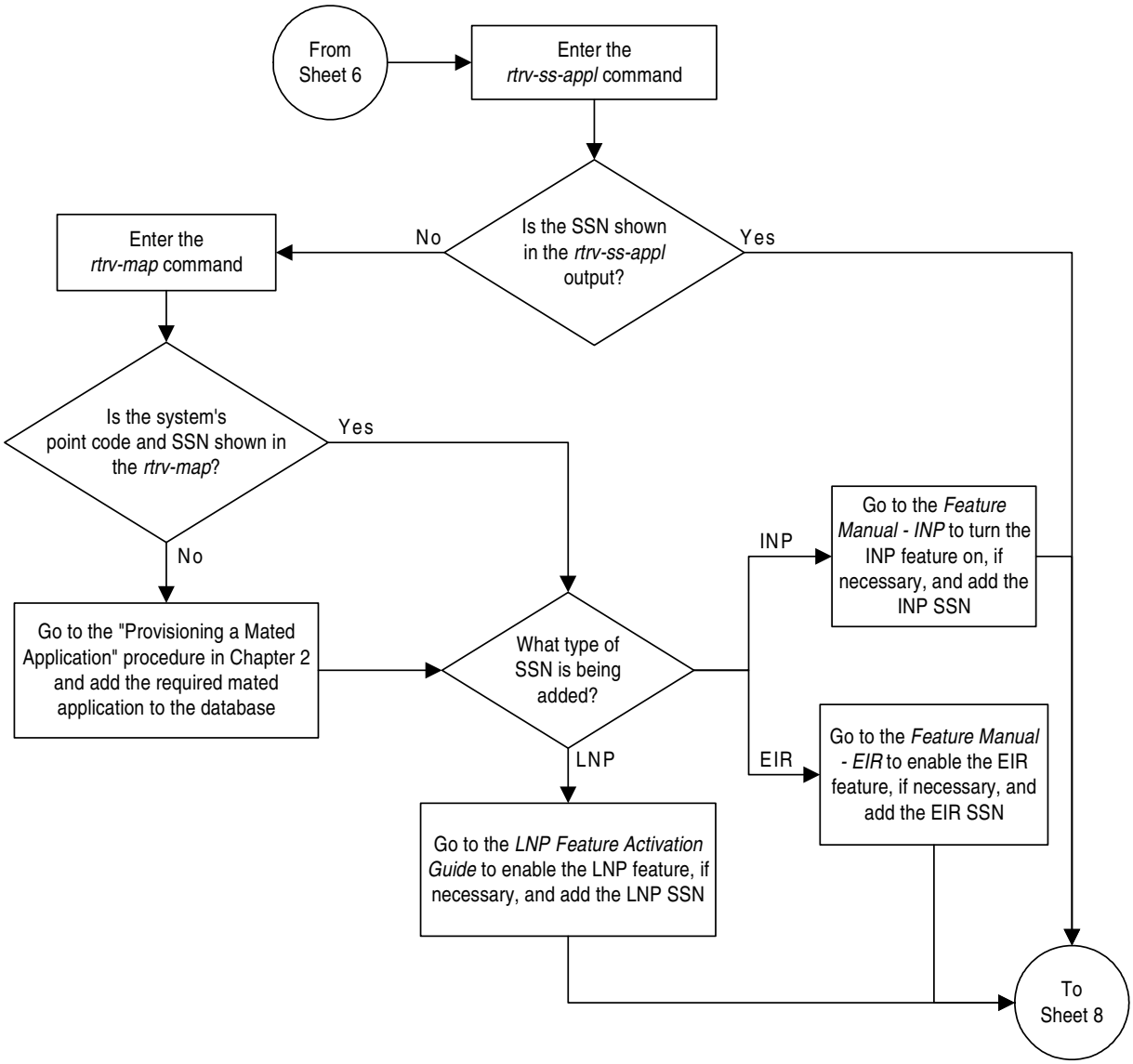
Flowchart 4-8. Changing Global Title Address Information (Sheet 5 of 11)



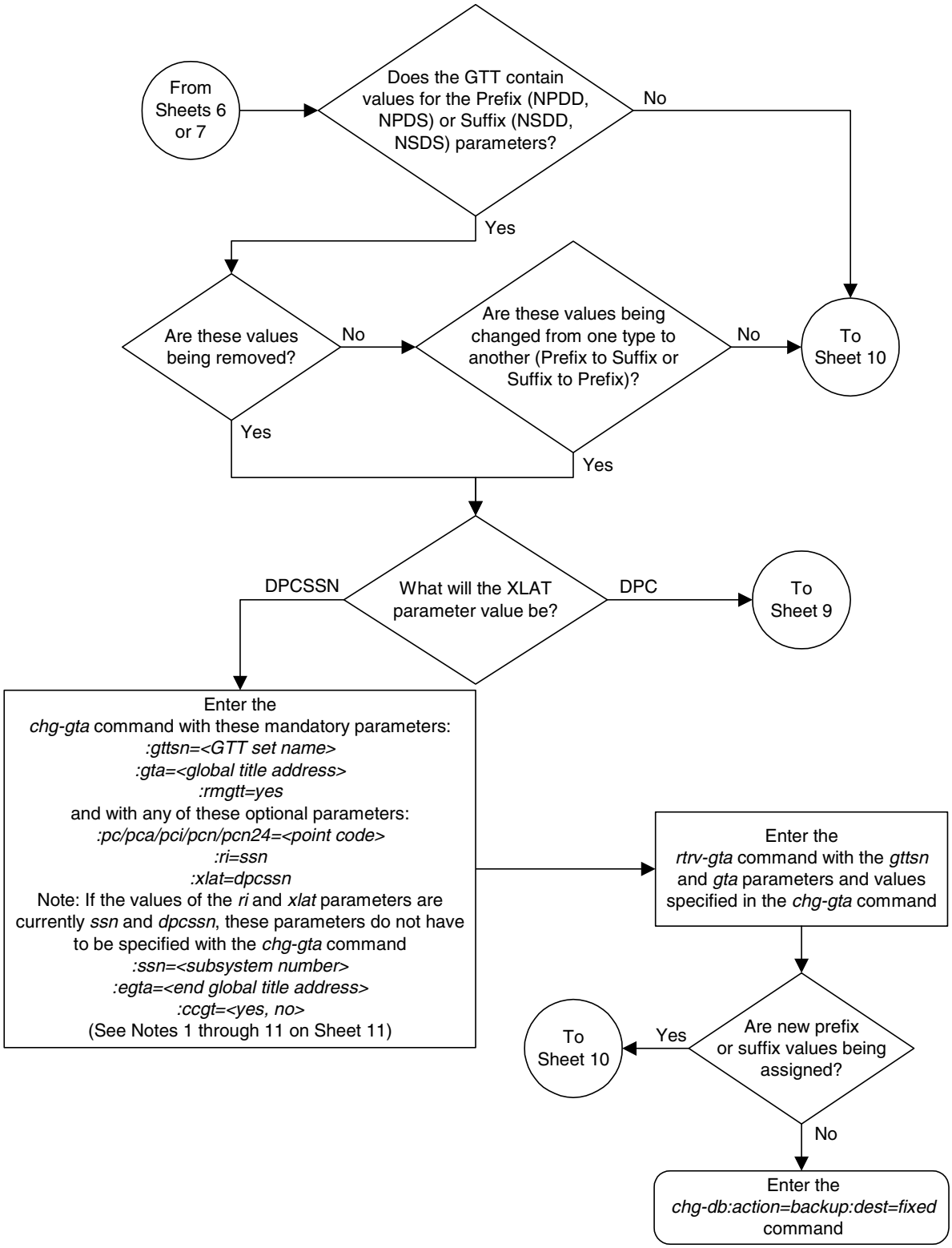
Flowchart 4-8. Changing Global Title Address Information (Sheet 6 of 11)



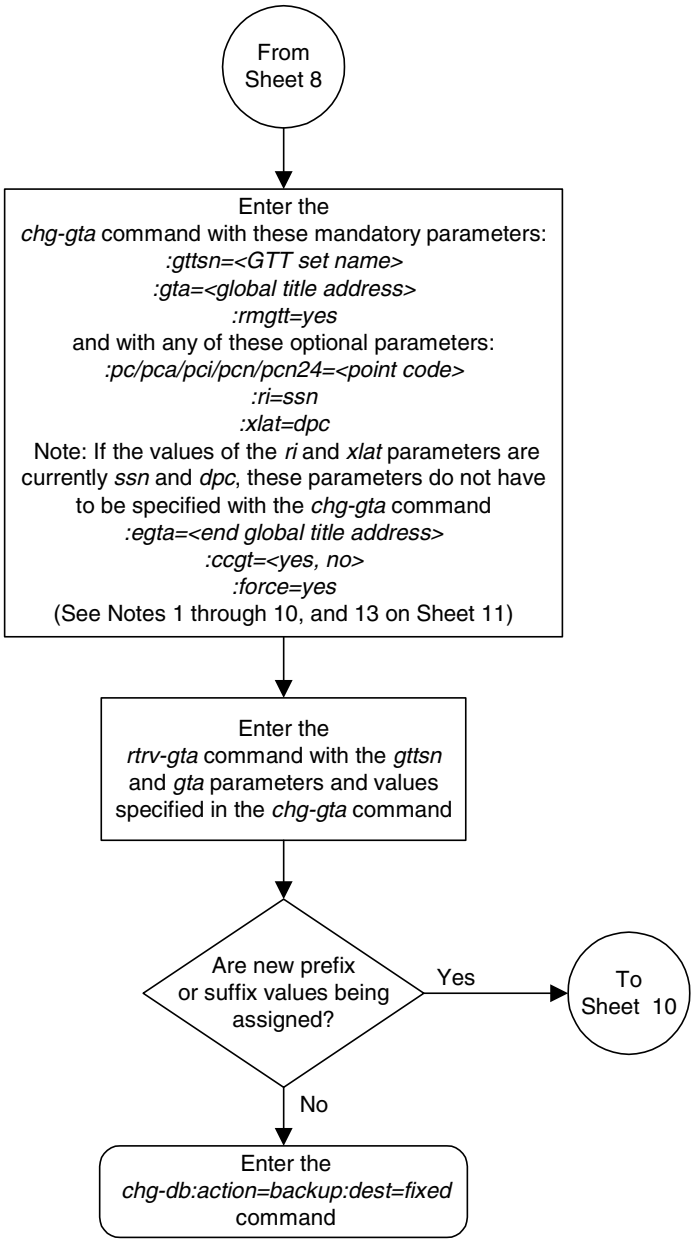
Flowchart 4-8. Changing Global Title Address Information (Sheet 7 of 11)



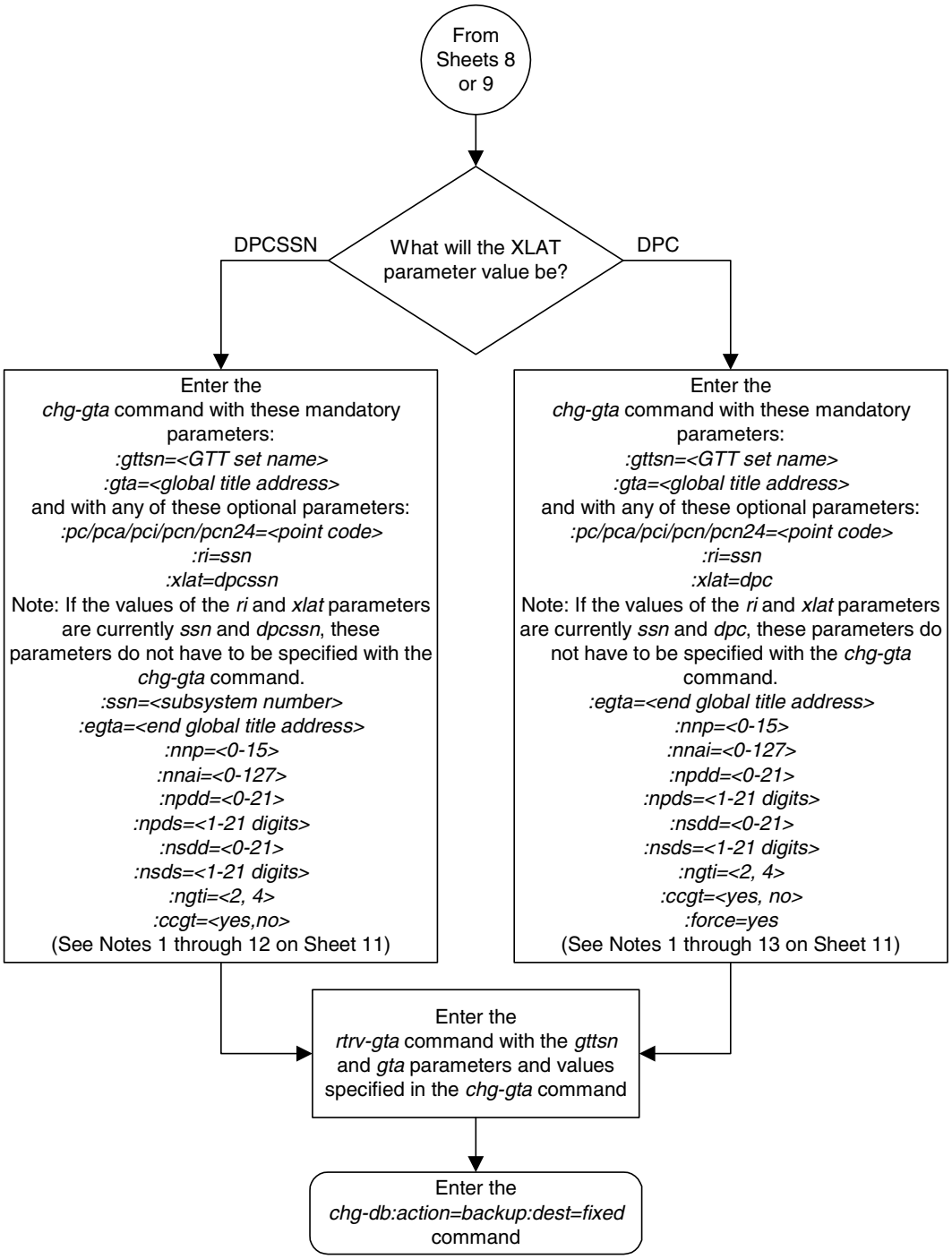
Flowchart 4-8. Changing Global Title Address Information (Sheet 8 of 11)



Flowchart 4-8. Changing Global Title Address Information (Sheet 9 of 11)



Flowchart 4-8. Changing Global Title Address Information (Sheet 10 of 11)



Flowchart 4-8. Changing Global Title Address Information (Sheet 11 of 11)

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 address (GTA):
   - *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.
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.
3. If the VGTT feature is on, shown by the *VGTT = on* 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 .
4. If the GTT set name contains less than 10 different length GTAs, the length of the GTA can be from 1 to 21 digits.
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.
6. The *nnp*, *nnai*, *npdd*, *npds*, *nsdd*, *nsds*, and *rmgtt* parameters can be specified only if the MGTT feature is on. The *ngti* parameter can be specified only if the MGTT feature is on and if the ANSI-ITU-China SCCP Conversion feature is enabled.
7. If the *ntt* parameter can be specified only with the *ri=gt* parameter and either the *xlat=dpcngt* or *xlat=dpc* parameters. The *xlat=dpc* parameter can be specified with the *ntt* parameter only if the ANSI-ITU-China SCCP Conversion feature is enabled.
8. The *ngti=2* parameter can be specified only with an ANSI point code, and not with the *nnp* and *nnai* parameters.
9. 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.
10. 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.
11. If the point code is the STP's point code or concerned point codes, then the value of the *ccgt* parameter must be set to *no*.
12. Either the *ccgt* or *ngti* parameters can be specified with the *chg-gta* command, but both parameters cannot be specified together with the *chg-gta* command.
13. If the *pc*/*pca*/*pci*/*pcn*/*pcn24* parameter value is not shown in the *rtrv-map* output on Sheet 6, the *force=yes* parameter must be specified with the *chg-gta* command.

A

Controlled Feature Activation Procedures

Introduction A–2
Activating the IGTTLS feature A–3
Clearing a Temporary FAK Alarm A–12
Turning the IGTTLS Feature Off A–14
Enabling the XGTT Table Expansion feature A–17
Enabling the XMAP Table Expansion Feature A–27
Activating the ANSI-ITU-China SCCP Conversion Feature A–36

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 SAS 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 SAS 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 SAS, 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 SAS, and that this serial number is locked. This can be verified with the **rtrv-serial-num** command. The EAGLE 5 SAS 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 SAS 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 SAS. 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 SAS'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 SAS 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.

Procedure

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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  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, 3, 4, and 5, and go to step 6.

2. Display the serial number in the database with the **`rtrv-serial-num`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 1-8 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 SAS's correct serial number>`

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

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 SAS's serial number>:lock=yes

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

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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-crtl-feat** command has successfully completed, this message should appear.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 SAS using the **rtrv-card** command. The IGTTLS features requires that SCCP cards are in the database. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

SCCP cards are shown by the entries **SCCP** or **VSCCP** in **APPL** column. If the **rtrv-card** output shows no SCCP cards, or that the type of SCCP card required to support the IGTTLS feature is not in the database, go to the "Adding an SCCP Card" procedure on page 2-48 and make sure that the proper hardware is in place to support the IGTTLS feature.

---

8. 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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

---

9. Verify the changes by entering the **rtrv-ctrl-feat** command. The following is an example of the possible output.

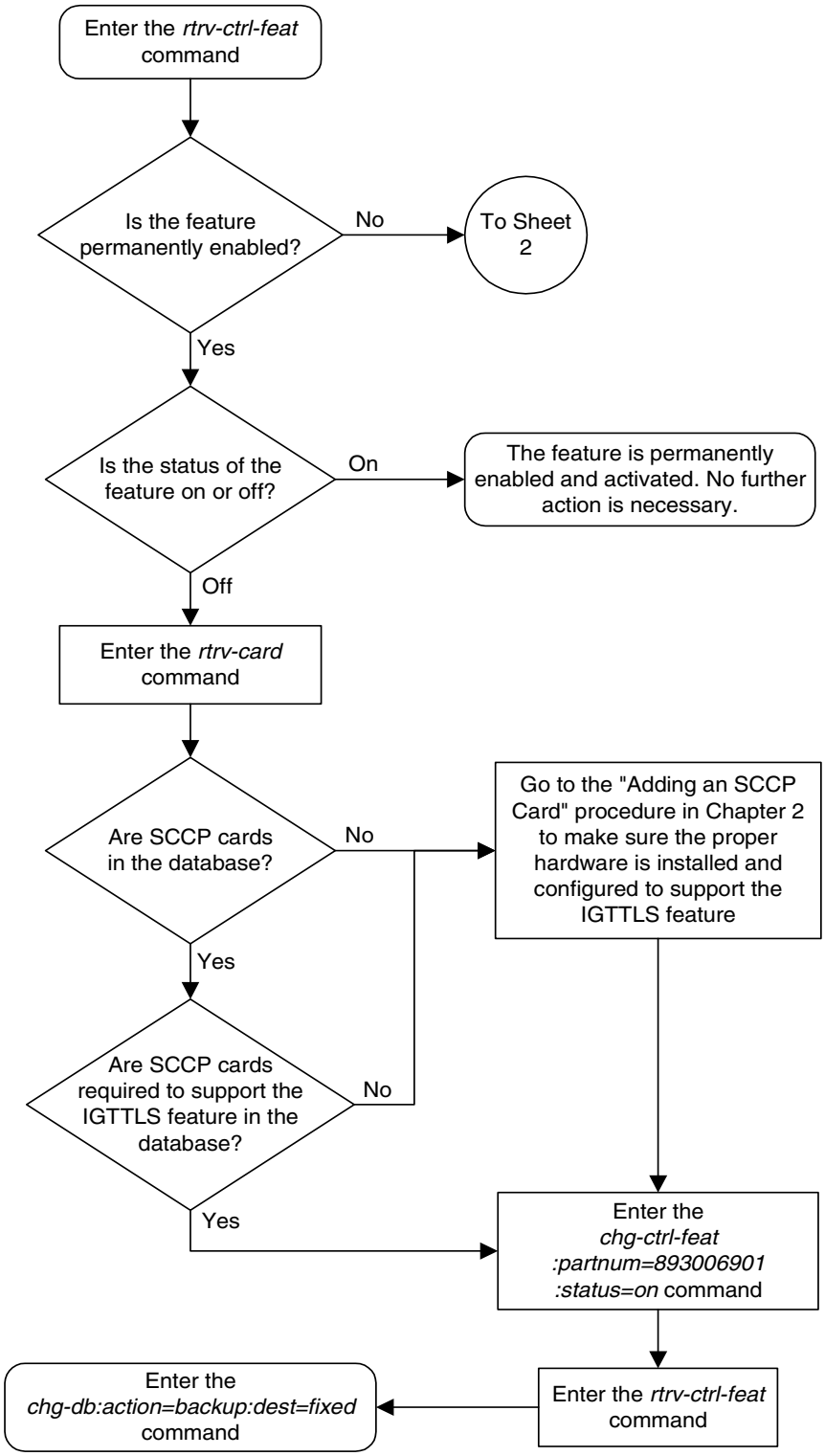
```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:

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      ----
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.
```

---

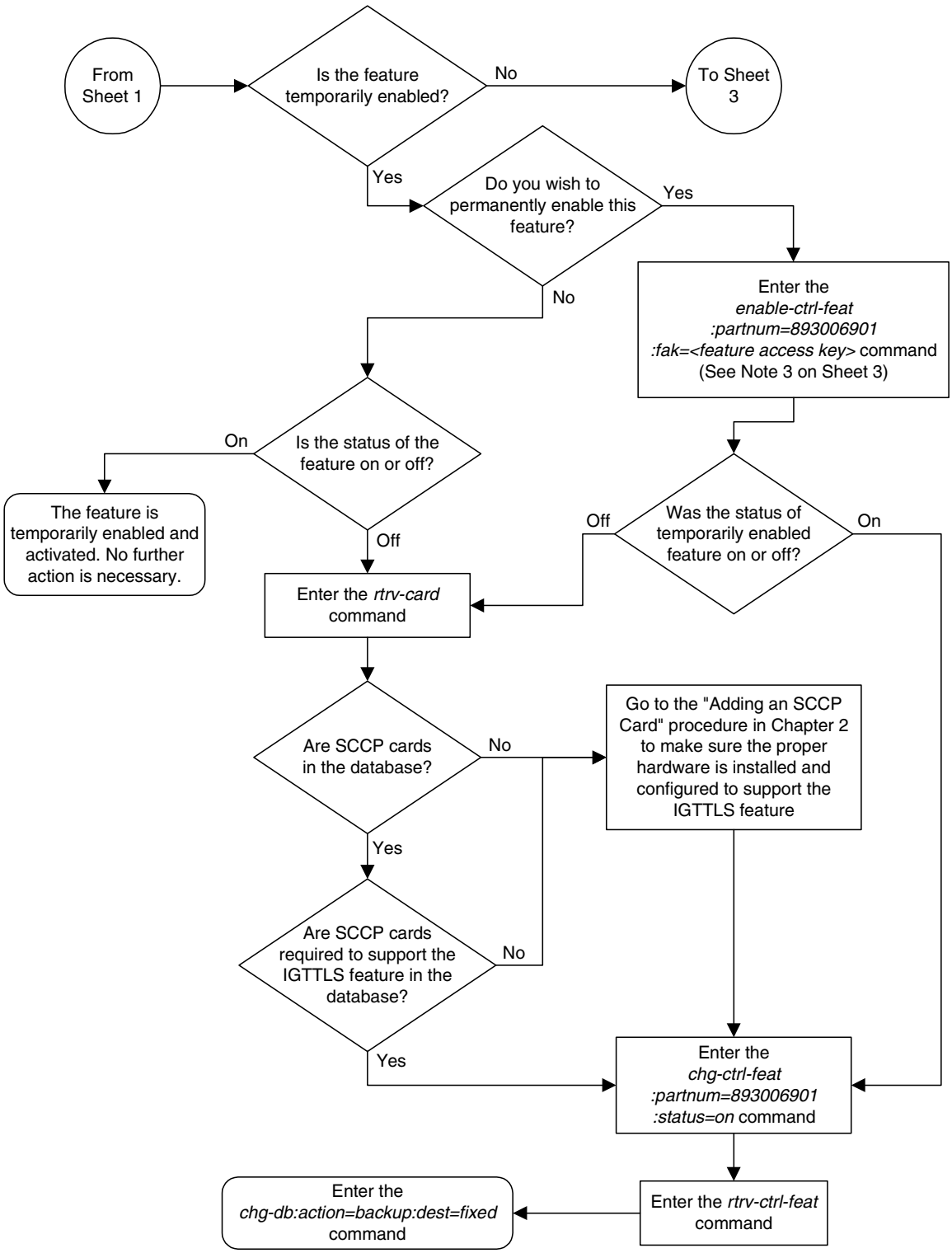
10. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

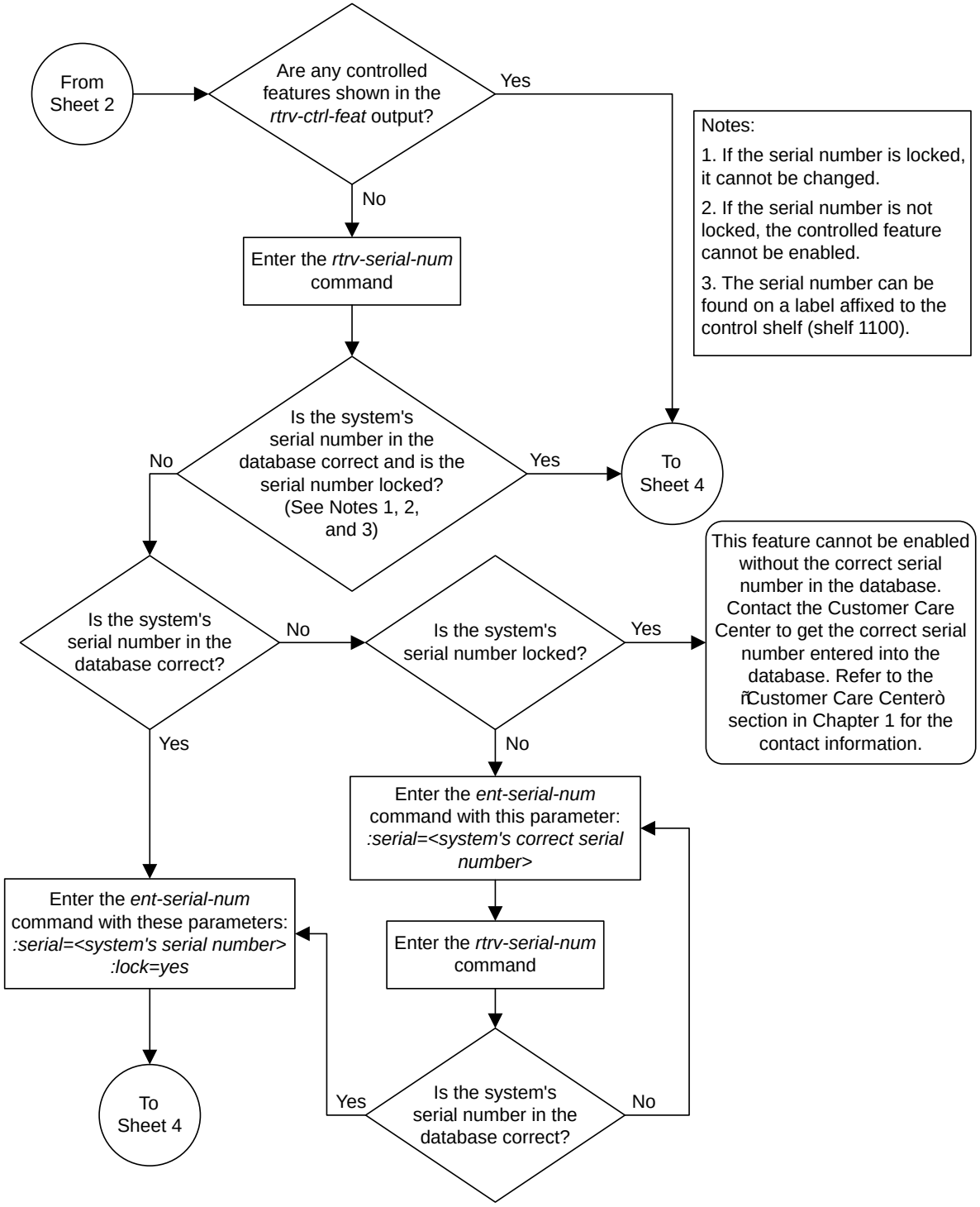
Flowchart A-1. Activating the IGTTLS feature (Sheet 1 of 4)



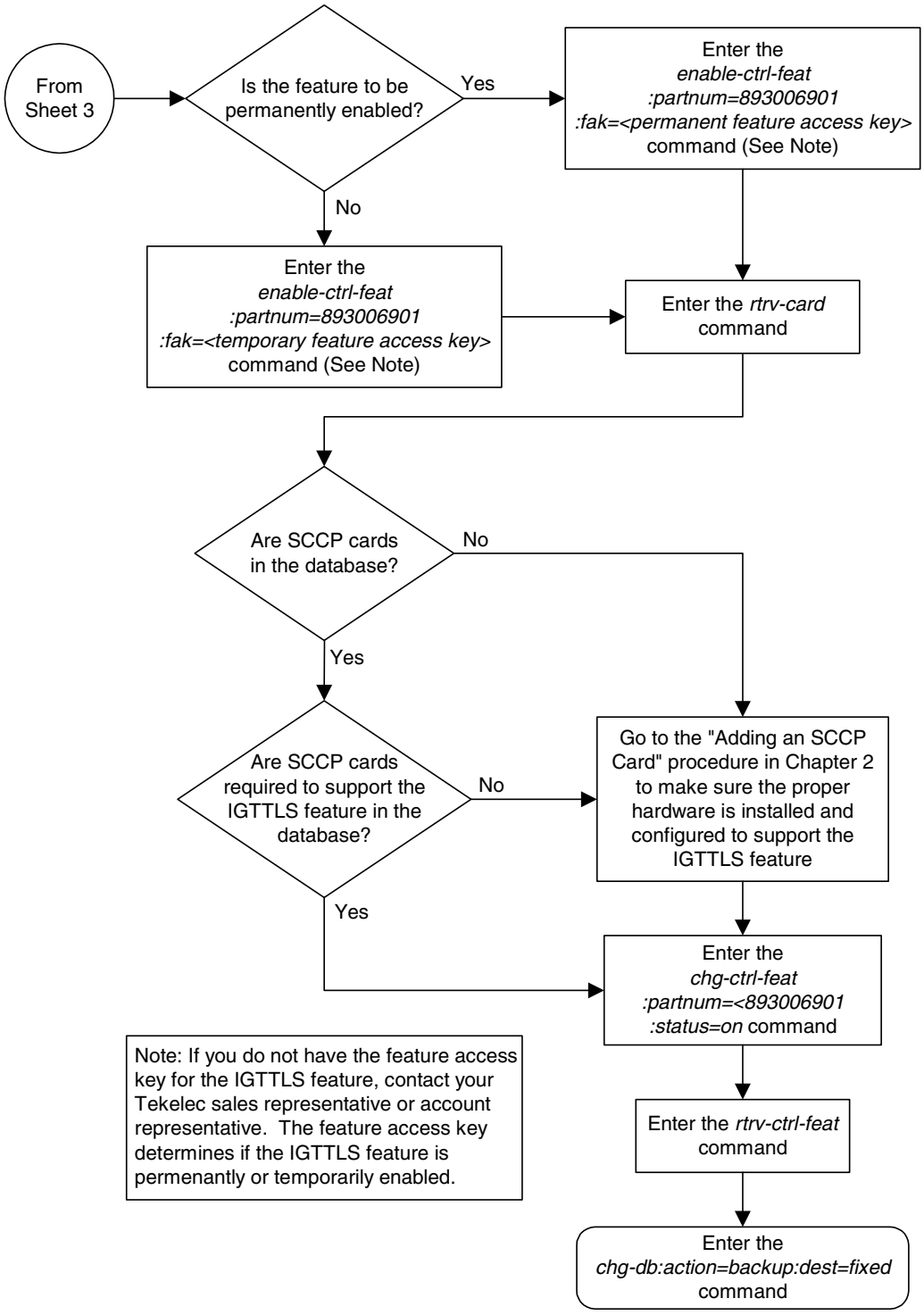
Flowchart A-1. Activating the IGTTLS feature (Sheet 2 of 4)



Flowchart A-1. Activating the IGTTLS feature (Sheet 3 of 4)



Flowchart A-1. Activating the IGTTLS feature (Sheet 4 of 4)



Clearing a Temporary FAK Alarm

This procedure is used to clear the critical alarm, UAM 0368, generated when a 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.

Procedure

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 06-03-28 21:17:37 GMT EAGLE5 34.3.0
The following features have expired temporary keys:
Feature Name              Part Num
Intermed GTT Load Sharing 893006901
```

2. Clear the EAGLE 5 SAS 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 06-03-28 21:16:37 GMT EAGLE5 34.3.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

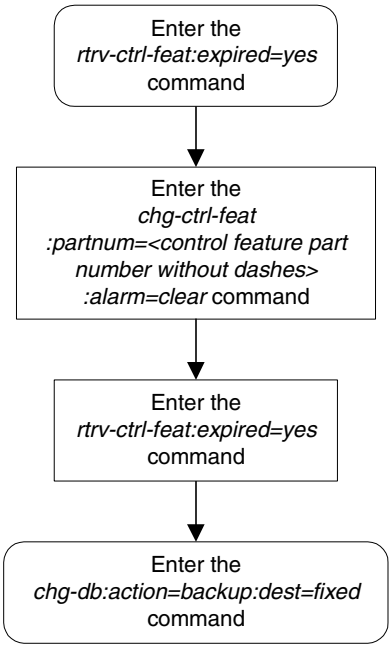
3. Verify that the alarm has cleared in the database by using the **rtrv-ctrl-feat:expired=yes** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:16:37 GMT EAGLE5 34.3.0
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.
```

Flowchart A-2. 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.

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 dlt-mrn command if the IGTTLS feature is deactivated.

Procedure

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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. 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 06-03-28 21:16:37 GMT EAGLE5 34.3.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

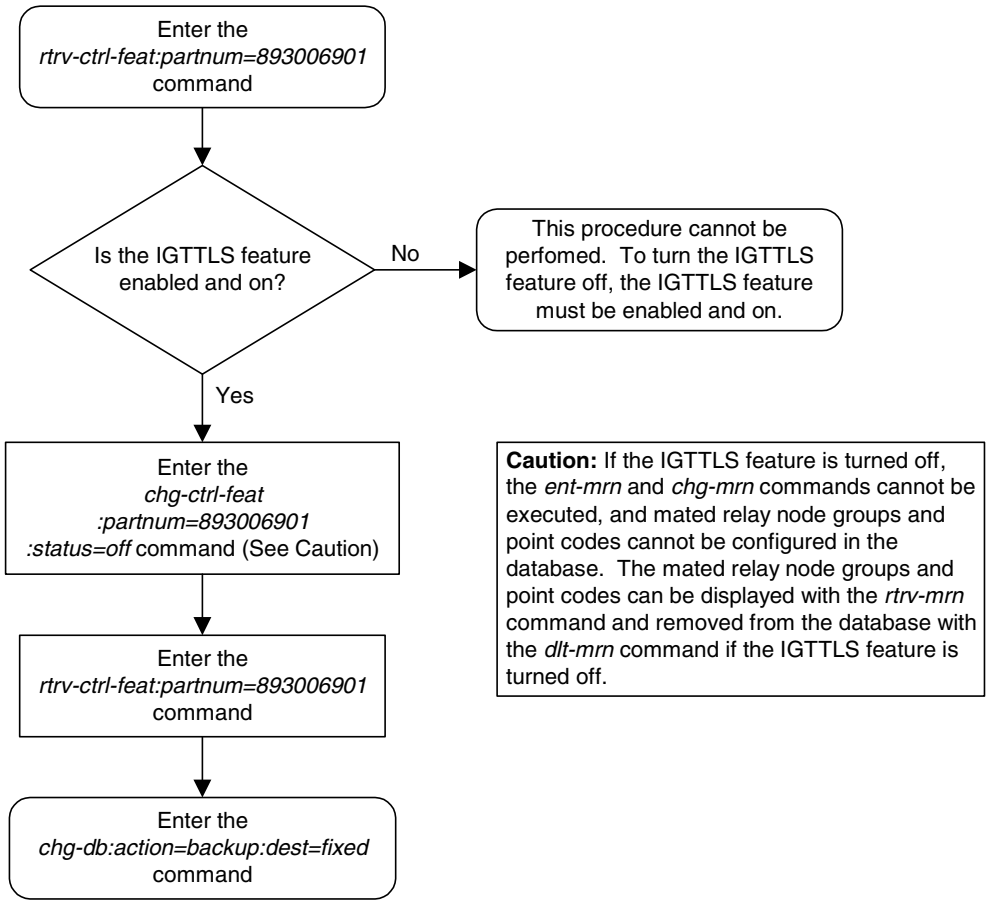
3. Verify that the IGTTLS feature has been turned off by using the **rtrv-ctrl-feat:partnum=893006901** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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.
```

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.
```

Flowchart A-3. 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 SAS, 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 cards are installed in card locations 1113 and 1115.

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 SAS 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 1-8 for the contact information.

- For a maximum of 400,000 entries, all SCCP cards in the EAGLE 5 SAS can be either TSMs or DSMs.
- For a maximum of 1,000,000 entries, all SCCP cards in the EAGLE 5 SAS must be DSMs.

The SCCP card requirements are dependent on any other GTT-related features that are enabled. Go to the "Adding an SCCP Card" procedure on page 2-48 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 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 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 SAS, and that this serial number is locked. This can be verified with the **rtrv-serial-num** command. The EAGLE 5 SAS 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 SAS 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 SAS. 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 SAS'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.

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
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 SAS using the **rtrv-card** command. The XGTT Table Expansion feature requires that SCCP cards are in the database. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
```

```
1308   LIMDS0    SS7ANSI   sp6          A    1   sp7          B    0
1314   LIMDS0    SS7ANSI   sp7          A    1   sp5          B    1
1317   ACMENET   STPLAN
```

SCCP cards are shown by the entries **SCCP** or **VSCCP** in **APPL** column. If the **rtrv-card** output shows no SCCP cards, go to the "Adding an SCCP Card" procedure on page 2-48 and add the necessary SCCP cards.

If the **rtrv-card** output shows that the type of SCCP card required to support the XGTT Table Expansion feature is not in the database, go to the "Adding an SCCP Card" procedure on page 2-48 and make sure that the proper SCCP cards are in place to support the XGTT Table Expansion feature.

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.

3. Display the serial number in the database with the **rtrv-serial-num** command. This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 1-8 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 SAS's correct serial number>

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

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 SAS's serial number>:lock=yes

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

   ```
   rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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-crtl-feat** command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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

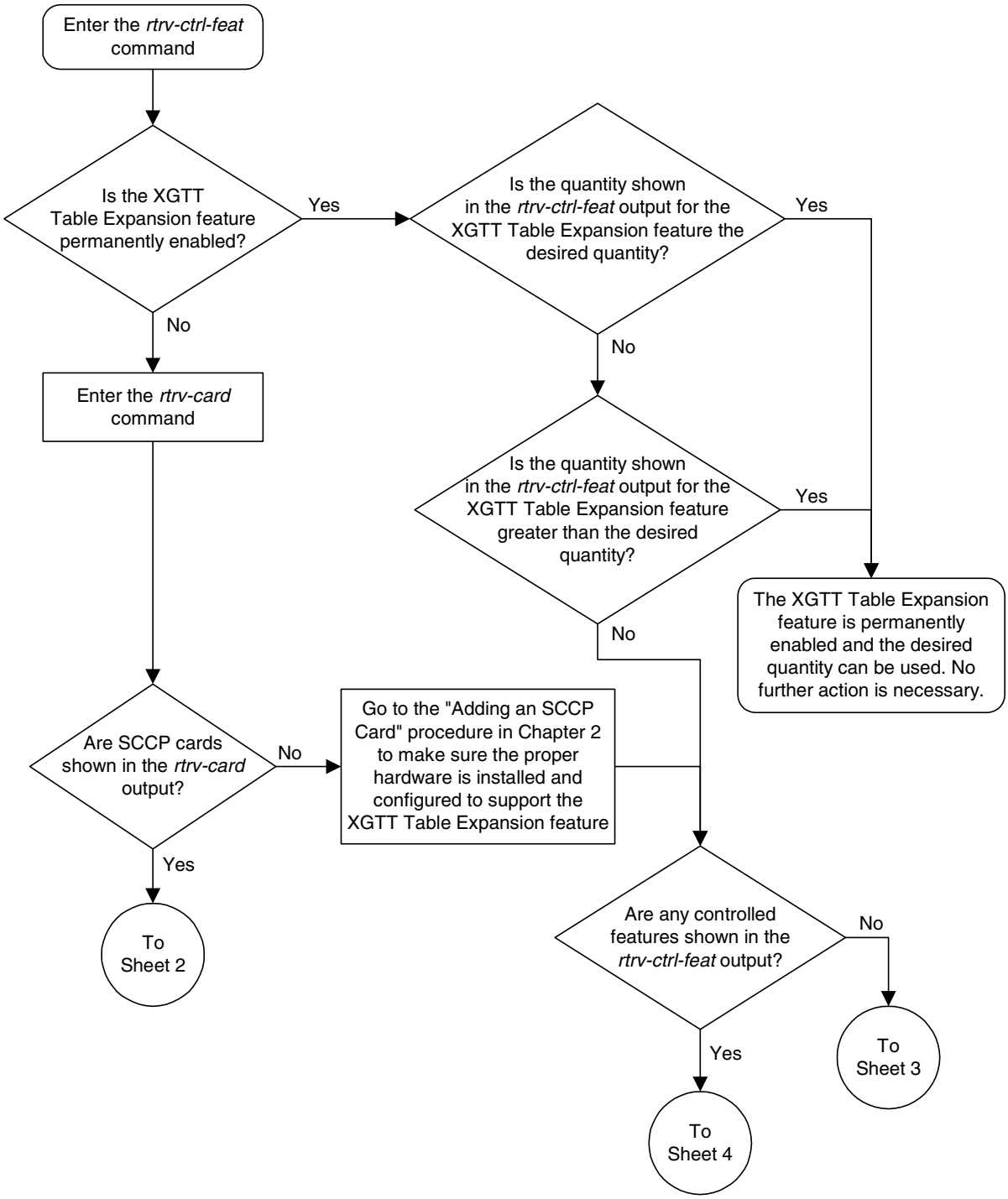
   The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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.
```

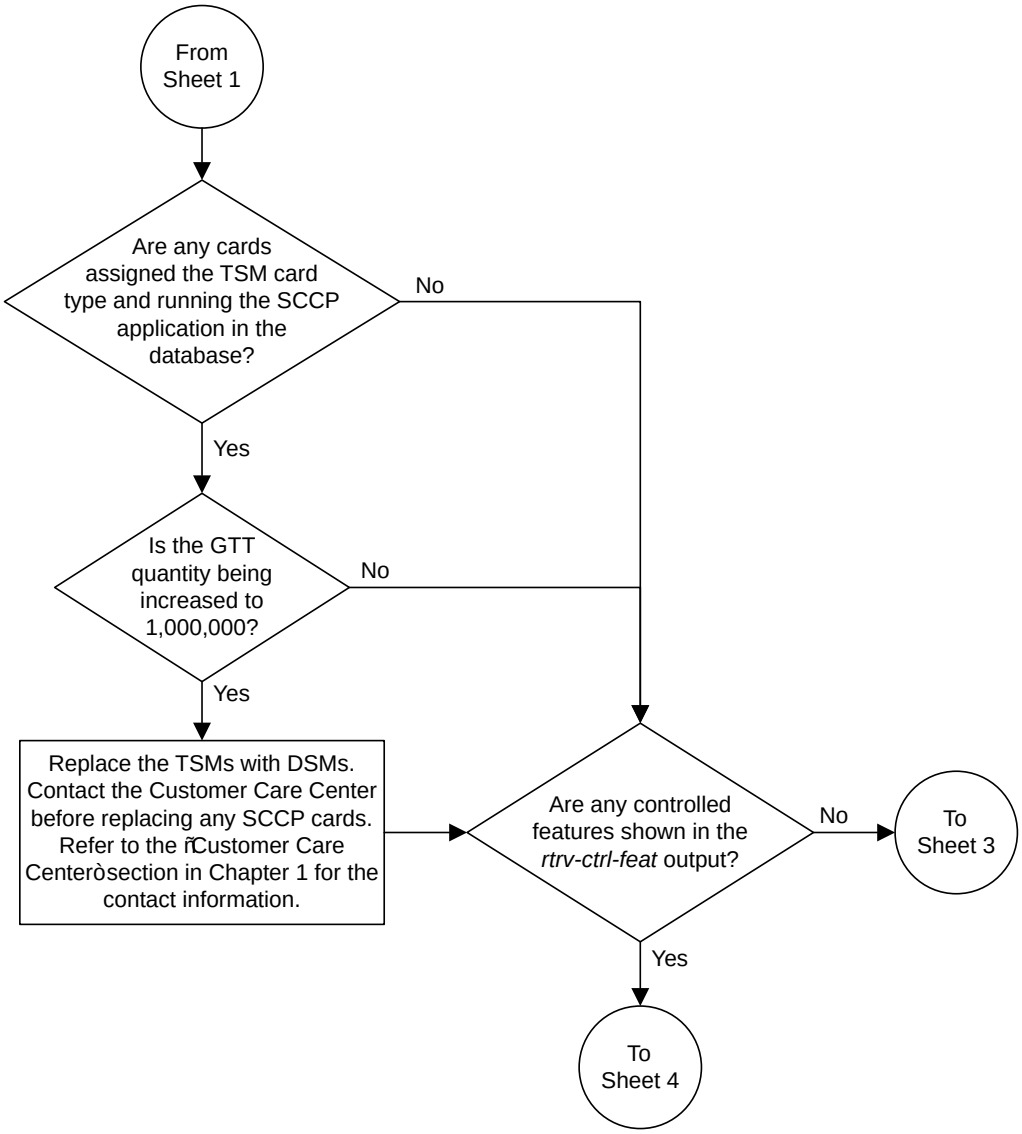
9. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

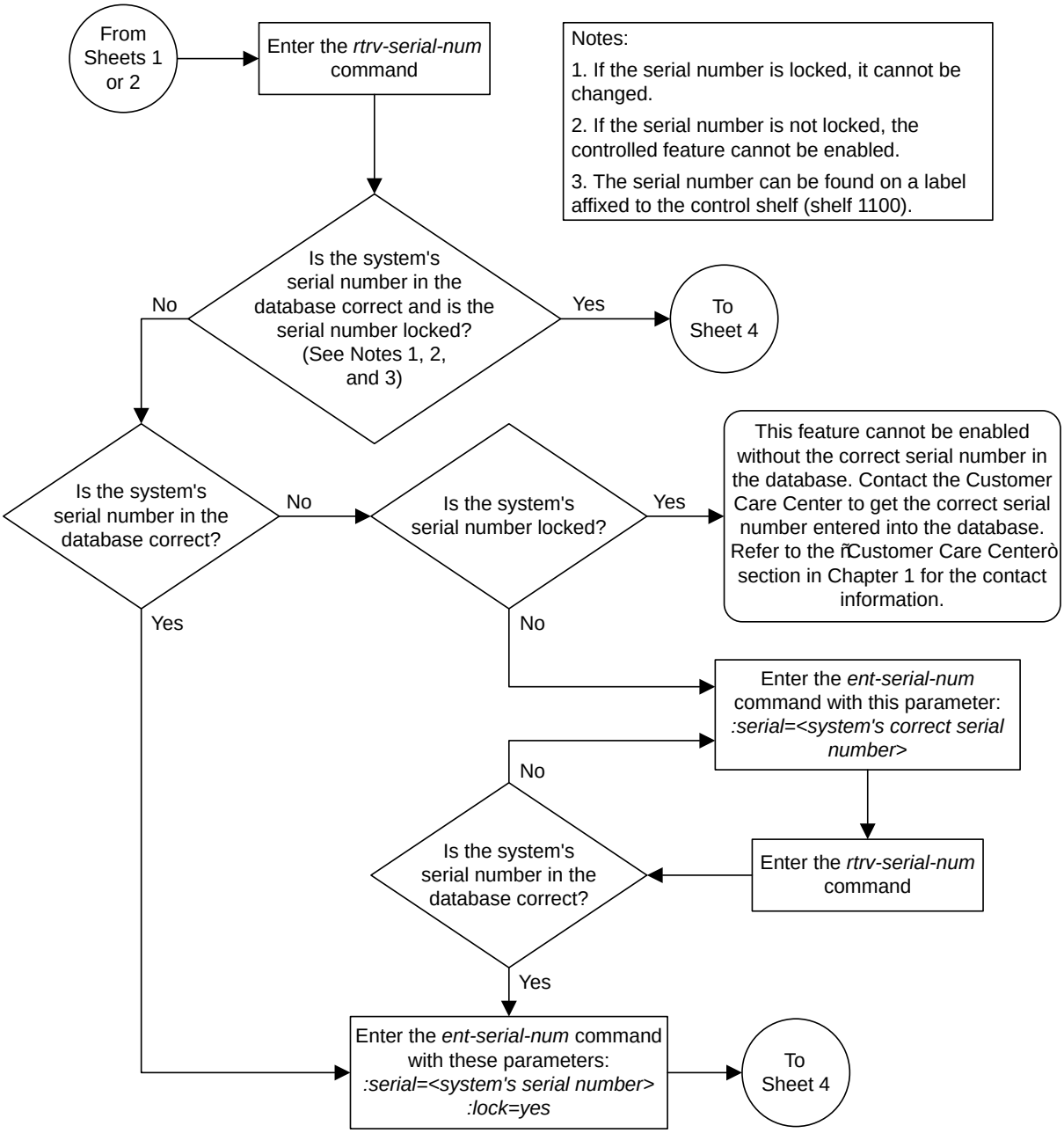
Flowchart A-4. Enabling the XGTT Table Expansion Feature (Sheet 1 of 4)



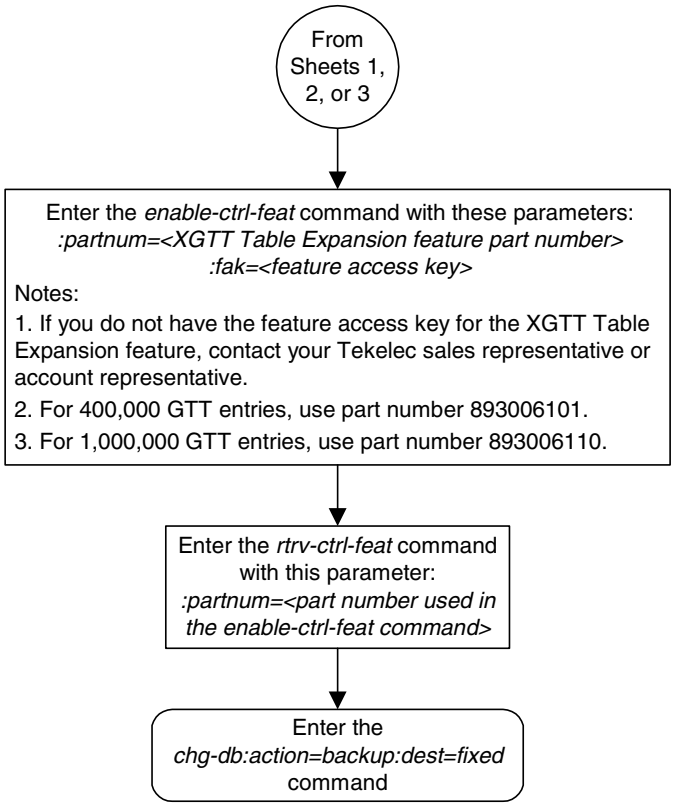
Flowchart A-4. Enabling the XGTT Table Expansion Feature (Sheet 2 of 4)



Flowchart A-4. Enabling the XGTT Table Expansion Feature (Sheet 3 of 4)



Flowchart A-4. Enabling the XGTT Table Expansion Feature (Sheet 4 of 4)



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 SAS, 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 cards are installed in card locations 1113 and 1115.

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 SAS 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 1-8 for the contact information.

- For a maximum of 2000 or 3000 entries, all SCCP cards in the EAGLE 5 SAS can be either TSMs or DSMs.

The SCCP card requirements are dependent on any other GTT-related features that are enabled. Go to the "Adding an SCCP Card" procedure on page 2-48 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 SAS, and that this serial number is locked. This can be verified with the **rtrv-serial-num** command. The EAGLE 5 SAS 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 SAS 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 SAS. 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 SAS'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.

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
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 SAS using the **rtrv-card** command. The XMAP Table Expansion feature requires that SCCP cards are in the database. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
```

```
1308   LIMDS0    SS7ANSI   sp6          A    1   sp7          B    0
1314   LIMDS0    SS7ANSI   sp7          A    1   sp5          B    1
1317   ACMENET   STPLAN
```

SCCP cards are shown by the entries **SCCP** or **VSCCP** in **APPL** column. If the **rtrv-card** output shows no SCCP cards, go to the "Adding an SCCP Card" procedure on page 2-48 and add the necessary SCCP cards.

NOTE: If the rtrv-ctrl-feat output in step 1 shows any controlled features, or if the XMAP 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.

3. Display the serial number in the database with the **rtrv-serial-num** command. This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 1-8 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 SAS's correct serial number>

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

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 SAS's serial number>:lock=yes

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

   ```
   rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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-crtl-feat** command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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

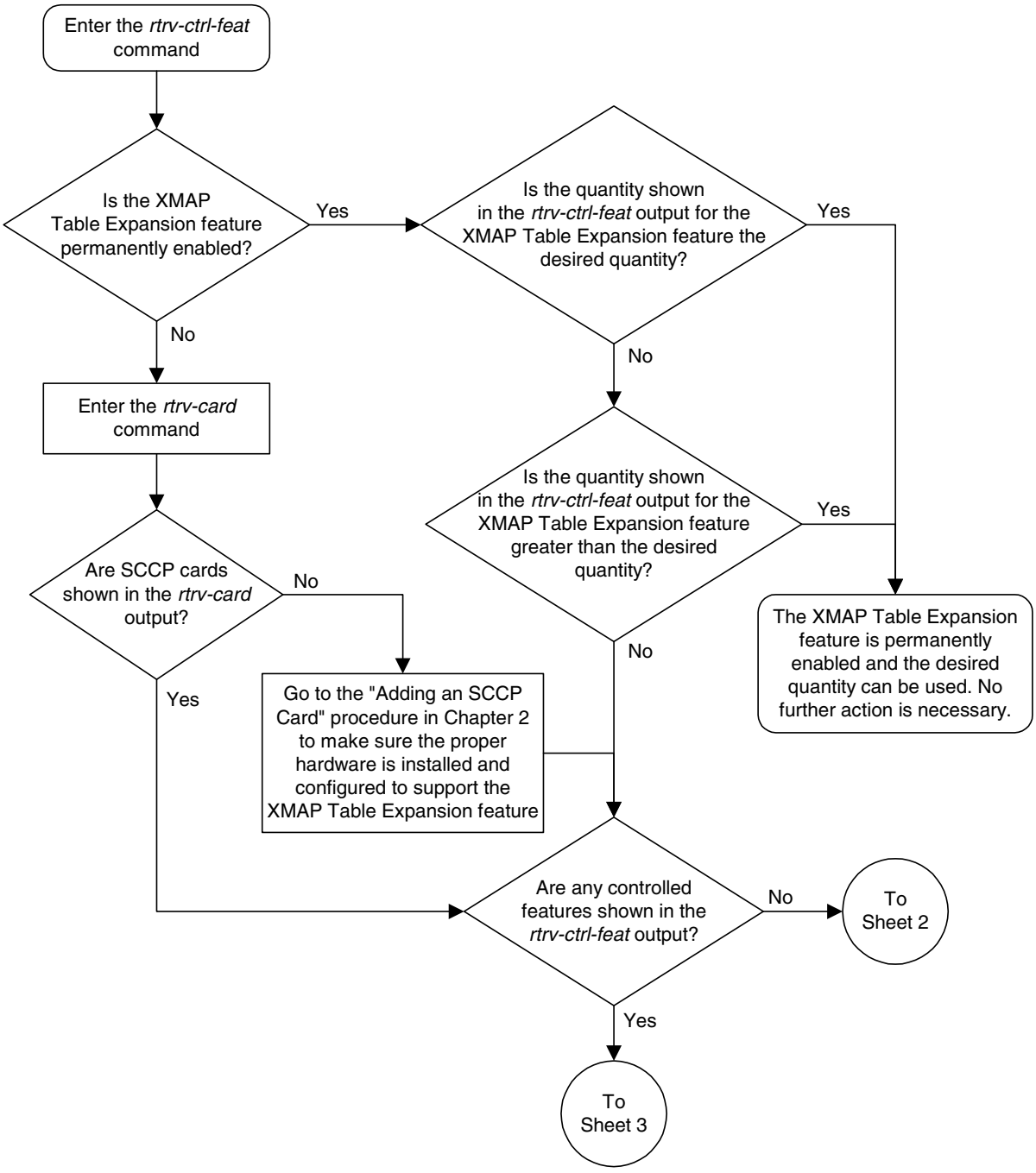
   The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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.
```

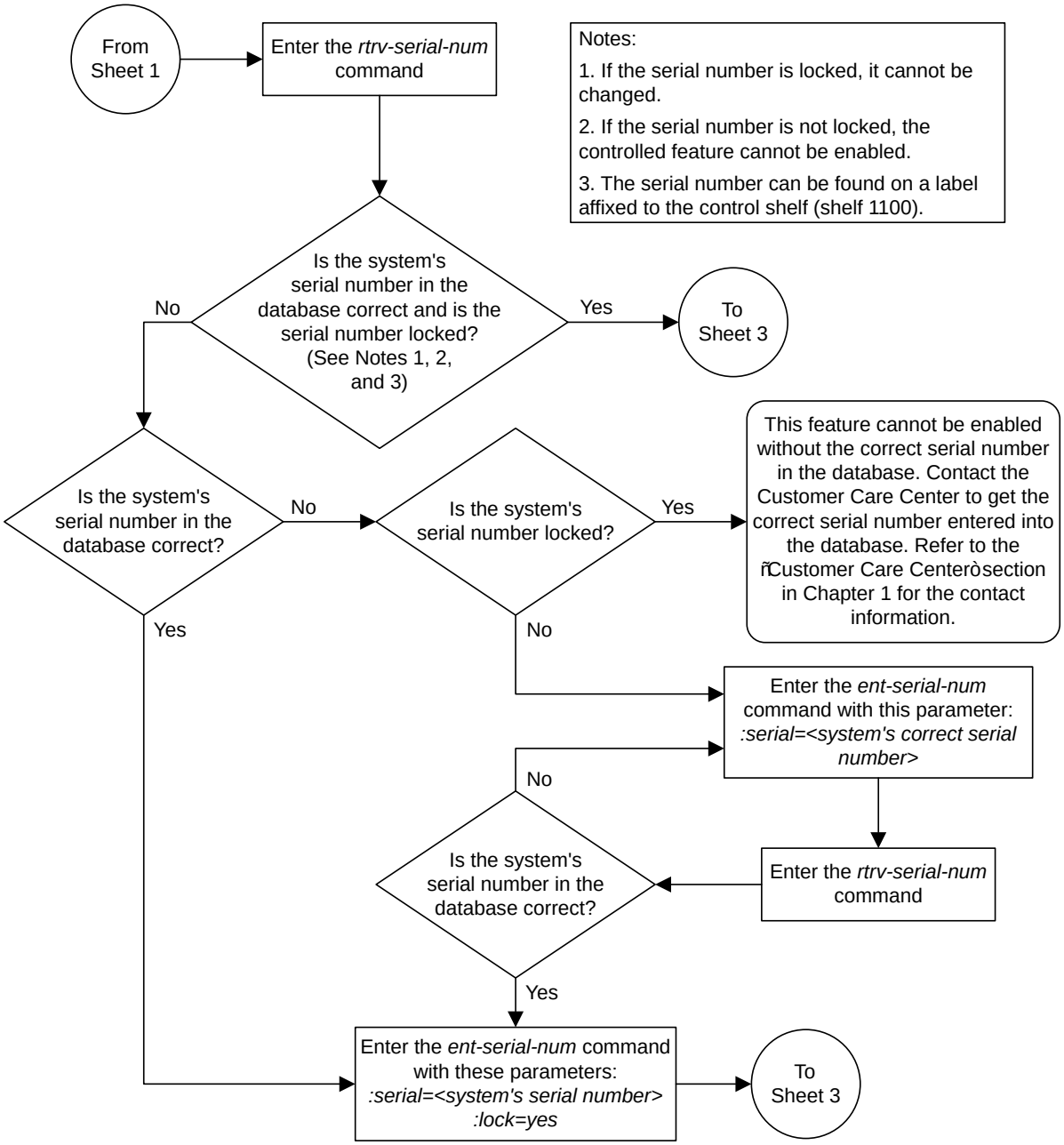
9. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

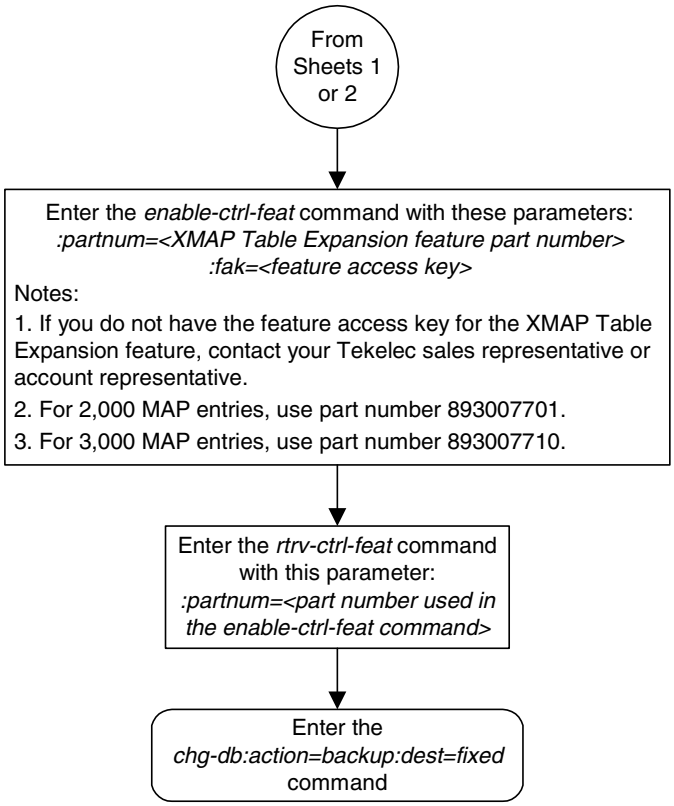
Flowchart A-5. Enabling the XMAP Table Expansion Feature (Sheet 1 of 3)



Flowchart A-5. Enabling the XMAP Table Expansion Feature (Sheet 2 of 3)



Flowchart A-5. Enabling the XMAP Table Expansion Feature (Sheet 3 of 3)



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 SAS, 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 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 SAS, and that this serial number is locked. This can be verified with the **rtrv-serial-num** command. The EAGLE 5 SAS 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 SAS 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 SAS. 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 SAS'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 SAS 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 either TSMs or DSMs are installed and provisioned in the EAGLE 5 SAS. TSMs are shown by the entry **TSM** in the **TYPE** column of the **rtrv-card** output. DSMs are shown by the entry **DSM** in the **TYPE** 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 1-8 for the contact information.

Procedure

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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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      ----
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 1-8 for the contact information.

NOTE: If the `rtrv-ctrl-feat` output in step 1 shows any GTT-related features enabled, skip step 3 and go to step 4. The GTT-related features are (as shown in the `rtrv-ctrl-feat` output): LNP Short Message Service, Prepaid SMS Intercept Ph1, Intermed GTT Load Sharing, G-Port Circ Route Prevent, XGTT Table Expansion, XMAP Table Expansion, LNP ported NPANXXs, LNP ported LRNs, LNP ELAP Configuration, LNP ported TNs, and EIR.

NOTE: If the `rtrv-feat` output in step 3 shows any GTT-related features on, skip step 3 and go to step 4. The GTT-related features (as shown in the `rtrv-feat` output): WNP, TLNP, GFLEX, PLNP, EGTT, VGTT, MGTT, INP, and GPORT.

NOTE: If the `rtrv-feat` output in step 3 shows that the GTT feature is not on, perform to the "Adding an SCCP Card" procedure on page 2-48 to turn the GTT feature on and to add the appropriate SCCP cards, according to Table 2-4 on page 2-48, 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 SAS using the **`rtrv-card`** command. The ANSI-ITU-China SCCP Conversion feature requires that SCCP cards (TSMs or DSMs) are in the database. This is an example of the possible output.

```
rlghncxa03w 06-03-25 09:58:31 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT 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
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

TSMs are shown by the entry **`TSM`** in the **`TYPE`** column. DSMs are shown by the entry **`DSM`** in the **`TYPE`** column.

If the appropriate SCCP cards are in the EAGLE 5 SAS (see Table 2-4 on page 2-48), 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.

4. Display the serial number in the database with the **`rtrv-serial-num`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 1-8 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 SAS's correct serial number>`

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

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 06-03-28 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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 SAS's serial number>:lock=yes

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

   ```
   rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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-crtl-feat** command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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-crtl-feat** command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
   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

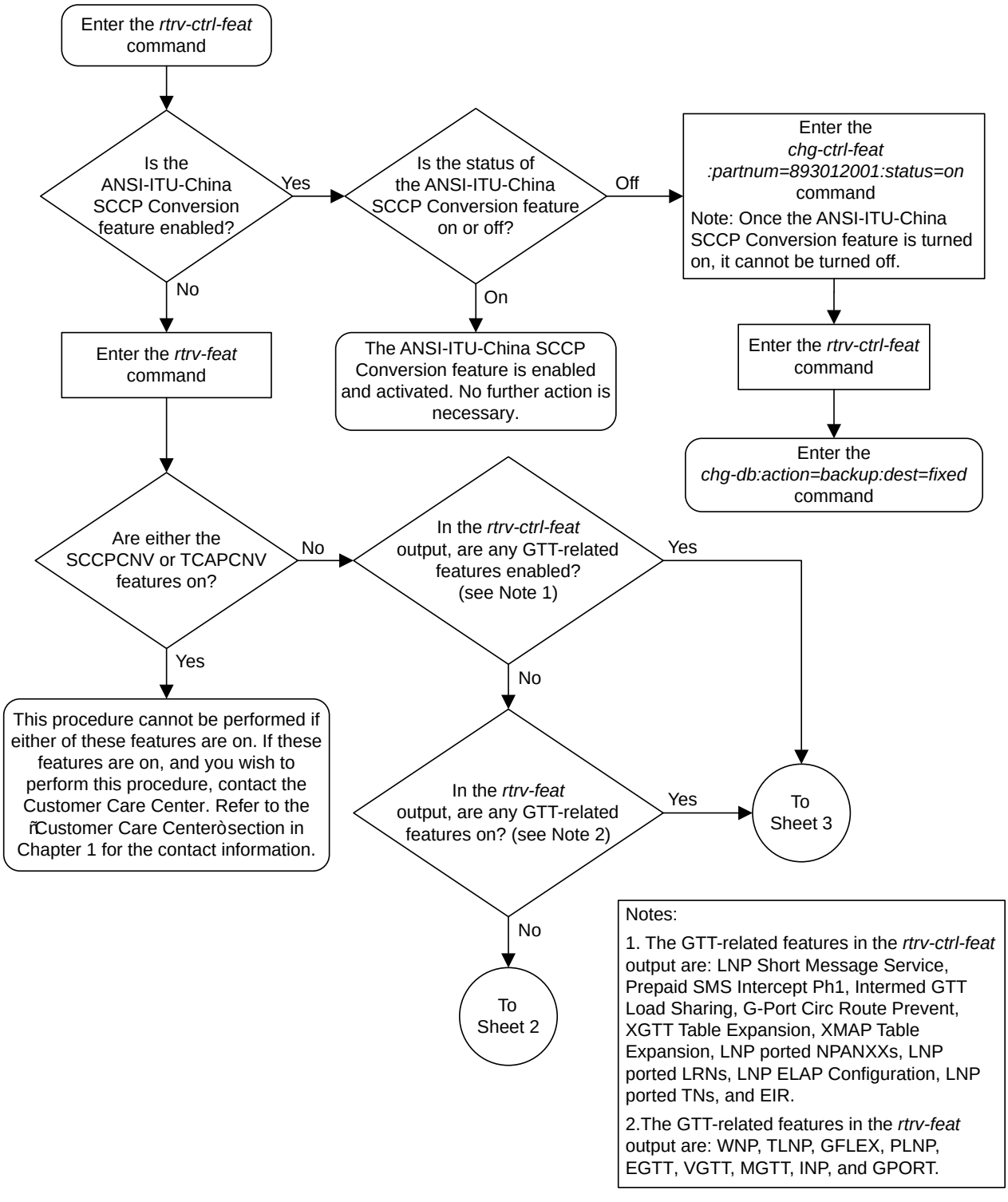
The following is an example of the possible output.

```
rlghncxa03w 06-03-28 21:15:37 GMT EAGLE5 34.3.0
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.
```

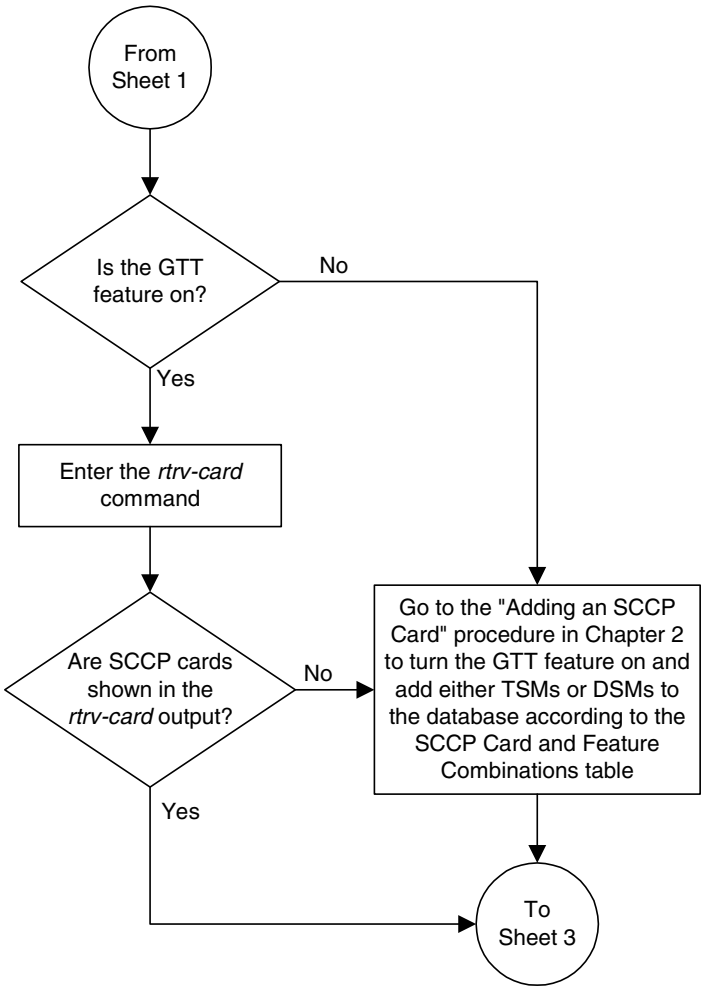
11. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

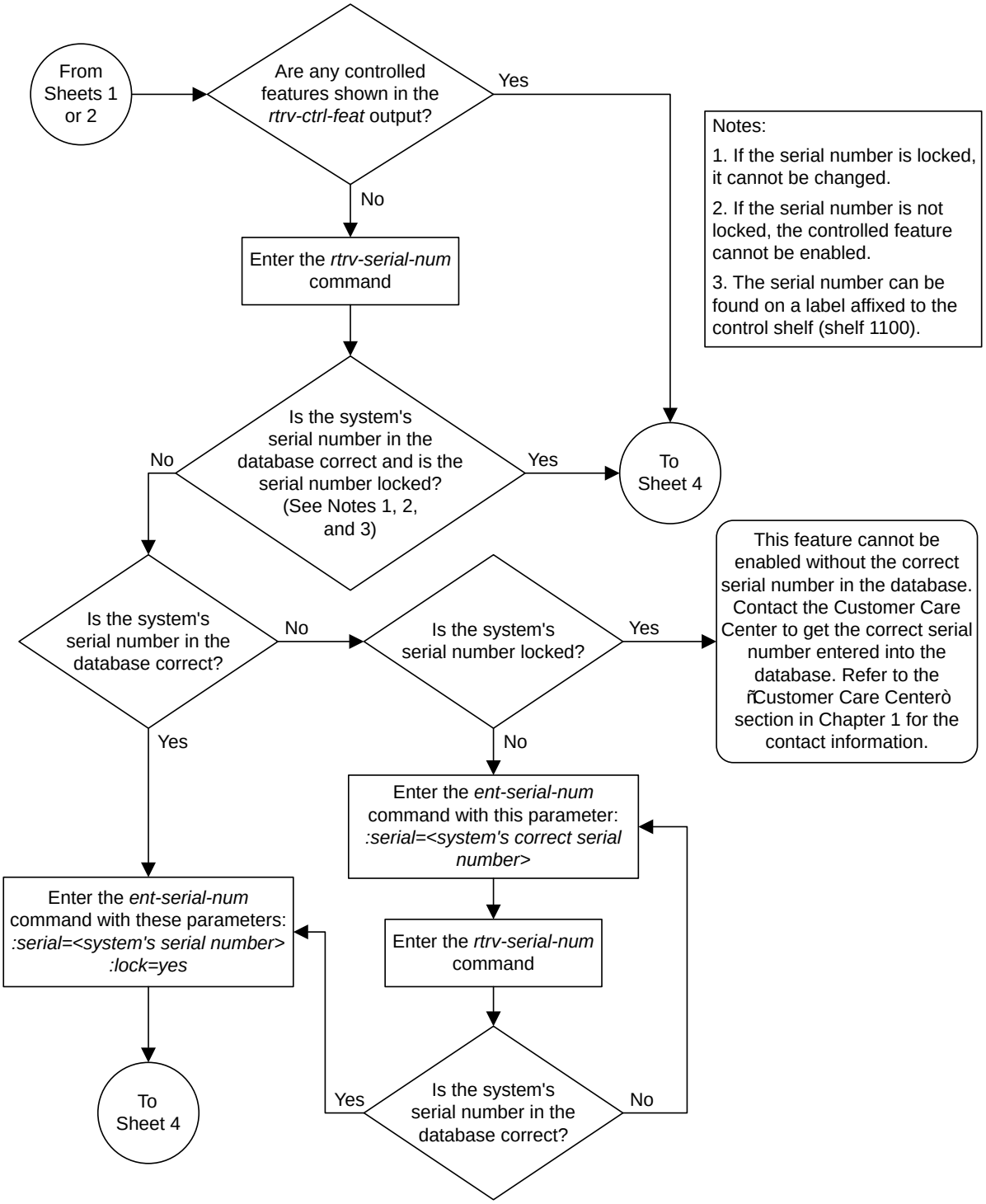
Flowchart A-6. Activating the ANSI-ITU-China SCCP Conversion Feature (Sheet 1 of 4)



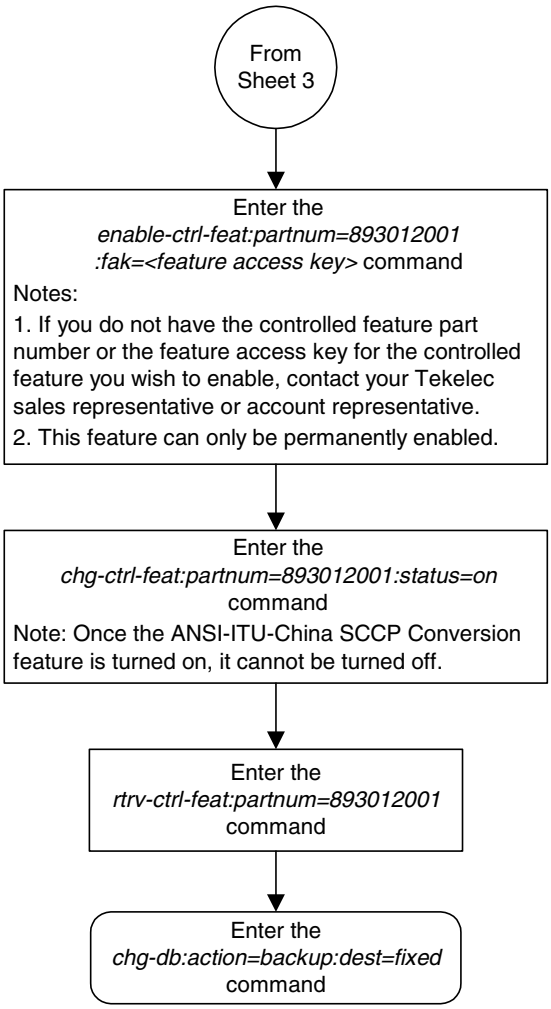
Flowchart A-6. Activating the ANSI-ITU-China SCCP Conversion Feature (Sheet 2 of 4)



Flowchart A-6. Activating the ANSI-ITU-China SCCP Conversion Feature (Sheet 3 of 4)



Flowchart A-6. Activating the ANSI-ITU-China SCCP Conversion Feature (Sheet 4 of 4)



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