Tekelec EAGLE® 5 SAS - Release 34.3
Database Administration - System Management

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Tekelec EAGLE® 5
Signaling Application System

Release 34.3

Database Administration Manual - System Management

910-3273-001 Revision A
March 2006

TEKELEC

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Overview

The *Database Administration Manual – System Management* describes the procedures necessary for database administration personnel or translations personnel to manage the EAGLE 5 SAS's database and GPLs, and to configure basic system requirements such as user names and passwords, system-wide security requirements, and terminal configurations.

NOTE: Database administration privileges are password restricted. Only those persons with access to the command class "Database Administration" can execute the administrative functions. Other command classes and the commands allowed by those classes are listed in the *Commands Manual*.

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 these sections:

Chapter 1, "Introduction," contains general information about the database and the organization of this manual.

Chapter 2, "Database Management Procedures," describes the different options for managing the database, such as backing up data and copying database tables from one disk to another, and provides procedures for tasks associated with database applications.

Chapter 3, "GPL Management Procedures," describes the procedures used for managing the system data (GPLs) on the EAGLE 5 SAS.

Chapter 4, "System Administration Procedures," describes the procedures used to administer the system wide security requirements, user names and passwords, the system date and time, terminal configurations, shelves, SS7 LIM cards, and configuration information for the Measurements Platform feature.

Appendix A, "Controlled Feature Activation Procedures," describes the procedures necessary to activate and deactivate the controlled features (features that require a feature access key to be activated) contained in this manual.

Appendix B, "Setting Up a Secure Telnet Connection to the EAGLE 5 SAS using PuTTY," This appendix describes the steps to set up a secure telnet connection to to the EAGLE 5 SAS using the PuTTY client program.

Related Publications

The *Database Administration Manual – System Management* 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 – Global Title Translation* contains procedural information required to configure an EAGLE 5 SAS to implement these features:
  - Global Title Translation
  - Enhanced Global Title Translation
  - Variable Length Global Title Translation
  - Interim Global Title Modification
  - Intermediate GTT Load Sharing
  - ANSI-ITU-China SCCP Conversion
- 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 *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 EAGLE 5 SAS 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 EAGLE 5 SAS and LSMS 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.

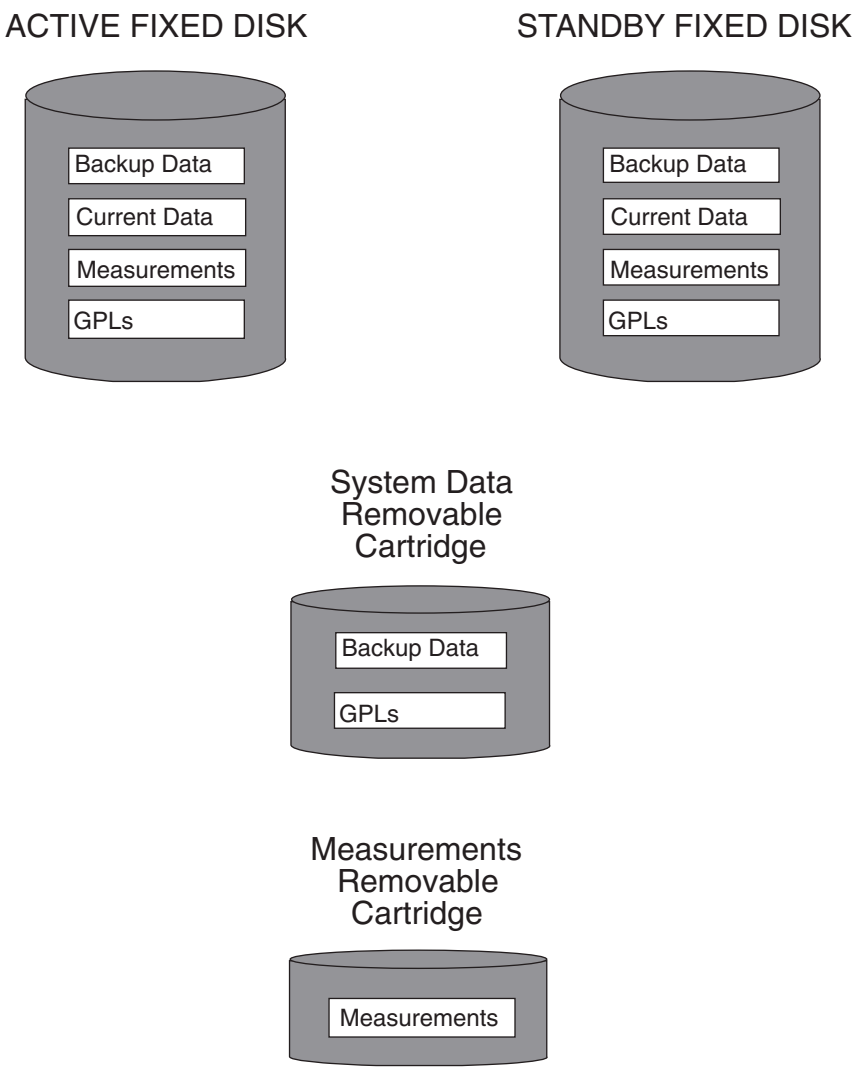
The procedures in the *Database Administration Manual – System Management* refer to the terms MASP and MDAL. The database commands, such as **`rept-stat-db`**, refer to the MASP because the MASP controls the input to the TDM and MDAL, and output from the TDM and MDAL. The MDAL is only referred to when 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 Fixed Disk Drive section on page 1-12 and the Removable Cartridge section on page 1-13 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 backup copy of the administered data and system GPLs
- To hold a copy of the measurement tables

Because of the size of the data stored on the fixed disk drives on the TDMs, a single removable cartridge 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

ACG .....Automatic Call Gapping

ACM.....Application Communications Module

ACM-ENET.....Applications Communications Module with the Ethernet interface

ACT .....Activate

ACTV .....Active

AFTPC.....Affected Point Code

AINF .....Application Interface Appliquè

ALIASA .....ANSI Alias Point Code

ALIASI.....ITU International Alias Point Code

ALIASN.....ITU National Alias Point Code

ALM .....Alarm

ANSI .....American National Standards Institute

APC .....Adjacent Point Code

APCA.....ANSI Adjacent Point Code

APCI.....ITU International Adjacent Point Code

APCN.....ITU National Adjacent Point Code

API .....Application Programming Interface

APPL.....Application

ARP .....Address Resolution Protocol

AST.....Associated State for Maintenance

ATM .....Asynchronous Transfer Mode

ATMANSI .....The application software for the ATM (high-speed) SS7 signaling links

ATMTSEL .....ATM timing selector

BEI .....Broadcast Exception Indicator

BIP .....Board ID PROM

BPDCM.....Application software for flash memory management on the DCM card

BPHCAP.....Application software used by the application processor and the IMT processor of the LIMATM

BPS ..... Bits per Second or Bytes per Second

BSN ..... Backward Sequence Number

C ..... Continue

CANC ..... Cancel

CAP ..... Capacity

CCS ..... Common Channel Signaling

CCS7ITU ..... Application software for ITU SS7 signaling links

CDPA ..... Called Party Address

CGPA ..... Calling Party Address

CHG ..... Change

CLLI ..... Common Language Location Identifier

Cmd Rej ..... Command Rejected

CNCF ..... Calling Name Conversion Facility

COO ..... Changeover Order Message

CPC ..... Capability Point Code

CPCA ..... ANSI Capability Point Code

CPCI ..... ITU International Capability Point Code

CPCN ..... ITU National Capability Point Code

CPCTYPE ..... Capability Point Code Type

CRMD ..... Cluster Routing and Management Diversity

DACT ..... Deactivate

DB ..... Database

DBG ..... Debug

DCE ..... Data Communication Equipment

DCM ..... Database Communication Module

DESTFLD ..... Allowed Affected Destination Field

DLK ..... Data Link

DLT ..... Delete

DPC ..... Destination Point Code

DPCA ..... ANSI Destination Point Code

DPCI ..... ITU International Destination Point Code

DPCN.....ITU National Destination Point Code

DS0A.....Digital Signal Level - 0

DTA.....Database Transport Access

DTE.....Data Terminal Equipment

E1.....European equivalent of the North American 1.544 Mbps T1 (Trunk Level 1) except that E1 carries information at 2.048 Mbps.

ECM.....Error Correction Method

EIR.....Equipment Identity Register

ELEI.....Exception List Exclusion Indicator

EMS.....Element Management System

ENT.....Enter

FC.....Flow control

FE.....Far End

FIB.....Forward Indicator Bit

FISU.....Fill In Signal Unit

FPC.....Provisioned full point code entry

FPCA.....Full Point Code entry

FTA.....File Transfer Area

FTP.....File Transfer Protocol

Gbyte.....Gigabyte

GLS.....Gateway Loading Services – Application software for the gateway screening loading services

GN.....Generic Name parameter of an ISUP Initial Address Message (IAM)

GPL.....Generic Program Load

GPSM.....General Purpose Service Module

GTT.....Global Title Translation

GWS.....Gateway Screening

GWSA.....Gateway Screening Application

GWSD.....Gateway Screening Message Discard

GWSM.....Gateway Screening Mode

H0.....H0 heading code in the service information octet

H1.....H1 heading code in the service information octet

I/O .....Input/Output

IAM.....Initial Address Message

ICMP.....Internet Control Message Protocol

ID.....Identity

IMT .....Interprocessor Message Transport

INH .....Inhibit

INIT.....Initialize

IP .....Internet Protocol

IPLIM.....Application software for TCP/IP point-to-point connectivity for ANSI networks

IPLIMI .....Application software for TCP/IP point-to-point connectivity for ITU networks

IPLIMx.....IPLIM and IPLIMI

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

ISUP .....ISDN User Part

ITU .....International Telecommunications Union

ITU-I .....ITU International

ITU-N.....ITU National

ITU-TSS .....International Telecommunications Union - Telecommunications Standardized Sector

LAN .....Local Area Network

LBP.....Loop Back Point

LC.....Logical Channel

LCD.....Loss of Cell Delineation

LC2NM.....Logical Channel to Network Management

LED .....Light Emitting Diode

LFS .....Link Fault Sectionalization

LIM .....Link Interface Module

LIMATM .....LIM used with ATM (high-speed) signaling links

LIMDS0 .....LIM with a DS0A interface

LIMOCU .....LIM with a OCU interface

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

LLT .....Latching LFS Test

LOC.....Location

LNP .....Local Number Portability

LNPBAS .....LNP Basic command class

LNPDB.....LNP Database Administration command class

LNPSUB .....LNP Subscription command class

LPSET .....ATM (high-speed) signaling link parameter set identifier

LS.....Linkset

LSMS.....Local Service Management System

LSN .....Linkset Name

LST .....Linkset Type

MAP .....Mated Application

MAS .....Maintenance and Administration Subsystem

MASP.....Maintenance and Administration Subsystem Processor

Mbyte.....Megabyte

MCP .....The application software for the Measurements Platform feature

MCPM .....Measurement Collection & Polling Module

MDAL.....Maintenance Disk and Alarm Card

MSAR.....Memory Space Accounting Report

MSU .....Message Signaling Unit

MTP.....Message Transfer Part

NE .....Near End

NCPC.....New Capability Point Code

NCPCA.....New ANSI Capability Point Code

NCPCI.....New ITU International Capability Point Code

NCPCN.....New ITU National Capability Point Code

NEI .....Network Element Interface

NLT .....Non-latching LFS Test

NMA .....Telcordia Network Monitoring and Analysis Operations Support System

OAP .....Operations System Support/Applications Processor

OCU .....Office Channel Unit

OOS.....Out of Service

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

PCR .....Preventive Cyclic Retransmission

PDU .....Protocol Data Unit

PID .....Password ID

PIP .....Party Information Parameter parameter of an ISUP Initial Address Message (IAM)

PRTY.....Parity

PST .....Primary State for Maintenance

PVC .....Permanent Virtual Circuit

RCx .....Signaling-Route-Set-Test for either a prohibited or restricted cluster network management message

REPT-STAT.....Report Status

RLE.....Remote Link Element

RLI.....Remote Link Interface

RMV.....Remove

RSP .....Signaling-Route-Set-Test Signal for a prohibited destination network management message

RSR.....Signaling-Route-Set-Test Signal for a restricted destination network management message

RST .....Restore

RSx .....Signaling-Route-Set-Test Signal for either a restricted destination or prohibited destination network management message

RTRV.....Retrieve

SCCP .....Signaling Connection Control Part – Application software for the global title translation (GTT) feature

SCMG .....SCCP Management

SCRN .....Screen Set Name

SCRSET.....Screen Set

SEAC.....Signaling Engineering and Administration Center

SIE .....Status Indication Emergency Alignment

SIN .....Status Indication Normal Alignment

SIO.....Status Indication Out of Alignment or Service Information Octet

SIOS.....Status Indication Out of Service

SLC.....Signaling Link Code

SLK.....Signaling Link

SLS.....Signaling Link Selector

SLSCI .....5- to 8-bit SLS Conversion Indicator

SLSCNV.....SLS Conversion

SLTC.....Signaling Link Test Control

SNCC .....Signaling Network Control Center

SS7 .....Signaling System #7

SS7 ADDR .....The dummy X.25 address assigned to the SS7 destination entity on the SS7 side of the circuit

SS7 DPC.....SS7 Destination Point Code

SS7ANSI .....The application software for the ANSI SS7 signaling links

SS7GX25 .....The application software for the X.25/SS7 gateway feature

SSA .....Subsystem Allowed network management message

SSCF .....Service Specific Coordination Function

SSCOP.....Service Specific Coordination Oriented Protocol

SSN.....SS7 Subsystem Number

SSP.....Subsystem Prohibited network management message

SST.....Secondary State for Maintenance

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

STDBY.....Standby

STP .....Signal Transfer Point

STP LAN	Feature that copies MSUs selected through the gateway screening process and sends these MSUs over the Ethernet to an external host computer for further processing
STPLAN	Application software for the STP LAN feature
SUERM	Signal Unit Error Rate Monitor
T1	Trunk Level 1
TCA	Transfer Cluster Allowed network management message
TCAP	Transaction Capability Application Part
TCP	Transmission Control Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TCR	Transfer Cluster Restricted network management message
TCx	Either a Transfer Cluster Allowed, Transfer Cluster Restricted, or Transfer Cluster Prohibited network management message
TDM	Terminal Disk Module
TFA	Transfer Allowed network management message
TFC	Transfer Controlled network management message
TFATCABMLQ	TFA/TCA broadcast minimum link quantity
TFATFRPR	TFA/TFR pacing rate
TFP	Transfer Prohibited network management message
TFR	Transfer Restricted network management message
TFx	Either a Transfer Allowed, Transfer Controlled, Transfer Restricted, or Transfer Prohibited network management message
TLNP	Triggerless LNP
TPC	True Point Code
TRA	Traffic Restart Allowed
TRM	Terminal
TRW	Traffic Restart Waiting
TSET	Transmitter Signaling Element Timing
TSM	Translation Services Module
TT	Translation Type

TVG.....Group Ticket Voucher feature

UAM .....Unsolicited Alarm Message

UDTS.....Unit Data Transfer Service

UID.....User ID

UIM .....Unsolicited Information Message

UIMRD .....UIM Redirect

UNHB .....Uninhibit

VCI .....Virtual Channel Identifier

VPI.....Virtual Path Identifier

WNP.....Wireless Number Portability

X25 ADDR.....The X.25 network address of the X.25 destination entity or the SS7 node.

X-list .....Exception list of non-provisioned members of provisioned cluster.

2

Database Management Procedures

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Introduction

This chapter contains procedures for creating database backups or backups of the system data, and restoring the database or system data. The term “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. The term “system data” refers to data that cannot be administered by the user including maintenance software and generic program loads (GPLs).

These procedures are to be used as they are presented in this chapter. If these procedures are not followed, and a database backup or restore is attempted, a system failure could result.

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 necessary information.

The database management procedures are used to perform these functions:

- Verifying the database
- Backing up the database
  - on the fixed disk
  - to the removable cartridge
- Restoring the database
  - from the backup partition of the fixed disk
  - from the removable cartridge
- Repairing the database
- Copying the database from the active to the standby fixed disk
- Backing up system data to the removable cartridge
- Restoring system data from a removable cartridge
- Formatting a removable cartridge
- Formatting the fixed disk of the standby TDM

The procedures in this chapter refer to the Maintenance and Administration Subsystem Processor (MASP), Terminal Disk Module (TDM) and the Maintenance Disk and Alarm Card (MDAL).

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 Interprocessor Message Transport (IMT) bus. The GPSM-II card 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 TDM is associated with a specific GPSM-II card. For example, the TDM in location 1114 is associated with the GPSM-II in location 1113 and the combination of these two cards is designated as MASP A. The TDM in location 1116 is associated with the GPSM-II in location 1115 and the combination of these two cards designated as MASP B. When MASP A is active, the GPSM-II in location 1113 and TDM in location 1114 are active. When MASP A is standby, the GPSM-II in location 1113 and TDM in location 1114 are standby. One MASP is always active and the other MASP is always standby.

To determine which MASP is active, enter the **rept-stat-db** command, the **rept-stat-card** command, or examine the LEDs on both TDMs or the MDAL card.

The output of the **rept-stat-db** command shows which MASP is active with the indicator **(ACTV)** following the TDM card location. The indicator **(STDBY)** following the TDM card location shows which MASP is standby.

The output of the **rept-stat-card** command shows which MASP is active with the entry **ACTIVE** in the **SST** field for the GPSM-II card. The entry **STANDBY** in the **SST** field for the GPSM-II card shows which MASP is standby.

If the LED on the TDM is green, the associated MASP is active. If the LED on the TDM is toggling from green to amber, the associated MASP is standby.

The MDAL card has two LEDs that also show the status of each MASP. These LEDs are labeled MASP A and MASP B and the LED that is green shows which MASP is active.

The database commands, such as **rept-stat-db**, refer to the TDM because the TDM contains the fixed disk drive for the MASP. The MDAL is only referred to when inserting or removing the removable cartridge because the removable cartridge drive resides on the MDAL.

Removable Cartridge

Some of these procedures are used with a removable cartridge. When the removable cartridge is not being used, it should be write protected and stored in a secure place. The database on the removable cartridge can be used to restore the database in the event of a catastrophe, or to retrieve a particular database configuration.

The removable cartridge used with these procedures must be formatted for either system data or 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*. To format a removable cartridge, go to the "Formatting a Removable Cartridge" procedure on page 2-79.

Additional and preformatted removable cartridges are available from the Customer Care Center**.** Refer to "Customer Care Center" on page 1-8 for the contact information.

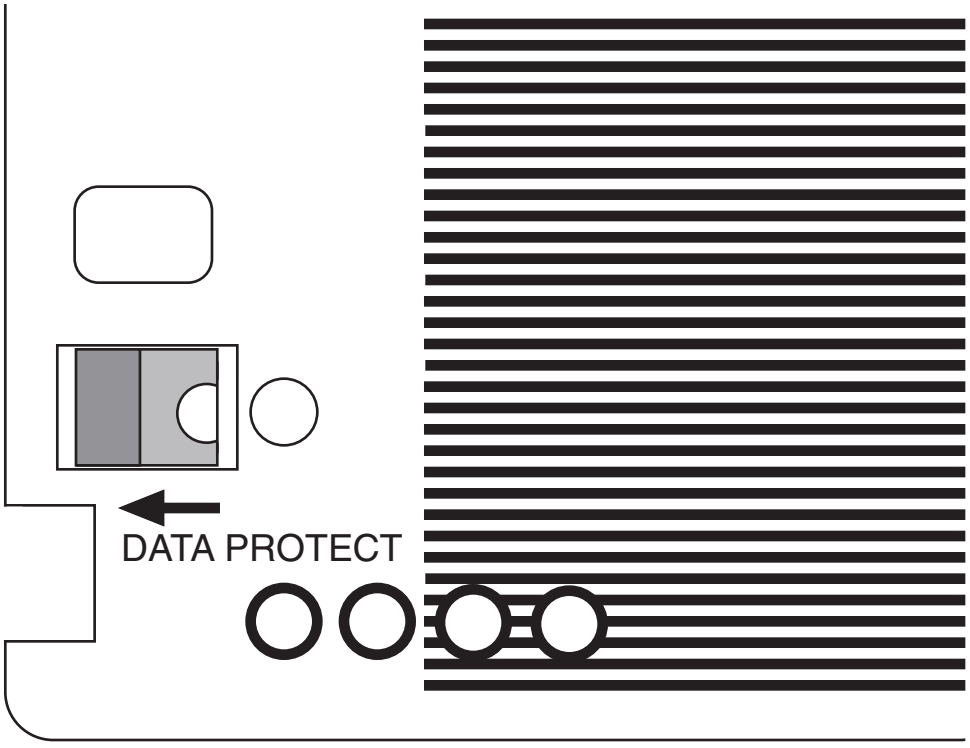
Procedures that use the removable cartridge require that the removable cartridge be either write protected or write enabled. When the cartridge is write protected, no data can be written to the cartridge, nor can the cartridge be formatted. The data can only be read from the cartridge. When the cartridge is write enabled, data can be written to the cartridge, data can be read from the cartridge, and the cartridge can be formatted and any data on the cartridge will be lost.

This section contains the procedures for handling removable cartridges. In addition to procedures for write protecting and write enabling the removable cartridge, this section also contains procedures for inserting the removable cartridge into the removable cartridge drive and removing the removable cartridge from the removable cartridge drive.

Write Protecting the Removable Cartridge

The write protecting mechanism of the removable cartridge is a tab located in the lower left corner of the cartridge. Under the tab is an arrow pointing toward the left edge of the cartridge and the words “DATA PROTECT” are under the arrow. To write protect the removable cartridge, slide the tab to the left, the direction of the arrow, until it snaps into place. The hole to the right of the tab should be clear and open. See Figure 2-1.

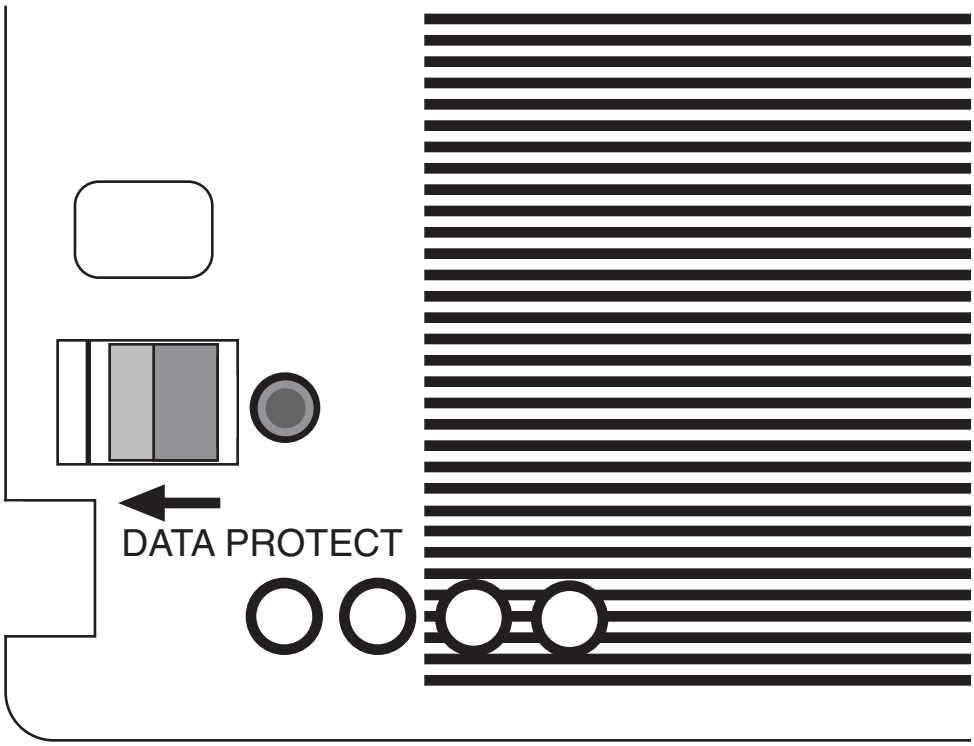
Figure 2-1. Write Protected Removable Cartridge



Write Enabling the Removable Cartridge

To write enable the removable cartridge, slide the tab to the right, the opposite direction of the arrow, until it snaps into place. The hole to the right of the tab should be filled with a red dot. See Figure 2-2.

Figure 2-2. Write Enabled Removable Cartridge

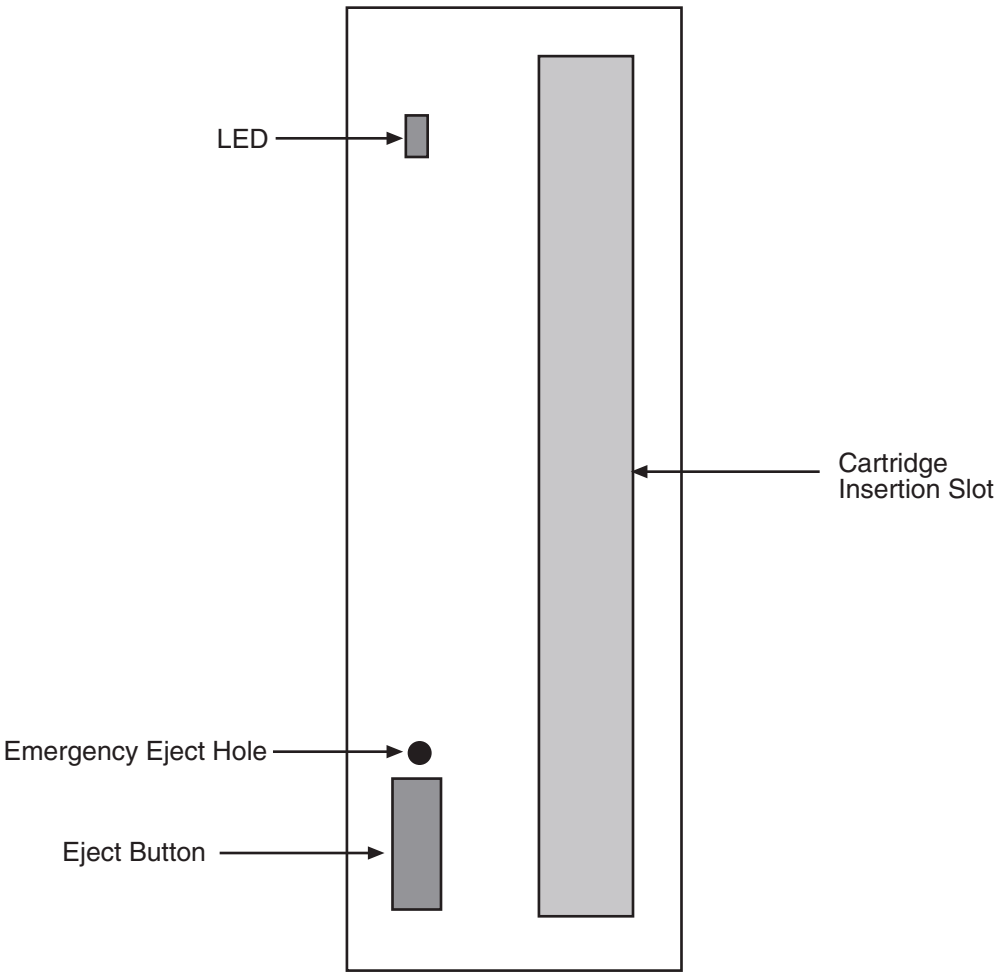


Inserting the Removable Cartridge

The removable cartridge is a two sided cartridge with each side designated as side A and side B. The removable cartridge drive can only access one side of the cartridge at a time, which side is accessed depends on how the cartridge is inserted into the removable cartridge drive. The side indicator is located on the shutter on each side of the removable cartridge.

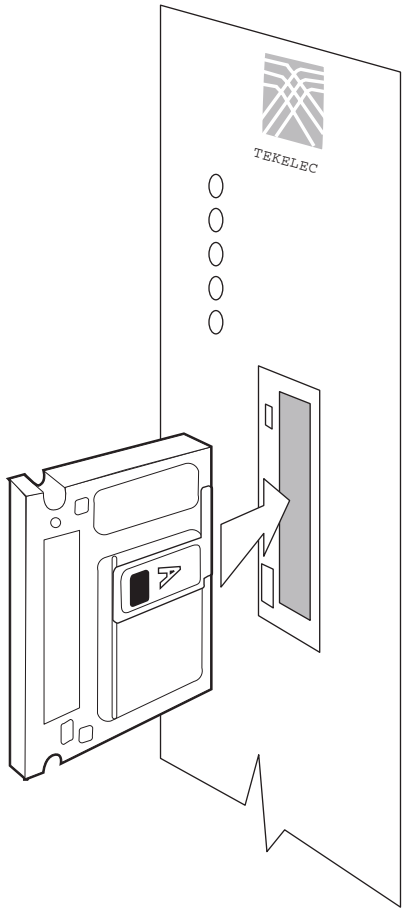
Figure 2-3 shows the layout of the removable cartridge drive.

Figure 2-3. Removable Cartridge Drive Layout



To insert the removable cartridge to access side A, insert the removable cartridge into the cartridge insertion slot of the drive with the indicator for side A on the shutter facing to the right side of the drive and away from the side with the LED and the eject button, as shown in Figure 2-4.

Figure 2-4. Inserting the Removable Cartridge to Use Side A



To insert the removable cartridge to access side B, insert the removable cartridge into the cartridge insertion slot of the drive with the indicator for side A on the shutter facing to the left side of the drive and toward the side with the LED and the eject button.

When the removable cartridge is inserted into the removable cartridge drive, the LED is yellow while the cartridge is spinning up. When the cartridge is finished spinning up and ready to use, the LED is green.

Removing the Removable Cartridge

To remove the removable cartridge from the removable cartridge drive, the LED should be green. If the LED is yellow, the drive is being accessed by the EAGLE 5 SAS and the cartridge cannot be removed from the drive. Wait until the LED is green before attempting to remove the cartridge from the drive. When the LED is green, push the eject button on the removable cartridge drive. While the cartridge is being ejected from the drive, the LED is yellow. The LED is off when the cartridge is fully ejected from the drive. The cartridge can then be removed from the drive.

Verifying the Database

Verifying the database means to check the operational status of the database. The **rept-stat-db** command is used to check the operational status of the database. The **rept-stat-db** command has three optional parameters that can be used with it, **display**, **loc**, and **db**.

The **display** parameter can use four values: **brief** (the default value), **except**, **all**, and **version**. The value for the **loc** parameter is the card location of the card, based on the GPL assigned to the card, whose database you wish to verify. These card locations are shown in the *Hardware Manual - EAGLE 5 SAS*. The **db** parameter specifies which database to display: **stp** (the EAGLE 5 SAS databases), **mps** (the MPS databases) and **all** (both STP and MPS databases).

The operational status of the database is shown by the indicator **C**. This indicator shows whether the database is coherent. Coherency is an indication of whether the update to the database was successful. Each database has a coherency indicator. When an update is attempted, the coherency indicator is set to "incoherent" before the actual update is executed. When the update has been successfully completed, the coherency indicator is changed to coherent. If the update is not successful, the coherency indicator is not changed. If the coherency indicator is incoherent, this could be an indication of possible internal coherency problems when a restart is executed (for example, an index table was updated, but the corresponding data storage table was not modified).

REPT-STAT-DB Output Fields

The outputs of the **rept-stat-db** command contains these fields. There are fields that are displayed only when specific parameters are specified. Some of these fields are displayed only when certain features are on. The conditions under which these fields are displayed are noted in the description of the fields.

Database Status: – an indication of any database alarms on the MASPs.
>> OK<< – there are no database alarms
>>NOT OK<< – database alarms are present
This indicator is not used with the **loc** parameter output.

(ACTV) – The specified MASP is the active processor. This is not used with the **loc** parameter output.

(STDBY) – The specified MASP is the standby processor. This is not used with the **loc** parameter output.

(NOACCS) – The specified processor is not accessible. This is not used with the **loc** parameter output.

(OFF-LINE) – The specified TDM has been inhibited and may have been removed from the control shelf. This is not used with the **loc** parameter output.

C – an indicator of whether the database is coherent. A "Y" means that the database is coherent; an "N" means that the database is not coherent; a "-" means that the database is not accessible.

LEVEL – the number of updates made to the database partitions.

TIME LAST BACKUP – the date and time the last change was performed on the removable cartridge (if inserted) and the backup partition of the fixed disk. This field is not used with the **loc** parameter output. If a dash (-) is displayed in this field for the **FD BACKUP** or **RD BACKUP** partitions, then no backup has been created for that partition.

RD BKUP – Removable cartridge backup partition.

FD BKUP – Fixed disk backup partition.

FD CRNT – Fixed disk current partition. This field is not used with the **loc** parameter output.

DIFF CONTENTS – The specified database's contents are different when compared to the other database in that partition.

DIFF LEVEL – The specified database's level (other than the backup partition of the fixed disk – **FD BKUP**) does not match the level of the current partition of the active fixed disk (**FD CRNT**).

DIFF TIME – The specified database's level matches the level of the current partition of the active fixed disk (**FD CRNT**), but the time that the database was updated, when compared to the current partition of the active fixed disk (**FD CRNT**), is different. This occurs when the time/date stamp of the database being updated is corrupted.

CORRUPTED – The specified database is corrupted.

INCOHERENT – The specified database is incoherent.

OFF-LINE – The specified TDM is off-line and has been removed from the control shelf.

EXCEPTION – The condition of the specified database that the EAGLE 5 SAS has detected a problem with. These conditions are: **DIFF CONTENTS**, **DIFF LEVEL**, **DIFF TIME, CORRUPTED**, **INCOHERENT**, and **OFF-LINE**. A "-" indicates that the database was not accessible. A blank entry indicates that the database has no problems. A number in this field indicates the number of corrupted records that have been repaired on the specific DSM. The number value is displayed until the DSM is reset. This field is used with the **display=except**, **display=all**, and **loc** parameter outputs.

CARD/APPL – the card type or the application assigned to the card specified in the **LOC** field. This field is not used with the **display=brief** (default) parameter output.

- **TDM-BKUP** – Backup partition on the fixed disk on the TDM.
- **TDM-CRNT** – Current partition on the fixed disk on the TDM.
- **MDAL** – The maintenance disk and alarm card. This card contains the removable cartridge drive.

- **ATMANSI** – The **atmansi** application. This application is used for high-speed ATM signaling links.
- **EBDABLM** – The application used by the TSM to store the LNP database downloaded from the LSMS for the Enhanced Bulk Download feature.
- **EBDADCM** – The application used by the DCM to transmit the LSMS LNP database at high speed over an Ethernet connection for the Enhanced Bulk Download feature.
- **CCS7ITU** – The **ccs7itu** application. This application is used for CCS7ITU signaling links.
- **IPLIM** – The **iplim** application software for TCP/IP point-to-point ANSI connectivity.
- **IPLIMI** – The **iplimi** application software for TCP/IP point-to-point ITU connectivity.
- **GLS** – The **gls** application. This application is used for the gateway screening feature.
- **SCCP** – The **sccp** application. This application is used for the global title translation and LNP features.
- **VSCCP** – The **vsccp** application. This application is used for the global title translation, G-FLEX, INP, G-PORT , or if the ELAP Configuration or EIR features are enabled and activated.
- **SS7ANSI** – The **ss7ansi** application. This application is used for SS7 signaling links.
- **SS7IPGW** – The application software for TCP/IP point-to-multipoint connectivity within an ANSI network.
- **SS7GX25**- The **ss7gx25** application. This application is used for X.25 signaling links.
- **STPLAN** – The **stplan** application. This application is used by the ACM for the STP LAN feature.
- **VXWSLAN** – The **vxwslan** application. The application is used by the DCM for the STP LAN feature.

LOC – the card location of the database. This field is not used with the **display=brief** (default) parameter output.

T – an indicator of whether the specified database is in transition. A "Y" means that the database is in transition; an "N" means that the database is not in transition. A database is in transition when the database for the Link Interface Module (LIM) or SCCP card is in the process of being loaded with the new screen set information after an update to the database, and the database has not reached the current reported database level. This field is not used with the **display=brief** (default) parameter output.

TIME LAST UPDATE – the date and time the last change was performed on the specified card and its associated database. This field is not used with the **display=brief** (default) parameter output.

VERSION – The version number of each database.

111-000-000 – The version number of the database. This number will be different for different software releases.

"-" – The database is not available.

This field is only used with the **display=version** parameter output.

STATUS – The operational status of the database version.

NORMAL – The database version is fully operational.

A blank entry indicates that the database is not available or is unknown. A numeric value indicates that the database is invalid. The value displayed is the status value found in the field and is for diagnostic purposes.

This field is only used with the **display=version** parameter output.

EPAP A (ACTV) – The active Eagle Provisioning Application Processor. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when the EIR is enabled and on. This field is not displayed with the **loc** parameter output.

EPAP B (STDBY) – The standby Eagle Provisioning Application Processor. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when the EIR is enabled and on. This field is not displayed with the **loc** parameter output.

ELAP A (ACTV) – The active Eagle LNP Application Processor. This field is displayed only when the ELAP Configuration feature is enabled and on. This field is not displayed with the **loc** parameter output.

ELAP B (STDBY) – The standby Eagle LNP Application Processor. This field is displayed only when the ELAP Configuration feature is enabled and on. This field is not displayed with the **loc** parameter output.

BIRTHDATE – The date and time of creation for the database. This field is displayed only when either the G-FLEX, INP, G-PORT or EIR features are enabled, or if the ELAP Configuration feature is enabled and on.

PDB – The provisioning database status information. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when the EIR is enabled and on. This field is not displayed with the **loc** parameter output.

RTDB – The provisioning database status information that was used to create the resident real-time database. The RTDB information may be different than the PDB information if the PDB has been reloaded, or if the RTDB has not been loaded from the PDB. If the RTDB birthdate is different than the PDB or if the level is too old to be able to resynchronize the databases, then a "Reload Required" alarm is generated. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when either the EIR or the ELAP Configuration features are enabled and on. This field is not displayed with the **loc** parameter output.

RTDB-EAGLE – The EPAP resident real-time database status information. This database is downloaded to DSM cards. If the birthdate or level do not match the DSM card, then the DSM card generates an alarm. The RTDB database is reloaded from the PDB, and the birthdate and level are reset and will not match the database status information. This database status mismatch condition indicates an abnormal condition that requires DSM cards to be reloaded. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when either the EIR or the ELAP Configuration features are enabled and on. This field is not displayed with the **loc** parameter output.

IN-SRVC – The amount of time, in days (d), hours (h), and minutes (m), that the DSM card has been running since it was brought into service. This field is displayed in the **EAGLE RTDB REPORT** section of the **rept-stat-db** output. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when either the EIR or the ELAP Configuration features are enabled and on. This field is not displayed with the **display=version** and **loc** parameter outputs.

For any databases that are not accessible, dashes are displayed in the output of the **rept-stat-db** command. Dashes are also displayed in the removable cartridge backup partition (**RD BACKUP**) if no system removable cartridge is in the removable cartridge drive, or if a measurements removable cartridge is in the removable cartridge drive.

REPT-STAT-DB Outputs

The following sections show the different outputs that the **rept-stat-db** command can generate depending on which parameters are specified with the **rept-stat-db** command.

- **display=brief** (the default value)
- **display=except**
- **display=all**
- **display=version**
- **loc**
- **db**

DISPLAY=BRIEF Parameter

The output of the **rept-stat-db** command with the **display=brief** parameter specified (the default parameter if no parameters are specified) contains the operational status of both MASPs and the removable cartridge drive on the MDAL card. This is an example of the output when the **display=brief** parameter is used or when no parameters are used.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

If either the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, the output of the **rept-stat-db** command also shows the status of the databases on EPAP A and EPAP B as shown in this example.

```
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY )                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-06-01 14:29:03 GMT

               EPAP A ( ACTV )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                04-06-01 10:19:18           10        -
RTDB            Y  04-06-01 10:19:18           10        -
RTDB-EAGLE         04-06-01 10:19:18           10        -

               EPAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                04-06-01 10:19:18           10        -
RTDB            Y  04-06-01 10:19:18           10        -
RTDB-EAGLE         04-06-01 10:19:18           10        -
```

If the ELAP Configuration feature is enabled and on, the output of the **rept-stat-db** command also shows the status of the databases on ELAP A and ELAP B as shown in this example.

```
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT


               ELAP A  ( ACTV )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -
```

DISPLAY=EXCEPT Parameter

The output from the **display=except** parameter contains all the information displayed from the **display=brief** parameter along with the coherency indicator and the number of updates for all the cards whose database level does not match the active fixed disk current partition, reference database level, or is incoherent. All databases that are not accessible are also displayed. The time stamp for the last database update for every card is displayed. This is an example of the output when the **display=except** parameter is used.

```
rlghncxa03w 06-03-01 08:28:59 GMT EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SCCP       1101  -  -      -           -        -          -
TDM-CRNT   1114  N  N  78          04-06-01 23:15:06  CORRUPTED
TDM-CRNT   1116  Y  N  75          04-06-01 22:47:05  DIFF LEVEL
CCS7ITU    1207  N  N  78          04-06-01 23:05:06  INCOHERENT
```

If either the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, the output of the **rept-stat-db:display=except** command also shows the status of the databases on EPAP A and EPAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-03-01 08:55:54 GMT EAGLE5 34.3.0
rept-stat-db:display=except
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       12                        Y       12
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1103  Y  N  10          04-06-01 08:03:48  DIFF LEVEL
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL

              EPAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  04-06-01 08:20:04       12340  DIFF LEVEL   10d 23h 21m
```

If the ELAP Configuration feature is enabled and on, the output of the **rept-stat-db:display=except** command also shows the status of the databases on ELAP A and ELAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-03-01 08:55:54 GMT EAGLE5 34.3.0
rept-stat-db:display=except
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       12                        Y       12
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1103  Y  N  10          04-06-01 08:03:48  DIFF LEVEL
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
MDAL       1117  Y  -  1           04-06-01 15:06:29  DIFF LEVEL

              ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  04-06-01 08:20:04       12340  DIFF LEVEL   10d 23h 21m
```

DISPLAY=ALL Parameter

The output from the **display=all** parameter contains the same information displayed from the **display=brief** parameter as well as and the coherency and the number of updates for all the databases. The time stamp for the last database update for every card is displayed. This is an example of the output when the **display=all** parameter is used.

```
rlghncxa03w 06-03-01 08:39:24 GMT EAGLE5 34.3.0
rept-stat-db:display=all
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
VSCCP      1105  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
VSCCP      1203  Y  N  11          04-06-01 08:04:00       -
```

If either the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, the output of the **rept-stat-db:display=all** command also shows the status of the databases on EPAP A and EPAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-03-01 08:39:24 GMT EAGLE5 34.3.0
rept-stat-db:display=all
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
VSCCP      1203  Y  N  11          04-06-01 08:04:00       -

               EPAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  04-06-01 08:20:04       12345        -      10d 23h 21m
VSCCP      1203  Y  04-06-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  04-06-01 08:20:04       12345        -       9d 12h 37m
```

If the ELAP Configuration feature is enabled and on, the output of the **rept-stat-db:display=all** command also shows the status of the databases on ELAP A and ELAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-03-01 08:39:24 GMT EAGLE5 34.3.0
rept-stat-db:display=all
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
VSCCP      1105  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
VSCCP      1203  Y  N  11          04-06-01 08:04:00       -

               ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  04-06-01 08:20:04       12345        -      10d 23h 21m
VSCCP      1203  Y  04-06-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  04-06-01 08:20:04       12345        -       9d 12h 37m
```

DISPLAY=VERSION Parameter

The output from the **display=version** parameter contains the same information displayed from the **display=all** parameter except that the **EXCEPTION** field is replaced with the **VERSION** and **STATUS** fields. The **display=version** parameter displays this information.

- the coherency indicator for each database
- the number of updates for the active and standby databases
- the database version of each database
- the operational status of each database

This is an example of the output when the **display=version** parameter is used.

```
rlghncxa03w 06-03-01 08:18:47 GMT EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
---------  ----  -  -  ----------  -----------------  -----------  ------
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          04-06-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          04-06-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          04-06-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -
```

If the LNP feature is enabled, shown by the entry **LNP TNs** in the **rtrv-ctrl-feat** command output with a quantity greater than zero, the output of the **rept-stat-db:display=version** command include the version number of the LNP database with each database listed in the **CARD/APPL** field as shown in this example.

```
rlghncxa03w 06-03-01 11:34:04  GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
        MDAL 1117
         - --------
RD BKUP  Y       74 04-05-31 21:03:21 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION STATUS
---------  ----  -  -  ----------  -----------------  -------------------
TDM-CRNT   1114  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-BKUP   1114  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-CRNT   1116  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-BKUP   1116  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
MDAL       1117  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
```

If either the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, the output of the **rept-stat-db:display=version** command also shows the status of the databases on EPAP A and EPAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-03-01 08:18:47 GMT EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
---------  ----  -  -  ----------  -----------------  -----------  ------
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          04-06-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          04-06-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          04-06-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -
               EPAP A ( ACTV )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                04-06-01 10:19:18           8        -
RTDB            Y  04-06-01 10:19:18           8        -
RTDB-EAGLE         04-06-01 10:19:18           8  CORRUPTED

               EPAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                04-06-01 10:19:18           8        -
RTDB            Y  04-06-01 10:19:18          10        -
RTDB-EAGLE         04-06-01 10:10:18          10   DIFF LEVEL

                EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION
---------  ----  -  -----------------  ----------  --------------
VSCCP      1101  -     -        -          -           -
VSCCP      1103  N  04-06-01 10:19:18          8      -
VSCCP      1213  Y  04-06-01 10:10:18         10  DIFF LEVEL
```

If the ELAP Configuration feature is enabled and on, the output of the **rept-stat-db:display=version** command also shows the status of the databases on ELAP A and ELAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-03-01 08:18:47 GMT EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
---------  ----  -  -  ----------  -----------------  -----------  ------
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          04-06-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          04-06-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          04-06-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -

              ELAP A ( ACTV )
               C  BIRTHDATE           LEVEL       EXCEPTION
               -  -----------------   ----------  --------------
RTDB-EAGLE     Y  04-06-01 10:19:18          10  DIFF LEVEL
TIME LAST UPDATE   04-06-01 16:01:48

              ELAP B ( STDBY )
               C  BIRTHDATE           LEVEL       EXCEPTION
               -  -----------------   ----------  --------------
RTDB-EAGLE     Y  04-06-01 10:19:18          10  DIFF LEVEL
TIME LAST UPDATE   04-06-01 16:01:48

               EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION
---------  ----  -  -----------------  ----------  --------------
VSCCP      1101  -     -        -          -           -
VSCCP      1103  N  04-06-01 10:19:18           8      -
VSCCP      1213  Y  04-06-01 10:10:18          10  DIFF LEVEL
```

LOC Parameter

The output from the **loc** parameter contains the coherency and the number of updates of the database on the specified application board. The time stamp for the last database update for the specified card is displayed. This is an example of the output when the **loc** parameter is used.

```
rlghncxa03w 06-03-01 08:37:39 GMT EAGLE5 34.3.0
CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
CCS7ITU    1207  Y  N  78          04-06-01 23:15:06       -
```

If either the G-FLEX, INP, or G-PORT features are on, or either the EIR or ELAP Configuration features are enabled and on, and the card being displayed is a VSCCP card, the output of the **rept-stat-db** command also contains the status of the VSCCP card database, as shown in this example.

```
CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
VSCCP      1213  Y  N          78  04-06-01 23:15:06       -

CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION
---------  ----  -  -----------------  ----------  --------------
VSCCP      1213  Y  04-06-01 10:10:18          10  DIFF LEVEL
```

DB Parameter

The DB parameter specifies which databases to display. Through the DB parameter, you can specify the output to report on:

- EAGLE 5 SAS databases (**db=stp**)
- MPS/ELAP/EPAP databases (**db=mps**), which support the G-PORT, G-FLEX, INP, and EIR features, and the LNP feature when the ELAP Configuration feature is enabled and on.
- All databases (**db=all**), the default value that provides output for both the STP and MPS databases.

The following example shows an output when the **db=stp** parameter is used on an ELAP or an EPAP.

```
rlghncxa03w 06-03-01 08:39:24 GMT EAGLE5 34.3.0
rept-stat-db:db=stp
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT
```

The output from the **db** parameter provides expanded detail about the cards in the EAGLE 5 SAS when the **display=all** parameter is used with the **db=stp** parameter, as shown in this example.

```
rlghncxa03w 06-03-01 08:39:24 GMT EAGLE5 34.3.0
rept-stat-db:display=all:db=stp
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
        MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
VSCCP      1105  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
```

The output from the following **db** parameter displays the MPS database in an ELAP. Because the **display** parameter is not specified, its default of **brief** is used, resulting in no information about any RTDB cards and reporting on only the MPS databases.

```
rlghncxa03w 06-03-01 08:39:24 GMT EAGLE5 34.3.0
rept-stat-db:db=mps

               ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -
```

When the ELAP Configuration feature is enabled and on, the MPS/ELAP databases are used. The following sample shows the output for **db=mps** to display the MPS databases and for **display=except** to display RTDB card exception conditions.

```
 rlghncxa03w 06-03-01 08:55:54 GMT EAGLE5 34.3.0
 rept-stat-db:display=except:db=mps

              ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  04-06-01 08:20:04       12340  DIFF LEVEL    5d  3h  1m
```

When the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, the MPS/EPAP databases are used. Output from the DB parameter provides expanded detail about the databases and cards in the MPS/EPAP when the **display=all** parameter is used with the **db=mps** parameter, as shown in this example.

```
rlghncxa03w 06-03-01 08:39:24 GMT EAGLE5 34.3.0
rept-stat-db:display=all:db=mps

               EPAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  04-06-01 08:20:04       12345        -      10d 23h 21m
VSCCP      1203  Y  04-06-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  04-06-01 08:20:04       12345        -       9d 12h 37m
```

Checking the Status of the Database

To check the operational status of the database:

1. At the prompt, enter the **rept-stat-db** command.

---

2. The output of the **rept-stat-db** command shows the current operational status of the EAGLE 5 SAS's distributed databases.

---

3. If the database is coherent, the database has no problems. The procedure is completed.

If any MPS/ELAP/EPAP database is not coherent, find the conditions shown in the output of the **rept-stat-db** command. Then refer to either the *ELAP Administration Manual* or the *EPAP Administration Manual,* and perform the database recovery procedures described in the RTDB / Maintenance menus.

If any STP database is not coherent, find the conditions shown in the output of the **rept-stat-db** command in this list and execute the appropriate command.

- If the current partition of both fixed disks are coherent and the backup partition of the either fixed disk is not coherent, as shown in this output example, use the **chg-db:action=backup:dest=fixed** command. For more information, go to the "Making a Backup of the Database on the Fixed Disk" procedure on page 2-32.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 DIFF LEVEL             N       45 INCOHERENT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

The **chg-db:action=backup:dest=fixed** command is also used to backup the current database on both fixed disks to the backup partition of both fixed disks.

- If the current partition of the active fixed disk is coherent and the database on the removable cartridge is not coherent , as shown in this output example, use the **chg-db:action=backup:dest=remove** command. For more information, go to the "Making a Backup of the Database to the Removable Cartridge" procedure on page 2-35.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  N      106 INCOHERENT
```

  The **chg-db:action=backup:dest=remove** command is also used to backup the current database on both fixed disks to the removable cartridge.

- If the backup partition of both fixed disks are coherent and the current partition of both fixed disks are not coherent, use the **chg-db:action=restore:src=fixed** command. For more information, go to the "Restoring the Database from the Backup Partition of the Fixed Disk" procedure on page 2-39. This condition is shown in this example output of the **rept-stat-db** command.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y       35 DIFF LEVEL             N       68 INCOHERENT
        MDAL 1117
         - --------
RD BKUP  -    -          -        -
```

- If the database on the removable cartridge is coherent and the current partition of the both fixed disks are not coherent, use the **chg-db:action=restore:src=remove** command. For more information, go to the "Restoring the Database from the Removable Cartridge" procedure on page 2-43. This condition is shown in this example output of the **rept-stat-db** command.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106 DIFF LEVEL             N       93 INCOHERENT
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

- If the backup and current partitions on the active fixed disks are coherent and the backup and current partitions on the standby fixed disks are not coherent, use the **chg-db:action=repair** command. For more information, go to the "Repairing the Database" procedure on page 2-48. This condition is shown in this example output of the **rept-stat-db** command.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  N       35 INCOHERENT             Y       55 DIFF LEVEL
FD CRNT  N      106 INCOHERENT             Y       55 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -          -        -
```

If, after executing the appropriate change database command, the database is still not coherent, contact the Customer Care Center**.** Refer to "Customer Care Center" on page 1-8 for the contact information.

Backing Up the Database

The **backup** procedures should be performed according to the preventive maintenance procedures in Chapter 2, "Preventive Maintenance," of the *Maintenance Manual*. The procedures copy the current database to either the nonactive (backup) partition on the fixed disk or to the removable cartridge. To backup a database, the **chg-db** command uses these parameters.

:**action=backup** – the operation to perform on the database, a backup of the current database

:**dest** – the destination of the backup operation, either the backup partition of the fixed disk (**fixed**) or the removable cartridge (**remove**). If the **dest** parameter is not specified, the current database is backed up to the backup partition of the fixed disk.

Making a Backup of the Database on the Fixed Disk

This procedure is used to make a backup of the database on the fixed disk using the **chg-db** command with **action=backup** and **dest=fixed** parameters.

The databases in the current partitions of both MASPs (FD CRNT) must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

Procedure

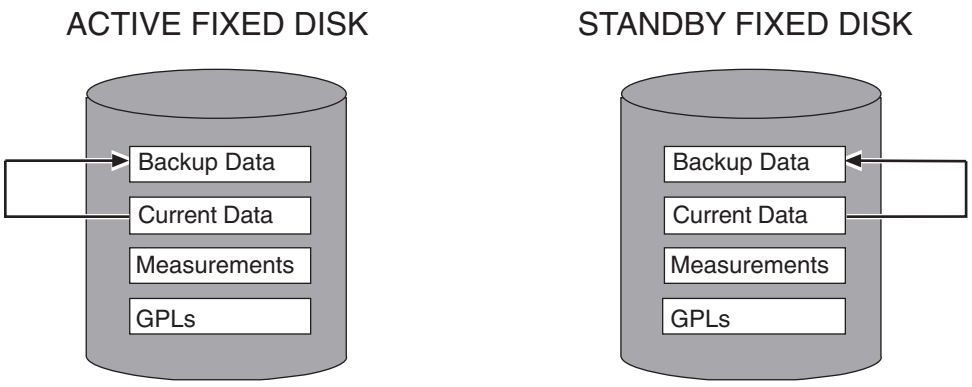
1. Verify that the databases in the current partitions of both MASPs (FD CRNT) are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

2. Enter the **chg-db:action=backup:dest=fixed** command. This command can take up to 30 minutes to execute, depending on other system activity that is in progress when this command is entered. The action of this command is shown in Figure 2-5.

   NOTE: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to "Customer Care Center" on page 1-8 for the contact information.

Figure 2-5. Backup Action on the Fixed Disk



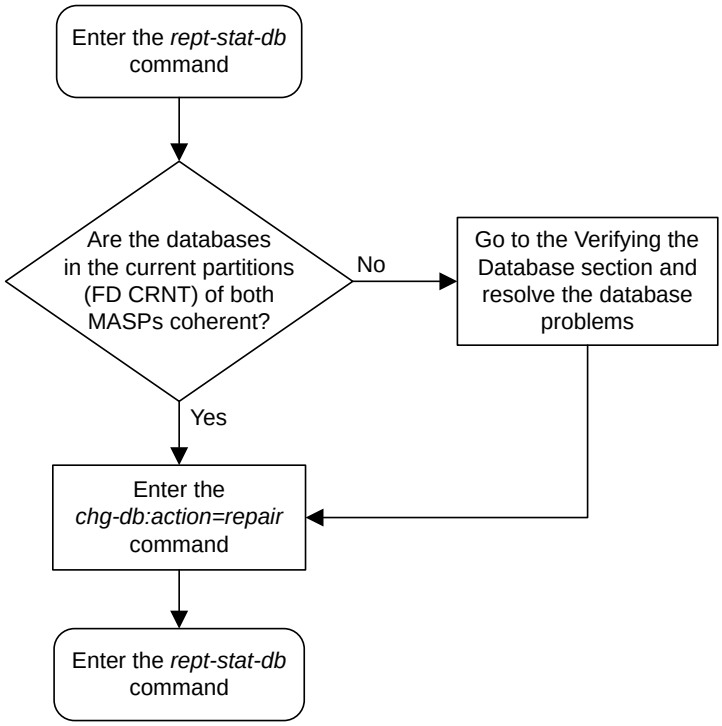
During command execution, these messages appear (the active MASP is displayed first):

```
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.
```

3. Verify that the databases of both MASPs are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114  ( STDBY)                TDM 1116  ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y      106 04-06-01 16:09:17 GMT  Y      106 04-06-01 16:09:17 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

Flowchart 2-1. Making a Backup of the Database to the Fixed Disk



Making a Backup of the Database to the Removable Cartridge

This procedure is used to make a backup of the database to the removable cartridge using the **chg-db** command with the **action=backup** and **dest=remove** parameters.

The database in the current partition of the active MASP (FD CRNT) must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

A formatted blank removable cartridge that is write enabled is required. If the removable cartridge is not formatted, go to the "Formatting a Removable Cartridge" procedure on page 2-79 and format the cartridge. To write enable a removable cartridge, see "Write Enabling the Removable Cartridge" on page 2-7.

Procedure

1. Verify that the database in the current partition of the active MASP (FD CRNT) is coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  -    -          -         -
```

2. Insert the pre-formatted removable cartridge in the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

3. Enter the **chg-db:action=backup:dest=remove** command.

During command execution, these messages should appear.

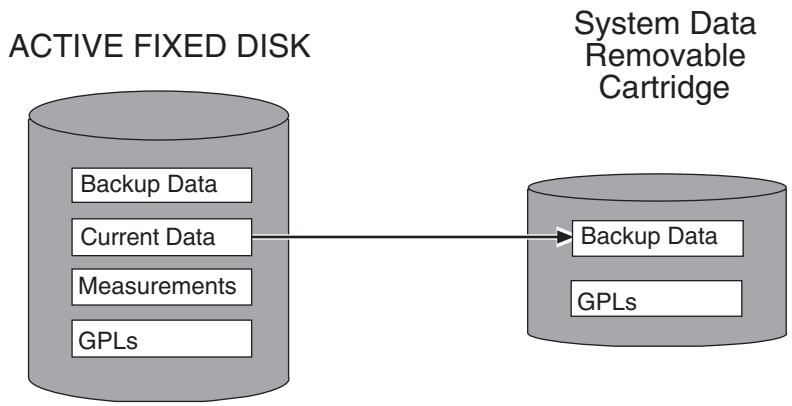
```
BACKUP (REMOVABLE) : MASP A - Backup starts on active MASP.
BACKUP (REMOVABLE) : MASP A - Backup to removable cartridge complete.
```

This command is only performed on the active MASP. The action of this command is shown in Figure 2-6.

This command can take up to 30 minutes to execute, depending on the size of the database and other system activity that is in progress when this command is entered.

NOTE: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to "Customer Care Center" on page 1-8 for the contact information.

Figure 2-6. Backup Action to the Removable Cartridge



4. Verify that the databases on the removable cartridge (RD BKUP) and the current partition of the active MASP (FD CRNT) are coherent using the **rept-stat-db** command. This is an example of the possible output.

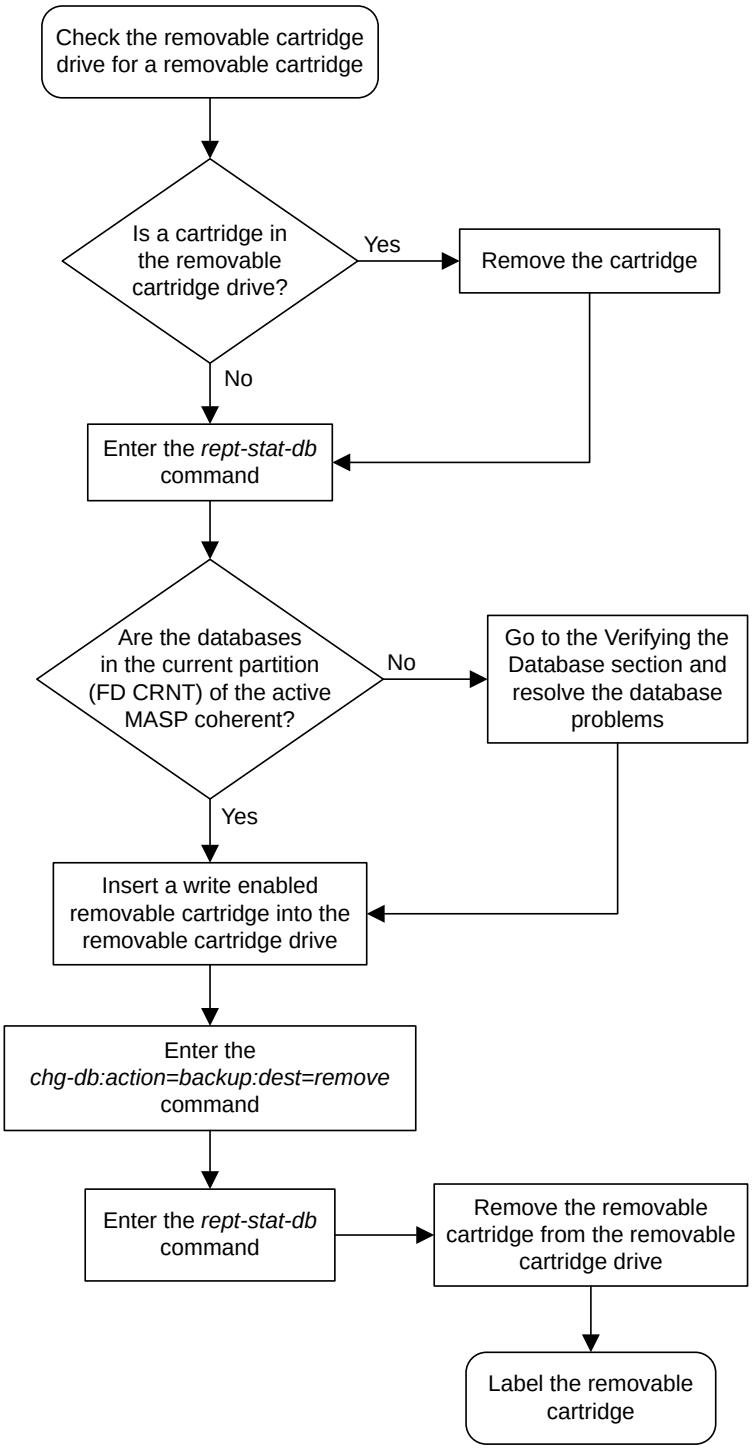
```
rlghncxa03w 06-03-01 16:11:34 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 16:09:53 GMT
```

5. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

---

6. Label the removable cartridge, 1 through 4 if the backup is performed weekly or monthly, A through D if the backup is performed quarterly. For more information on labeling the removable cartridge, see Chapter 2, "Preventive Maintenance," in the *Maintenance Manual*. Store this cartridge in a secure place.

Flowchart 2-2. Making a Backup of the Database to the Removable Cartridge



Restoring the Database

The **restore** procedures are used to bring a database from the backup partition of both MASPs and load the database onto the current partitions of both MASPs. It is also used to load a database from a removable cartridge onto the current partitions of both MASPs. To restore a database, the **chg-db** command uses these parameters.

:**action=restore** – the operation to perform on the database, restoring a previously backed up database

:**src** – the source of the database being restored, either the backup partition of the fixed disk (**fixed**) or the removable cartridge (**remove**). If the **src** parameter is not specified, the database is restored from the backup partition of the fixed disk (**fixed**).

CAUTION: If the restore device state option is on, shown by the ON value for the RSTRDEV field in the rtrv-stpopts command output, the state of the cards, SS7 signaling links, TCP/IP data links, and terminals before the chg-db:action=restore and init-sys commands are performed will not be maintained after these commands are performed. The persistent device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

Restoring the Database from the Backup Partition of the Fixed Disk

This procedure is used to restore the database from the backup partition of the fixed disk using the **chg-db** command with the **action=restore** and **src=fixed** parameters.

The databases in the backup partitions of both MASPs (RD BKUP) must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

CAUTION: Using the action=restore parameter with the chg-db command is an emergency recovery procedure, and requires the init-sys command to download the restored database to all the cards in the EAGLE 5 SAS.

Procedure

1. Verify that the databases in the backup partitions of both MASPs (FD BKUP) are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

2. Enter the **chg-db:action=restore:src=fixed** command. This command can take up to 30 minutes to execute, depending on other system activity that is in progress when this command is entered.

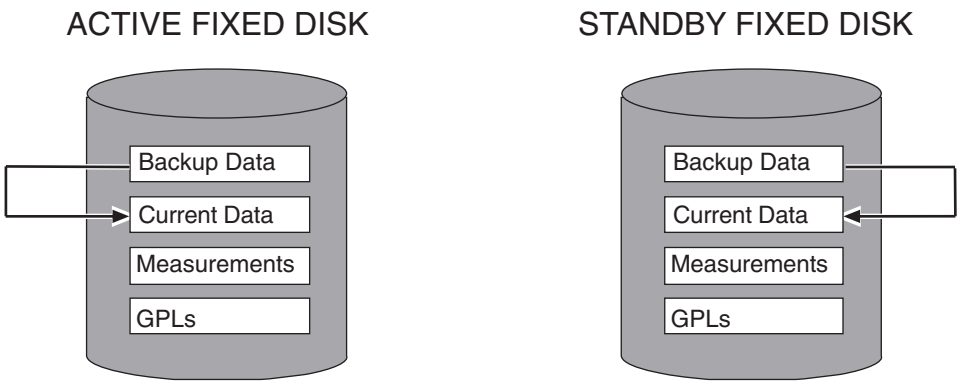
   NOTE: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to "Customer Care Center" on page 1-8 for the contact information.

   During command execution, these messages appear (the active MASP is displayed first):

```
RESTORE (FIXED) : MASP A - Restore starts on active MASP.
RESTORE (FIXED) : MASP A - Restore from fixed disk on active MASP complete.
RESTORE (FIXED) : MASP A - Restore starts on standby MASP.
RESTORE (FIXED) : MASP A - MASP(s) will reboot to load data.
RESTORE (FIXED) : MASP A - Restore from fixed disk on stdby MASP complete.
```

   The action of this command is shown in Figure 2-7.

Figure 2-7. Restore Action on the Fixed Disk



CAUTION: The `init-sys` command causes a complete reload of the EAGLE 5 SAS, and should only be used during periods of low traffic. Using this command ensures that all cards are running the same database, but will interrupt service.

3. When the commands have successfully completed, re-initialize the EAGLE 5 SAS using the **`init-sys`** command.

   NOTE: The `init-sys` command must be entered twice within 30 seconds for the EAGLE 5 SAS to be re-initialized. If the `init-sys` command is not executed twice within 30 seconds, the attempt to re-initialize the EAGLE 5 SAS is aborted.

   When the **`init-sys`** command is first entered, this message should appear.

   ```
   rlghncxa03w 06-03-01  07:05:01 GMT  EAGLE5 34.3.0
   CAUTION: This command causes a complete system reload, and
   will result in traffic loss.
   Re-enter command within 30 seconds to confirm.
   ```

   When the **`init-sys`** command is re-entered within the 30 second time limit, this message should appear.

   ```
   rlghncxa03w 06-03-01  07:05:17 GMT  EAGLE5 34.3.0
   Init System command issued at terminal #3
   ```

   From the time that the **`init-sys`** command is accepted, you must wait approximately 2 minutes before you can perform step 4 (logging into the EAGLE 5 SAS). If the EAGLE 5 SAS terminal is in the VT-100/VT-320 mode, the terminal display will be refreshed with non-zero alarm counts. During this 2 minutes interval, an intermediate screen refresh caused by the MASPs role change from active to standby, and from standby to active. This screen refresh is typically a partial refresh and the alarm indicators are set to zero.

   If you are logged into the EAGLE 5 SAS in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 SAS is that you will receive UAM 0009, MASP became active. UAM 0009 could be issued twice due to possible transient MASP role change (switching from active to standby). Following the execution of the **`init-sys`** command, the MASP that was active before the **`init-sys`** command was entered will be the active MASP when the EAGLE 5 SAS has finished reinitializing.

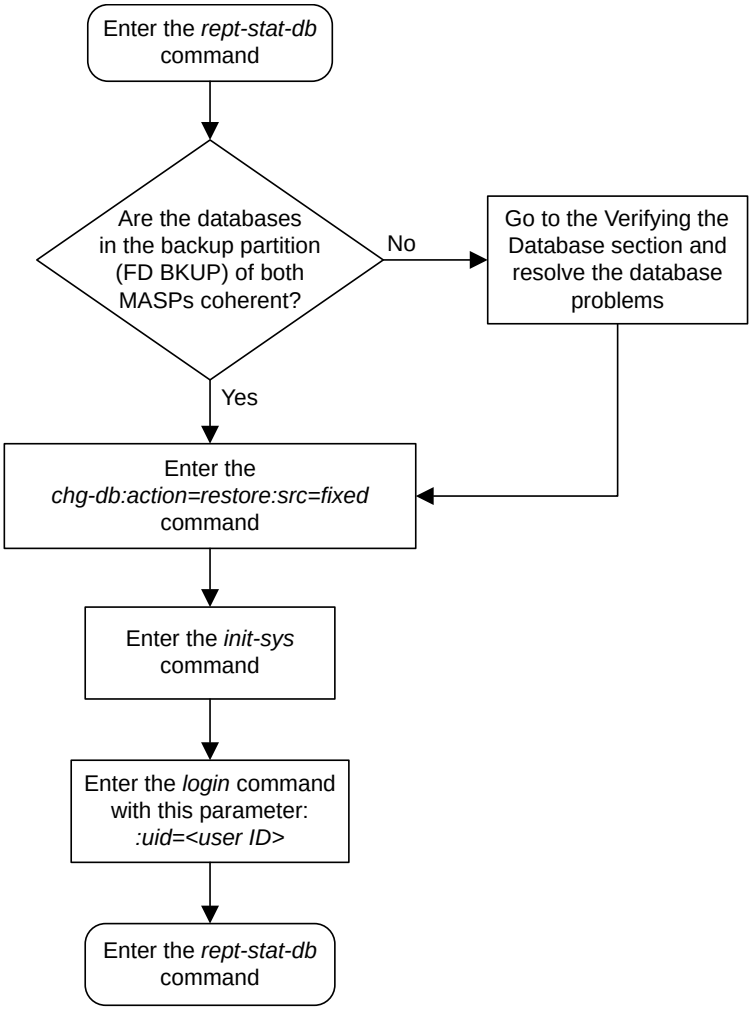
4. Log into the EAGLE 5 SAS using the **`login`** or **`act-user`** command. This is an example of the messages that appear when you have successfully logged onto the EAGLE 5 SAS.

   ```
   NOTICE: This is a private computer system.
   Unauthorized access or use may lead to prosecution.

   0 LOGIN failures since last successful LOGIN
   Last successful LOGIN was on port 4 on 04-06-01 @ 09:34:56
   ```

5. Verify that the databases of both MASPs are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y       35                        Y       35
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

Flowchart 2-3. Restoring the Database from the Fixed Disk



Restoring the Database from the Removable Cartridge

This procedure is used to restore the database from the removable cartridge using the **chg-db** command with the **action=restore** and **src=remove** parameters.

The database on the removable cartridge (RD BKUP) must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

The removable cartridge must contain the database configuration to be restored. The removable cartridge should be write protected. To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

CAUTION: Using the action=restore parameter with the chg-db command is an emergency recovery procedure, and requires the init-sys command to download the restored database to all the cards in the EAGLE 5 SAS.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

2. Insert the removable cartridge that contains the database configuration to be restored into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

3. Verify that the database on the removable cartridge (RD BKUP) is coherent using the **rept-stat-db** command. This is an example of the possible output.

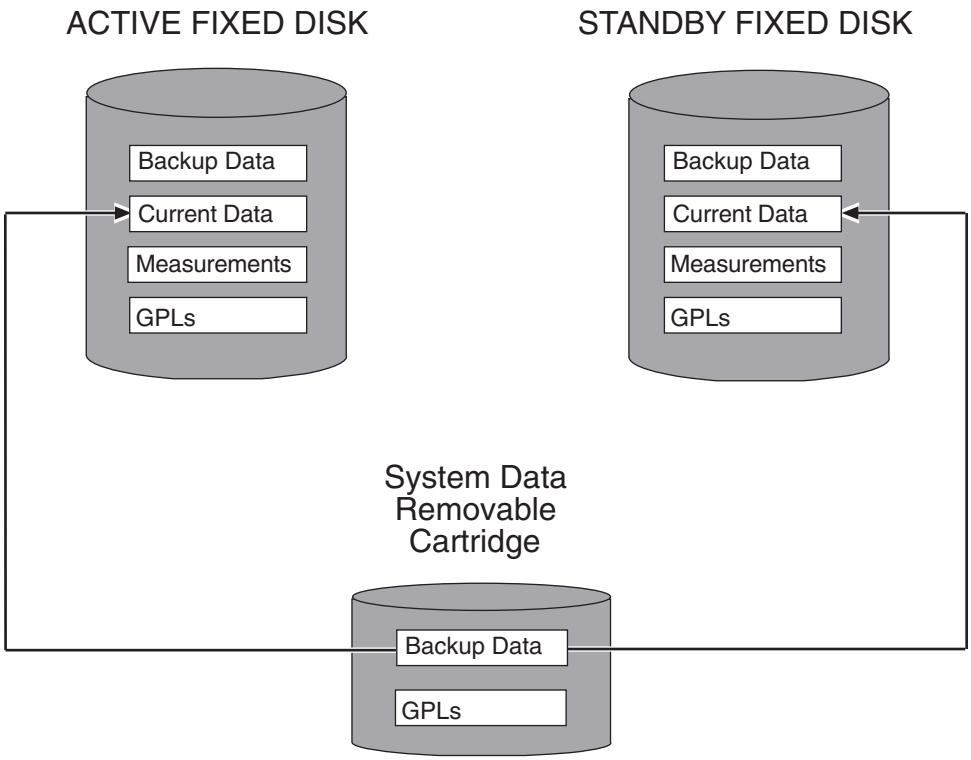
```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y       95                        Y       95
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 20:27:53 GMT
```

4. Enter the **chg-db:action=restore:src=remove** command. This command can take up to 30 minutes to execute, depending on the size of the database and other system activity that is in progress when this command is entered.

   NOTE: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to "Customer Care Center" on page 1-8 for the contact information.

   The action of this command is shown in Figure 2-8.

Figure 2-8. Restore Action from the Removable Cartridge



During command execution, these messages appear (the active MASP is displayed first).

```
RESTORE (REMOVABLE) : MASP A - Restore starts on active MASP.
RESTORE (REMOVABLE) : MASP A - Restore starts on standby MASP.
RESTORE (REMOVABLE) : MASP A - MASP(s) will reboot to load data.
RESTORE (REMOVABLE) : MASP A - Restore from removable cartridge complete.
```

CAUTION: The `init-sys` command causes a complete reload of the EAGLE 5 SAS, and should only be used during periods of low traffic. Using this command ensures that all cards are running the same database, but will interrupt service.

5. When the commands have successfully completed, re-initialize the EAGLE 5 SAS using the **`init-sys`** command.

   NOTE: The `init-sys` command must be entered twice within 30 seconds for the EAGLE 5 SAS to be re-initialized. If the `init-sys` command is not executed twice within 30 seconds, the attempt to re-initialize the EAGLE 5 SAS is aborted.

   When the **`init-sys`** command is first entered, this message should appear.

   ```
   rlghncxa03w 06-03-01  07:05:01 GMT  EAGLE5 34.3.0
   CAUTION: This command causes a complete system reload, and
   will result in traffic loss.
   Re-enter command within 30 seconds to confirm.
   ```

   When the **`init-sys`** command is re-entered within the 30 second time limit, this message should appear.

   ```
   rlghncxa03w 06-03-01  07:05:17 GMT  EAGLE5 34.3.0
   Init System command issued at terminal #3
   ```

   From the time that the **`init-sys`** command is accepted, you must wait approximately 2 minutes before you can perform step 6 (logging into the EAGLE 5 SAS). If the EAGLE 5 SAS terminal is in the VT-100/VT-320 mode, the terminal display will be refreshed with non-zero alarm counts. During this 2 minutes interval, an intermediate screen refresh caused by the MASPs role change from active to standby, and from standby to active. This screen refresh is typically a partial refresh and the alarm indicators are set to zero.

   If you are logged into the EAGLE 5 SAS in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 SAS is that you will receive UAM 0009, MASP became active. UAM 0009 could be issued twice due to possible transient MASP role change (switching from active to standby). Following the execution of the **`init-sys`** command, the MASP that was active before the **`init-sys`** command was entered will be the active MASP when the EAGLE 5 SAS has finished reinitializing.

---

6. Log into the EAGLE 5 SAS using the **`login`** or **`act-user`** command.

   This is an example of the messages that appear when you have successfully logged into the EAGLE 5 SAS.

   ```
   NOTICE: This is a private computer system.
   Unauthorized access or use may lead to prosecution.

   0 LOGIN failures since last successful LOGIN
   Last successful LOGIN was on port 4 on 04-06-01 @ 09:34:56
   ```

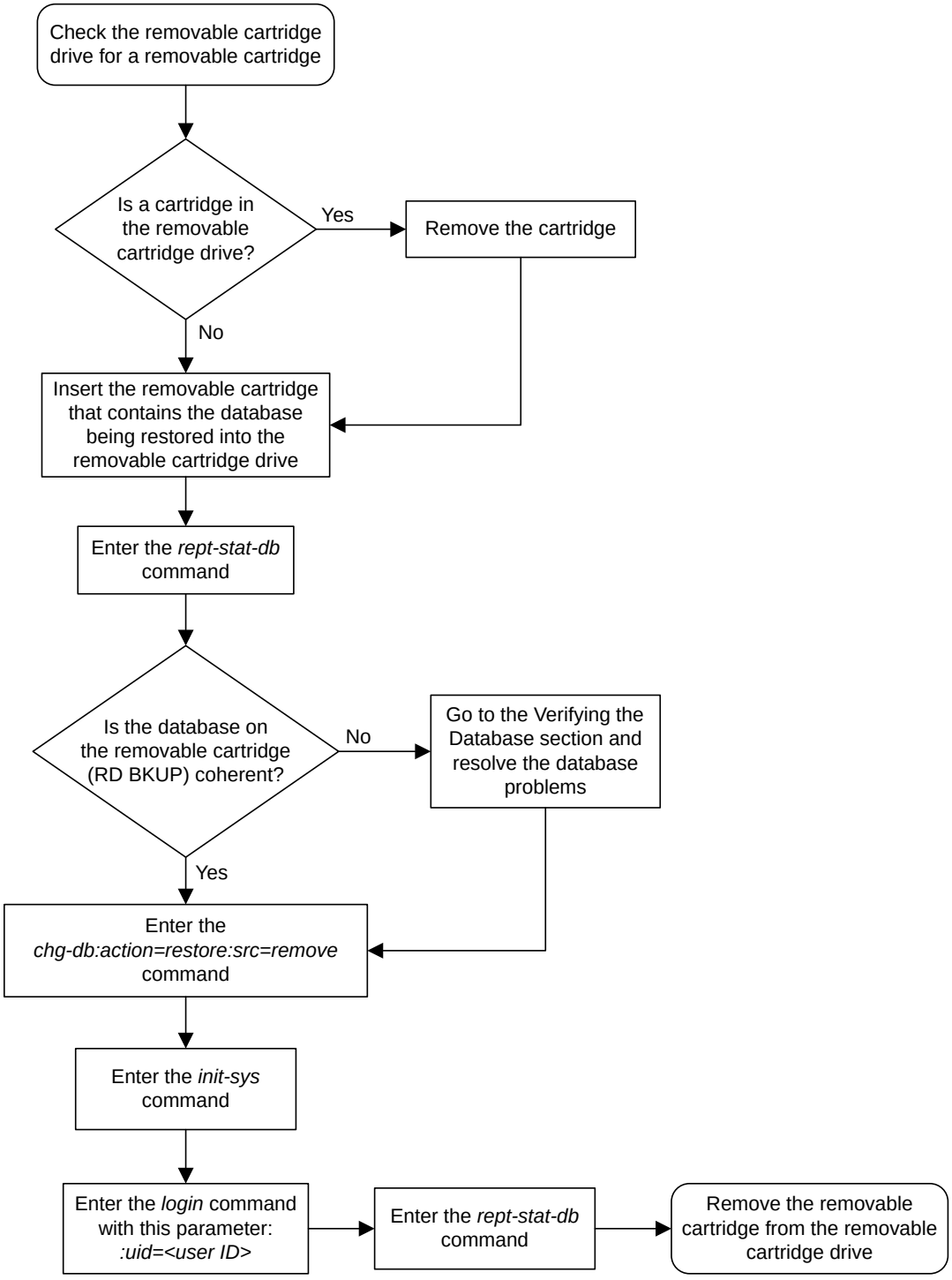
---

7. Verify that the databases on the removable cartridge (RD BKUP) and the current partitions of both MASPs (FD CRNT) are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 20:27:53 GMT
```

8. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

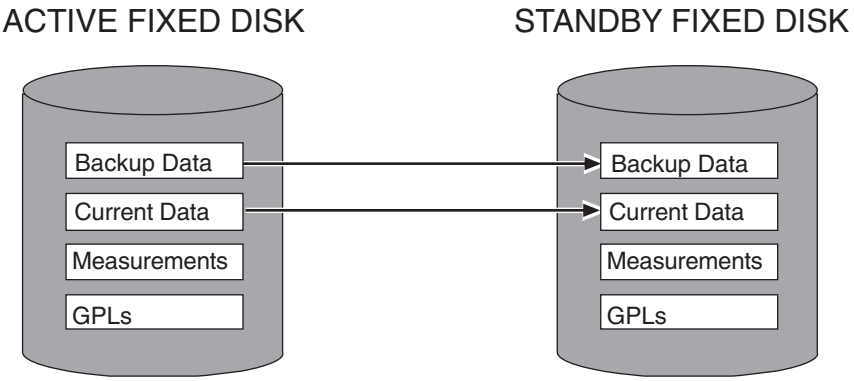
Flowchart 2-4. Restoring the Database from the Removable Cartridge



Repairing the Database

Perform the **repair** procedure whenever the two fixed disks have a different database image, such as after a MASP failure. This procedure copies the fixed disk image of the database associated with the active MASP to the fixed disk of the standby MASP. Figure 2-9 illustrates this action. To repair a database, The **`chg-db`** command uses only one parameter, **`action=repair`** – the operation to perform on the database, repairing a database

Figure 2-9. Action of the Repair Procedure



To repair the database, perform this procedure.

The databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

CAUTION: To prevent any potential database corruption when performing this procedure, the OAP terminals must be placed out of service with the `rmv-trm` command before executing the `chg-db:action=repair` command.

Procedure

1. Verify that the databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114  ( STDBY)                TDM 1116  ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  N       35 INCOHERENT             Y       55 DIFF LEVEL
FD CRNT  N      106 INCOHERENT             Y       55
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

2. Display the terminal configuration in the database with the **rtrv-trm** command. The OAP terminals are shown in the output with the entry **OAP** in the **TYPE** field. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. If no OAP terminals are shown in the **rtrv-trm** command output, go to step 5.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE     COMM         FC     TMOUT MXINV DURAL
1    VT320     9600-7-E-1 SW     30    5     99:59:59
2    KSR       9600-7-E-1 HW     30    5     INDEF
3    PRINTER   4800-7-E-1 HW     30    0     00:00:00
4    VT320     2400-7-E-1 BOTH   30    5     00:30:00
5    VT320     9600-7-O-1 NONE   30    5     00:00:30
6    OAP      19200-7-E-1 SW     0     5     INDEF
7    PRINTER   9600-7-N-2 HW     30    5     00:30:00
8    KSR      19200-7-E-2 BOTH   30    5     00:30:00
9    OAP      19200-7-E-1 SW     0     5     INDEF
10   VT320     9600-7-E-1 HW     30    5     00:30:00
11   VT320     4800-7-E-1 HW     30    5     00:30:00
12   PRINTER   9600-7-E-1 HW     30    4     00:30:00
13   VT320     9600-7-O-1 NONE   30    5     00:30:00
14   VT320     9600-7-E-2 SW     30    8     00:30:00
15   VT320     9600-7-N-2 HW     30    5     00:30:00
16   VT320     9600-7-E-2 BOTH   30    3     00:30:00

TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
3    YES  YES  YES NO  YES YES
4    YES  NO   NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO
6    YES  YES  YES YES YES YES
7    YES  YES  YES YES YES YES
8    NO   NO   NO  NO  YES NO
9    YES  YES  YES YES YES YES
10   NO   NO   NO  NO  NO  NO
11   YES  YES  YES YES YES YES
12   YES  YES  YES YES YES YES
13   NO   YES  NO  NO  NO  NO
14   NO   NO   YES NO  NO  NO
15   YES  YES  YES NO  YES YES
16   NO   NO   NO  NO  YES NO
```

```
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

3. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
Command Completed.
```

4. Place the OAP terminals out of service using the **rmv-trm** command. The **force=yes** parameter must be used when placing the last OAP terminal out of service. For this example, enter these commands.

   rmv-trm:trm=6

   rmv-trm:trm=9:force=yes

   If the status of the OAP terminals shown in the **PST** field in step 3 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the **rmv-trm** command does not need to be executed for that terminal.

   This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal
```

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

5. Enter the **chg-db:action=repair** command. This command can take up to 30 minutes to execute, depending on the size of the database and other system activity that is in progress when this command is entered.

   NOTE: If this command takes more than 60 minutes to execute, contact the Customer Care Center. Refer to "Customer Care Center" on page 1-8 for the contact information.

   During command execution, these messages appear:

```
REPAIR: MASP A - Repair starts on standby MASP.
REPAIR: MASP A - Standby MASP will reboot to load data.
REPAIR: MASP A - Repair from fixed disk complete.
```

6. Verify that the databases of both MASPs are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  N       55 04-06-01 13:11:43 GMT  Y       55 04-06-01 13:11:43 GMT
FD CRNT  N       55                        Y       55
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

   If OAP terminals are shown in the **rtrv-trm** command output in step 2, go to step 7. Otherwise this procedure is completed.

7. Put the OAP terminals back into service with the **rst-trm** command. For this example, enter these commands.

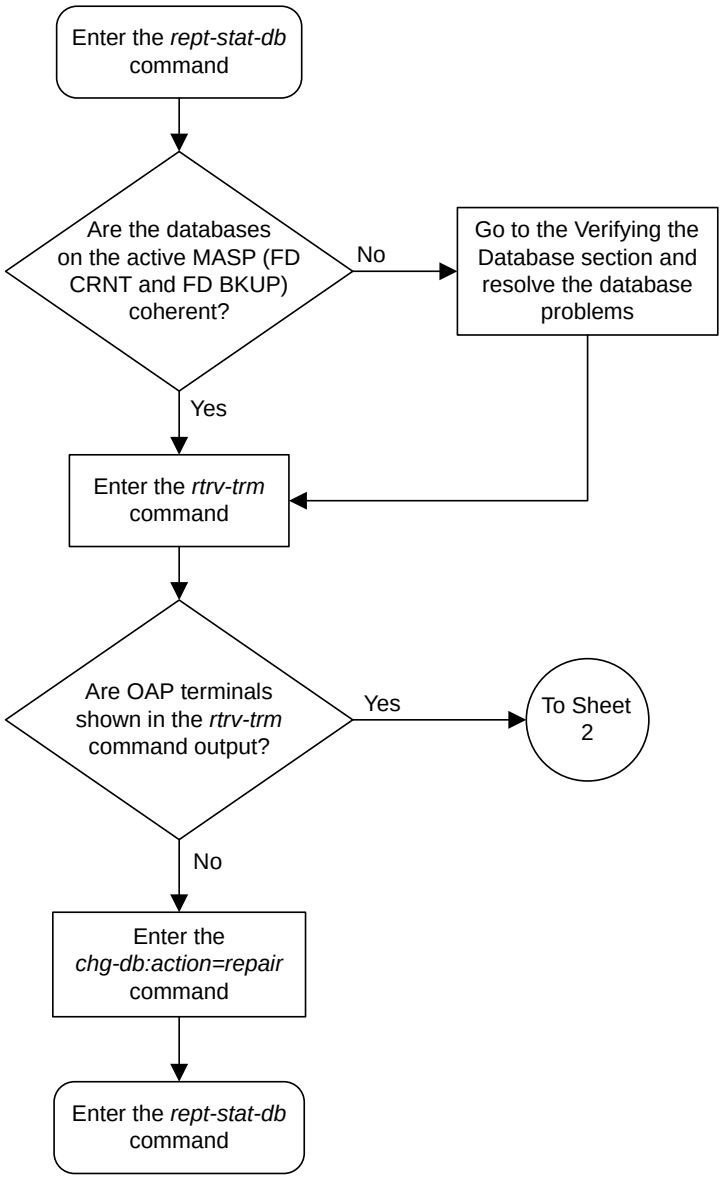
   rst-trm:trm=6

   rst-trm:trm=9

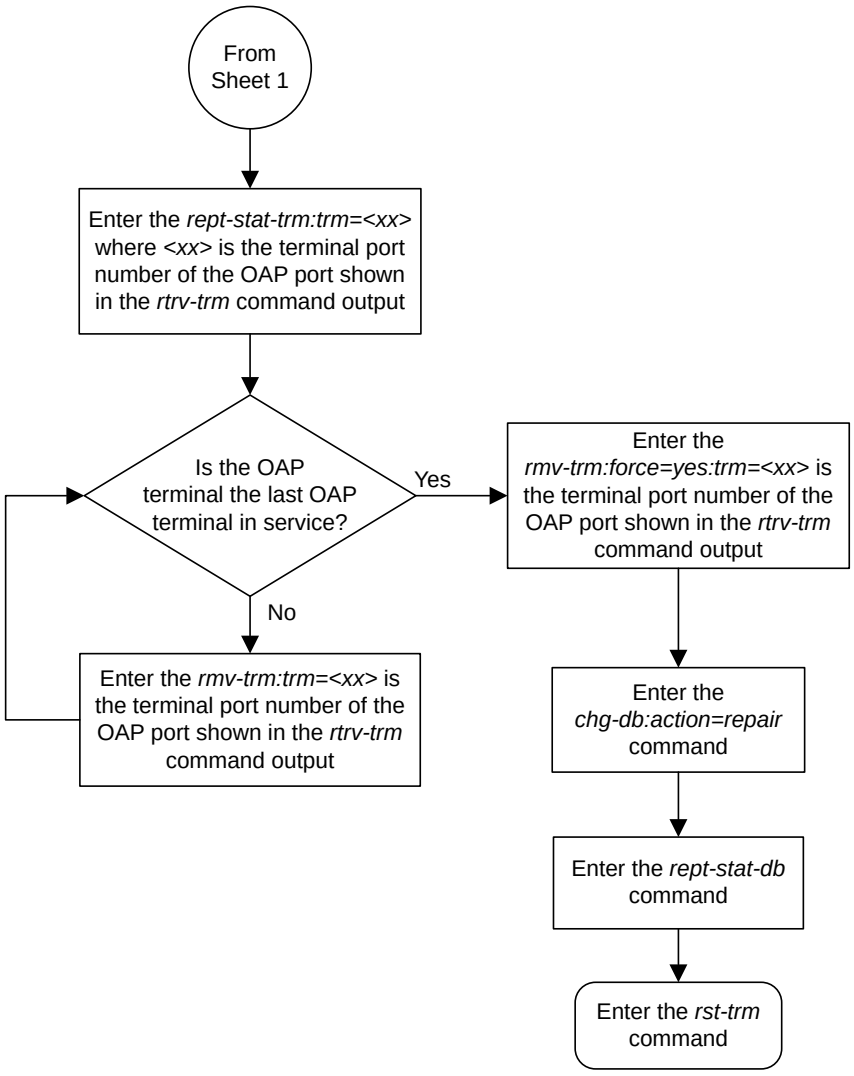
   This message should appear when each command has successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

Flowchart 2-5. Repairing the Database (Sheet 1 of 2)



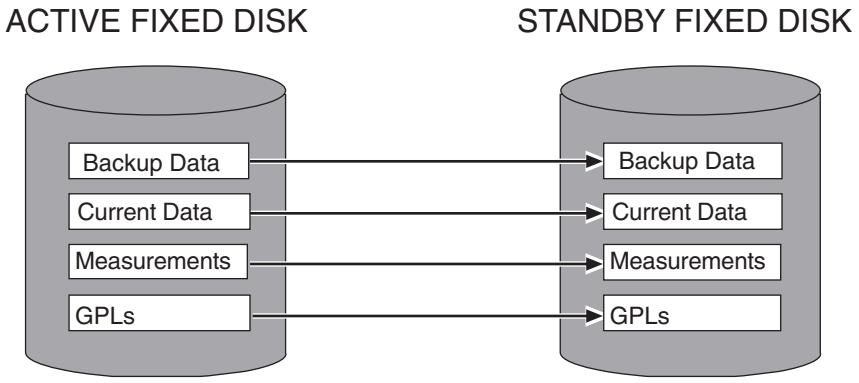
Flowchart 2-5. Repairing the Database (Sheet 2 of 2)



Copying the Database from the Active to the Standby Fixed Disk

This procedure copies everything on the active fixed disk to the standby fixed disk using the **copy-disk** command. Figure 2-10 shows the action of the **copy-disk** command.

Figure 2-10. Action of the Copy Disk Procedure



The **copy-disk** command uses these parameters.

:sloc – the card location of the active fixed disk

:dloc – the card location of the standby fixed disk

:force – does the standby fixed disk contain system data? This parameter provides some protection against data loss from copying over a fixed disk containing system data. If the standby fixed disk contains system data, you must specify the **force=yes** parameter. The default value for this parameter is **no**.

:format – is the standby fixed disk to be formatted before the data from the active fixed disk is copied to the standby fixed disk? The default value for this parameter is **yes**, the standby fixed disk will be formatted before copying.

Specify the **format=no** parameter with the **copy-disk** command to copy to the standby fixed disk without formatting the standby fixed disk. The standby fixed disk must be properly formatted to specify the **format=no** parameter. If the standby fixed disk is not properly formatted and the **format=no** parameter is specified, the **copy-disk** command will be rejected with this message.

```
E2819 Cmd Rej: Destination disk is unformatted
```

NOTE: The performance time required to copy a fixed disk to another fixed disk varies depending on database size and system activity. This operation should typically take no longer than 2.5 hours. If you are not performing the low-level format (format=no), the operation should take no longer than 1 hour. If the copy-disk operation exceeds 3 hours, contact the Customer Care Center for assistance. Refer to "Customer Care Center" on page 1-8 for the contact information. If the copy-disk operation without the low-level format exceeds 1.5 hours, call the Customer Care Center.

The databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10. Measurements must be inhibited.

The standby fixed disk cannot be formatted if the security log on the standby fixed disk contains any entries that have not been copied to the FTA area of the fixed disk. This can be verified with the **rept-stat-seculog** command. If the security log on the standby fixed disk contains entries that have not been copied to the file transfer area of the fixed disk, copy these entries to the file transfer area using the **copy-seculog** command.

The **copy-disk** command can be executed if the status of the security log on the standby fixed disk cannot be determined. This allows the **copy-disk** command to format and initialize a previously un-initialized fixed disk. An un-initialized fixed disk does not contain a security log.

CAUTION: To prevent any potential database corruption when performing this procedure, the OAP terminals must be placed out of service with the rmv-trm command before executing the copy-disk command.

Procedure

1. Verify that the databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       75 04-06-01 13:11:43 GMT  Y       95 04-06-01 13:11:43 GMT
FD CRNT  N       55 DIFF LEVEL             Y      105
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

2. Verify that measurement collection is on or off using the **rtrv-meas-sched** command. This is an example of the possible output. The **COLLECT** field shows whether measurement collection is on or off. In this example, measurement collection is on.

```
rlghncxa03w 06-03-01 12:22:55 GMT EAGLE5 34.3.0
COLLECT        =  on
GTWYLSFLTR     =  both
---------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

NOTE: If measurement collection is off, skip this step and go to step 4.

3. Inhibit all measurements using the **chg-meas:collect=off** command.

CAUTION: Measurements must be inhibited or the copy-disk command cannot be executed. The chg-meas:collect=on command should not be executed while the copy-disk command is in progress. If possible, do not inhibit measurements at midnight since doing so can cause the loss of an entire day of measurements. When measurements are inhibited, measurement collection is stopped. For the period of time that measurements are inhibited, those measurements will be lost.

This message should appear.

```
rlghncxa03w 06-03-01 16:12:50 GMT  EAGLE5 34.3.0
CHG-MEAS: MASP A - COMPLTD
```

4. Verify whether or nor the Measurements Platform option is enabled (**PLATFORMENABLE = on**) using the **rtrv-measopts** command.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
----------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

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

NOTE: If step 4 shows that the Measurements Platform is not enabled, skip this step and step 6, and go to step 7.

5. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

---

6. Place all the MCPMs out of service using the **rmv-card** command, specifying the card location of the MCPM. If the MCPM to be placed out of service is the last MCPM that is in service, the **force=yes** parameter must also be specified. For this example, enter these commands.

rmv-card:loc=2107

rmv-card:loc=2108

rmv-card:loc=2111:force=yes

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

---

7. Verify that the security log on the standby MASP contains no entries that must be copied to the FTA area of the fixed disk with the **rept-stat-seculog** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:59:06 GMT EAGLE5 34.3.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 04-06-01 04-05-30
                                      11:23:56 15:59:06 14:02:22

1116 Standby 693     7     No   No    03-12-05 04-06-01 04-05-30
                                      11:24:12 14:00:06 14:02:13
```

If the number shown in the **ENTRIES** field for the standby MASP (shown with the entry **Standby** in the **ROLE** field) is 0, go to step 9.

If the number shown in the **ENTRIES** field for the standby MASP is greater than 0, these entries must be copied to the FTA area of the fixed disk. To copy these entries, go to step 8. For this example, go to step 8.

---

8. Copy the security log entries on the standby MASP to the FTA area on the fixed disk with the **copy-seculog** command. For this example, enter the **copy-seculog:slog=stb** command. This is an example of the message that should appear.

```
rlghncxa03w 06-03-01 15:59:06 GMT EAGLE5 34.3.0
Security log on TDM 1116 copied to file 961004s.log on TDM 1114
```

---

9. Display the terminal configuration in the database with the **rtrv-trm** command. The OAP terminals are shown in the output with the entry **OAP** in the **TYPE** field. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. If no OAP terminals are shown in the **rtrv-trm** command output, go to step 12.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    30    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    PRINTER  4800-7-E-1 HW    30    0     00:00:00
4    VT320    2400-7-E-1 BOTH  30    5     00:30:00
5    VT320    9600-7-O-1 NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
10   VT320    9600-7-E-1 HW    30    5     00:30:00
11   VT320    4800-7-E-1 HW    30    5     00:30:00
12   PRINTER  9600-7-E-1 HW    30    4     00:30:00
13   VT320    9600-7-O-1 NONE  30    5     00:30:00
14   VT320    9600-7-E-2 SW    30    8     00:30:00
15   VT320    9600-7-N-2 HW    30    5     00:30:00
16   VT320    9600-7-E-2 BOTH  30    3     00:30:00

TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
3    YES  YES  YES NO  YES YES
4    YES  NO   NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO
6    YES  YES  YES YES YES YES
7    YES  YES  YES YES YES YES
8    NO   NO   NO  NO  YES NO
9    YES  YES  YES YES YES YES
10   NO   NO   NO  NO  NO  NO
11   YES  YES  YES YES YES YES
12   YES  YES  YES YES YES YES
13   NO   YES  NO  NO  NO  NO
14   NO   NO   YES NO  NO  NO
15   YES  YES  YES NO  YES YES
16   NO   NO   NO  NO  YES NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

10. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
Command Completed.
```

11. Place the OAP terminals out of service using the **rmv-trm** command. The **force=yes** parameter must be used when placing the last OAP terminal out of service. For this example, enter these commands.

rmv-trm:trm=6

rmv-trm:trm=9:force=yes

If the status of the OAP terminals shown in the **PST** field in step 10 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the **rmv-trm** command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

12. Enter the **copy-disk** command along with the card location of the standby TDM (shown by the indicator **STDBY** in the **rept-stat-db** command output in step 1) that the data is being copied to. If the standby fixed disk contains system data, the **force=yes** parameter must be specified with the **copy-disk** command. If you do not wish to format the standby fixed disk before copying, specify the **format=no** parameter with the **copy-disk** command.

For this example, enter this command.

copy-disk:dloc=1114:sloc=1116:force=yes:format=yes

In this example, the standby fixed disk contains EAGLE 5 SAS data and will be formatted before any data is copied to the standby fixed disk.

NOTE: The performance time required to copy a fixed disk to another fixed disk varies depending on database size and system activity. This operation should typically take no longer than 2.5 hours. If you are not performing the low-level format (format=no), the operation should take no longer than 1 hour. If the copy-disk operation exceeds 3 hours, contact the Customer Care Center for assistance. Refer to "Customer Care Center" on page 1-8 for the contact information. If the copy-disk operation without the low-level format exceeds 1.5 hours, call Customer Care Center.

WARNING: Failure of the copy-disk command may result in corrupted TDMs. If you experience a copy-disk command failure, call the Customer Care Center for assistance. Refer to "Customer Care Center" on page 1-8 for the contact information.

When the command has been executed and completed, these messages should appear.

```
    rlghncxa03w 06-03-01 10:22:05 GMT EAGLE5 34.3.0
    copy-disk:sloc=1116:dloc=1114:force=yes
    Command entered at terminal #3.
;

    rlghncxa03w 06-03-01 10:22:06 GMT EAGLE5 34.3.0
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-03-01 10:22:08 GMT EAGLE5 34.3.0
    Copy-disk (fixed): format of standby disk started
;

    rlghncxa03w 06-03-01 10:27:08 GMT EAGLE5 34.3.0
    Copy-disk (fixed): format in progress
;

    rlghncxa03w 06-03-01 10:32:08 GMT EAGLE5 34.3.0
    Copy-disk (fixed): format in progress
;

    rlghncxa03w 06-03-01 11:07:05 GMT EAGLE5 34.3.0
    Copy-disk (fixed): format of standby disk completed
;
```

```
    rlghncxa03w 06-03-01 11:07:06 GMT EAGLE5 34.3.0
    Copy-disk (fixed): copying to standby disk started
;

    rlghncxa03w 06-03-01 11:12:06 GMT EAGLE5 34.3.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-03-01 11:27:10 GMT EAGLE5 34.3.0
    Copy-disk (fixed): from active (1116) to standby (1114) completed.
    Measurements collection may be turned on now if desired.
```

If the **format=no** parameter was specified in this example, these messages should appear when the **copy-disk** command has successfully completed.

copy-disk:dloc=1114:sloc=1116:force=yes:format=no

```
    rlghncxa03w 06-03-01 10:22:06 GMT EAGLE5 34.3.0
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-03-01 11:07:08 GMT EAGLE5 34.3.0
    Copy-disk (fixed): copying to standby disk started
;

    rlghncxa03w 06-03-01 11:12:06 GMT EAGLE5 34.3.0
    Copy-disk (fixed): copy in progress
;
    rlghncxa03w 06-03-01 11:17:06 GMT EAGLE5 34.3.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-03-01 11:22:06 GMT EAGLE5 34.3.0
    Copy-disk (fixed): copy in progress
;
    rlghncxa03w 06-03-01 11:27:08 GMT EAGLE5 34.3.0
    Copy-disk (fixed): from active (1116) to standby (1114) completed.
    Measurements collection may be turned on now if desired.
```

The standby MASP is rebooted to load the data when the command completes successfully.

NOTE: While this command is executing, commands that affect the database configuration cannot be executed. Any attempt to execute such a command will be rejected.

NOTE: If measurement collection was not turned off in step 3, skip this step and go to step 14.

13. Turn on the measurements using the **chg-meas:collect=on** command.

This message should appear.

```
rlghncxa03w 06-03-01 16:12:50 GMT  EAGLE5 34.3.0
CHG-MEAS: MASP A - COMPLTD
```

NOTE: If MCPMs were not placed out of service in step 6, skip steps 14 and 15, and go to step 16.

14. Place the MCPMs back into service using the **rst-card** specifying the location of each MCPM. For this example, enter these commands.

rst-card:loc=2107

rst-card:loc=2108

rst-card:loc=2111

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

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
    Card has been allowed.
```

15. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

16. Verify that the databases of both MASPs are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114  ( STDBY)                TDM 1116  ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       95 04-06-01 05:53:36 GMT  Y       95 04-06-01 05:53:36 GMT
FD CRNT  Y      105                        Y      105
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

If OAP terminals are shown in the **rtrv-trm** command output in step 9, go to step 17. Otherwise this procedure is completed.

17. Put the OAP terminals back into service with the **rst-trm** command. For this example, enter these commands.

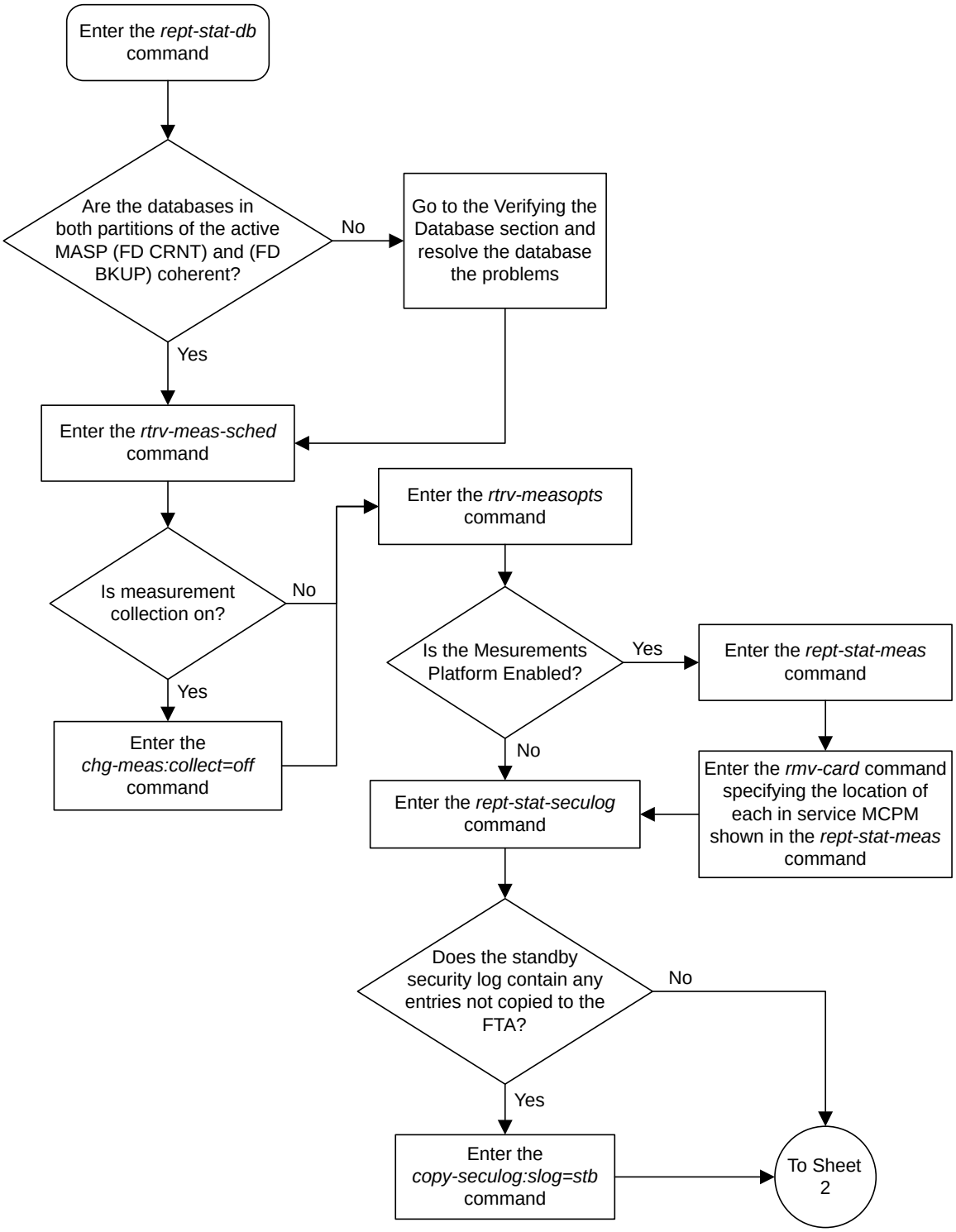
rst-trm:trm=6

rst-trm:trm=9

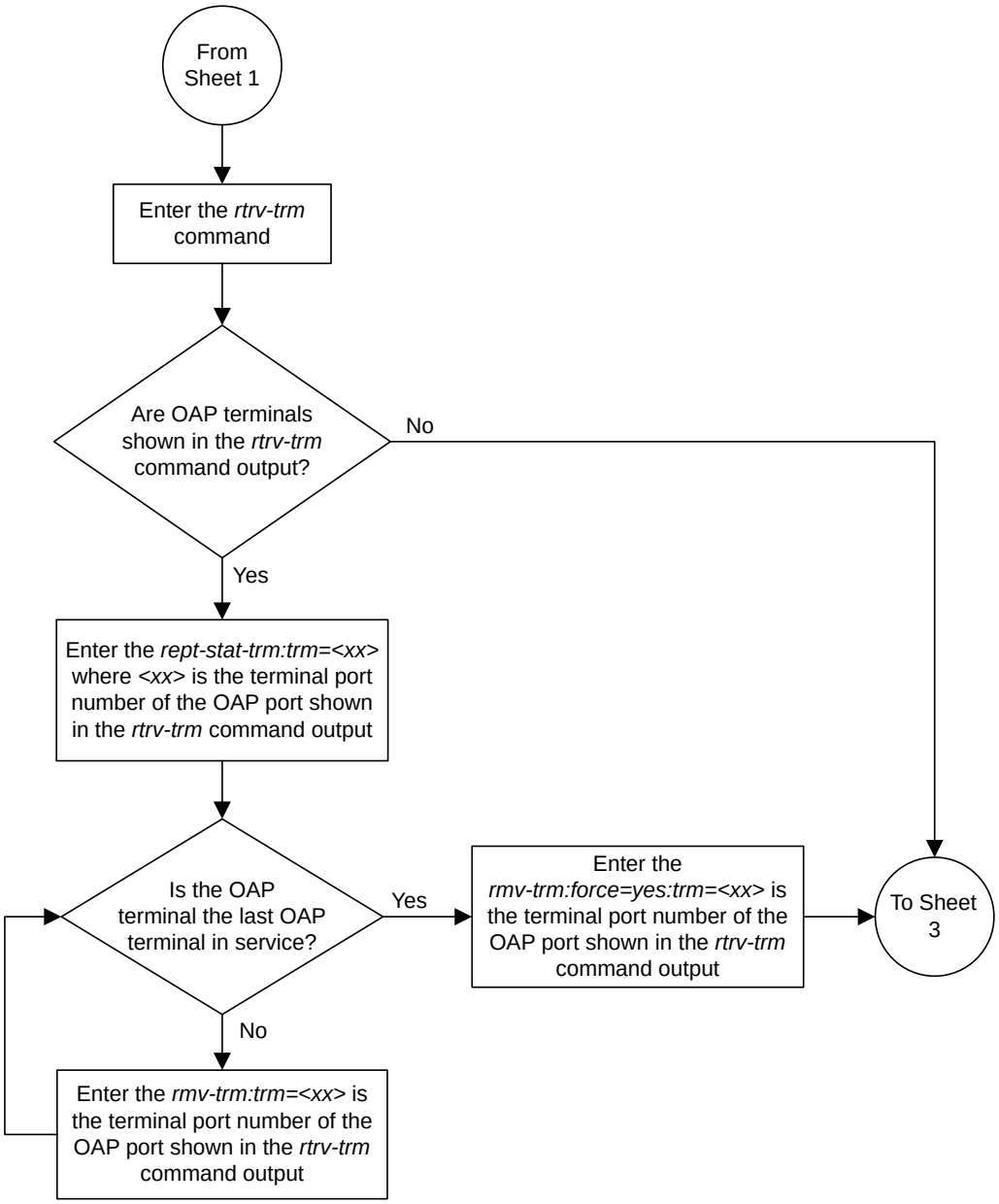
This message should appear when each command has successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

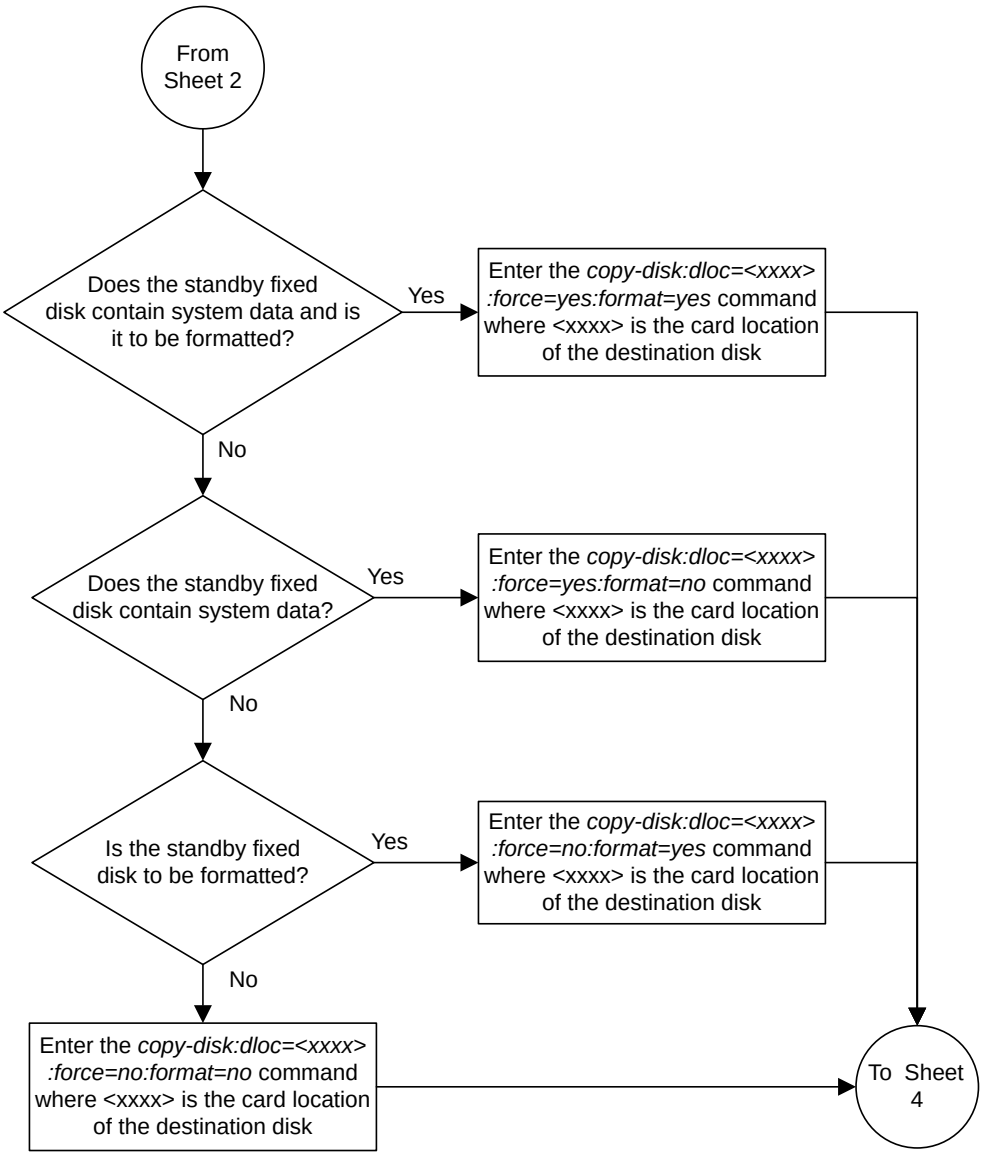
Flowchart 2-6. Copy Disk Procedure (Sheet 1 of 4)



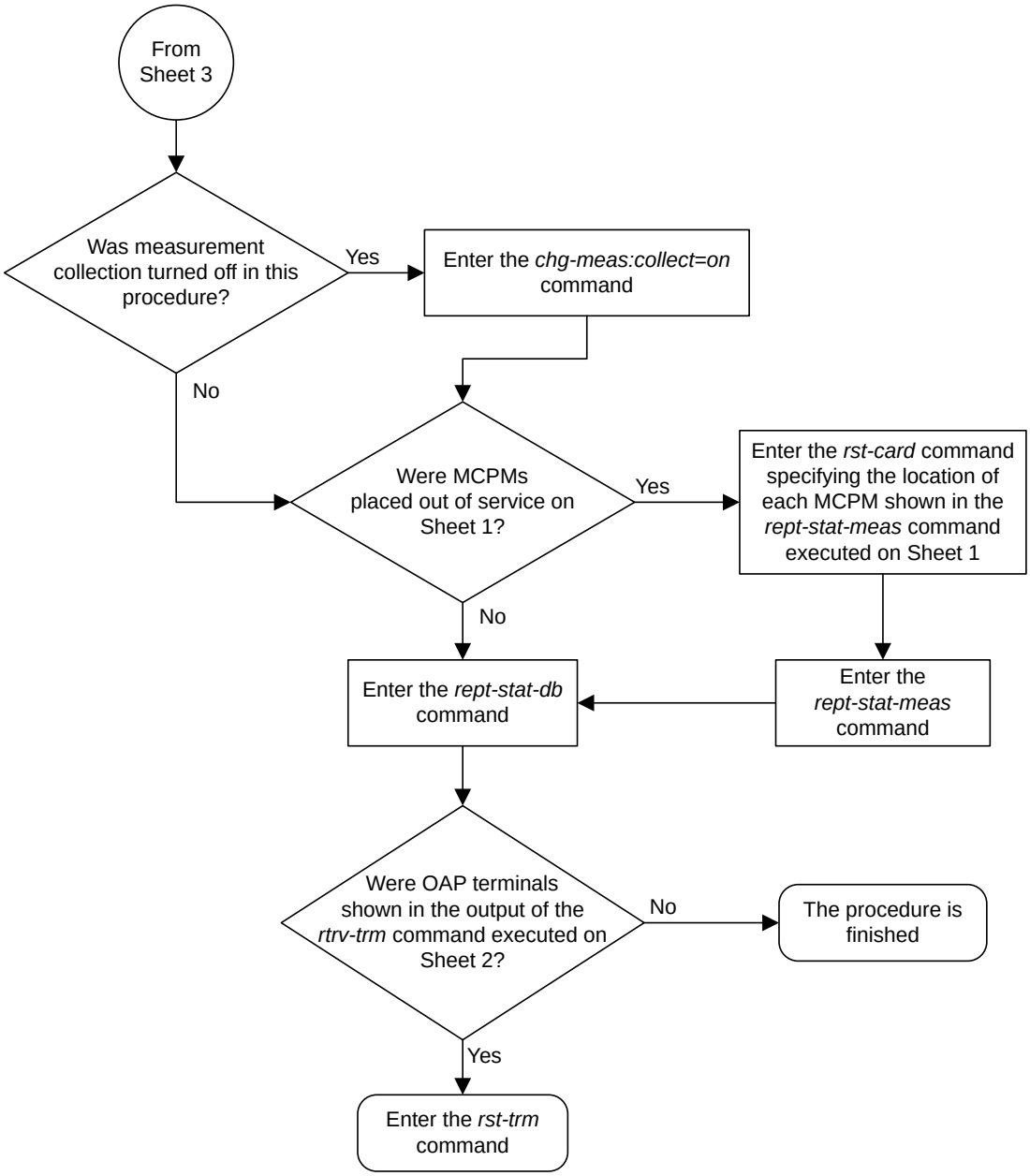
Flowchart 2-6. Copy Disk Procedure (Sheet 2 of 4)



Flowchart 2-6. Copy Disk Procedure (Sheet 3 of 4)



Flowchart 2-6. Copy Disk Procedure (Sheet 4 of 4)



Backing Up System Data to the Removable Cartridge

This section details the procedure used to make a backup copy of the system data in addition to the database.

The term "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. The term "system data" refers to data that cannot be administered by the user, including maintenance software modules and generic program loads (GPLs).

This procedure is used to make a backup copy of the system data.

The database in the current partition of the active MASP (FD CRNT) must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

A pre-formatted removable cartridge that is write enabled is required. If the removable cartridge is not formatted, go to the "Formatting a Removable Cartridge" procedure on page 2-79 and format the cartridge. To write enable a removable cartridge, see "Write Enabling the Removable Cartridge" on page 2-7.

Procedure

1. Verify that the database in the current partition of the active MASP (FD CRNT) is coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       95 04-06-01 05:53:36 GMT  Y       95 04-06-01 05:53:36 GMT
FD CRNT  Y      105                        Y      105
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

2. Insert the pre-formatted removable cartridge in the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

3. Enter the **chg-db:action=backup:dest=remove** command:

During command execution, these messages should appear.

```
BACKUP (REMOVABLE) : MASP B - Backup starts on active MASP.
BACKUP (REMOVABLE) : MASP B - Backup to removable cartridge complete.
```

4. Verify that the databases on the removable cartridge (RD BKUP) and the current partition of the active MASP (FD CRNT) are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:09:34 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       95 04-06-01 05:53:36 GMT  Y       95 04-06-01 05:53:36 GMT
FD CRNT  Y      105                        Y      105
        MDAL 1117
         - --------
RD BKUP  Y      105 04-05-31 16:07:48 GMT
```

5. Make a backup copy of the GPLs on the fixed disk of the active TDM to the removable cartridge using the **copy-gpl** command. For this example, enter this command.

copy-gpl:sloc=1116:dloc=1117

During command execution, these messages should appear.

```
rlghncxa03w 06-03-01 14:50:46 GMT EAGLE5 34.3.0
COPY-GPL: MASP B - COPY STARTS ON ACTIVE MASP
COPY GPL: MASP B - COPY TO REMOVABLE CARTRIDGE COMPLETE
```

6. Verify the GPLs on the removable cartridge with the **rtrv-gpl** command. This is an example of the possible output.

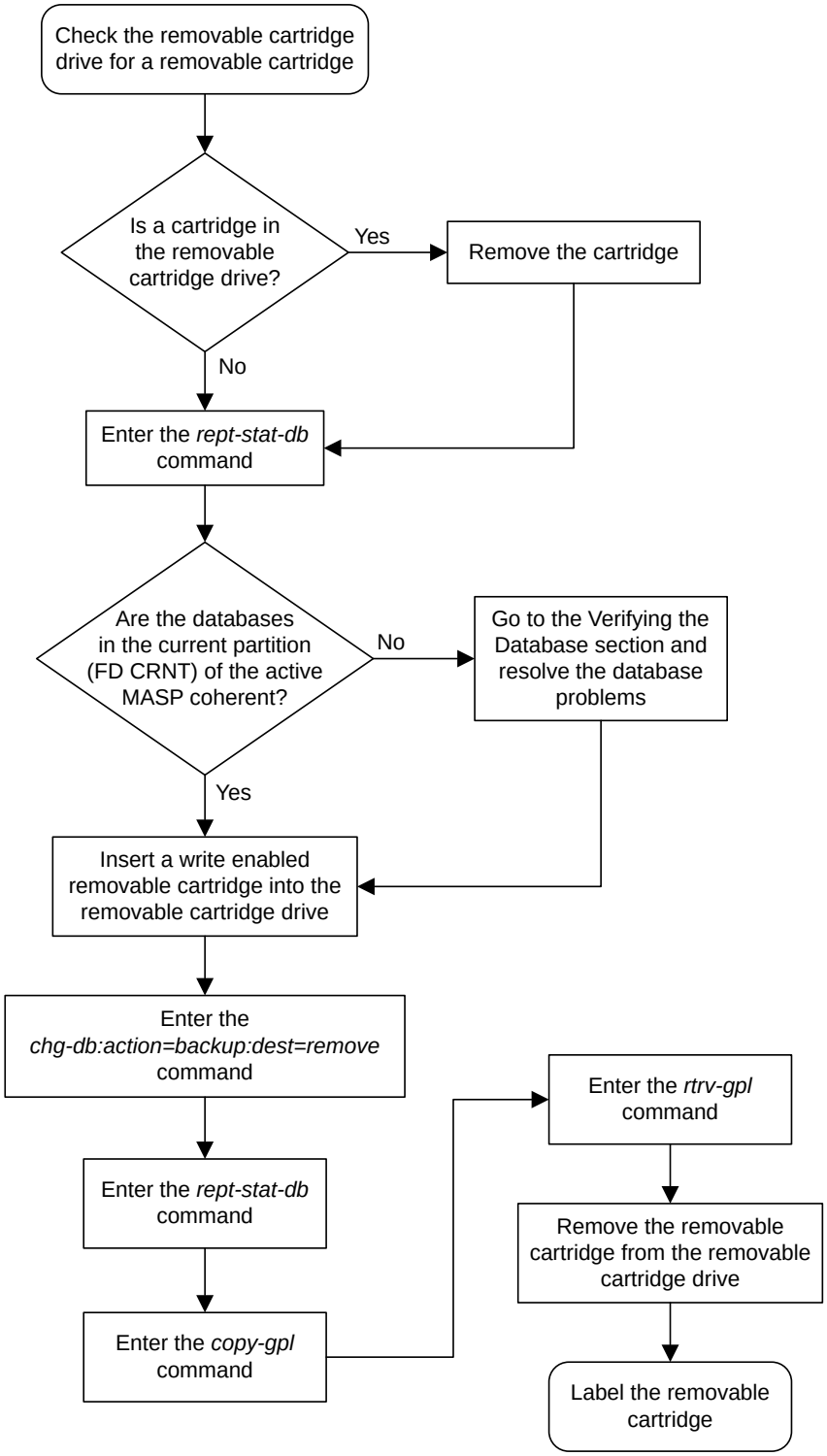
```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
UTILITY   1114  141-000-000  141-000-000      141-001-000  141-001-000
UTILITY   1116  141-000-000  141-000-000      -----------  -----------
EOAM      1114  113-003-000  113-003-000      113-004-000  113-004-000
EOAM      1116  113-003-000  113-003-000      -----------  -----------
GLS       1114  113-002-000  113-002-000      113-002-000  113-003-000
GLS       1116  113-002-000  113-002-000      113-002-000  -----------
SCCP      1114  113-002-000  113-002-000      113-002-000  113-003-000
SCCP      1116  113-002-000  113-002-000      113-002-000  -----------
VSCCP     1114  113-002-000  113-002-000      113-002-000  113-003-000
VSCCP     1116  113-002-000  113-002-000      113-002-000  -----------
SS7ANSI   1114  113-002-000  113-002-000      113-002-000  113-003-000
SS7ANSI   1116  113-002-000  113-002-000      113-002-000  -----------
ATMANSI   1114  113-002-000  113-002-000      113-001-000  113-002-000
ATMANSI   1116  113-002-000  113-002-000      113-001-000  -----------
IPLIM     1114  113-002-000  113-002-000      113-002-000  113-003-000
IPLIM     1116  113-002-000  113-002-000      113-002-000  -----------
IPLIMI    1114  113-002-000  113-002-000      113-002-000  113-003-000
IPLIMI    1116  113-002-000  113-002-000      113-002-000  -----------
SS7IPGW   1114  113-002-000  113-002-000      113-002-000  113-003-000
```

```
SS7IPGW   1116  113-002-000  113-002-000      113-002-000  -----------
SS7ML     1114  113-002-000  113-002-000      113-002-000  113-003-000
SS7ML     1116  113-002-000  113-002-000      113-002-000  -----------
CCS7ITU   1114  113-002-000  113-002-000      113-002-000  113-003-000
CCS7ITU   1116  113-002-000  113-002-000      113-002-000  -----------
SS7GX25   1114  113-001-000  113-001-000      113-001-000  113-002-000
SS7GX25   1116  113-001-000  113-001-000      113-001-000  -----------
STPLAN    1114  113-001-000  113-001-000      113-001-000  113-002-000
STPLAN    1116  113-001-000  113-001-000      113-001-000  -----------
IMT       1114  113-001-000  113-001-000      113-001-000  113-002-000
IMT       1116  113-001-000  113-001-000      113-001-000  -----------
BPHCAP    1114  002-101-000  002-101-000      002-100-000  002-101-000
BPHCAP    1116  002-101-000  002-101-000      002-100-000  -----------
BPDCM     1114  002-101-000  002-101-000      002-100-000  002-101-000
BPDCM     1116  002-101-000  002-101-000      002-100-000  -----------
BPHMUX    1114  111-001-000  111-001-000      111-000-000  111-001-000
BPHMUX    1116  111-001-000  111-001-000      111-000-000  -----------
BPMPL     1114  002-101-000  002-101-000      002-100-000  002-101-000
BPMPL     1116  002-101-000  002-101-000      002-100-000  -----------
EBDABLM   1114  113-001-000  113-001-000      113-000-000  113-001-000
EBDABLM   1116  113-001-000  113-001-000      113-000-000  -----------
EBDADCM   1114  113-001-000  113-001-000      113-000-000  113-001-000
EBDADCM   1116  113-001-000  113-001-000      113-000-000  -----------
VXWSLAN   1114  113-001-000  113-001-000      113-000-000  113-001-000
VXWSLAN   1116  113-001-000  113-001-000      113-000-000  -----------
OAP       1114  026-001-000  026-001-000      -----------  026-001-000
OAP       1116  026-001-000  026-001-000      -----------  -----------
```

7. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

8. Label the removable cartridge, 1 through 4 if the backup is performed weekly or monthly, A through D if the backup is performed quarterly. For more information on labeling the removable cartridge, see Chapter 2, "Preventive Maintenance," in the *Maintenance Manual*. Store this cartridge in a secure place.

Flowchart 2-7. Backing Up System Data to the Removable Cartridge



Restoring System Data from a Removable Cartridge

This section presents the procedure for restoring system data from a system backup removable cartridge that was made using the **chg-db** command.

The database on the removable cartridge (RD BKUP) must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

The removable cartridge must contain the database configuration to be restored. The removable cartridge should be write protected.

For some commands to be executed, they must use values obtained from previous steps. The best way to do this is echo the output of the command (for example, **rtrv-gpl**) to a printer. Enter the **rtrv-trm** command to make sure the output is echoed to a printer. If the output is not echoed to a printer, go to the "Changing Terminal Characteristics" procedure on page 4-51 to allow the output to be echoed to a printer.

CAUTION: Using the action=restore parameter with the chg-db command is an emergency recovery procedure, and requires the init-sys command to download the restored database to all the cards in the EAGLE 5 SAS.

CAUTION: If the restore device state option is on, shown by the ON value for the RSTRDEV field in the rtrv-stpopts command output, the state of the cards, SS7 signaling links, TCP/IP data links, and terminals before the chg-db:action=restore and init-sys commands are performed will not be maintained after these commands are performed. The persistent device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

3. Insert the removable cartridge containing the system data into the removable cartridge drive of the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

---

4. Verify that the database on the removable cartridge (RD BKUP) is coherent using the **rept-stat-db:display=version** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04  GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
        MDAL 1117
         - --------
RD BKUP  Y       74 04-05-31 21:03:21 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION STATUS
---------  ----  -  -  ----------  -----------------  -------------------
TDM-CRNT   1114  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-BKUP   1114  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-CRNT   1116  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-BKUP   1116  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
MDAL       1117  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
```

If the LNP feature is not enabled, the LNP database versions are not shown in the **rept-stat-db:display=version** command output.

If the versions of the databases on the fixed disks (**TDM-CRNT** and **TDM-BKUP**) and the removable cartridge (**MDAL**) are not the same, stop performing this procedure and contact the Customer Care Center. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

5. Enter the **chg-db:action=restore:src=remove** command.

   During command execution, these messages should appear.

```
RESTORE (REMOVABLE) : MASP A - Restore starts on active MASP.
RESTORE (REMOVABLE) : MASP A - Restore starts on standby MASP.
RESTORE (REMOVABLE) : MASP A - MASP(s) will reboot to load data.
RESTORE (REMOVABLE) : MASP A - Restore from removable cartridge complete.
```

---

6. Verify that the databases on the removable cartridge (RD BKUP) and the current partitions of both MASPs (FD CRNT) are coherent using the **rept-stat-db** command.

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04  GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
        MDAL 1117
         - --------
RD BKUP  Y       74 04-05-31 21:03:21 GMT
```

7. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

CAUTION: The `init-sys` command causes a complete reload of the EAGLE 5 SAS, and should only be used during periods of low traffic. Using this command ensures that all cards are running the same database, but will interrupt service.

8. When the commands have successfully completed, re-initialize the EAGLE 5 SAS using the **init-sys** command.

   NOTE: The `init-sys` command must be entered twice within 30 seconds for the EAGLE 5 SAS to be re-initialized. If the `init-sys` command is not executed twice within 30 seconds, the attempt to re-initialize the EAGLE 5 SAS is aborted.

   When the **init-sys** command is first entered, this message should appear.

```
rlghncxa03w 06-03-01  07:05:01 GMT  EAGLE5 34.3.0
CAUTION: This command causes a complete system reload, and
will result in traffic loss.
Re-enter command within 30 seconds to confirm.
```

   When the **init-sys** command is re-entered within the 30 second time limit, this message should appear.

```
rlghncxa03w 06-03-01  07:05:17 GMT  EAGLE5 34.3.0
Init System command issued at terminal #3
```

   From the time that the **init-sys** command is accepted, you must wait approximately 2 minutes before you can perform step 9 (logging into the EAGLE 5 SAS). If the EAGLE 5 SAS terminal is in the VT-100/VT-320 mode, the terminal display will be refreshed with non-zero alarm counts. During this 2 minutes interval, an intermediate screen refresh caused by the MASPs role change from active to standby, and from standby to active. This screen refresh is typically a partial refresh and the alarm indicators are set to zero.

If you are logged into the EAGLE 5 SAS in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 SAS is that you will receive UAM 0009, MASP became active. UAM 0009 could be issued twice due to possible transient MASP role change (switching from active to standby). Following the execution of the **init-sys** command, the MASP that was active before the **init-sys** command was entered will be the active MASP when the EAGLE 5 SAS has finished reinitializing.

---

9. Log into the EAGLE 5 SAS using the **login** or **act-user** command.

This is an example of the messages that appear when you have successfully logged into the EAGLE 5 SAS.

```
NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.

0 LOGIN failures since last successful LOGIN
Last successful LOGIN was on port 4 on 04-06-01 @ 09:34:56
```

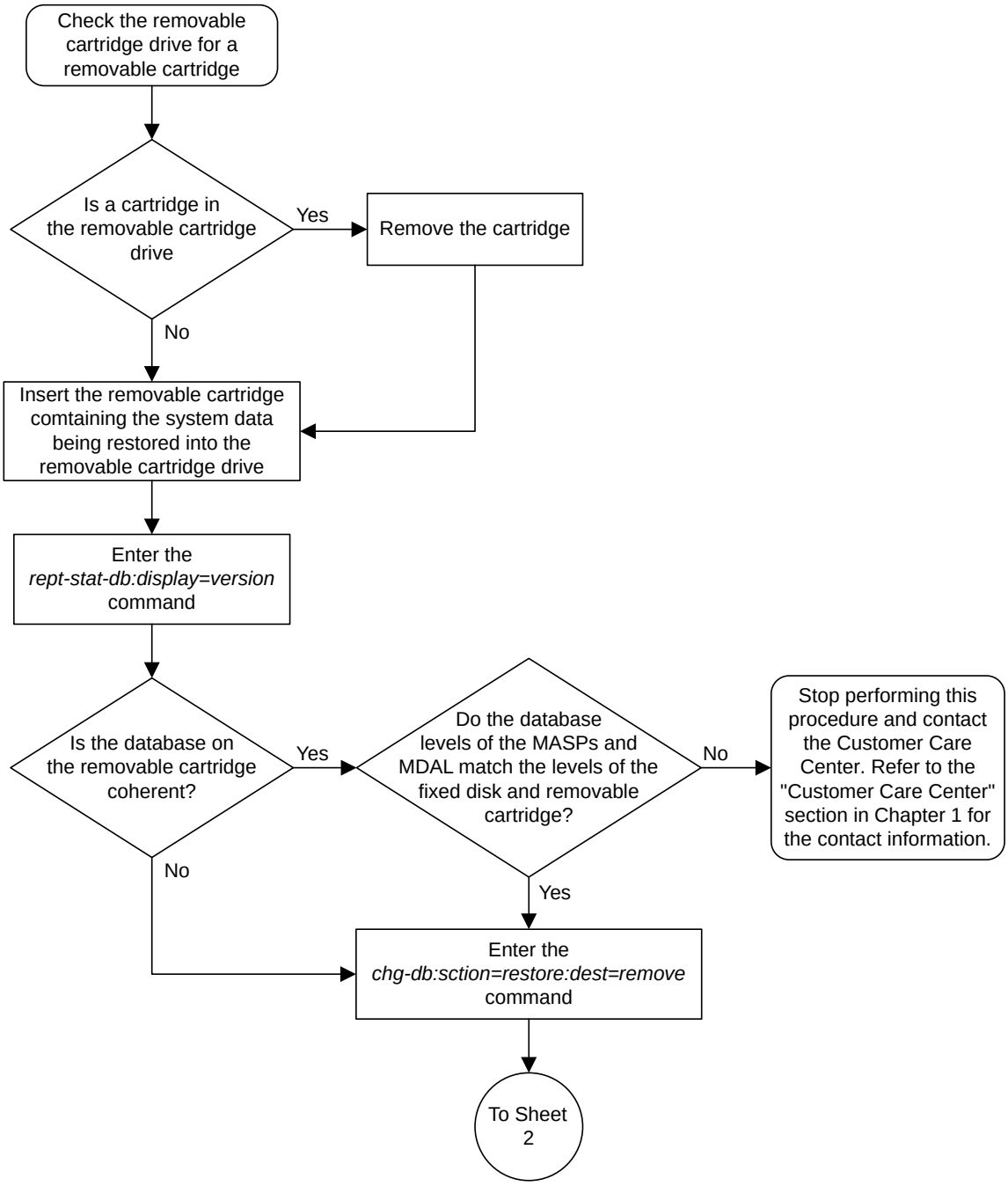
---

10. Enter the **rept-stat-db:display=all** command. This is an example of the possible output.

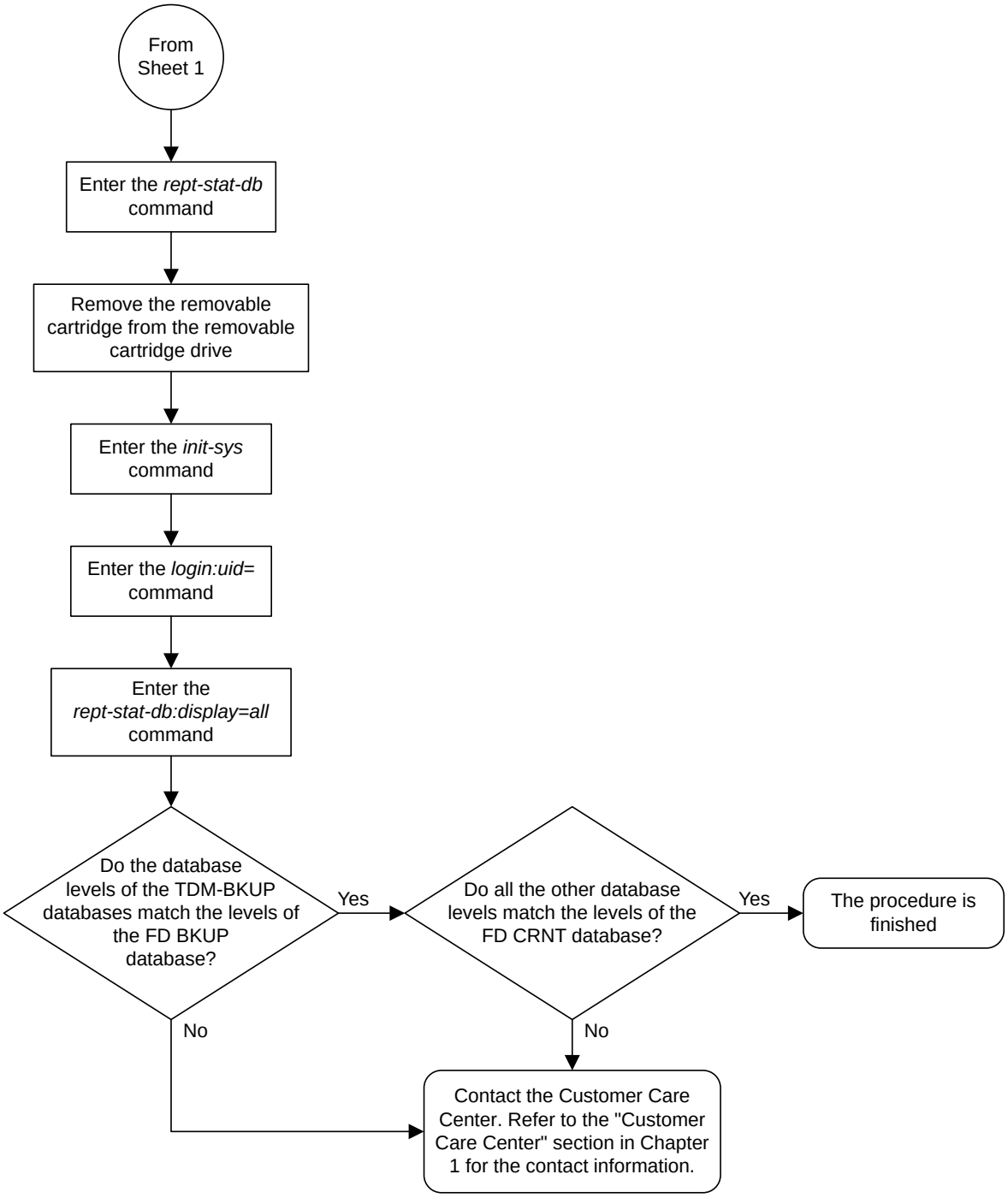
```
rlghncxa03w 06-03-01 11:34:04  GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
        MDAL 1117
         - --------
RD BKUP  -    -          -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SCCP       1101  Y  N  78          04-06-01 23:15:06       -
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06       -
TDM-BKUP   1114  Y  -  74          04-05-31 21:03:21       -
TDM-CRNT   1116  Y  N  78          04-06-01 23:15:06       -
TDM-BKUP   1116  Y  -  74          04-05-31 21:03:21       -
MDAL       1117  -  -      -           -        -          -
SS7ANSI    1201  Y  N  78          04-06-01 23:15:06       -
SS7ANSI    1203  Y  N  78          04-06-01 23:15:06       -
SS7ANSI    1205  Y  N  78          04-06-01 23:15:06       -
CCS7ITU    1207  Y  N  78          04-06-01 23:15:06       -
CCS7ITU    1211  Y  N  78          04-06-01 23:15:06       -
ATMANSI    1217  Y  N  78          04-06-01 23:15:06       -
```

The level for the **TDM-BKUP** database, shown in the **CARD/APPL** field, should be the same as the level for the **FD BKUP** database. All other databases shown in the **CARD/APPL** field should be the same as the level of the **FD CRNT** database. If the levels of the databases are not the same, contact the Customer Care Center. Refer to "Customer Care Center" on page 1-8 for the contact information.

Flowchart 2-8. Restoring System Data (Sheet 1 of 2)



Flowchart 2-8. Restoring System Data (Sheet 2 of 2)



Formatting a Removable Cartridge

Use this procedure to prepare a new removable cartridge for use on the EAGLE 5 SAS or to take a removable cartridge which was previously used for one purpose and prepare it for the use of another purpose (measurements to system disk and vice versa) using the **format-disk** command. The **format-disk** command uses these parameters.

:type – The type of disk being formatted.

- **system** – A removable cartridge containing system data (GPLs and the database)
- **meas** – A removable cartridge containing measurements data
- **fixed** – The fixed disk of the standby TDM. To format the fixed disk of the standby TDM, go to the "Formatting the Fixed Disk of the Standby TDM" procedure on page 2-91.

:low – Is a low level format being performed on the disk, **yes** or **no**? The default value for this parameter is **yes**.

:force – Format the disk if the disk contains system data, **yes** or **no**. The default value for this parameter is **no**.

:prtngrp – Indicates which disk partition group is being formatted, the active partition group (**prtngrp=active**) or the inactive partition group (**prtngrp=inactive**). The default value for the **prtngrp** parameter is **active**. The removable cartridge does not contain an inactive partition group, so the **prtngrp=inactive** cannot be specified in this procedure.

NOTE: Reduce extended execution time when using the force=yes option by also using the low=no option.

The database in the current (FD CRNT) partition of the active MASP must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

Measurements must be inhibited before the **format-disk** command can be executed.

A removable cartridge that is write enabled is required. To write enable a removable cartridge, see "Write Enabling the Removable Cartridge" on page 2-7.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, and you do not wish to format this removable cartridge, remove it and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

   If you wish to format the removable cartridge in the drive, skip step 2 and go to step 3.

2. Insert the removable cartridge to be formatted in the removable cartridge drive on the MDAL card, making sure that the removable cartridge is write enabled. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

   For more information on write enabling the removable cartridge, see "Write Enabling the Removable Cartridge" on page 2-7.

   Skip step 3 and go to step 4.

3. If you wish to format the removable cartridge found in the removable cartridge drive, remove it from the drive and verify that is a write enabled removable cartridge. If the removable cartridge is not write enabled, see "Write Enabling the Removable Cartridge" on page 2-7 to write enable the removable cartridge. Insert the removable cartridge in the removable cartridge drive and go to step 4.

4. Verify that the database in the current (FD CRNT) partition of the active MASP is coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:11:34 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 16:09:53 GMT
```

   If the current database on the active MASP is not coherent, go to the "Verifying the Database" section on page 2-10 and resolve the database problem.

5. Verify that measurement collection is on or off using the **rtrv-meas-sched** command. This is an example of the possible output. The **COLLECT** field shows whether measurement collection is on or off. In this example, measurement collection is on.

```
rlghncxa03w 06-03-01 12:22:55 GMT EAGLE5 34.3.0
COLLECT        =  on
GTWYLSFLTR     =  both
---------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

NOTE: If measurement collection is off, skip this step and go to step 7.

6. Inhibit all measurements using the **chg-meas:collect=off** command.

CAUTION: Measurements must be inhibited or the format-disk command cannot be executed. The chg-meas:collect=on command should not be executed while the format-disk command is in progress. If possible, do not inhibit measurements at midnight since doing so can cause the loss of an entire day of measurements. When measurements are inhibited, measurement collection is stopped. For the period of time that measurements are inhibited, those measurements will be lost.

This message should appear.

```
rlghncxa03w 06-03-01 16:12:50 GMT  EAGLE5 34.3.0
CHG-MEAS: MASP A - COMPLTD
```

7. Verify whether or nor the Measurements Platform option is enabled (**PLATFORMENABLE = on**) using the **rtrv-measopts** command.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
----------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

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

NOTE: If step 7 shows that the Measurements Platform is not enabled, skip this step and step 9, and go to step 10.

8. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

9. Place all the MCPMs out of service using the **rmv-card** command, specifying the card location of the MCPM. If the MCPM to be placed out of service is the last MCPM that is in service, the **force=yes** parameter must also be specified. For this example, enter these commands.

rmv-card:loc=2107

rmv-card:loc=2108

rmv-card:loc=2111:force=yes

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

10. Format the removable cartridge. If you are formatting the removable cartridge for system data, go to step 11. If you are formatting the removable cartridge for measurements data, go to step 12.

11. To format a removable cartridge for system data, enter this command.

format-disk:type=system

NOTE: Because the default value for the `low` parameter (low level format parameter) is `yes`, this command will perform a low level format of the removable cartridge. If you do not wish to perform a low level format of the removable cartridge, the `low=no` parameter must be specified with the `format-disk` command.

If the removable cartridge to be formatted contains system data, the `force=yes` parameter must be specified with the `format-disk` command. All data on the removable cartridge will be lost.

It takes approximately 31 minutes to format a removable cartridge for system data. It may take longer depending on other system activity that is in progress when this command is entered. When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    format-disk:type=system
    Command entered at terminal #3.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk of system removable cartridge started.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (removable cartridge) format is complete.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk of system removable cartridge completed.
    Measurements collection may be turned on now if desired.
```

If you wish to turn measurement collection on, perform steps 13 and 14, otherwise, this procedure is finished.

12. To format a removable cartridge for measurements data, enter this command.

format-disk:type=meas

NOTE: Because the default value for the `low` parameter (low level format parameter) is `yes`, this command will perform a low level format of the removable cartridge. If you do not wish to perform a low level format of the removable cartridge, the `low=no` parameter must be specified with the `format-disk` command.

If the removable cartridge to be formatted contains system data, the `force=yes` parameter must be specified with the `format-disk` command. All data on the removable cartridge will be lost.

It takes approximately 27 minutes to format a removable cartridge for measurement data. When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    format-disk:type=system
    Command entered at terminal #3.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk of measurements removable cartridge started.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (removable cartridge) format is complete.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk of measurements removable cartridge completed.
    Measurements collection may be turned on now if desired.
```

NOTE: If measurement collection was not turned off in step 6, skip this step and step 14, and go to step 15.

13. Turn on the measurements using the **`chg-meas:collect=on`** command.

This message should appear.

```
rlghncxa03w 06-03-01 16:12:50 GMT  EAGLE5 34.3.0
CHG-MEAS: MASP A - COMPLTD
```

14. Verify that measurement collection is on using the **rtrv-meas-sched** command, shown by the **COLLECT = on** field in the output. This is an example of the possible output.

```
rlghncxa03w 06-03-01 12:22:55 GMT EAGLE5 34.3.0
COLLECT        =  on
GTWYLSFLTR     =  both
---------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

NOTE: If MCPMs were not placed out of service in step 9, skip this step and step 16. This procedure is finished.

15. Place the MCPMs back into service using the **rst-card** specifying the location of each MCPM. For this example, enter these commands.

rst-card:loc=2107

rst-card:loc=2108

rst-card:loc=2111

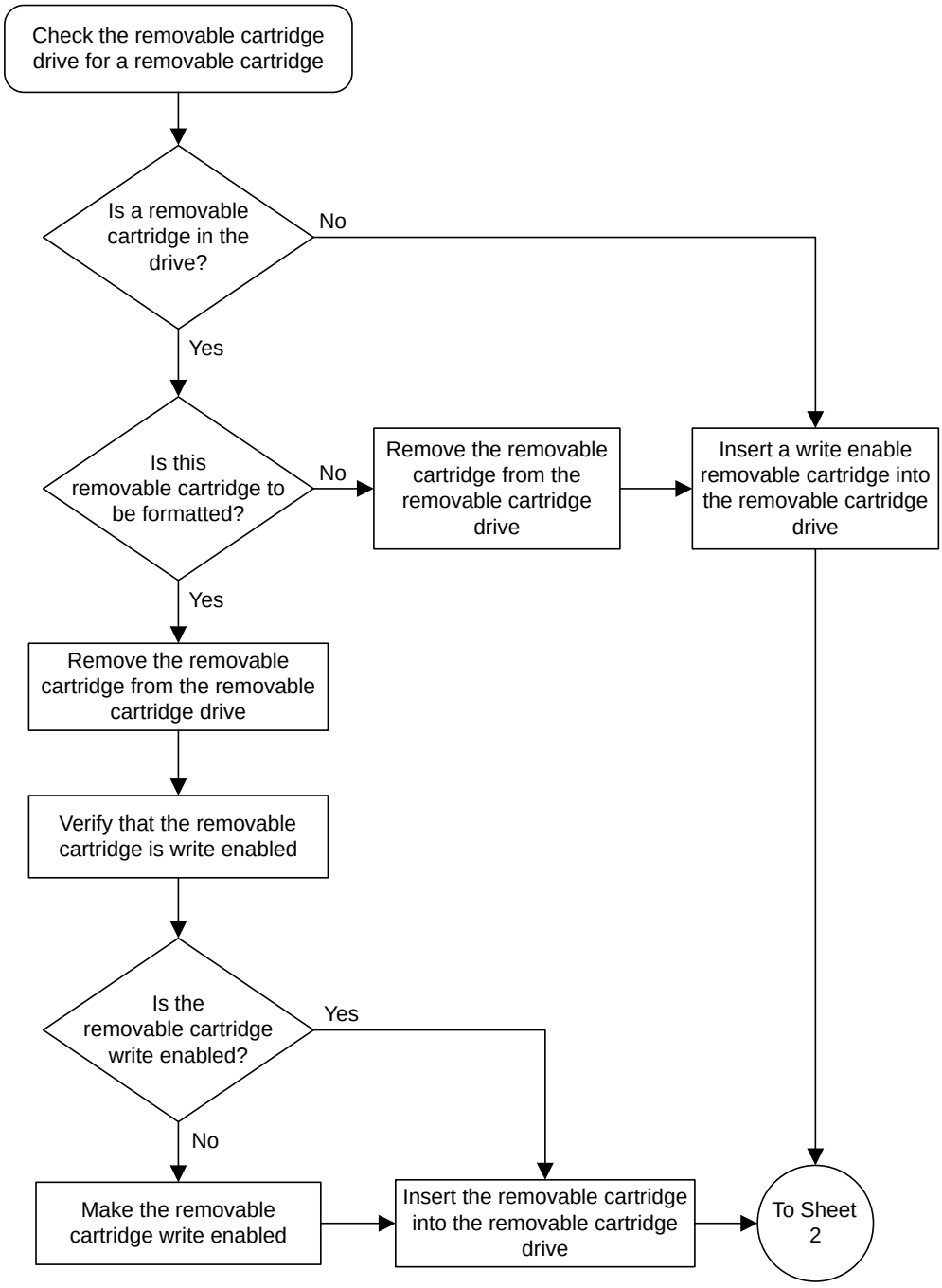
When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
    Card has been allowed.
```

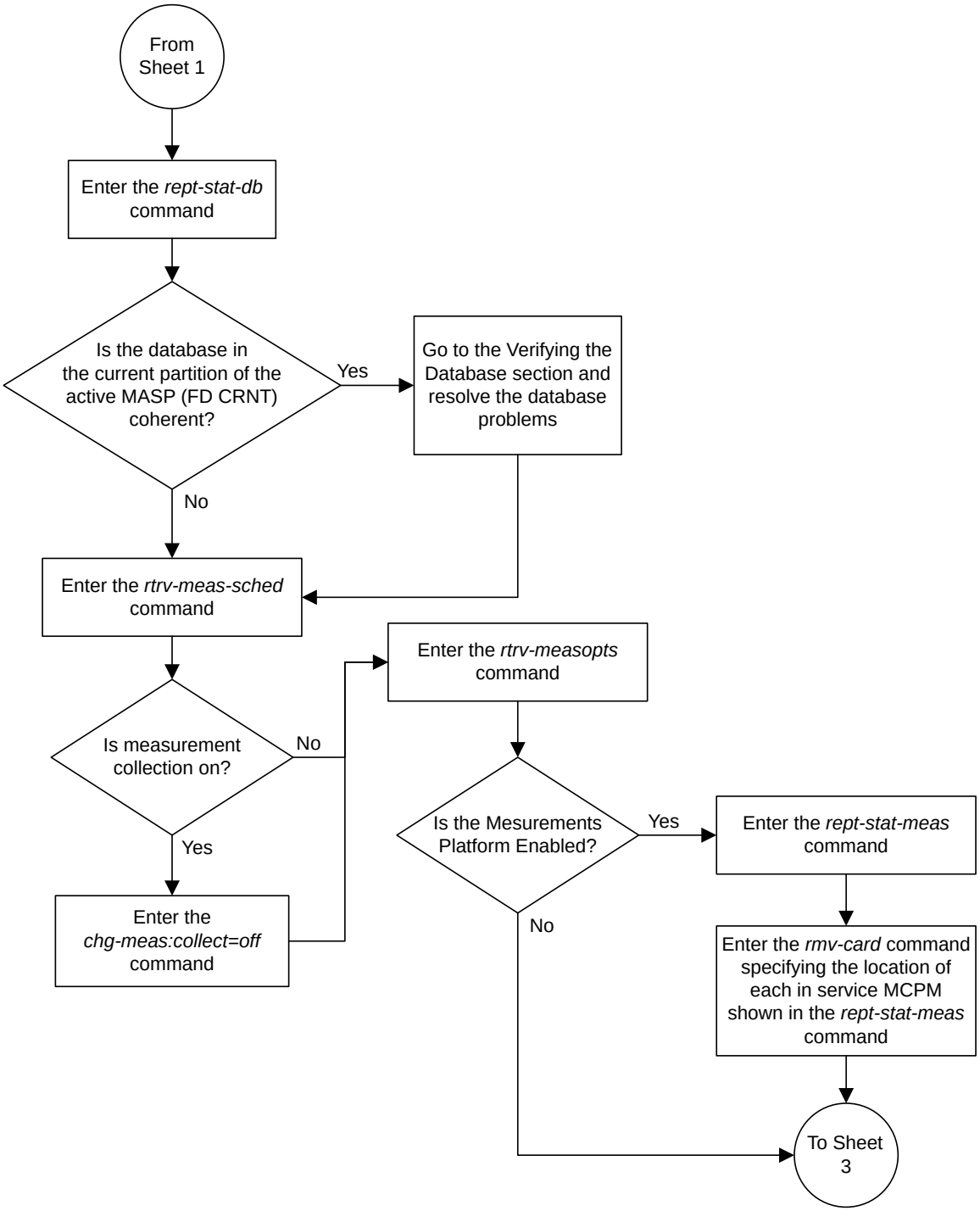
16. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

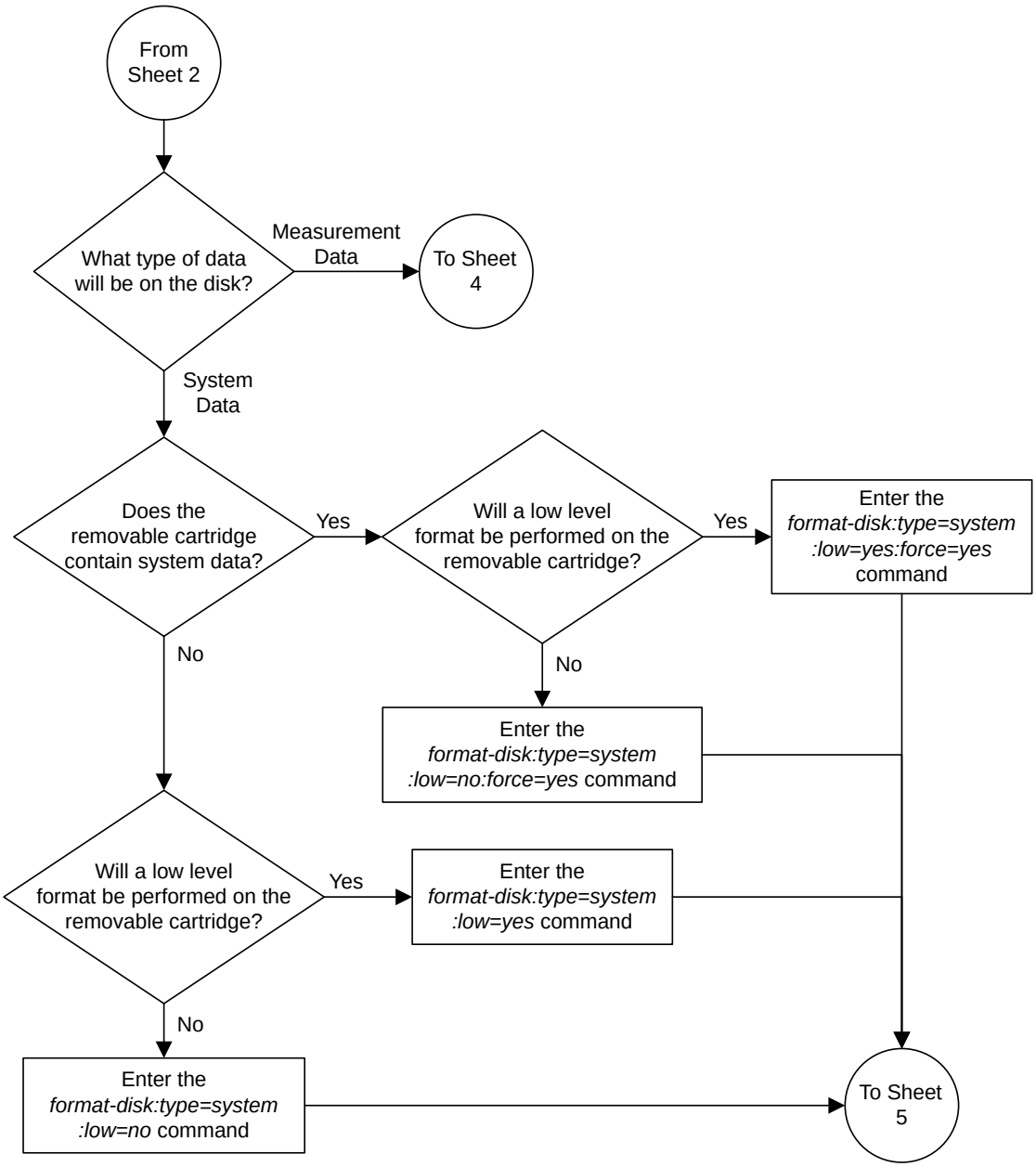
Flowchart 2-9. Formatting the Removable Cartridge (Sheet 1 of 5)



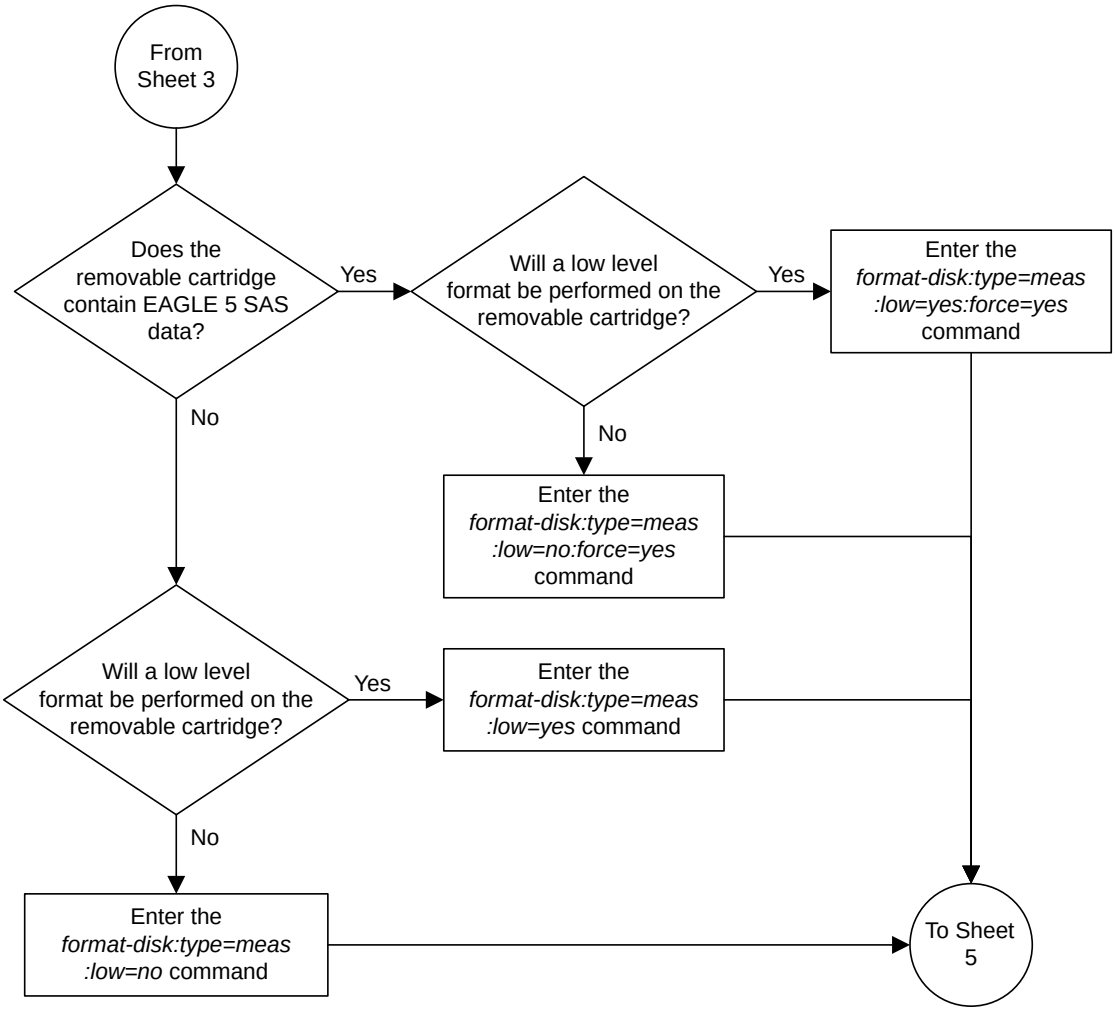
Flowchart 2-9. Formatting the Removable Cartridge (Sheet 2 of 5)



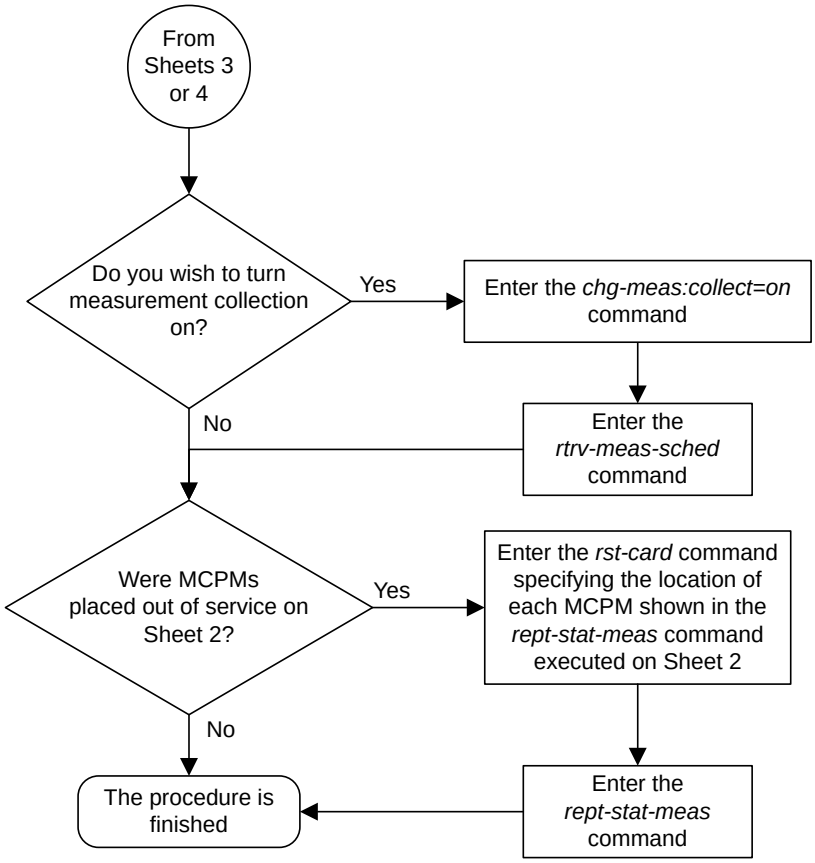
Flowchart 2-9. Formatting the Removable Cartridge (Sheet 3 of 5)



Flowchart 2-9. Formatting the Removable Cartridge (Sheet 4 of 5)



Flowchart 2-9. Formatting the Removable Cartridge (Sheet 5 of 5)



Formatting the Fixed Disk of the Standby TDM

Use this procedure to format the fixed disk of the standby TDM using the **format-disk** command.

The **format-disk** command uses these parameters.

:type – The type of disk being formatted.

- **system** – A removable cartridge containing system data (GPLs and the database). To format a removable cartridge, go to the "Formatting a Removable Cartridge" procedure on page 2-79.
- **meas** – A removable cartridge containing measurements data. To format a removable cartridge, go to the "Formatting a Removable Cartridge" procedure on page 2-79.
- **fixed** – The fixed disk of the standby TDM.

  NOTE: If a format-disk:type=fixed command failure causes the standby TDM to boot continuously, insert a removable disk that has the same release as the active TDM into the MDAL. The standby TDM can then boot off of the removable disk.

:low – Is a low level format being performed on the disk, **yes** or **no**? The default value for this parameter is **yes**.

:force – Format the disk if the disk contains system data, **yes** or **no**. The default value for this parameter is **no**.

NOTE: Reduce extended execution time when using the force=yes option by also using the low=no option.

:prtngrp – Indicates which disk partition group is being formatted, the active partition group (**prtngrp=active**) or the inactive partition group (**prtngrp=inactive**). The default value for the **prtngrp** parameter is **active**. The **prtngrp** parameter can be specified only with the **low=no** parameter. Contact the Customer Care Center before using the **prtngrp=inactive** parameter. Refer to "Customer Care Center" on page 1-8 for the contact information.

The database in the current (FD CRNT) partition of the active MASP must be coherent. For more information on verifying the database, read "Verifying the Database" on page 2-10.

Measurements must be inhibited before the **format-disk** command can be executed.

The standby fixed disk cannot be formatted if the security log on the standby fixed disk contains any entries that have not been copied to the FTA area of the fixed disk. This can be verified with the **rept-stat-seculog** command. If the security log on the standby fixed disk contains entries that have not been copied to the file transfer area of the fixed disk, copy these entries to the file transfer area using the **copy-seculog** command.

Procedure

1. Verify that the database in the current (FD CRNT) partition of the active MASP is coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:11:34 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  - -------- --------------------
```

   If the current database on the active MASP is not coherent, go to the "Verifying the Database" section on page 2-10 and resolve the database problem.

2. Verify that measurement collection is on or off using the **rtrv-meas-sched** command. This is an example of the possible output. The **COLLECT** field shows whether measurement collection is on or off. In this example, measurement collection is on.

```
rlghncxa03w 06-03-01 12:22:55 GMT EAGLE5 34.3.0
COLLECT        =  on
GTWYLSFLTR     =  both
---------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

NOTE: If measurement collection is off, skip this step and go to step 4.

3. Inhibit all measurements using the **chg-meas:collect=off** command.

CAUTION: Measurements must be inhibited or the format-disk command cannot be executed. The chg-meas:collect=on command should not be executed while the format-disk command is in progress. If possible, do not inhibit measurements at midnight since doing so can cause the loss of an entire day of measurements. When measurements are inhibited, measurement collection is stopped. For the period of time that measurements are inhibited, those measurements will be lost.

This message should appear.

```
rlghncxa03w 06-03-01 16:12:50 GMT  EAGLE5 34.3.0
CHG-MEAS: MASP A - COMPLTD
```

4. Verify whether or nor the Measurements Platform option is enabled (**PLATFORMENABLE = on**) using the **rtrv-measopts** command.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
----------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

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

NOTE: If step 4 shows that the Measurements Platform is not enabled, skip this step and step 6, and go to step 7.

5. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

6. Place all the MCPMs out of service using the **rmv-card** command, specifying the card location of the MCPM. If the MCPM to be placed out of service is the last MCPM that is in service, the **force=yes** parameter must also be specified. For this example, enter these commands.

   rmv-card:loc=2107

   rmv-card:loc=2108

   rmv-card:loc=2111:force=yes

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

7. Verify that the security log on the standby MASP contains no entries that must be copied to the FTA area of the fixed disk with the **rept-stat-seculog** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:59:06 GMT EAGLE5 34.3.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 04-06-01 04-05-30
                                      11:23:56 15:59:06 14:02:22

1116 Standby 693     7     No   No    03-12-05 04-06-01 04-05-30
                                      11:24:12 14:00:06 14:02:13
```

   If the number shown in the **ENTRIES** field for the standby MASP (shown with the entry **Standby** in the **ROLE** field) is 0, go to step 9.

   If the number shown in the **ENTRIES** field for the standby MASP is greater than 0, these entries must be copied to the FTA area of the fixed disk. To copy these entries, go to step 8.

   For this example, go to step 8.

8. Copy the security log entries on the standby MASP to the FTA area on the fixed disk with the **copy-seculog** command. For this example, enter the **copy-seculog:slog=stb** command. This is an example of the message that should appear.

```
rlghncxa03w 06-03-01 15:59:06 GMT EAGLE5 34.3.0
Security log on TDM 1116 copied to file 961004s.log on TDM 1114
```

9. Format the fixed disk of the standby TDM by entering the **format-disk** command. For this example, the fixed disk of the standby TDM contains system data and a low level format of the fixed disk of the standby TDM is not performed.

   format-disk:type=fixed:force=yes:low=no

NOTES:

1. The **force=yes** parameter must be specified with the **format-disk** command if the fixed disk of the standby TDM to be formatted contains system data. All data on the fixed disk of the standby TDM will be lost.

2. The **low=no** parameter specified in this command example does not allow a low level format of the fixed disk of the standby TDM to be performed. If you wish to perform a low level format of the fixed disk of the standby TDM, specify the **low=yes** parameter with the **format-disk** command. Because the default value for the **low** parameter is **yes**, the low parameter can be omitted when entering the **format-disk** command to perform a **low** level format of the fixed disk of the standby TDM.

3. If a **format-disk:type=fixed** command failure causes the standby TDM to boot continuously, insert a removable disk that has the same release as the active TDM into the MDAL. The standby TDM can then boot off of the removable disk.

4. The optional parameter **prtngrp** parameter can be specified with this command. The **prtngrp** parameter indicates which disk partition group is being formatted, the active partition group (**prtngrp=active**) or the inactive partition group (**prtngrp=inactive**). The default value for the **prtngrp** parameter is **active**. The **prtngrp** parameter can be specified only with the **low=no** parameter. Contact the Customer Care Center before using the **prtngrp=inactive** parameter. Refer to "Customer Care Center" on page 1-8 for the contact information.

Formatting the fixed disk of the standby TDM can take from 14 minutes to 1 hour and 25 minutes to execute. It may take longer depending on other system activity that is in progress when this command is entered. When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    format-disk:type=fixed:low=no:force=yes
    Command entered at terminal #3.
;
    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk of standby fixed disk started.
    Extended processing required, please wait.
;
    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (fixed) format in progress.
;

    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk (fixed) format is complete.
;
    rlghncxa03w 06-03-01 09:44:08 GMT  EAGLE5 34.3.0
    Format-disk of standby fixed disk completed.
```

If you wish to turn measurement collection on, go to step 10, otherwise, this procedure is finished.

NOTE: If measurement collection was not turned off in step 3, skip this step and step 11, and go to step 12.

10. If you wish to turn measurement collection on, enter this command.

chg-meas:collect=on

This message should appear.

```
rlghncxa03w 06-03-01 16:12:50 GMT  EAGLE5 34.3.0
CHG-MEAS: MASP A - COMPLTD
```

11. Verify that measurement collection is on using the **rtrv-meas-sched** command, shown by the **COLLECT = on** field in the output. This is an example of the possible output.

```
rlghncxa03w 06-03-01 12:22:55 GMT EAGLE5 34.3.0
COLLECT        =  on
GTWYLSFLTR     =  both
--------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

NOTE: If MCPMs were not placed out of service in step 6, skip this step and step 13. This procedure is finished.

12. Place the MCPMs back into service using the **rst-card** specifying the location of each MCPM. For this example, enter these commands.

rst-card:loc=2107

rst-card:loc=2108

rst-card:loc=2111

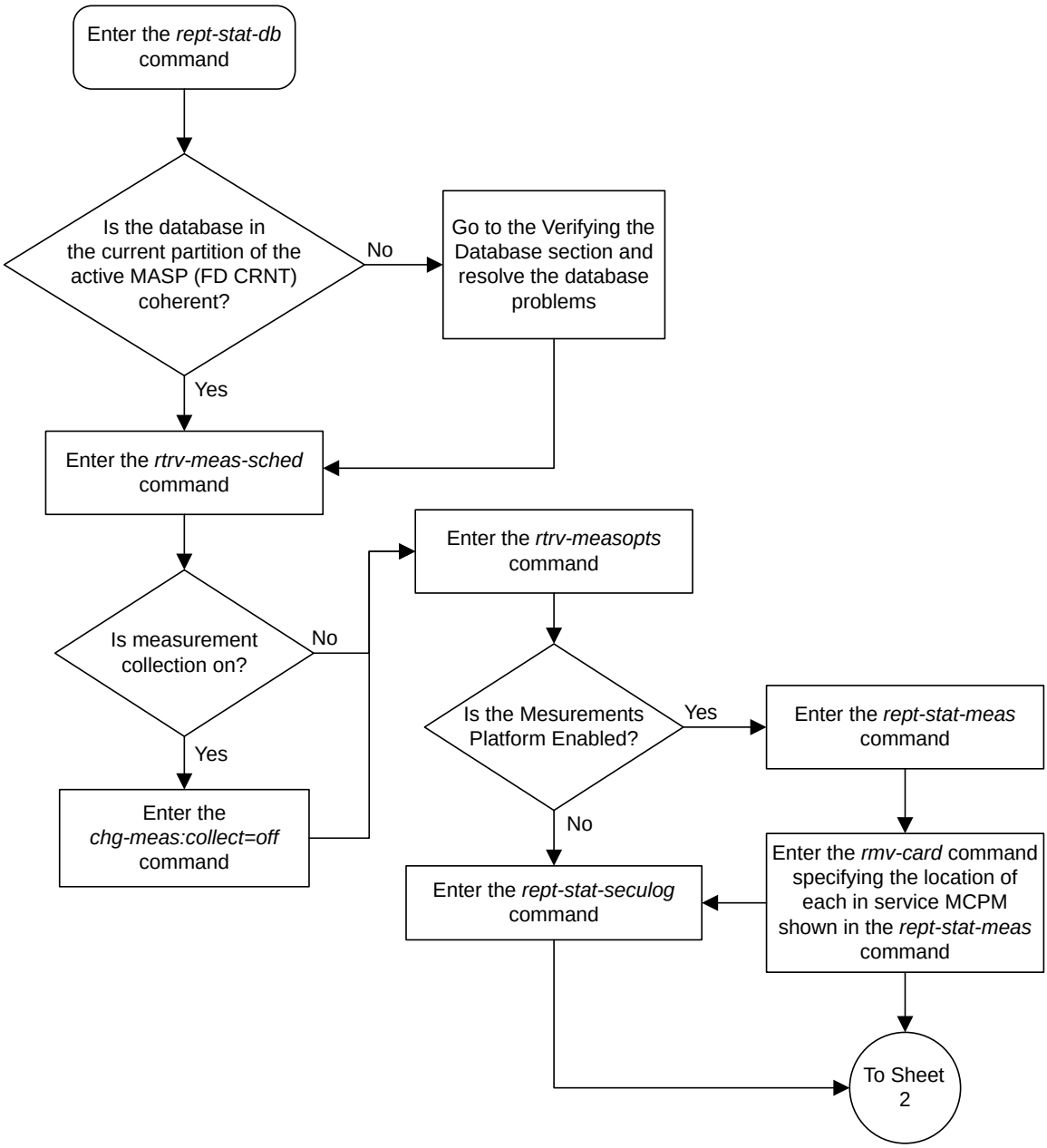
When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
Card has been allowed.
```

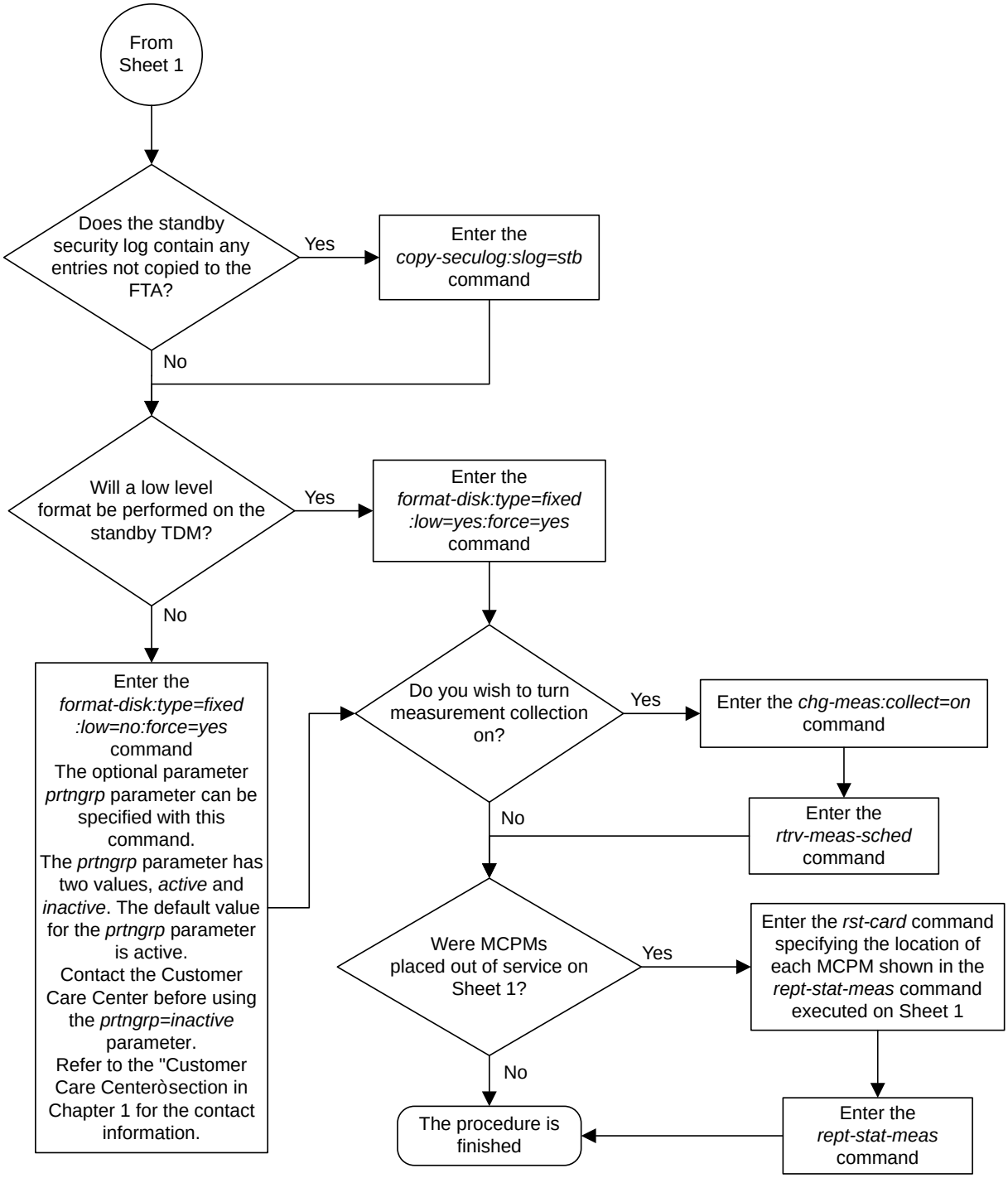
13. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
       ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

Flowchart 2-10. Formatting the Fixed Disk of the Standby TDM (Sheet 1 of 2)



Flowchart 2-10. Formatting the Fixed Disk of the Standby TDM (Sheet 2 of 2)



3

GPL Management Procedures

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Introduction

The GPLs are the application software that allow the various features in the EAGLE 5 SAS to work. The EAGLE 5 SAS currently uses these GPLs:

- ATMANSI – The application software used for high-speed ANSI ATM signaling links.
- ATMITU – The application software used for high-speed E1 ATM signaling links.
- BLBIOS – A flash GPL containing the BIOS ROM image on the HC MIMs.
- BLCPLD – A flash GPL containing the bit files for the CPLD on the HC MIMs.
- BLDIAG – A flash GPL containing the diagnostic code on the HC MIMs.
- BLVXW – A flash GPL containing the VxWorks operating system on the HC MIMs.
- BPHCAP – The communication software used in place of the IMT GPL on the LIMATM and E1 ATM.
- BPHCAPT – The communication software used in place of the IMT GPL on the newer versions of the LIMATM and E1 ATM.
- BPDCM – The communication software used in place of the IMT GPL on the Database Communications Module (DCM), Database Services Module (DSM), and General Purpose Services Module (GPSM-II).
- BPHMUX – The communication software used on the High Speed Multiplexer (HMUX) card.
- BPMPL – The communication software used in place of the IMT GPL on the Multi-Port LIM (MPL).
- BPMPLT – The communication software used in place of the IMT GPL on the Multi-Port LIM-T (MPLT) and the E1/T1 MIM.
- CCS7ITU – The application software used for CCS7ITU signaling links.
- EBDABLM – The application software used by the TSM or DSM to store the LNP database downloaded from the LSMS for the Enhanced Bulk Download feature. This GPL does not support 24-bit ITU-N point codes.
- EBDADCM – The application software used by the DCM to transmit the LSMS LNP database at high speed over an Ethernet connection for the Enhanced Bulk Download feature. This GPL does not support 24-bit ITU-N point codes.
- EOAM – The application software used by the GPSM-II card for enhanced OAM functions.

- EROUTE – The application software used on the STC (Sentinel Transport Card) for the Eagle with Integrated Sentinel feature. The Sentinel product does not support 24-bit ITU-N point codes.
- GLS – The application software used for the gateway screening feature.
- HIPR – The communication software used on the High-Speed IMT Packet Router (HIPR) card.
- IMT – The communication software that operates the IMT bus on all cards except the LIMATM, DCM, DSM, and HMUX.
- IMTPCI – The communication software that operates the IMT bus on HC MIMs.
- IPLIM – The application software used for TCP/IP point-to-point ANSI connectivity.
- IPGWI – The application software used for TCP/IP point-to-multipoint connectivity within an ITU-I or ITU-N network.
- IPLIMI – The application software used for TCP/IP point-to-point ITU connectivity.
- IPS – The application software used for the IP User Interface and FTP Retrieve and Replace features.
- MCP – The application software used on the MCPM (Measurement Collection & Polling Module) for the Measurements Platform feature.
- OAP – The application software running on the OAP used for the SEAS feature.
- PLDE1T1 – A flash GPL used on HC MIMs for E1 or T1 signaling links.
- PLDPMC1 – A flash GPL used on HC MIMs for E1 or T1 signaling links.
- SCCP – The application software used for the global title translation and LNP features. The LNP feature can be enabled only for a quantity of 2 to 12 million numbers.
- SS7ANSI – The application software used for SS7 signaling links.
- SS7GX25 – The application software used for X.25 signaling links. This GPL does not support 24-bit ITU-N point codes.
- SS7IPGW – The application software used for TCP/IP point-to-multipoint connectivity within an ANSI network.
- SS7ML – The application software used on the Multi-Port LIM (MPL or MPLT) for SS7 signaling links and on the E1/T1 MIM for E1 and T1 signaling links.
- STPLAN – The application software used by the ACM for the STP LAN feature. This GPL does not support 24-bit ITU-N point codes.

- UTILITY – The application software used by the factory for testing and has no use in the field.
- VSCCP – The application software used for the global title translation, LNP, GFLEX, INP, G-PORT, and EIR features.
- VXWSLAN – The application software used by the DCM for the STP LAN feature. This GPL does not support 24-bit ITU-N point codes.

Managing GPLs

Managing these GPLs consists of loading them onto the EAGLE 5 SAS from a removable cartridge, downloading these GPLs to the appropriate cards in the EAGLE 5 SAS, then allowing the cards to run these GPLs. The GPLs can be in one of two states, trial and approved.

A trial GPL is a GPL that has not been approved for use and does not match the version number in the system release ID table. The trial GPL is the GPL that the EAGLE 5 SAS is not running.

The approved GPL is the GPL that the EAGLE 5 SAS should be running and has been approved for use. The approved GPL version number should match the version number of the GPL contained in the system release ID table.

The system release ID table contains the version numbers of the approved GPLs that the EAGLE 5 SAS should be running. The system release ID table is contained on the TDMs (Terminal Disk Modules) and on the removable cartridge containing the GPLs that are being loaded onto the EAGLE 5 SAS. The GPLs are loaded onto the EAGLE 5 SAS from a removable cartridge. To get the GPLs from the removable cartridge onto the EAGLE 5 SAS in the approved state, two commands are used, **chg-gpl** and **act-gpl**.

CHG-GPL Command

The **chg-gpl** command copies a GPL from the removable cartridge disk to the TDMs. The new GPL becomes the trial version on each of the TDMs. This command also copies the system release ID table from the removable cartridge to the TDMs. The **chg-gpl** command uses these parameters:

gpl – the GPL being loaded onto the EAGLE 5 SAS

ver – the version number of the GPL

audit – Specifies whether the active MASP system release version is to be audited every 90 seconds.

If you are loading a GPL onto the EAGLE 5 SAS, the **gpl** and **ver** parameters must be specified with the **chg-gpl** command and a removable cartridge containing the GPL being loaded must be in the removable cartridge drive on the MDAL. The only exception to this is if you are loading either the OAP GPL. The **ver** parameter is not required when loading the OAP GPL.

The **audit** parameter is required only when turning the GPL auditing on or off.

ACT-GPL Command

The **act-gpl** command changes the state of the trial GPL from "trial" to "approved." This is also referred to as activating the GPL. The state of the previously approved GPL is changed from "approved" to "trial."

The version of the GPL shown in the **RELEASE** column of the **rtrv-gpl** output (the GPL version in the system release ID table) is updated to the new approved version when this command is performed.

The **act-gpl** command uses these parameters:

gpl – the GPL being loaded onto the EAGLE 5 SAS

ver – the version number of the GPL

All the GPLs can be activated with the **act-gpl** command except for these:

- OAP
- UTILITY

Displaying GPL Information

Two commands can be used to display the GPL information in the database, **rept-stat-gpl** and **rtrv-gpl**. The **rept-stat-gpl** command shows the versions of the GPLs that are running on the cards in the EAGLE 5 SAS. The **rtrv-gpl** command shows the versions of the GPLs contained on the fixed disks.

REPT-STAT-GPL Command

The **rept-stat-gpl** command output contains these five columns and displays this information:

- **GPL** – The GPLs contained on the TDMs (Terminal Disk Modules). The TDMs contain the fixed disks.
- **CARD** – The cards that are running the GPLs
- **RUNNING** – The version number of the GPLs the cards are running
- **APPROVED** – The version numbers of the approved GPLs
- **TRIAL** – The version numbers of the trial GPLs

The following is an example of the **rept-stat-gpl** command output.

```
GPL       CARD      RUNNING           APPROVED      TRIAL
SS7ANSI   1201      123-002-000       123-002-000   123-001-000
```

The example **rept-stat-gpl** output shows that the card in slot 1201 is running the SS7ANSI GPL, version number 123-002-000, which is also the approved version of the SS7ANSI GPL. The trial version number of the SS7ANSI GPL is 123-001-000.

You can display all the GPLs used by all the cards in the EAGLE 5 SAS except the communication GPLs, a specific GPL, or all application and communication GPLs used by all the cards in the EAGLE 5 SAS. The communication GPLs are the IMT, BPHCAP, BPHCAPT, BPDCM, BPMPL, BPMPLT, BPHMUX, IMTPCI, and HIPR GPLs. The application GPLs are the other GPLs in the EAGLE 5 SAS.

If you specify the **rept-stat-gpl** command with no parameters, all the GPLs on all the cards in the EAGLE 5 SAS are displayed except for the communication GPLs, as shown in this example.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
EOAM      1113      123-002-000       123-002-000   -----------
EOAM      1115      123-002-000       123-002-000   -----------
SCCP      1212      123-001-000       123-001-000   123-001-000
VSCCP     1103      123-001-000       123-001-000   123-001-000
SS7ANSI   1201      123-002-000       123-002-000   123-001-000
SS7ANSI   1202      123-002-000       123-002-000   123-001-000
SS7ANSI   1203      123-002-000       123-002-000   123-001-000
SS7ML     1204      123-002-000       123-002-000   123-001-000
SS7ANSI   1205      123-002-000       123-002-000   123-001-000
CCS7ITU   1301      123-001-000       123-001-000   123-001-000
CCS7ITU   1302      123-001-000       123-001-000   123-001-000
IPLIM     1303      123-001-000       123-001-000   123-001-000
ATMANSI   1305      123-001-000       123-001-000   123-001-000
SS7IPGW   1307      123-001-000       123-001-000   123-001-000
ATMANSI   1311      123-001-000       123-001-000   123-001-000
SS7IPGW   2101      123-002-000       123-002-000   123-003-000
VXWSLAN   2113      123-002-000       123-002-000   123-003-000
VXWSLAN   2205      123-002-000       123-002-000   123-003-000
VXWSLAN   2207      123-002-000       123-002-000   123-003-000
VXWSLAN   2213      123-002-000       123-002-000   123-003-000
IPLIM     2301      123-002-000       123-002-000   123-003-000
IPLIM     2303      123-002-000       123-002-000   123-003-000
IPLIM     2305      123-002-000       123-002-000   123-003-000
IPLIM     2307      123-002-000       123-002-000   123-003-000
EROUTE    2311      123-002-000       123-002-000   123-003-000
EROUTE    2313      123-002-000       123-002-000   123-003-000
EROUTE    2315      123-002-000       123-002-000   123-003-000
MCP       2317      123-002-000       123-002-000   123-003-000
MCP       3101      123-002-000       123-002-000   123-003-000
MCP       3103      123-002-000       123-002-000   123-003-000
OAP          A      028-001-000       028-001-000   -----------
OAP          B      028-001-000       028-001-000   -----------
Command Completed.
```

If a specific GPL, including the communication GPLs, is specified, then all the cards running that GPL are displayed. For example, if the **rept-stat-gpl:gpl=ss7ansi** command is entered, then all cards running the SS7ANSI GPL are displayed as shown in the following example.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
SS7ANSI   1201      123-002-000        123-002-000   123-001-000
SS7ANSI   1202      123-002-000        123-002-000   123-001-000
SS7ANSI   1203      123-002-000        123-002-000   123-001-000
SS7ANSI   1205      123-002-000        123-002-000   123-001-000
Command Completed
```

If a communication GPL (IMT, BPHCAP, BPHCAPT, BPDCM, BPMPL, or BPMPLT) is specified with the **rept-stat-gpl** command, for example, **rept-stat-gpl:gpl=bpdcm**, then all cards running the communication GPL are displayed. In the following example, all the cards running the BPDCM GPL are displayed as the output for the **rept-stat-gpl:gpl=bpdcm** command.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
BPDCM     1303      002-002-000        002-002-000   002-003-000
BPDCM     1307      002-002-000        002-002-000   002-003-000
BPDCM     2101      002-002-000        002-002-000   002-003-000
BPDCM     2103      002-002-000        002-002-000   002-003-000
BPDCM     2105      002-002-000        002-002-000   002-003-000
BPDCM     2113      002-002-000        002-002-000   002-003-000
BPDCM     2205      002-002-000        002-002-000   002-003-000
BPDCM     2207      002-002-000        002-002-000   002-003-000
BPDCM     2213      002-002-000        002-002-000   002-003-000
BPDCM     2301      002-002-000        002-002-000   002-003-000
BPDCM     2303      002-002-000        002-002-000   002-003-000
BPDCM     2305      002-002-000        002-002-000   002-003-000
BPDCM     2307      002-002-000        002-002-000   002-003-000
BPDCM     2311      002-002-000        002-002-000   002-003-000
BPDCM     2313      002-002-000        002-002-000   002-003-000
BPDCM     2315      002-002-000        002-002-000   002-003-000
BPDCM     2317      002-002-000        002-002-000   002-003-000
BPDCM     3101      002-002-000        002-002-000   002-003-000
BPDCM     3103      002-002-000        002-002-000   002-003-000
Command Completed
```

If the **display=all** parameter is specified with the **rept-stat-gpl** command, then all GPLs, application and communication GPLs used by all the cards in the EAGLE 5 SAS are displayed as shown in this example.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
EOAM      1113      123-002-000        123-002-000   123-002-000
      IMT           123-001-000        123-001-000   123-001-003
EOAM      1115      123-002-000        123-002-000   123-002-000
      IMT           123-001-000        123-001-000   123-001-003
SCCP      1212      123-001-000        123-001-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
VSCCP     1103      123-001-000        123-001-000   123-001-000
      BPDCM         002-001-000        002-001-000   002-001-003
SS7ANSI   1201      123-002-000        123-002-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
SS7ANSI   1202      123-002-000        123-002-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
SS7ANSI   1203      123-002-000        123-002-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
SS7ML     1204      123-002-000        123-002-000   123-001-000
      BPMPL         002-001-000        002-001-000   002-001-003

SS7ANSI   1205      123-002-000        123-002-000   123-001-000
      IMT           123-001-003  ALM   123-001-000   123-001-003
CCS7ITU   1301      123-001-000        123-001-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
CCS7ITU   1302      123-001-000        123-001-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
IPLIM     1303      123-001-000        123-001-000   123-001-000
      BPDCM         002-001-000        002-001-000   002-001-003
ATMANSI   1305      123-001-000        123-001-000   123-001-000
```

```
      BPHCAP        002-001-000        002-001-000   002-001-003
SS7IPGW   1307      123-001-000        123-001-000   123-001-000
      BPDCM         002-001-000        002-001-000   002-001-003
ATMANSI   1311      123-001-000        123-001-000   123-001-000
      BPHCAP        002-001-003  ALM   002-001-000   002-001-003
SS7IPGW   2101      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-003  ALM+  002-001-000   002-001-003
VXWSLAN   2113      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
VXWSLAN   2205      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
VXWSLAN   2207      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
VXWSLAN   2213      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2301      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2303      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2305      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2307      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
EROUTE    2311      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
EROUTE    2313      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
EROUTE    2315      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
MCP       2317      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
MCP       3101      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
MCP       3103      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
BPHMUX    1109      118-001-000        118-001-000   118-001-003
BPHMUX    1110      118-001-000        118-001-000   118-001-003
BPHMUX    1209      118-001-000        118-001-000   118-001-003
BPHMUX    1210      118-001-000        118-001-000   118-001-003
BPHMUX    1309      118-001-000        118-001-000   118-001-003
BPHMUX    1310      118-001-000        118-001-000   118-001-003
BPHMUX    2109      118-001-000        118-001-000   118-001-003
BPHMUX    2110      118-001-000        118-001-000   118-001-003
BPHMUX    2209      118-001-000        118-001-000   118-001-003
BPHMUX    2210      118-001-000        118-001-000   118-001-003
BPHMUX    2309      118-001-000        118-001-000   118-001-003
BPHMUX    2310      118-001-000        118-001-000   118-001-003
BPHMUX    3109      118-001-000        118-001-000   118-001-003
BPHMUX    3110      118-001-000        118-001-000   118-001-003
OAP          A      028-001-000        028-001-000   -----------
OAP          B      028-001-001  ALM   028-001-000   -----------
Command Completed.
```

If the **loc** parameter is specified with the **rept-stat-gpl** command, all the GPLs running on the specified card are displayed. For HC MIMs, this includes all non-activated flash GPLs, as shown in the following example.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1203      125-001-000        125-001-000   125-001-000
```

```
        IMTPCI                          125-001-000   125-001-000
        BLBIOS                          125-001-000   125-001-000
        BLCPLD                          125-001-000   125-001-000
        BLVXW                           125-001-000   125-001-000
        BLDIAG                          125-001-000   125-001-000
        PLDE1T1                         125-001-000   125-001-000
        PLDPMC1                         125-001-000   125-001-000

                                        ACTIVE        INACTIVE
        IMTPCI        125-001-000       125-002-000 * ----------     (Note 1)
        BLBIOS        125-001-000       125-001-000   125-003-000  *  (Note 2)
        BLCPLD        125-001-000       125-001-000 * ----------
        BLVXW         125-002-000ALM    125-002-000 * ----------     (Note 3)
        BLDIAG        125-003-000ALM+   125-002-000 * 125-003-000     (Note 4)
        PLDE1T1       125-001-000   +   125-002-000 * 125-001-000     (Note 5)
        PLDPMC1       125-001-000       125-001-000   ----------
Command Completed.
```

Notes:

1. The IMTPCI GPL has been downloaded with the **init-flash** command. The card has reset and the IMTPCI GPL was activated normally with the **act-flash** command.

2. The BLBIOS GPL has been downloaded with the **init-flash** command, but the card has not been initialized. When the card is initialized again, the inactive version of the BLBIOS GPL will be loaded onto the card.

3. The BLVXW GPL has been downloaded with the **init-flash** command. The card has been reset. The BLVXW GPL was activated with the **act-flash** command, but the activated version of the BLVXW GPL is not the approved version of the BLVXW GPL on the TDM.

4. The BLDIAG GPL has been downloaded with the **init-flash** command. The card has been reset so the inactive version is running. This version of the BLDIAG GPL is not the approved version of the GPL, shown with the **ALM** indicator. This version of the BLDIAG GPL has not been activated, shown with the '+' indicator. The '*' next to the active version indicates that if the card is reset again, the card will be running the active version of the BLDIAG GPL.

5. The PLDE1T1 GPL has been downloaded with the **init-flash** command. The card has been reset, but the PLDE1T1 GPL has not been activated yet. This is the same condition as note 4, except that there is no alarm condition.

The following is an example of using the **loc** parameter with the **rept-stat-gpl** command with a non-HC MIM.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    ATMANSI    1217      125-001-000        125-001-000   125-001-000
           BPHCAP        125-001-000        125-001-000   125-001-000
    Command Completed.
```

The **display=all**, **gpl**, and **loc** parameters cannot be specified in the same command.

If GPL auditing is on, a minor alarm is generated, and **ALM** is displayed for each GPL in the **RUNNING** column whose version does not match the version of the GPL shown in the system release ID table. The GPL versions in the system release ID table are shown in the **RELEASE** column of the **rtrv-gpl** command output.

If GPL auditing is **off**, the minor alarm is not generated, but **ALM** is displayed for each GPL whose version does not match the version of the GPL shown in the system release ID table. The detection, marking, and reporting of corrupt GPLs continues to be performed and is not affected by turning GPL auditing off.

If a GPL is not found, a version of "----------" is displayed.

If a card is inhibited, "----------" is displayed in the **RUNNING** column.

A plus (+) symbol appears in the output when any of the communication or flash GPLs are specified for the **rept-stat-gpl** command. The plus symbol indicates that the specified GPL currently running on the card has not yet been activated on the card.

RTRV-GPL Command

The **rtrv-gpl** command output contains these six columns and displays this information:

- **GPL** – The GPLs contained on the TDMs.
- **CARD** – The card location of the TDMs, either card locations 1114 or 1116
- **RELEASE** – The version number of the GPL contained in the system release ID table.
- **APPROVED** – The version numbers of the approved GPLs
- **TRIAL** – The version numbers of the trial GPLs
- **REMOVE TRIAL** – The version number of the GPLs contained on the removable cartridge. Entries in the **REMOVE TRIAL** column are shown only if the removable cartridge is inserted into the removable cartridge drive and only for the TDM that is associated with the active MASP. If the removable cartridge is not in the removable cartridge drive, dashes are shown in the **REMOVE TRIAL** column. Dashes are also shown in the **REMOVE TRIAL** column for the TDM that is associated with the standby MASP.

The following is an example of the **rtrv-gpl** command output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-001-000  -----------
```

The example **rtrv-gpl** output shows that the version number of the SS7ANSI GPL in the system release ID table on both TDMs is 123-002-000, which is also the approved version of the SS7ANSI GPL. The trial version of the SS7ANSI GPL is 123-001-000. A removable cartridge is in the removable cartridge drive on the MDAL containing another version of the SS7ANSI GPL, version number 123-003-000. The GPL auditing function is on. The TDM in card slot 1114 is associated with the active MASP.

You can display all the GPLs in the EAGLE 5 SAS or a specific GPL in the EAGLE 5 SAS.

If you specify the **rtrv-gpl** command with no parameters, all the GPLs in the EAGLE 5 SAS are displayed as shown in this example.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-003-000  123-003-000      123-004-000  123-004-000
EOAM      1116  123-003-000  123-003-000      -----------  -----------
SS7ANSI   1114  123-002-000  123-002-000      123-002-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-002-000  -----------
SCCP      1114  123-002-000  123-002-000      123-002-000  123-003-000
SCCP      1116  123-002-000  123-002-000      123-002-000  -----------
GLS       1114  123-002-000  123-002-000      123-002-000  123-003-000
GLS       1116  123-002-000  123-002-000      123-002-000  -----------
CDU       1114  153-000-000  153-000-000      153-001-000  153-001-000
CDU       1116  153-000-000  153-000-000      -----------  -----------
CCS7ITU   1114  123-002-000  123-002-000      123-002-000  123-003-000
CCS7ITU   1116  123-002-000  123-002-000      123-002-000  -----------
SS7GX25   1114  123-001-000  123-001-000      123-001-000  123-002-000
SS7GX25   1116  123-001-000  123-001-000      123-001-000  -----------
STPLAN    1114  123-001-000  123-001-000      123-001-000  123-002-000
STPLAN    1116  123-001-000  123-001-000      123-001-000  -----------
IMT       1114  123-001-000  123-001-000      123-001-000  123-002-000
IMT       1116  123-001-000  123-001-000      123-001-000  -----------
ATMANSI   1114  123-002-000  123-002-000      123-001-000  123-002-000
ATMANSI   1116  123-002-000  123-002-000      123-001-000  -----------
BPHCAP    1114  002-001-000  002-001-000      002-000-000  002-001-000
BPHCAP    1116  002-001-000  002-001-000      002-000-000  -----------
BPDCM     1114  002-001-000  002-001-000      002-000-000  002-001-000
BPDCM     1116  002-001-000  002-001-000      002-000-000  -----------
EBDABLM   1114  123-001-000  123-001-000      123-000-000  123-001-000
EBDABLM   1116  123-001-000  123-001-000      123-000-000  -----------
EBDADCM   1114  123-001-000  123-001-000      123-000-000  123-001-000
EBDADCM   1116  123-001-000  123-001-000      123-000-000  -----------
VXWSLAN   1114  123-001-000  123-001-000      123-000-000  123-001-000
VXWSLAN   1116  123-001-000  123-001-000      123-000-000  -----------
IPLIM     1114  123-002-000  123-002-000      123-002-000  123-003-000
IPLIM     1116  123-002-000  123-002-000      123-002-000  -----------
IPLIMI    1114  123-002-000  123-002-000      123-002-000  123-003-000
IPLIMI    1116  123-002-000  123-002-000      123-002-000  -----------
SS7IPGW   1114  123-002-000  123-002-000      123-002-000  123-003-000
SS7IPGW   1116  123-002-000  123-002-000      123-002-000  -----------
VSCCP     1114  123-002-000  123-002-000      123-002-000  123-003-000
VSCCP     1116  123-002-000  123-002-000      123-002-000  -----------
ATMITU    1114  123-002-000  123-002-000      123-002-000  123-003-000
ATMITU    1116  123-002-000  123-002-000      123-002-000  -----------
VCDU      1114  153-000-000  153-000-000      153-001-000  153-001-000
VCDU      1116  153-000-000  153-000-000      -----------  -----------
```

```
BPMPL     1114  002-001-000  002-001-000      002-000-000  002-001-000
BPMPL     1116  002-001-000  002-001-000      002-000-000  -----------
SS7ML     1114  123-002-000  123-002-000      123-002-000  123-003-000
SS7ML     1116  123-002-000  123-002-000      123-002-000  -----------
BPHMUX    1114  118-001-000  118-001-000      118-000-000  118-001-000
BPHMUX    1116  118-001-000  118-001-000      118-000-000  -----------
IPGWI     1114  123-002-000  123-002-000      123-002-000  123-003-000
IPGWI     1116  123-002-000  123-002-000      123-002-000  -----------
IPS       1114  123-002-000  123-002-000      123-002-000  123-003-000
IPS       1116  123-002-000  123-002-000      123-002-000  -----------
EROUTE    1114  123-001-000  123-001-000      123-000-000  123-001-000
EROUTE    1116  123-001-000  123-001-000      123-000-000  -----------
BPMPLT    1114  002-001-000  002-001-000      002-000-000  002-001-000
BPMPLT    1116  002-001-000  002-001-000      002-000-000  -----------
MCP       1114  123-001-000  123-001-000      123-000-000  123-001-000
MCP       1116  123-001-000  123-001-000      123-000-000  -----------
BPHCAP    1114  002-001-000  002-001-000      002-000-000  002-001-000
BPHCAP    1116  002-001-000  002-001-000      002-000-000  -----------
HIPR      1114  125-001-000  125-001-000      125-000-000  125-001-000
HIPR      1116  125-001-000  125-001-000      125-000-000  -----------
SS7HC     1114  125-002-000  125-002-000      125-002-000  125-003-000
SS7HC     1116  125-002-000  125-002-000      125-002-000  -----------
BLCPLD    1114  125-001-000  125-001-000      125-000-000  125-001-000
BLCPLD    1116  125-001-000  125-001-000      125-000-000  -----------
BLDIAG    1114  125-001-000  125-001-000      125-000-000  125-001-000
BLDIAG    1116  125-001-000  125-001-000      125-000-000  -----------
PLDE1T1   1114  125-001-000  125-001-000      125-000-000  125-001-000
PLDE1T1   1116  125-001-000  125-001-000      125-000-000  -----------
PLDPMC1   1114  125-001-000  125-001-000      125-000-000  125-001-000
PLDPMC1   1116  125-001-000  125-001-000      125-000-000  -----------
BLBIOS    1114  125-001-000  125-001-000      125-000-000  125-001-000
BLBIOS    1116  125-001-000  125-001-000      125-000-000  -----------
BLVXW     1114  125-001-000  125-001-000      125-000-000  125-001-000
BLVXW     1116  125-001-000  125-001-000      125-000-000  -----------
IMTPCI    1114  125-001-000  125-001-000      125-000-000  125-001-000
IMTPCI    1116  125-001-000  125-001-000      125-000-000  -----------
OAP       1114  028-001-000  028-001-000      -----------  028-001-000
OAP       1116  028-001-000  028-001-000      -----------  -----------
```

If a specific GPL is specified, then only that GPL is displayed. For example, if the **rtrv-gpl:gpl=ss7ansi** command is entered, then only the SS7ANSI GPL is displayed as shown in the following example.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-001-000  -----------
```

If GPL auditing is on, a minor alarm is generated, and **ALM** is displayed for each approved GPL version that does not match the GPL version shown in the **RELEASE** column. If GPL auditing is **off**, the minor alarm is not generated, but **ALM** is displayed for each GPL version that does not match the GPL version shown in the **RELEASE** column. The detection, marking, and reporting of corrupt GPLs continues to be performed and is not affected by turning GPL auditing off. The GPL version shown in the **RELEASE** column is updated when the **act-gpl** command is performed.

If a GPL is not found, a version of "-----------" is displayed.

Loading a GPL onto the System

This section gives a general overview as to how a GPL is loaded onto the EAGLE 5 SAS to be used by the applicable cards. The requirements and steps for each GPL are different and are detailed in the procedures contained in this chapter.

1. A removable cartridge containing the GPL being loaded onto the EAGLE 5 SAS is inserted into the removable cartridge drive on the MDAL card. If a specific GPL is displayed with the **rtrv-gpl** command, for example the SS7ANSI GPL, the following would be displayed.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-001-000  -----------
```

   Displaying the SS7ANSI GPL with the **rept-stat-gpl** command would display all the cards running the SS7ANSI GPL, as shown in this example.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
SS7ANSI   1201      123-002-000        123-002-000   123-001-000
SS7ANSI   1202      123-002-000        123-002-000   123-001-000
SS7ANSI   1203      123-002-000        123-002-000   123-001-000
SS7ANSI   1205      123-002-000        123-002-000   123-001-000
Command Completed
```

2. When the **chg-gpl** command is executed, the specific GPL is copied from the removable cartridge to the fixed disks. The specific GPL and the version number of the GPL on the removable cartridge must be specified with the **chg-gpl** command. The version number is found in the **REMOVE TRIAL** column of the **rtrv-gpl** output. For this example the **chg-gpl :gpl=ss7ansi:ver=123-003-000** command would be entered at the EAGLE 5 SAS terminal. The system release ID table contained on the removable cartridge is also copied to the fixed disks.

3. The new version of the GPL is now the trial version of the GPL as shown in the examples of the **rtrv-gpl** and **rept-stat-gpl** outputs.

   rtrv-gpl:gpl=ss7ansi

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-003-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-003-000  -----------
```

   rept-stat-gpl:gpl=ss7ansi

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-002-000       123-002-000   123-003-000
SS7ANSI  1202   123-002-000       123-002-000   123-003-000
SS7ANSI  1203   123-002-000       123-002-000   123-003-000
SS7ANSI  1205   123-002-000       123-002-000   123-003-000
Command Completed
```

4. To make the trial version of the GPL the approved version, the **act-gpl** command is executed after the GPL has been copied from the removable cartridge with the **chg-gpl** command (steps 1 to 3 in the Trial GPL section). The trial and approved versions of the specific GPL are swapped as shown in these **rtrv-gpl** and **rept-stat-gpl** output examples.

   rtrv-gpl:gpl=ss7ansi

   ```
   rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   SS7ANSI   1114  123-003-000  123-003-000      123-002-000  123-003-000
   SS7ANSI   1116  123-003-000  123-003-000      123-002-000  -----------
   ```

   The system release ID table is updated with the version of the GPL specified with the **act-gpl** command. This GPL version is shown in the **RELEASE** column of the **rtrv-gpl** output after the **act-gpl** command is performed.

   The **ALM** indicator is not displayed in the **rtrv-gpl** output because the approved version of the GPL matches the version in the system release ID table.

   rept-stat-gpl:gpl=ss7ansi

   ```
   rlghncxa03w 06-03-01 11:50:11 GMT  EAGLE5 34.3.0
   GPL      CARD   RUNNING           APPROVED      TRIAL
   SS7ANSI  1201   123-002-000 ALM   123-003-000   123-002-000
   SS7ANSI  1202   123-002-000 ALM   123-003-000   123-002-000
   SS7ANSI  1203   123-002-000 ALM   123-003-000   123-002-000
   SS7ANSI  1205   123-002-000 ALM   123-003-000   123-002-000
   Command Completed
   ```

   The **ALM** indicator is displayed for the cards that are running the version of the GPL that does not match the version in the system release ID table (shown in the **RELEASE** column of the **rtrv-gpl** output). In this example, the cards are running the trial version which does not match the version in the system release ID table.

5. To load the card with the new version of the GPL, the card must be inhibited with the **rmv-card** command, then placed back into service with the **rst-card** command. To load the approved version of the GPL onto the card, the **code=appr** parameter can be specified with the **rst-card** command. It is not necessary to specify the **code=appr** parameter to load the approved version of the GPL. Entering the **rst-card** command without the code parameter loads the approved version of the GPL onto the card.

   If you wish to load the trial version of the GPL onto the card, the **code=trial** parameter must be specified with the **rst-card** command.

   The following examples show the outputs of the **rtrv-gpl** and **rept-stat-gpl** commands after the card has been reloaded. The outputs will vary depending on whether or not the new version of the GPL has been made the approved version with the **act-gpl** command, and which version (trial or approved) of the GPL is loaded onto the card.

Example 1

The new GPL is the **APPROVED** version and the card 1201 was reloaded with the **APPROVED** version of the GPL. Card 1201 is now running the **APPROVED** and **RELEASE** versions of the GPL. The **ALM** indicator is not shown in the **rtrv-gpl** output and is not shown for card 1201 in **rept-stat-gpl** output. The **ALM** indicator is shown for cards 1202, 1203, and 1205 because they are not running the **RELEASE** version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-003-000  123-003-000      123-002-000  123-003-000
SS7ANSI   1116  123-003-000  123-003-000      123-002-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-03-01 11:50:11 GMT  EAGLE5 34.3.0
GPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-003-000       123-003-000   123-002-000
SS7ANSI  1202   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1203   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1205   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

Example 2

The new GPL is the **APPROVED** version and the card 1201 was reloaded with the **TRIAL** version of the GPL. Card 1201 is now running the **TRIAL** version of the GPL which is not the **RELEASE** version of the GPL. The **ALM** indicator is not shown in the **rtrv-gpl** output, but is not shown for all the cards in **rept-stat-gpl** output because they are not running the **RELEASE** version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-003-000  123-003-000      123-002-000  123-003-000
SS7ANSI   1116  123-003-000  123-003-000      123-002-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-03-01 11:50:11 GMT  EAGLE5 34.3.0
GPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1202   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1203   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1205   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

Example 3

The new GPL is the **TRIAL** version and the card 1201 was reloaded with the **TRIAL** version of the GPL. Card 1201 is now running the **TRIAL** version of the GPL, but not the **RELEASE** version of the GPL. The **ALM** indicator is not shown in the **rtrv-gpl** output because the **RELEASE** version of the GPL has not changed. The ALM indicator is shown for card 1201 in the **rept-stat-gpl** output because card 1201 is not running the **RELEASE** version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-003-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-003-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-03-01 11:50:11 GMT  EAGLE5 34.3.0
GPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-003-000 ALM   123-002-000   123-003-000
SS7ANSI  1202   123-002-000       123-002-000   123-003-000
SS7ANSI  1203   123-002-000       123-002-000   123-003-000
SS7ANSI  1205   123-002-000       123-002-000   123-003-000
Command Completed
```

Example 4

The new GPL is the **TRIAL** version and the card 1201 was reloaded with the **APPROVED** version of the GPL. Card 1201 is now running the **APPROVED** version of the GPL which is the **RELEASE** version of the GPL. The **ALM** indicator is not shown in the **rtrv-gpl** output, and for all the cards in **rept-stat-gpl** output because they are running the **RELEASE** version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-003-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-003-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-03-01 11:50:11 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-002-000       123-002-000   123-003-000
SS7ANSI  1202   123-002-000       123-002-000   123-003-000
SS7ANSI  1203   123-002-000       123-002-000   123-003-000
SS7ANSI  1205   123-002-000       123-002-000   123-003-000
Command Completed
```

Updating the IMT GPL

This section presents the procedure for updating the **imt** generic program load (GPL). There are two versions of GPLs used on the EAGLE 5 SAS, approved and trial versions. The **imt** GPL on the removable cartridge serves as the trial GPL.

The **imt** GPL can be loaded on all cards in the EAGLE 5 SAS except LIM-ATMs, E1-ATMs, DCMs, DSMs, Multi-port LIMs, E1/T1 MIMs, and HC MIMs.

The removable cartridge that contains the **imt** GPL to be loaded on to the EAGLE 5 SAS is required.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, display the **imt** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=imt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMT       1114  123-001-000  123-001-000      -----------  -----------
IMT       1116  123-001-000  123-001-000      123-000-000  123-002-000
```

If the version of the **imt** GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If the version of the **imt** GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is the version that is to be loaded onto the cards, skip steps 2, 3, and 4, and go to step 5.

---

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

---

3. Insert the removable cartridge containing the **imt** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

---

4. Display the **imt** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=imt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMT       1114  123-001-000  123-001-000      -----------  -----------
IMT       1116  123-001-000  123-001-000      123-000-000  123-002-000
```

5. Verify the **imt** GPLs on the fixed disk and which cards are running the **imt** GPLs using the **rept-stat-gpl:gpl=imt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
IMT       1113      123-001-000       123-001-000   123-000-000
IMT       1115      123-001-000       123-001-000   123-000-000
IMT       1201      123-001-000       123-001-000   123-000-000
IMT       1202      123-001-000       123-001-000   123-000-000
IMT       1203      123-001-000       123-001-000   123-000-000
IMT       1205      123-001-000       123-001-000   123-000-000
IMT       1207      123-001-000       123-001-000   123-000-000
IMT       1211      123-001-000       123-001-000   123-000-000
IMT       1212      123-001-000       123-001-000   123-000-000
Command Completed.
```

6. Change the GPLs, using the **chg-gpl** command and specifying the value for the trial **imt** GPL shown in the REMOVE TRIAL column in the output of the **rtrv-gpl** command used in steps 1 or 4.

   For this example, enter this command.

   chg-gpl:gpl=imt:ver=123-002-000

   These messages should appear.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

IMT upload on 1114 completed
IMT upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

7. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial **imt** GPL shown in step 6. For this example, enter the **act-gpl:gpl=imt:ver=123-002-000** command. These messages should appear.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
IMT activate on 1114 completed
IMT activate on 1116 completed
```

   The **act-gpl:gpl=imt:ver=<IMT GPL version>** command makes the trial **imt** GPL the approved **imt** GPL on every card connected to the IMT bus.

When the **act-gpl:gpl=imt:ver=<IMT GPL version>** command is entered, these messages are displayed on the terminal.

- UIM 1105 – REPT EVT:IMT GPL reloading – displayed after the **act-gpl:gpl=imt:ver=<IMT GPL version>** command is entered. The entry, **cards loaded:**, shows that one card out of the total number of cards connected to the IMT bus has been reloaded with the new approved imt GPL. For this example, the EAGLE 5 SAS has 25 cards connected to the IMT bus.
- UAM 0014 – Card is present – displayed for each card connected to the IMT bus when GPL version specified in the **act-gpl:gpl=imt:ver=<IMT GPL version>** command has been made the approved imt GPL.
- UIM 1106 – REPT COND:IMT GPL reloading – displayed periodically to update the number of cards that have been reloaded, and when the **act-gpl:gpl=imt:ver=<IMT GPL version>** command has finished. The entry, **cards loaded:**, shows the number of cards that have been reloaded with the new approved **imt** GPL since the previous UIM 1106 was issued or since UIM 1105 was issued. For this example, 5 of the 25 cards connected to the IMT bus have been reloaded with the new approved **imt** GPL.

  When UIM 1106 shows that the number of cards that have been reloaded with the new approved imt GPL is equal to the number of cards connected to the IMT bus (for example, **cards loaded: 25 of 25**), the **act-gpl:gpl=imt:ver=<IMT GPL version>** command has finished.

This is an example of these messages and the order in which they appear on the terminal.

```
    rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
    0191.1105    SYSTEM         INFO   REPT EVT:IMT GPL reloading
                  cards   loaded:   1 of 25
            Report Date: 05-03-01  Time: 07:01:08
;

    rlghncxa03w 06-03-01 07:01:09 GMT EAGLE5 34.3.0
    0192.0014    CARD 1201 SS7ANSI     Card is present
;

    rlghncxa03w 06-03-01 07:01:10 GMT EAGLE5 34.3.0
    0193.0014    CARD 1202 SS7ANSI     Card is present
;

    rlghncxa03w 06-03-01 07:01:11 GMT EAGLE5 34.3.0
    0194.0014    CARD 1203 SS7ANSI     Card is present
;

    rlghncxa03w 06-03-01 07:01:12 GMT EAGLE5 34.3.0
    0195.0014    CARD 1204 SS7ANSI     Card is present
;

    rlghncxa03w 06-03-01 07:01:12 GMT EAGLE5 34.3.0
    0196.0014    CARD 1205 SS7ANSI     Card is present
;
```

```
    rlghncxa03w 06-03-01 07:01:14 GMT EAGLE5 34.3.0
    0197.1106    SYSTEM         INFO   REPT COND:IMT GPL reloading
                 cards  loaded:     5 of 25
            Report Date: 05-03-01  Time: 07:01:14
;
```

8. Load the approved **imt** GPL on to specific cards using the **init-imt-gpl:code=appr** command specifying the location of one of the cards shown in step 5. For this example, the approved **imt** GPL is loaded on to card 1201. Enter the **init-imt-gpl:loc=1201:code=appr** command. If you wish to load the approved **imt** GPL to all cards in the EAGLE 5 SAS, enter the **init-imt-gpl:code=appr** command and do not specify the **loc** parameter.

CAUTION: The init-imt-gpl command places the specified card out of service, and should only be used during periods of low traffic. This command allows the trial imt GPL to be loaded on the specified card, but will interrupt service on that card.

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
    Initializing IMT GPL for card 1201.
;

    rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
*   0192.0013  * CARD 1201 SS7ANSI     Card is isolated from the system
;

    rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
    0193.0014    CARD 1201 SS7ANSI     Card is present
;

    rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
    0194.0096    CARD 1201 SS7ANSI     Card has been reloaded
;
```

9. Verify the **imt** GPLs on the cards using the **rept-stat-gpl:gpl=imt** command. If any card is not running the version of the IMT GPL shown in the system release ID table, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column for that card in the **rept-stat-gpl** output. By performing the **act-gpl** command in step 7, the system release ID table is updated with the new IMT GPL version number, and the new version of the IMT GPL is shown as the approved version in the **rept-stat-gpl** output.

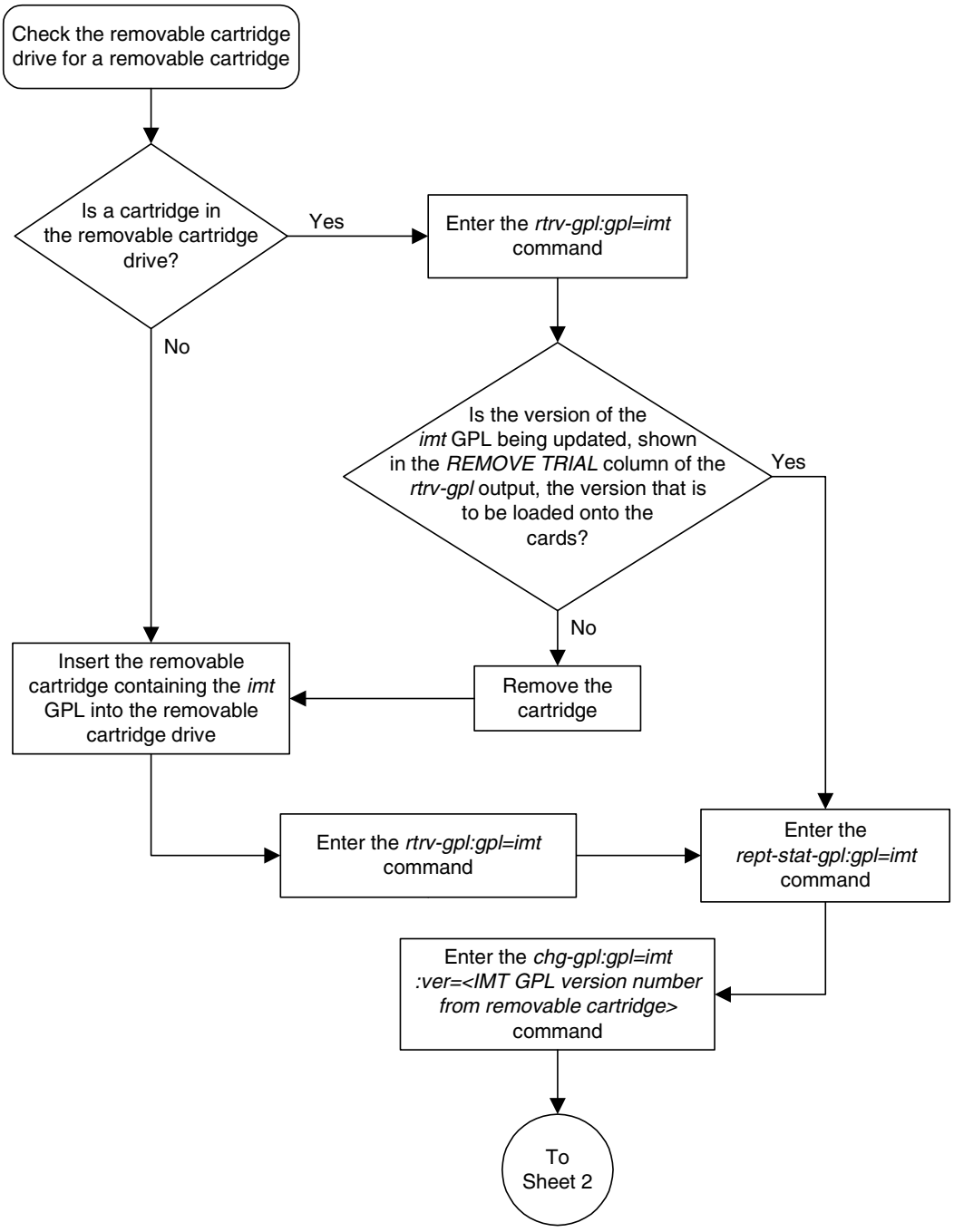
For this example, card 1201 was loaded with the new approved version of the IMT GPL. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
IMT       1113      123-001-000 ALM   123-002-000   123-001-000
IMT       1115      123-001-000 ALM   123-002-000   123-001-000
IMT       1201      123-002-000       123-002-000   123-001-000
IMT       1202      123-001-000 ALM   123-002-000   123-001-000
IMT       1203      123-001-000 ALM   123-002-000   123-001-000
IMT       1205      123-001-000 ALM   123-002-000   123-001-000
IMT       1207      123-001-000 ALM   123-002-000   123-001-000
IMT       1211      123-001-000 ALM   123-002-000   123-001-000
IMT       1212      123-001-000 ALM   123-002-000   123-001-000
Command Completed.
```

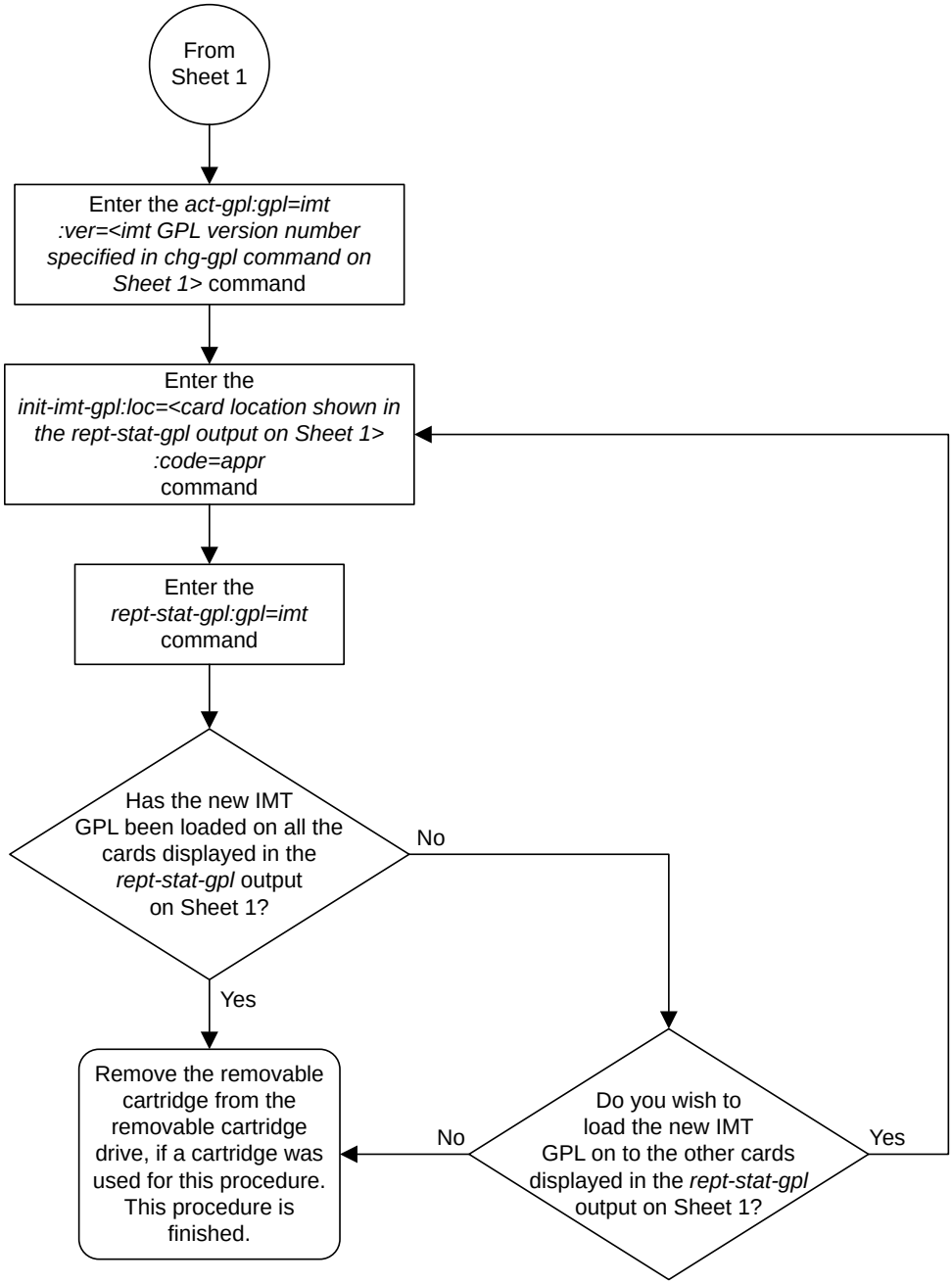
10. If the new IMT GPL has been loaded onto all the cards shown in step 5, or if you do not wish to load the new IMT GPL onto other cards, this procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If you wish to load the new IMT GPL onto the other cards shown in step 5, repeat this procedure from step 8 for each card shown in step 5.

Flowchart 3-1. Updating the IMT GPL (Sheet 1 of 2)



Flowchart 3-1. Updating the IMT GPL (Sheet 2 of 2)



Updating the EOAM GPL

This section presents the procedure for loading the **eoam** generic program load (GPL) on the GPSM-II card in card locations 1113 and 1115 as a trial version from a removable cartridge, then making the trial version of the **eoam** GPL the approved version of the **eoam** GPL. The GPSM-II card in card locations 1113 and 1115 is used in combination with the TDM to form the Maintenance and Administration Subsystem Processor (MASP).

If any card is not running the version of the GPL shown in the **RELEASE** column of the **rtrv-gpl** output, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output, and next to the GPL version in the **APPROVED** column in the **rtrv-gpl** output.

If a new version of the **eoam** GPL is being loaded on to the EAGLE 5 SAS, the removable cartridge that contains the new version of the **eoam** GPL is required.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, display the **eoam** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-002-000  123-002-000      123-001-000  123-003-000
EOAM      1116  123-002-000  123-002-000      123-001-000  -----------
```

If the version of the **eoam** GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If the version of the **eoam** GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is the version that is to be loaded onto the cards, skip steps 2, 3, 4, and 5, and go to step 6.

2. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

3. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

4. Insert the removable cartridge containing the **eoam** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

5. Display the **eoam** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-002-000  123-002-000      123-001-000  123-003-000
EOAM      1116  123-002-000  123-002-000      123-001-000  -----------
```

6. Load the new version of the **eoam** GPL using the **chg-gpl** command and specifying the value for the trial **eoam** GPL shown in the REMOVE TRIAL column in the output of the **rtrv-gpl** output from either steps 1 or 5. For this example, enter this command.

   chg-gpl:gpl=eoam:ver=123-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

EOAM   upload on 1114 completed
EOAM   upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

7. Verify that the trial **eoam** GPL has been made the approved GPL using the **rtrv-gpl:gpl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-003-000  123-003-000      123-002-000  123-003-000
EOAM      1116  123-003-000  123-003-000      123-002-000  -----------
```

8. Verify which cards are running the **eoam** GPLs using the **rept-stat-gpl:gpl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
EOAM     1113   123-002-000 ALM   123-003-000   123-002-000
EOAM     1115   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

---

9. To load the **eoam** GPL, it must be loaded on the standby MASP (GPSM-II) first. To determine which MASP is active, enter the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 05-03-01 10:19:18 GMT  Y       35 05-03-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 05-02-31 20:27:53 GMT
```

The output of the **rept-stat-db** command shows which MASP is active with the indicator **(ACTV)** following the TDM card location. The indicator **(STDBY)** following the TDM card location shows which MASP is standby.

For this example, the MASP associated with TDM 1116 is active and the MASP associated with TDM 1114 is standby.

---

10. Display the terminal configuration in the database with the **rtrv-trm** command. The OAP terminals are shown in the output with the entry **OAP** in the **TYPE** field. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. If no OAP terminals are shown in the **rtrv-trm** command output, go to step 14.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    30    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    PRINTER  4800-7-E-1 HW    30    0     00:00:00
4    VT320    2400-7-E-1 BOTH  30    5     00:30:00
5    VT320    9600-7-O-1 NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
10   VT320    9600-7-E-1 HW    30    5     00:30:00
11   VT320    4800-7-E-1 HW    30    5     00:30:00
12   PRINTER  9600-7-E-1 HW    30    4     00:30:00
13   VT320    9600-7-O-1 NONE  30    5     00:30:00
14   VT320    9600-7-E-2 SW    30    8     00:30:00
15   VT320    9600-7-N-2 HW    30    5     00:30:00
16   VT320    9600-7-E-2 BOTH  30    3     00:30:00
```

```
TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
3    YES  YES  YES NO  YES YES
4    YES  NO   NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO
6    YES  YES  YES YES YES YES
7    YES  YES  YES YES YES YES
8    NO   NO   NO  NO  YES NO
9    YES  YES  YES YES YES YES
10   NO   NO   NO  NO  NO  NO
11   YES  YES  YES YES YES YES
12   YES  YES  YES YES YES YES
13   NO   YES  NO  NO  NO  NO
14   NO   NO   YES NO  NO  NO
15   YES  YES  YES NO  YES YES
16   NO   NO   NO  NO  YES NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

11. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
Command Completed.
```

12. Place the OAP terminals out of service using the **rmv-trm** command. The **force=yes** parameter must be used when placing the last OAP terminal out of service. For this example, enter these commands.

rmv-trm:trm=6

rmv-trm:trm=9:force=yes

If the status of the OAP terminals shown in the **PST** field in step 11 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the **rmv-trm** command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

---

13. Change the terminal type of the OAP terminals to NONE with the **chg-trm** command, the **type=none** parameter, and with the values of the OAP terminals used in step 12. For this example, enter these commands.

chg-trm:trm=6:type=none

chg-trm:trm=9:type=none

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CHG-TRM: MASP B - COMPLTD
```

---

14. Using the outputs of steps 8 and 9 as a guide, place the GPSM-II card making up the standby MASP out of service using the **rmv-card** command. For this example, enter this command.

rmv-card:loc=1113

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

---

15. Put the card that was inhibited in step 14 back into service using the **rst-card** command. The **rst-card** command also loads the approved version of the **eoam** GPL onto the card

For this example, enter this command.

rst-card:loc=1113

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been allowed.
```

---

16. Verify the **eoam** GPLs on the GPSM-II cards using the **rept-stat-gpl:gpl=eoam** command. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
EOAM     1113   123-003-000       123-003-000   123-002-000
EOAM     1115   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

17. If you do not wish to load the new version of the **eoam** GPL onto the other GPSM-II card, skip this step and go to step 18.

If you wish to load the new **eoam** GPL onto the GPSM-II card making up the active MASP, enter the **init-card** command specifying the location of the GPSM-II card making up active MASP. For this example, enter the **init-card:loc=1115** command. This message should appear.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Init Card command issued to card 1115
```

NOTE: If OAP terminals are not shown in the `rtrv-trm` command output in step 10, skip this step and step 19, and go to step 20.

18. Change the terminal type of the terminals that were changed to **NONE** in step 13 to the terminal type **OAP** with the **chg-trm** command and the **type=oap** parameter. The terminal type is shown in the **TYPE** field in the **rtrv-trm** command output in step 10. For this example, enter these commands.

chg-trm:trm=6:type=oap

chg-trm:trm=9:type=oap

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CHG-TRM: MASP B - COMPLTD
```

19. Put the OAP terminals back into service with the **rst-trm** command. For this example, enter these commands.

rst-trm:trm=6

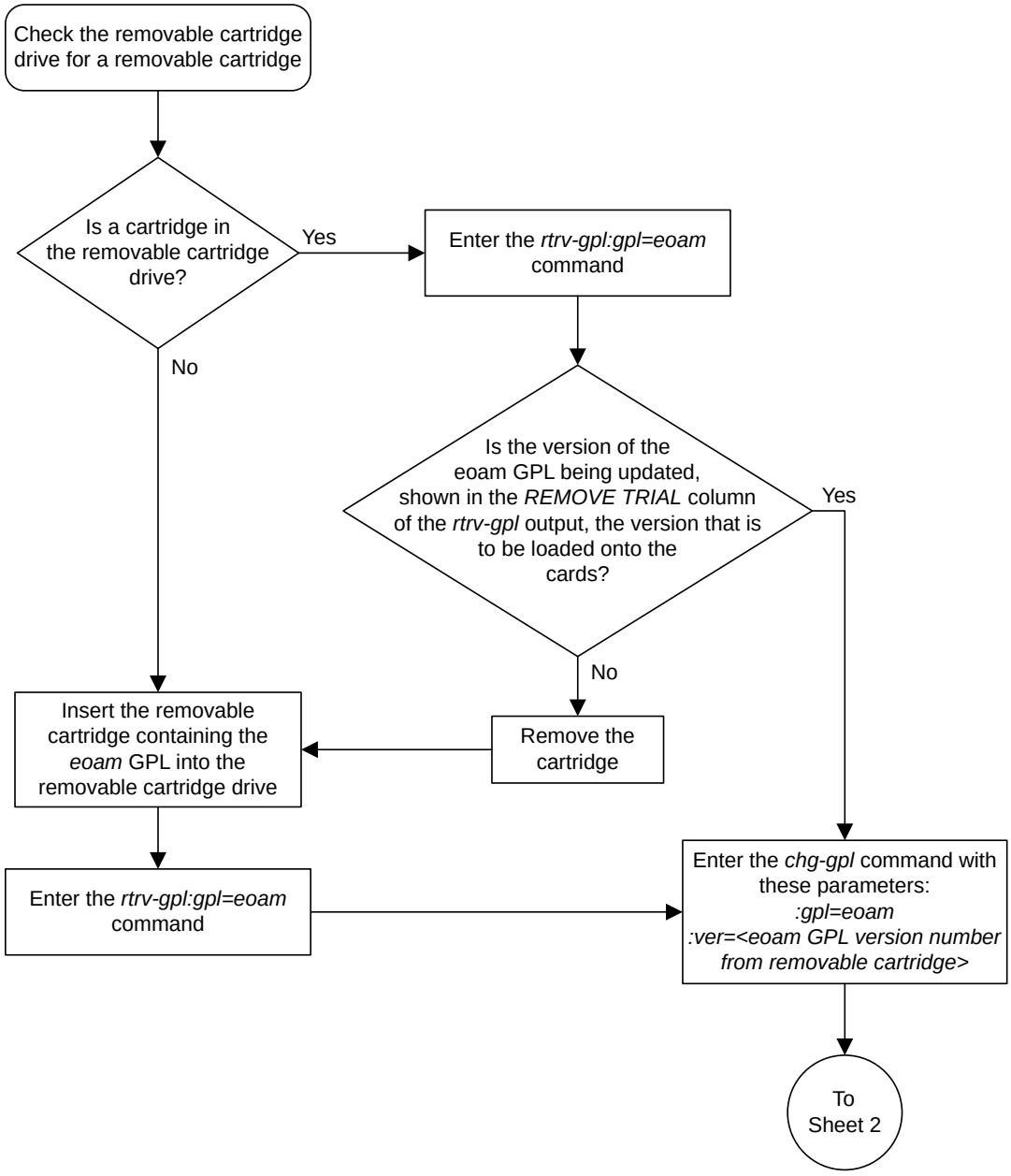
rst-trm:trm=9

This message should appear when each command has successfully completed.

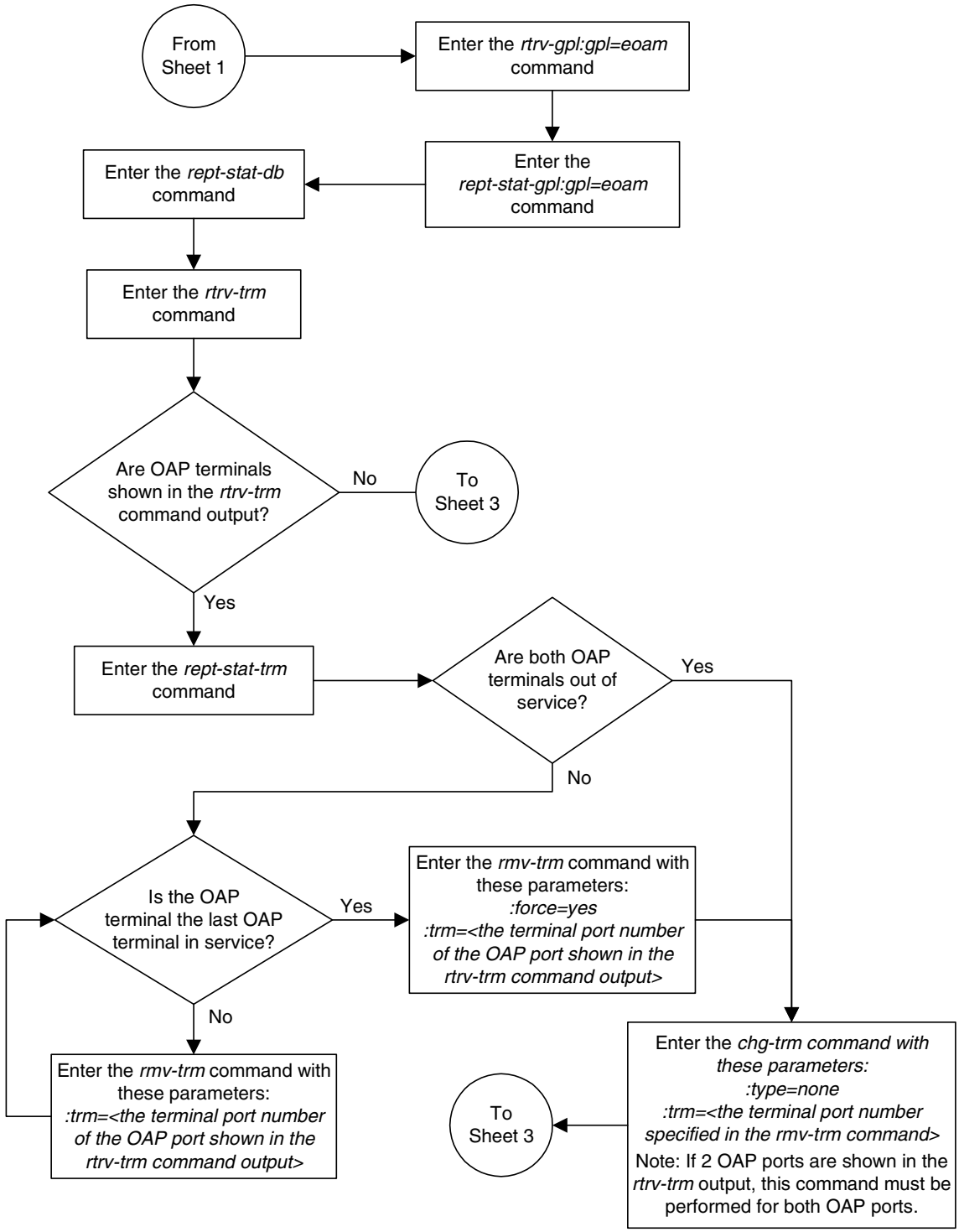
```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

20. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

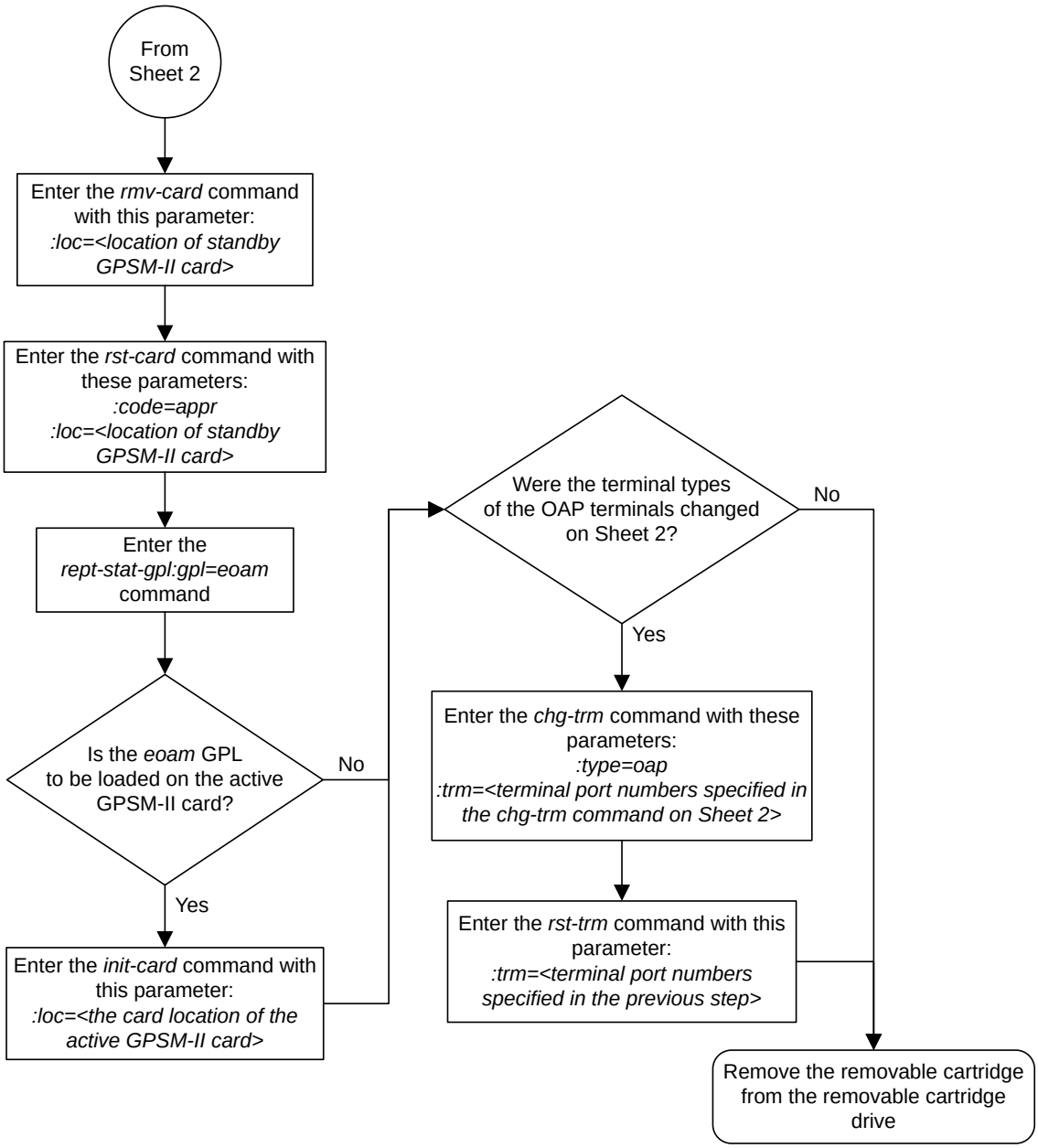
Flowchart 3-2. Updating the EOAM GPL (Sheet 1 of 3)



Flowchart 3-2. Updating the EOAM GPL (Sheet 2 of 3)



Flowchart 3-2. Updating the EOAM GPL (Sheet 3 of 3)



Updating the Signaling Link and Data Link GPLs

This procedure is used to update these GPLs: **ss7ansi**, **ss7gx25**, **ccs7itu**, **ss7ml**, **ss7ipgw**, **iplim**, **iplimi**, **ipgwi**, **atmansi**, **atmitu**, **stplan**, **vxwslan**, **ss7hc**. These names are used as the value of the **gpl** parameter of the **chg-gpl**, **act-gpl**, **rept-stat-gpl**, and **rtrv-gpl** commands.

Signaling links are assigned to cards running these GPLs: **ss7ansi**, **ss7gx25**, **ccs7itu**, **ss7ml**, **ss7ipgw**, **iplim**, **iplimi**, **ipgwi**, **atmansi**, **atmitu**, **ss7hc**. The signaling link GPLs are assigned to the card types shown in Table 3-1.

Table 3-1. SS7 LIM Card Types

GPL	Card Type
ss7ansi, ccs7itu, & ss7ml	limds0, limocu, limv35, lime1, limch, limt1
ss7gx25	limds0, limocu, limv35
atmansi	limatm
atmitu	lime1atm
ss7ipgw, iplim, iplimi, ipgwi	dcm
ss7hc	lime1, limt1 (these cards must be HC MIMs)

Data links are assigned to cards running either the **vxwslan** or **stplan** GPLs. The data link GPLs are assigned to the card types shown in Table 3-2.

Table 3-2. Data Link Card Types

GPL	Card Type
stplan	acmenet
vxwslan	dcm

These GPLs do not support 24-bit ITU-N point codes: **ss7gx25**, **stplan**, **vxwslan**.

The card types shown in Tables 3-1 and 3-2 are the values used for the **type** parameter of the **ent-card** command.

The cards running the **ss7ml** GPL are the Multi-port LIM (MPL) and the E1/T1 MIM and each card can support eight signaling link ports. The **rtrv-card** output shows these cards running either the **ss7ansi** or **ccs7itu** applications, but the **rept-stat-card** and **rept-stat-gpl** outputs shows that these cards are actually running the **ss7ml** GPL. The cards running the **ss7hc** GPL are HC MIMs which can support up to 64 signaling links. The HC MIMs are either LIM-E1 or LIM-T1 cards. The **rtrv-card** output shows these cards running either the **ss7ansi** or **ccs7itu** applications, but the **rept-stat-card** and **rept-stat-gpl** outputs shows that these cards are actually running the **ss7hc** GPL.

If the GPL is being updated to a new version, a removable cartridge containing the GPL being updated is required.

If any card is not running the version of the GPL shown in the **RELEASE** column of the **rtrv-gpl** output, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output, and next to the GPL version in the **APPROVED** column in the **rtrv-gpl** output.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the **rept-stat-slk** and **rtrv-slk** commands used in this procedure can output information for a long period of time, the **rept-stat-slk** and **rtrv-slk** commands can be canceled and the output to the terminal stopped. There are three ways that the **rept-stat-slk** and **rtrv-slk** commands can be canceled.

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

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

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. These are examples of the possible output.

   rtrv-gpl:gpl=ss7ml

   ```
   rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   SS7ML     1114  123-002-000  123-002-000      123-001-000  123-003-000
   SS7ML     1116  123-002-000  123-002-000      123-001-000  -----------
   ```

   rtrv-gpl:gpl=vxwslan

   ```
   rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   VXWSLAN   1114  123-002-000  123-002-000      123-001-000  123-003-000
   VXWSLAN   1116  123-002-000  123-002-000      123-001-000  -----------
   ```

   If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

   If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is the version that is to be loaded onto the cards, skip steps 2, 3, 4, and 5, and go to step 6.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

3. Insert the removable cartridge containing the GPL being updated into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

4. Display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. These are examples of the possible output.

rtrv-gpl:gpl=ss7ml

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ML     1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ML     1116  123-002-000  123-002-000      123-001-000  -----------
```

rtrv-gpl:gpl=vxwslan

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VXWSLAN   1114  123-002-000  123-002-000      123-001-000  123-003-000
VXWSLAN   1116  123-002-000  123-002-000      123-001-000  -----------
```

5. Change the GPLs, using the **chg-gpl** command and specifying the value for the trial GPL shown in the REMOVE TRIAL column in the output of the **rtrv-gpl** command used in steps 1 or 4. For this example, enter these commands.

chg-gpl:gpl=ss7ml:ver=123-003-000

These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

SS7ML upload on 1114 completed
SS7ML upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

chg-gpl:gpl=vxwslan:ver=123-003-000

These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

VXWSLAN upload on 1114 completed
VXWSLAN upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

6. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial GPL shown in step 5. For this example, enter this command.

act-gpl:gpl=ss7ml:ver=123-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
SS7ML activate on 1114 completed
SS7ML activate on 1116 completed
```

act-gpl:gpl=vxwslan:ver=123-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
VXWSLAN activate on 1114 completed
VXWSLAN activate on 1116 completed
```

7. Verify that the trial GPL has been made the approved GPL using the **rtrv-gpl** command with the **gpl** parameter value specified in steps 5 and 6. For this example, enter these commands.

rtrv-gpl:gpl=ss7ml

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ML     1114  123-003-000  123-003-000      123-002-000  123-003-000
SS7ML     1116  123-003-000  123-003-000      123-002-000  -----------
```

rtrv-gpl:gpl=vxwslan

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VXWSLAN   1114  123-003-000  123-003-000      123-002-000  123-003-000
VXWSLAN   1116  123-003-000  123-003-000      123-002-000  -----------
```

8. Verify which cards are running the GPL using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 7. For this example, enter these commands.

rept-stat-gpl:gpl=ss7ml

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7ML    1201   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1204   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1211   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1215   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1307   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2111   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2112   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2115   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2116   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

rept-stat-gpl:gpl=vxwslan

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
VXWSLAN  2105   123-002-000 ALM   123-003-000   123-002-000
VXWSLAN  2113   123-002-000 ALM   123-003-000   123-002-000
VXWSLAN  2301   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

NOTE: If the GPL being updated is either VXWSLAN or STPLAN, skip steps 9 and 10, and go to step 11.

9. Display the signaling links associated with the cards shown in step 8. Enter the **rtrv-slk** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
                                   L2T         L1                PCR  PCR
LOC  LINK LSN         SLC TYPE     SET  BPS    MODE TSET  ECM    N1   N2
1201 A    lsnmpl1      0  LIMDS0   2    56000  ---  ---   BASIC  ---  -----
1201 B    lsnmpl2      0  LIMDS0   3    56000  ---  ---   PCR    76   3800
1201 A1   lsnmpl3      0  LIMDS0   2    56000  ---  ---   PCR    120  5034
1201 B1   lsnmpl4      0  LIMDS0   1    56000  ---  ---   BASIC  ---  -----
1204 A    lsnmpl1      1  LIMDS0   2    56000  ---  ---   BASIC  ---  -----
1204 B    lsnmpl2      1  LIMDS0   3    56000  ---  ---   PCR    76   3800
1204 A2   lsnmpl3      1  LIMDS0   2    56000  ---  ---   PCR    120  5034
1204 B2   lsnmpl5      0  LIMDS0   3    56000  ---  ---   PCR    76   3800
1211 A    lsnmpl1      2  LIMDS0   2    56000  ---  ---   BASIC  ---  -----
1211 B    lsnmpl3      2  LIMDS0   2    56000  ---  ---   PCR    120  5034
1211 A3   lsnmpl5      1  LIMDS0   3    56000  ---  ---   PCR    76   3800
1211 B3   lsnmpl6      0  LIMDS0   1    56000  ---  ---   PCR    120  5034
1215 A1   lsnmpl7      0  LIMDS0   1    56000  ---  ---   BASIC  ---  -----
1215 B2   lsnmpl1      3  LIMDS0   2    56000  ---  ---   BASIC  ---  -----
1215 A3   lsnmpl6      1  LIMDS0   1    56000  ---  ---   PCR    120  5034
1215 B3   lsnmpl7      1  LIMDS0   1    56000  ---  ---   BASIC  ---  -----
1307 A    lsnmpl6      2  LIMDS0   1    56000  ---  ---   PCR    120  5034
1307 B2   lsnmpl7      2  LIMDS0   1    56000  ---  ---   BASIC  ---  -----
1307 A3   lsnmpl6      3  LIMDS0   1    56000  ---  ---   PCR    120  5034
1307 B3   lsnmpl7      3  LIMDS0   1    56000  ---  ---   BASIC  ---  -----

                                   LP            ATM
LOC  LINK LSN         SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL
1302 A    atm1302a     5  LIMATM   3    1544000  INTERNAL  35     15    0
1305 A    atm1305a     5  LIMATM   5    1544000  LINE      5      0     2

                                   LP         ATM                    E1ATM
LOC  LINK LSN         SLC TYPE     SET BPS    TSEL     VCI   VPI  CRC4 SI SN
2101 A    atmitu1      0  LIME1ATM 5   2.048M LINE     150   2    ON   1  20
2105 A    atmitu1      1  LIME1ATM 5   2.048M LINE     35    15   ON   2  15

LOC  LINK LSN         SLC TYPE     IPLIML2

No Links Set up.

LOC  LINK LSN         SLC TYPE

No Links Set up.

                                   L2T               PCR  PCR   E1   E1
LOC  LINK LSN         SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS
2111 A    lsne145      0  LIME1    1    56000  BASIC ---  ----- 2111 2    10
2112 A    lsne145      1  LIMCH    1    56000  BASIC ---  ----- 2111 1    14
2112 A2   lsne145      2  LIMCH    1    56000  BASIC ---  ----- 2111 1    20

                                   L2T               PCR  PCR   T1   T1
LOC  LINK LSN         SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS
2115 A    lsnt145      0  LIMT1    1    56000  BASIC ---  ----- 2115 2    3
2116 A    lsnt145      1  LIMCH    1    56000  BASIC ---  ----- 2115 1    11
2116 A2   lsnt145      2  LIMCH    1    56000  BASIC ---  ----- 2115 1    19

SLK table is (30 of 1200) 3% full.
```

10. Using the outputs of steps 8 and 9 as a guide, select a card to load the approved GPL onto. Deactivate the SS7 signaling links on that card using the **dact-slk** command. For this example, enter these commands.

```
dact-slk:loc=1201:link=a

dact-slk:loc=1201:link=b

dact-slk:loc=1201:link=a1

dact-slk:loc=1201:link=b1
```

CAUTION: These command examples place the SS7 signaling links on card 1201 out of service. This will interrupt service on the SS7 signaling links on card 1201 and allow the approved GPL to be loaded on to card 1201.

Do not deactivate all the SS7 signaling links in the EAGLE 5 SAS at the same time. Doing so will take all the SS7 signaling links out of service and isolate the EAGLE 5 SAS from the network.

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

```
rlghncxa03w 06-03-01 11:45:18 GMT  EAGLE5 34.3.0
Deactivate SLK message sent to card
```

NOTE: If the GPL being updated is not VXWSLAN or STPLAN, skip steps 11 and 12, and go to step 13.

11. Display the data links, and their status, associated with the cards shown in step 8. Enter the **rept-stat-dlk** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 17:00:36 GMT  EAGLE5 34.3.0
DLK    PST           SST        AST
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

---

12. Deactivate the TCP/IP data link on the card (shown in step 11) that you wish to load the trial GPL onto, using the **canc-dlk** command. For this example, enter this command.

canc-dlk:loc=2105

CAUTION: This command example places the TCP/IP data link on card 2105 out of service. This will interrupt service on the TCP/IP data link on card 2105 and allow the trial GPL to be loaded on to card 2105.

Do not deactivate all the TCP/IP data links in the EAGLE 5 SAS at the same time. Doing so will take all the TCP/IP data links out of service and cause the STP LAN feature to be disabled.

If there is only one TCP/IP data link in the EAGLE 5 SAS, placing the card out of service will cause the STP LAN feature to be disabled.

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

```
rlghncxa03w 06-03-01 11:45:18 GMT  EAGLE5 34.3.0
Deactivate Link message sent to card.
Command Completed.
```

13. Place the card specified in either steps 10 or 12 out of service using the **rmv-card** command. If the card contains the last signaling link in a linkset, the **force=yes** parameter must be specified. For this example, enter this command.

rmv-card:loc=1201:force=yes

rmv-card:loc=2105

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

14. Put the cards that were inhibited in step 13 back into service using the **rst-card** command. The **rst-card** command also loads the approved version of the GPL onto the card.

For this example, enter this command.

rst-card:loc=1201

rst-card:loc=2105

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been allowed.
```

15. Verify the GPLs on the cards using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 8. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output. For this example, enter these commands.

rept-stat-gpl:gpl=ss7ml

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7ML    1201   123-003-000       123-003-000   123-002-000
SS7ML    1204   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1211   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1215   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1307   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2111   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2112   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2115   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2116   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

rept-stat-gpl:gpl=vxwslan

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
VXWSLAN  2105   123-003-000       123-003-000   123-002-000
VXWSLAN  2113   123-002-000 ALM   123-003-000   123-002-000
VXWSLAN  2301   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

NOTE: If the GPL being updated is either VXWSLAN or STPLAN, skip steps 16 and 17, and go to step 18.

16. Place the signaling links that were deactivated in step 10 back into service using the **act-slk** command. For this example, enter these commands.

act-slk:loc=1201:link=a

act-slk:loc=1201:link=b

act-slk:loc=1201:link=a1

act-slk:loc=1201:link=b1

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

```
rlghncxa03w 06-03-01 11:55:49 GMT  EAGLE5 34.3.0
Activate SLK message sent to card
```

---

17. Verify that the signaling links activated in step 16 are back in service using the **rept-stat-slk** command with the card location and signaling link. For this example, enter these commands.

rept-stat-slk:loc=1201:link=a

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,A   lsnmpl1   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:link=b

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,B   lsnmpl2   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:link=a1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,A1  lsnmpl3   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:link=b1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,B1  lsnmpl4   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

NOTE: If the GPL being updated is not VXWSLAN or STPLAN, skip steps 18 and 19, and go to step 20.

18. Place the TCP/IP data link that was deactivated in step 12 back into service using the **act-dlk** command. For this example, enter this command.

act-dlk:loc=2105

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

```
rlghncxa03w 06-03-01 11:55:49 GMT  EAGLE5 34.3.0
Activate Link message sent to card.
```

---

19. Verify that the TCP/IP date links activated in step 18 are back in service with the **rept-stat-dlk** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 12:57:50 GMT EAGLE5 34.3.0
DLK    PST           SST        AST
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

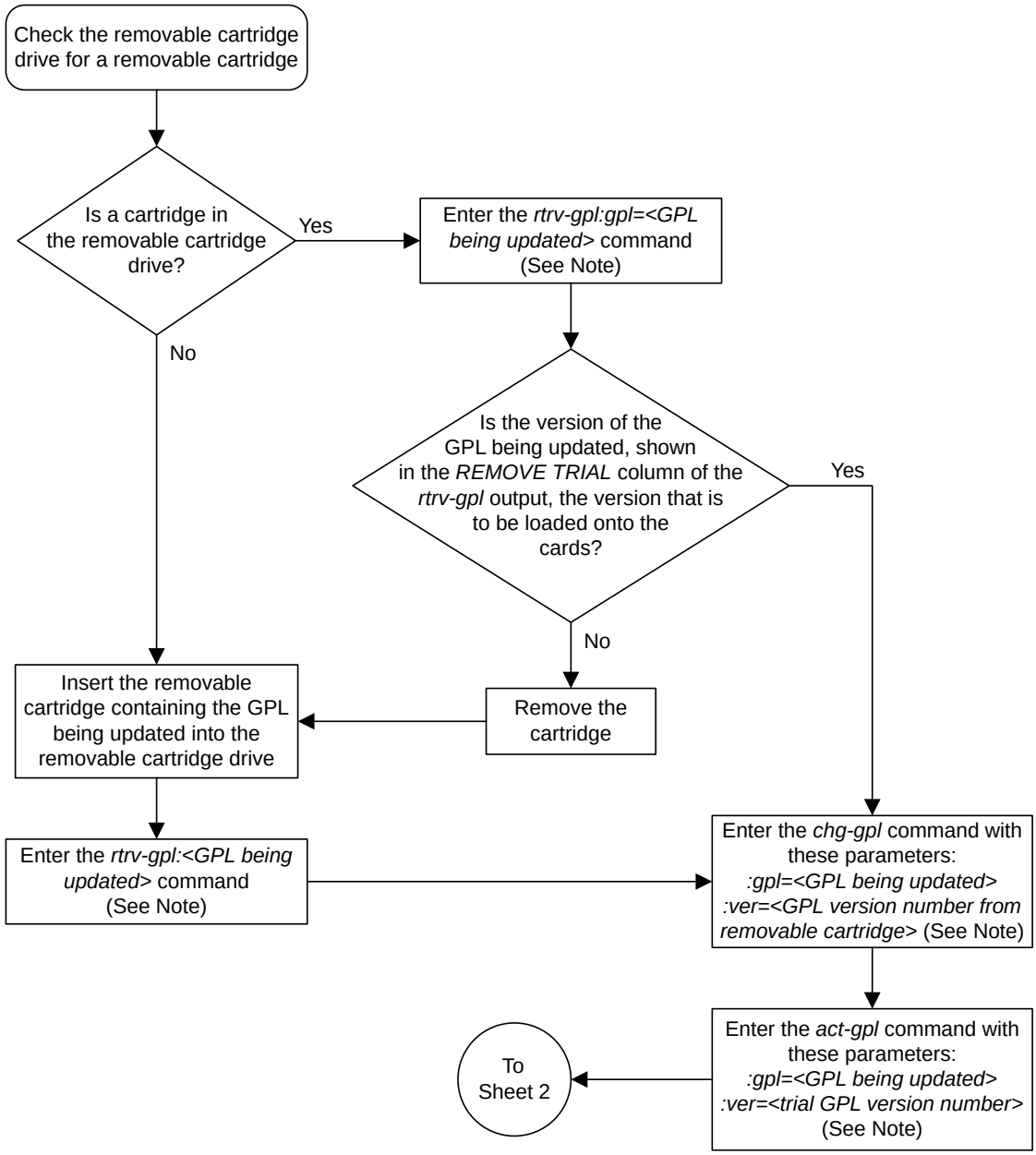
---

20. If you wish to load the new GPL onto the other cards shown in step 8, repeat this procedure from either steps 10 or 12 for each card shown in step 8.

---

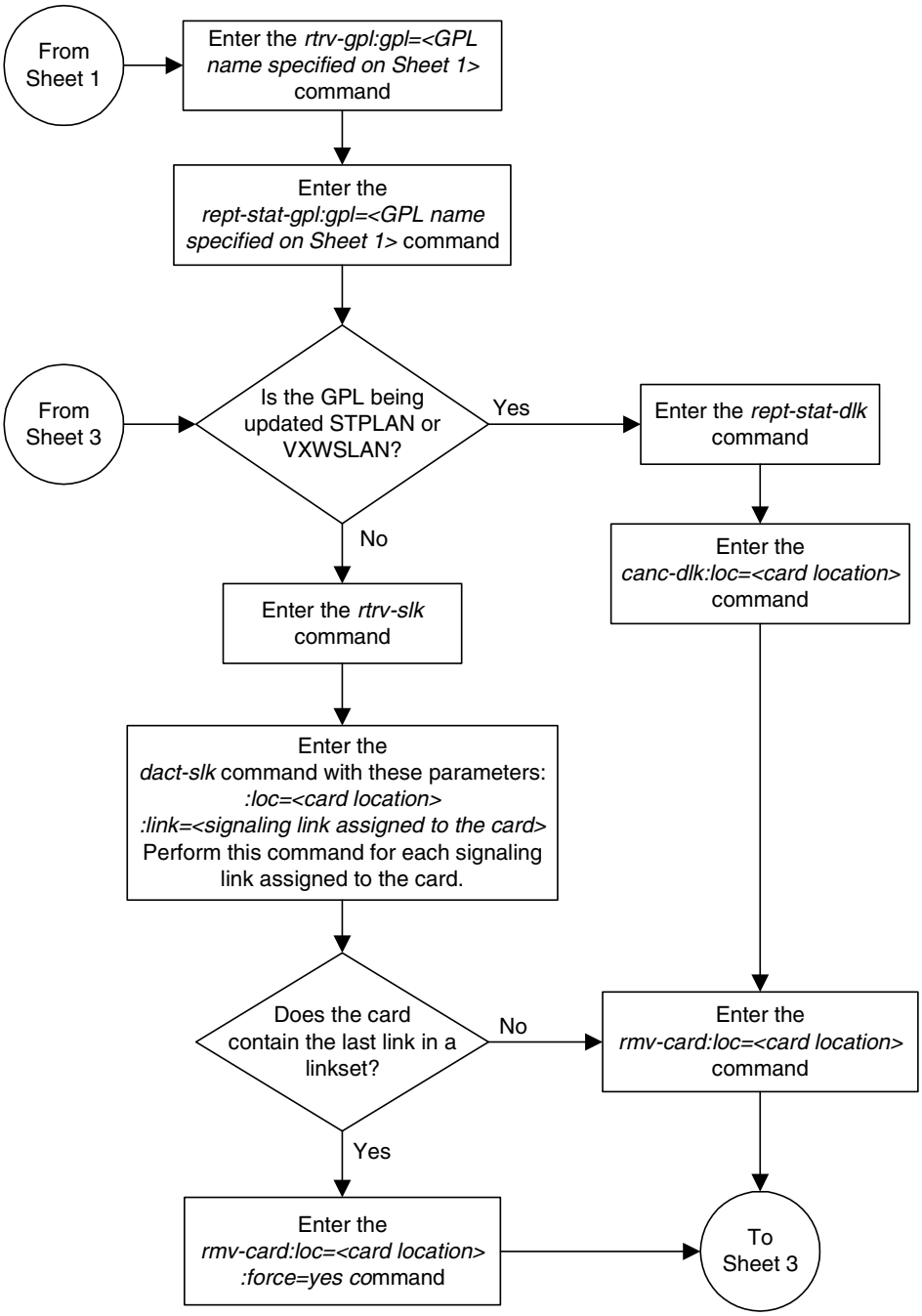
21. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

Flowchart 3-3. Updating the Signaling Link and Data Link GPLs (Sheet 1 of 3)

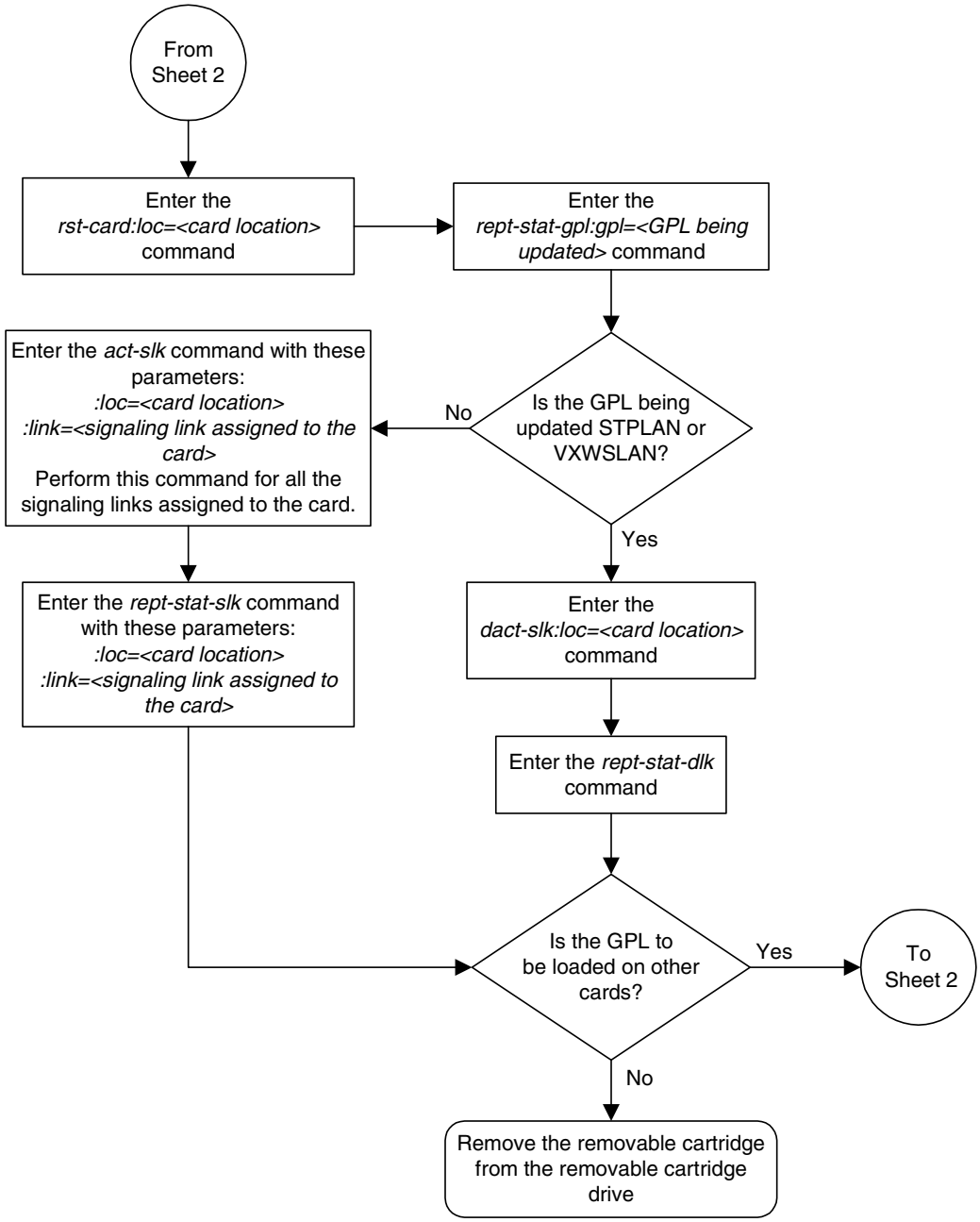


Note: This procedure is used to update these GPLs: SS7ANSI, SS7GX25, CCS7ITU, SS7ML, SS7IPGW, IPLIM, IPLIMI, IPGWI, ATMANSI, ATMITU, STPLAN, VXWSLAN, SS7HC. These names are used as the value of the GPL parameter of the *chg-gpl*, *act-gpl*, *rept-stat-gpl*, and *rtrv-gpl* commands. The SS7GX25, STPLAN, and VXWSLAN GPLs do not support the 24-bit ITU-N point code.

Flowchart 3-3. Updating the Signaling Link and Data Link GPLs (Sheet 2 of 3)



Flowchart 3-3. Updating the Signaling Link and Data Link GPLs (Sheet 3 of 3)



Updating the Service GPLs

This procedure is used to update these GPLs: **sccp**, **vsccp**, **gls**, **ebdadcm**, **ebdablm**, **eroute**, **mcp**, **ips**. These names are used as the value of the **gpl** parameter of the **chg-gpl**, **act-gpl**, **rept-stat-gpl**, and **rtrv-gpl** commands.

These GPLs are assigned to the card types shown in Table 3-3.

Table 3-3. Service GPL Card Types

GPL	Card Type
sccp, gls, ebdablm	tsm
vsccp	dsm
ebdadcm, edmc	dcm
eroute	stc
mcp	mcpm
ips	ipsm

These GPLs do not support 24-bit ITU-N point codes: **ebdablm**, **ebdadcm**.

The card types shown in Table 3-3 are the values used for the **type** parameter of the **ent-card** command.

If the GPL is being updated to a new version, a removable cartridge containing the GPL being updated is required.

If any card is not running the version of the GPL shown in the **RELEASE** column of the **rtrv-gpl** output, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output, and next to the GPL version in the **APPROVED** column in the **rtrv-gpl** output.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. This is an example of the possible output.

```
rtrv-gpl:gpl=vsccp
```

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP     1114  123-002-000  123-002-000      123-001-000  123-003-000
VSCCP     1116  123-002-000  123-002-000      123-001-000  -----------
```

If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is the version that is to be loaded onto the cards, skip steps 2, 3, 4, and 5, and go to step 6.

---

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

---

3. Insert the removable cartridge containing the GPL being updated into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

---

4. Display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. This is an example of the possible output.

   rtrv-gpl:gpl=vsccp

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP     1114  123-002-000  123-002-000      123-001-000  123-003-000
VSCCP     1116  123-002-000  123-002-000      123-001-000  -----------
```

---

5. Change the GPLs, using the **chg-gpl** command and specifying the value for the trial GPL shown in the **REMOVE TRIAL** column in the output of the **rtrv-gpl** command used in steps 1 or 4. For this example, enter this command.

   chg-gpl:gpl=vsccp:ver=123-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

VSCCP upload on 1114 completed
VSCCP upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

---

6. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial GPL shown in step 5. For this example, enter this command.

   act-gpl:gpl=vsccp:ver=123-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
VSCCP activate on 1114 completed
VSCCP activate on 1116 completed
```

7. Verify that the trial GPL has been made the approved GPL using the **rtrv-gpl** command with the **gpl** parameter value specified in steps 5 and 6. For this example, enter this command.

   rtrv-gpl:gpl=vsccp

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP     1114  123-003-000  123-003-000      123-002-000  123-003-000
VSCCP     1116  123-003-000  123-003-000      123-002-000  -----------
```

8. Verify which cards are running the GPL using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 7. For this example, enter this command.

   rept-stat-gpl:gpl=vsccp

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
VSCCP    1101   123-002-000 ALM   123-003-000   123-002-000
VSCCP    1102   123-002-000 ALM   123-003-000   123-002-000
VSCCP    1103   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

9. Steps 10 through 17 are performed based on the GPL being updated (shown in the **rept-stat-gpl** output in step 8). The following list shows the steps that are performed for the GPL being updated.

   - SCCP or VSCCP – Perform step 10, then go to step 18. Skip steps 11 through 17.
   - MCP – Perform step 11, then go to step 18. Skip step 10 and steps 12 through 17.
   - EROUTE – Perform step 13, then go to step 18. Skip steps 10 through 12 and 14 through 17.
   - EBDABLM, EBDADCM – Perform step 14, then go to step 18. Skip steps 10 through 13 and 15 through 17.

- IPS – Perform steps 14 through 17, then go to step 18. Skip steps 10 through 13.

---

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

```
rlghncxa03w 06-03-01 09:57:31 GMT  EAGLE5 34.3.0

CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
1101  123-002-001  IS-NR           Active     -----        47%         81%
1102  123-002-001  IS-NR           Active     -----        34%         50%
1103  123-002-001  IS-NR           Active     -----        21%         29%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 36%       Average CPU Capacity = 56%
Command Completed.
```

Skip steps 11 through 17, and go to step 18.

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*.

---

11. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 123-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   123-200-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   123-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

Skip steps 12 through 17, and go to step 18.

---

12. Display the status of the STC cards using the **rept-stat-eroute** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0

EROUTE SUBSYSTEM REPORT IS-NR         Active     -----
STC Cards Configured= 8  Cards IS-NR= 8
EISCOPY BIT = ON
System Threshold = 80% Total Capacity
System Peak EROUTE Load:            8000 Buffers/Sec
System Total EROUTE Capacity:       9600 Buffers/Sec

SYSTEM ALARM STATUS = No Alarms.

CARD   VERSION      PST           SST        AST       TVG   CPU
                                                       USAGE USAGE
------------------------------------------------------------------
1105   123-002-000  IS-NR         Active     -----      35%    52%
1205   123-002-000  IS-NR         Active     -----      35%    52%
1211   123-002-000  IS-NR         Active     -----      35%    52%
1303   123-002-000  IS-NR         Active     -----      35%    52%
1311   123-002-000  IS-NR         Active     -----      35%    52%
1313   123-002-000  IS-NR         Active     -----      35%    52%
2211   123-002-000  IS-NR         Active     -----      35%    52%
2213   123-002-000  IS-NR         Active     -----      35%    52%
------------------------------------------------------------------
EROUTE Service Average TVG Capacity =  35%  Average CPU Capacity =  52%
```

Skip steps 14 through 17, and go to step 18.

---

13. Display the status of the IPSMs (if the IPS GPL is being updated), or the cards running the EBDADCM or EBDABLM GPL using the **rept-stat-card** command and specifying the location of the card shown in the **rept-stat-gpl** output in step 8. For this example, enter this command.

rept-stat-card:loc=2301

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
2301   123-001-000  DCM       EBDADCM    IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 123-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

If the EBDABLM or EBDADCM GPLs are being updated, skip steps 15 through 17, and go to step 18.

---

14. Display the terminal configuration in the database with the **rtrv-trm** command. The IP terminals are shown by the terminal numbers 17 through 40. The **rtrv-trm** output shows the location of the IPSM associated with the IP terminals. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE     COMM         FC     TMOUT MXINV DURAL
1    VT320     9600-7-E-1 SW     30    5     99:59:59
2    KSR       9600-7-E-1 HW     30    5     INDEF
3    PRINTER   4800-7-E-1 HW     30    0     00:00:00
4    VT320     2400-7-E-1 BOTH   30    5     00:30:00
5    VT320     9600-7-O-1 NONE   30    5     00:00:30
6    OAP      19200-7-E-1 SW     0     5     INDEF
7    PRINTER   9600-7-N-2 HW     30    5     00:30:00
8    KSR      19200-7-E-2 BOTH   30    5     00:30:00
9    OAP      19200-7-E-1 SW     0     5     INDEF
10   VT320     9600-7-E-1 HW     30    5     00:30:00
11   VT320     4800-7-E-1 HW     30    5     00:30:00
12   PRINTER   9600-7-E-1 HW     30    4     00:30:00
13   VT320     9600-7-O-1 NONE   30    5     00:30:00
14   VT320     9600-7-E-2 SW     30    8     00:30:00
15   VT320     9600-7-N-2 HW     30    5     00:30:00
16   VT320     9600-7-E-2 BOTH   30    3     00:30:00

TRM  TYPE       LOC              TMOUT MXINV DURAL
17   TELNET     3101             60    5     00:30:00
18   TELNET     3101             60    5     00:30:00
19   TELNET     3101             60    5     00:30:00
20   TELNET     3101             60    5     00:30:00
21   TELNET     3101             60    5     00:30:00
22   TELNET     3101             60    5     00:30:00
23   TELNET     3101             60    5     00:30:00
24   TELNET     3101             60    5     00:30:00
25   TELNET     3105             60    5     00:30:00
26   TELNET     3105             60    5     00:30:00
27   TELNET     3105             60    5     00:30:00
28   TELNET     3105             60    5     00:30:00
39   TELNET     3105             60    5     00:30:00
30   TELNET     3105             60    5     00:30:00
31   TELNET     3105             60    5     00:30:00
32   TELNET     3105             60    5     00:30:00
33   TELNET     3111             60    5     00:30:00
34   TELNET     3111             60    5     00:30:00
35   TELNET     3111             60    5     00:30:00
36   TELNET     3111             60    5     00:30:00
37   TELNET     3111             60    5     00:30:00
38   TELNET     3111             60    5     00:30:00
39   TELNET     3111             60    5     00:30:00
40   TELNET     3111             60    5     00:30:00

TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO
```

```
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

15. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

16. Place the terminals associated with the IPSM that will be updated with the new IPS GPL out of service using the **rmv-trm** command. For this example, enter these commands.

```
rmv-trm:trm=17
rmv-trm:trm=18
rmv-trm:trm=19
rmv-trm:trm=20
rmv-trm:trm=21
rmv-trm:trm=22
rmv-trm:trm=23
rmv-trm:trm=24
```

CAUTION: Placing these terminals out of service will disable any Telnet sessions running on these terminals.

If the status of the OAP terminals shown in the **PST** field in step 15 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the **rmv-trm** command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

17. The card that the new version of the GPL will be loaded onto must be out of service. Place the card, selected from the outputs of steps 8, 10, 11, 12, 13 or 14, out of service using the **rmv-card** command. If there is only one of these cards running these GPLs in service (**sccp**, **vsccp**, **gls**, **mcp**), the **force=yes** parameter must be specified with the **rmv-card** command.

For this example, enter this command.

```
rmv-card:loc=1101
```

CAUTION: Do not place all the cards running the same GPL in the EAGLE 5 SAS out of service at the same time. Doing so will cause all traffic carried by these cards to be lost and disable the feature associated with these cards.

If there is only one in service card running the GPL being updated in the EAGLE 5 SAS, placing the card out of service will cause the traffic carried by this card to be lost and disable the feature associated with this card.

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

18. Put the card that was inhibited in step 18 back into service using the **rst-card** command. The **rst-card** command also loads the approved version of the GPL onto the card.

For this example, enter this command.

rst-card:loc=1101

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been allowed.
```

---

19. Verify the GPLs on the cards using the **rept-stat-gpl** command with the **gpl** parameter value equal to the **gpl** parameter value specified in step 8. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output. For this example, enter these commands.

rept-stat-gpl:gpl=vsccp

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
VSCCP    1101   123-003-000       123-003-000   123-002-000
VSCCP    1102   123-002-000 ALM   123-003-000   123-002-000
VSCCP    1103   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

NOTE: If the IPS GPL is not being updated in this procedure, skip step 21 and 22, and go to step 23.

20. Put the terminals that were placed out of service in step 17 back into service using the **rst-trm** command. For this example, enter these commands.

rst-trm:trm=17

rst-trm:trm=18

rst-trm:trm=19

rst-trm:trm=20

rst-trm:trm=21

rst-trm:trm=22

rst-trm:trm=23

rst-trm:trm=24

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

---

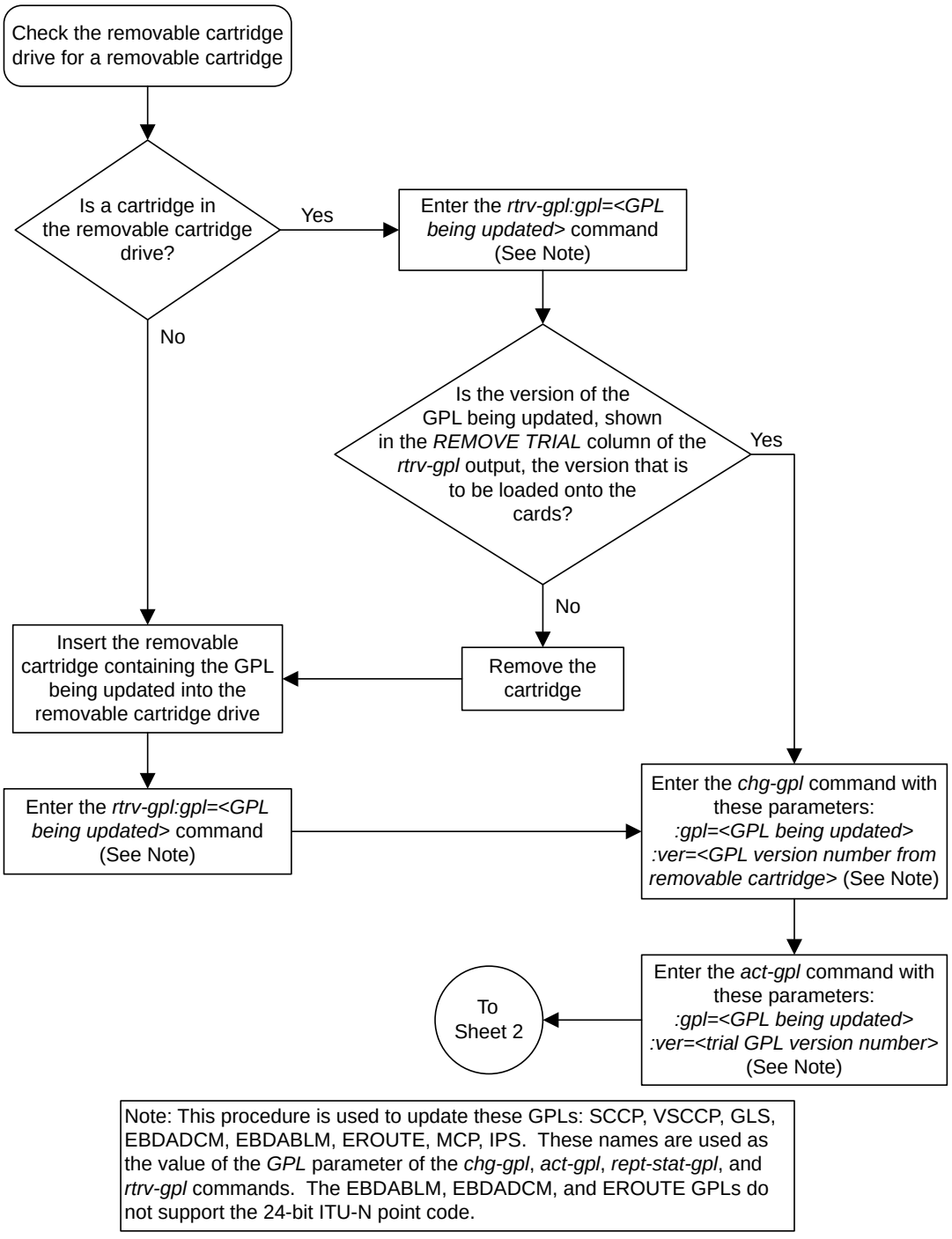
21. Verify that the terminals are in service with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

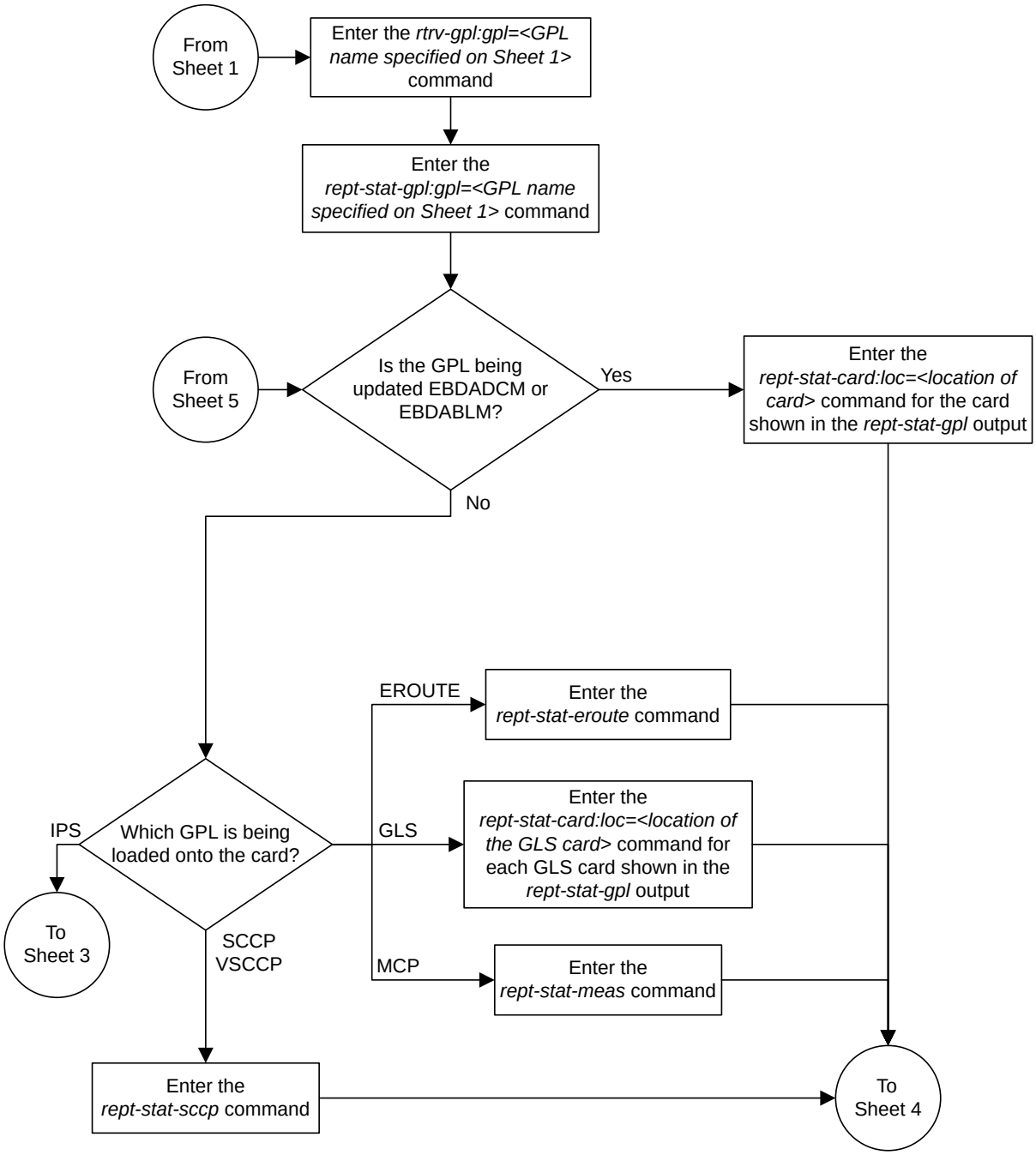
22. If you wish to load the new GPL onto the other cards shown in step 8, repeat this procedure from step 9 for each card shown in step 8.

23. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see “Removing the Removable Cartridge” on page 2-9.

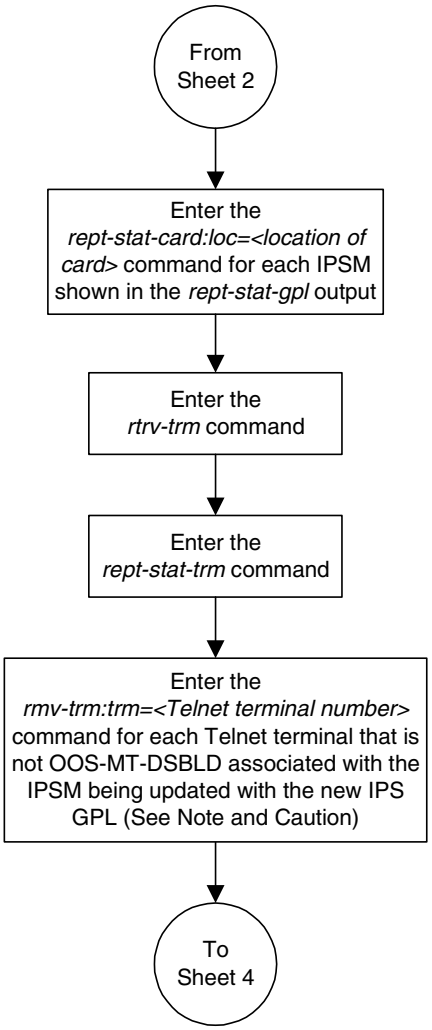
Flowchart 3-4. Updating the Service GPLs (Sheet 1 of 5)



Flowchart 3-4. Updating the Service GPLs (Sheet 2 of 5)



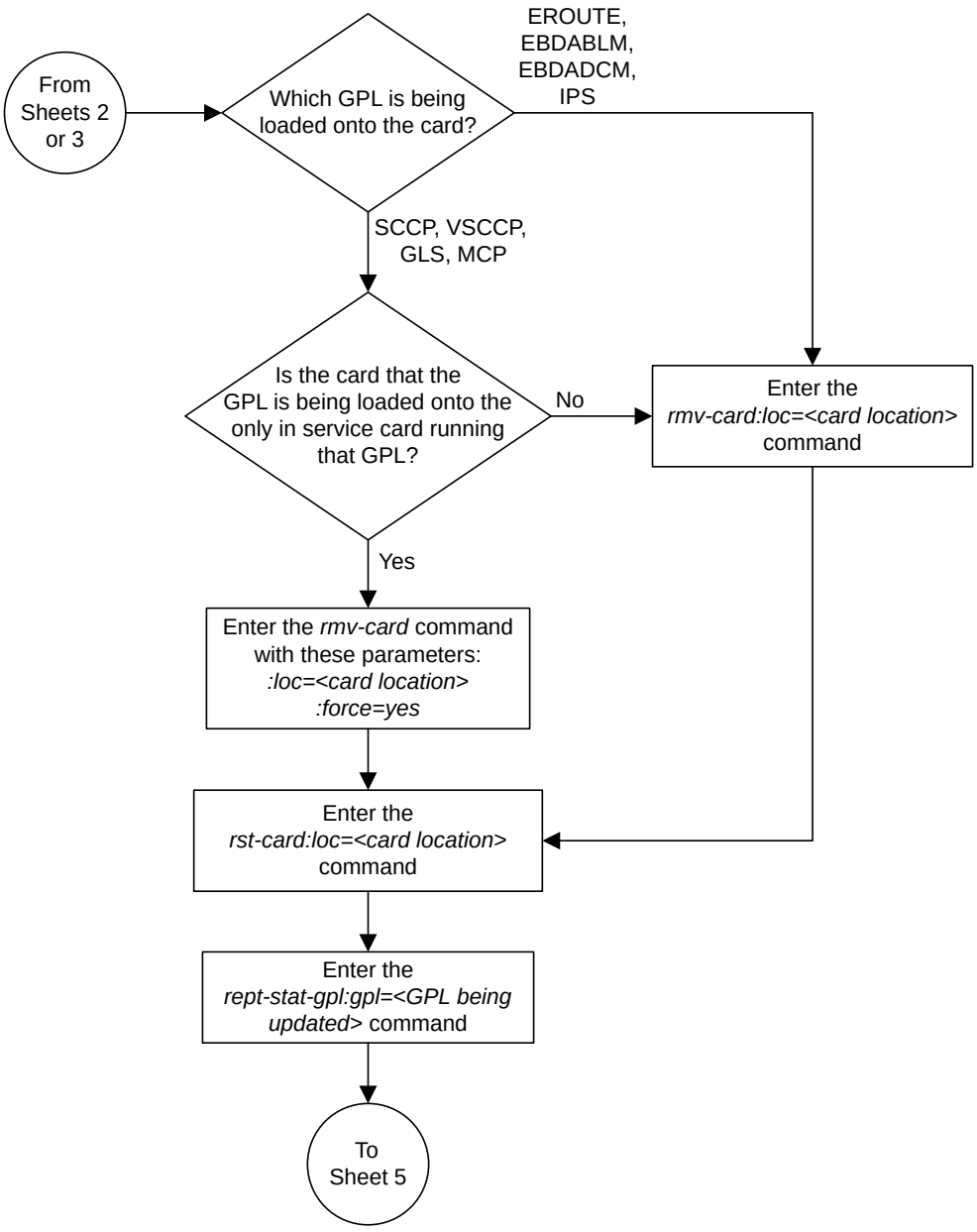
Flowchart 3-4. Updating the Service GPLs (Sheet 3 of 5)



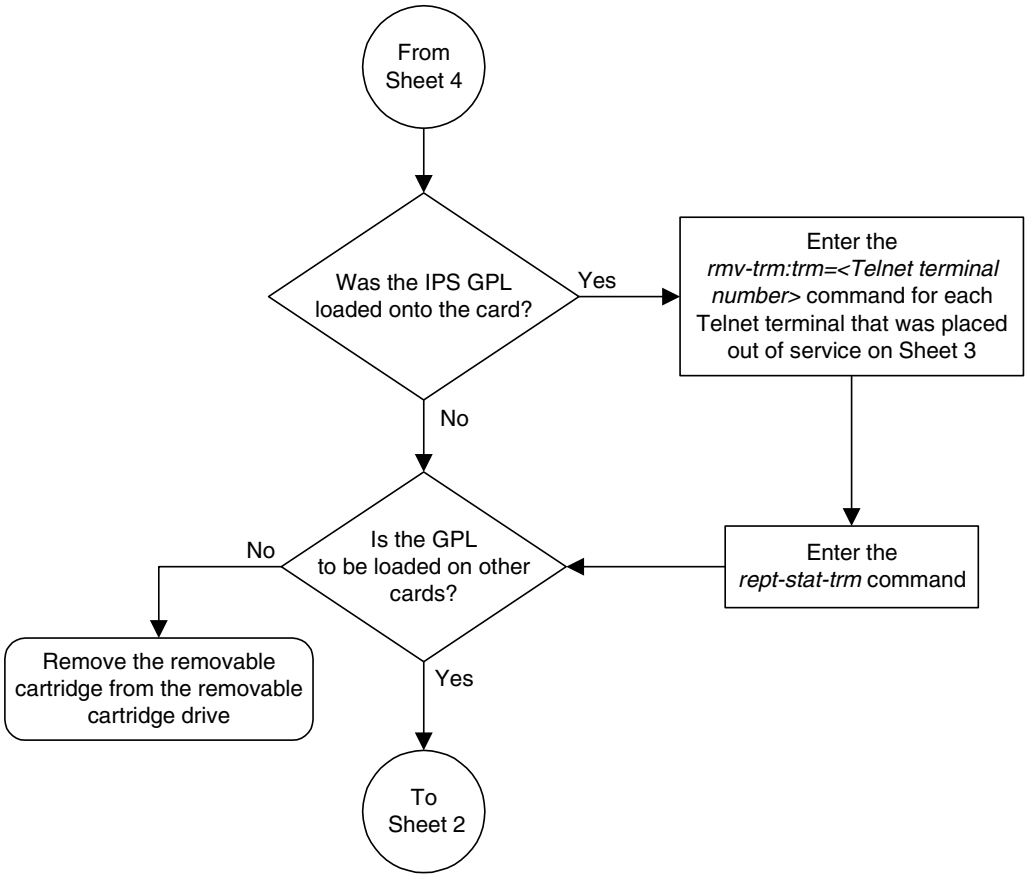
Caution: Placing the Telnet terminals out of service will disable all Telnet sessions supported by the terminals associated with the IPSM.

Note: Each IPSM has 8 Telnet terminals associated with it. The *rtrv-trm* output shows the Telnet terminals that are associated with each IPSM.

Flowchart 3-4. Updating the Service GPLs (Sheet 4 of 5)



Flowchart 3-4. Updating the Service GPLs (Sheet 5 of 5)



Updating the Flash GPLs

This procedure is used to update these GPLs: **bphcap**, **bphcapt**, **bpmpl**, **bpmplt**, **bpdcm**. These names are used as the value of the **gpl** parameter of the **chg-gpl**, **act-gpl**, **rept-stat-gpl**, and **rtrv-gpl** commands.

There are other flash GPLs in the EAGLE 5 SAS, but these flash GPLs are not covered in this procedure.

- The **blvxw**, **blbios**, **bldiag**, **blcpld**, **plde1t1**, **pldpmc1**, and **imtpci** flash GPLs run only on the HC MIMs. To update the **blvxw**, **blbios**, **bldiag**, **blcpld**, **plde1t1**, **pldpmc1**, and **imtpci** GPLs, go to either the "Updating One of the Flash GPLs on the HC MIMs" procedure on page 3-96 or the "Updating All the Flash GPLs on the HC MIMs" procedure on page 3-111.
- The **bphmux** flash GPL runs only on the HMUX cards. To update the **bphmux** GPL, go to the "Updating the BPHMUX GPL" procedure on page 3-128.
- The **hipr** flash GPL runs only on the HIPR cards. To update the **hipr** GPL, go to the "Updating the HIPR GPL" procedure on page 3-137.

The flash GPLs are used in place of the IMT GPL on these cards:

- BPHCAP and BPHCAPT – LIM-ATM, LIME1ATM, used for high-speed ATM SS7 signaling links.
- BPMPL – The Multi-Port LIM running the SS7 ANSI or CCS7ITU applications for SS7 signaling links.
- BPMPLT – Multi-Port LIM (MPLT) or E1/T1 MIM running the SS7ML application. The MPLT is used for SS7 signaling links. The E1/T1 MIM is used for either E1 or T1 signaling links.
- BPDCM – Cards running these applications:
  - VXWSLAN – Used to support the STPLAN feature
  - EBDADCM – Used to support the Enhanced Bulk Download feature
  - SS7IPGW, IPGWI, IPLIM, or IPLIMI – Used to support IP signaling links
  - VSCCP – Used to support these features: GTT, EGTT, VGTT, MGTT, IGTTLS, LNP, INP, G-FLEX, G-PORT, EIR, XGTT Table Expansion, XMAP Table Expansion
  - EROUTE – Used to support the Eagle with Integrated Sentinel feature
  - MCP – Used to support the Measurements Platform feature.
  - EOAM – Loaded on the GPSM-II card in card locations 1113 and 1115. The GPSM-II cards is used in combination with the TDM to form the Maintenance and Administration Subsystem Processor (MASP).
  - IPS – used to support the IP User Interface and FTP Retrieve and Replace features.

These applications do not support 24-bit ITU-N point codes: **vxwslan**, **ebdablm**, **ebdadcm**. The LNP and INP features and the Sentinel product do not support 24-bit ITU-N point codes.

The card types and applications shown in Table 3-3 on page 3-47 are the values shown in the **TYPE** or **APPL** columns of the **rept-stat-card** output.

If the GPL is being updated to a new version, a removable cartridge containing the GPL being updated is required.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the **rept-stat-slk** and **rtrv-slk** commands used in this procedure can output information for a long period of time, the **rept-stat-slk** and **rtrv-slk** commands can be canceled and the output to the terminal stopped. There are three ways that the **rept-stat-slk** and **rtrv-slk** commands can be canceled.

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

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

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. For this example, enter this command.

rtrv-gpl:gpl=bpdcm

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  002-002-000  002-002-000      002-001-000  002-003-000
BPDCM     1116  002-002-000  002-002-000      002-001-000  -----------
```

If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is the version that is to be loaded onto the cards, skip steps 2, 3, and 4, and go to step 5.

---

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

---

3. Insert the removable cartridge containing the **bpdcm** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

---

4. Display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. For this example, enter this command.

   rtrv-gpl:gpl=bpdcm

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  002-002-000  002-002-000      002-001-000  002-003-000
BPDCM     1116  002-002-000  002-002-000      002-001-000  -----------
```

---

5. Change the GPLs, using the **chg-gpl** command and specifying the value for the GPL shown in the **REMOVE TRIAL** column in the output of the **rtrv-gpl** command used in steps 1 or 4. For this example, enter this command.

   chg-gpl:gpl=bpdcm:ver=002-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

BPDCM upload on 1114 completed
BPDCM upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

---

6. Activate the trial GPL, using the **act-gpl** command and specifying the name and version of the trial GPL specified in step 5. For this example, enter this command.

   act-gpl:gpl=bpdcm:ver=002-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
BPDCM activate on 1114 completed
BPDCM activate on 1116 completed
```

7. Verify that the GPL on the removable cartridge is the approved GPL on the fixed disk using the **rtrv-gpl** command with the **gpl** parameter value specified in step 6. For this example, enter this command.

   rtrv-gpl:gpl=bpdcm

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  002-003-000  002-003-000      002-002-000  002-003-000
BPDCM     1116  002-003-000  002-003-000      002-002-000  -----------
```

8. Verify the GPLs on the fixed disk and the cards that are running the GPLs using the **rept-stat-gpl** command with the **gpl** parameter value equal specified in step 7. For this example, enter this command.

   rept-stat-gpl:gpl=bpdcm

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPDCM    1113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1115   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2101   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2105   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2107   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2111   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2115   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2205   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2207   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2213   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2301   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2305   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2307   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2311   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3105   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3107   002-002-000 ALM   002-003-000   002-002-000
Command Completed
```

NOTE: If the GPL being displayed by the `rept-stat-gpl` command is the bpdcm GPL, the output of the `rept-stat-gpl` command will show any DCMs, DSMs, or GPSM-II cards that are inserted in the EAGLE 5 SAS, whether they are configured in the database or not.

---

9. Display the status of the card, shown in the **`rept-stat-gpl`** output in step 8, that the GPL will be loaded onto using the **`rept-stat-card`** command and specifying the location of the card. For this example, enter this command.

`rept-stat-card:loc=2105`

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD  VERSION      TYPE    APPL      PST           SST       AST
2105  123-003-000  DCM     VXWSLAN   IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  BPDCM GPL         = 002-002-000
  IMT BUS A         = Conn
  IMT BUS B         = Conn
  SLK A PST         = IS-NR       LS=lsnsspn2  CLLI=-----------
  SCCP SERVICE CARD = 1212
  SLAN SERVICE CARD = ----
Command Completed.
```

---

10. Steps 11 through 21 are performed based on the application running on the card shown in the **`APPL`** column in the **`rept-stat-card`** output in step 9. The following list shows the steps that are performed for the application running on the card being updated with the new flash GPL.

- EROUTE, EBDABLM, EBDADCM – Step 9 shows the status of these cards. Skip steps 11 through 21 and go to step 22.
- ATMANSI, ATMITU, SS7ANSI, CCS7ITU, IPLIM, IPLIMI, SS7IPGW, IPGWI – Perform steps 11 and 12, then go to step 22. Skip steps 13 through 21.
- VXWSLAN – Perform steps 13 and 14, then go to step 22. Skip steps 11 and 12, and steps 15 through 21.
- VSCCP – Perform step 15, then go to step 22. Skip steps 11 through 14, and steps 16 through 21.
- MCP – Perform step 16, then go to step 22. Skip the steps 11 through 15, and steps 17 through 21.
- EOAM – Perform steps 17 through 21, then go to step 22. Skip steps 11 through 16.
- IPS – Perform steps 18, 19, and 20, then go to step 22. Skip steps 11 through 17 and step 21.

---

11. Display the signaling links associated with the card shown in step 9. Enter the **rtrv-slk** command with the card location specified in step 9. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT  EAGLE5 34.3.0

                                    L2T          L1                PCR  PCR
LOC  LINK LSN          SLC TYPE     SET  BPS     MODE TSET  ECM    N1   N2
1201 A    lsn1201a      0  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
1201 B    lsn1201b      0  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
1201 A1   lsn1201a      1  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
1201 B1   lsn1201b      1  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
```

12. Deactivate the SS7 signaling links on the card using the **dact-slk** command. For this example, enter these commands.

dact-slk:loc=1201:link=a

dact-slk:loc=1201:link=b

dact-slk:loc=1201:link=a1

dact-slk:loc=1201:link=b1

CAUTION: These command examples place the SS7 signaling links on card 1201 out of service. This will interrupt service on the SS7 signaling links on card 1201 and allow the approved GPL to be loaded on to card 1201.

Do not deactivate all the SS7 signaling links in the EAGLE 5 SAS at the same time. Doing so will take all the SS7 signaling links out of service and isolate the EAGLE 5 SAS from the network.

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

```
rlghncxa03w 06-03-01 11:45:18 GMT  EAGLE5 34.3.0
Deactivate SLK message sent to card
```

Skip steps 13 through 21, and go to step 22.

13. Display the TCP/IP data links, and their status, associated with the cards shown in steps 8 and 9. Enter the **rept-stat-dlk** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 17:00:36 GMT  EAGLE5 34.3.0
DLK    PST           SST        AST
1303   IS-NR         Avail      ---
2101   IS-NR         Avail      ---
2103   IS-NR         Avail      ---
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

14. Deactivate the TCP/IP data link that you wish to load the GPL onto, shown in step 13, using the **canc-dlk** command. For this example, enter this command.

```
canc-dlk:loc=2105
```

CAUTION: This command example places the TCP/IP data link on card 2105 out of service. This will interrupt service on the TCP/IP data link on card 2105 and allow the trial GPL to be loaded on to card 2105.

Do not deactivate all the TCP/IP data links in the EAGLE 5 SAS at the same time. Doing so will take all the TCP/IP data links out of service and cause the STP LAN feature to be disabled.

If there is only one TCP/IP data link in the EAGLE 5 SAS, placing the card out of service will cause the STP LAN feature to be disabled.

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

```
rlghncxa03w 06-03-01 11:45:18 GMT  EAGLE5 34.3.0
Deactivate Link message sent to card.
Command Completed.
```

Skip steps 15 through 21, and go to step 22.

---

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

```
rlghncxa03w 06-03-01 09:57:31 GMT  EAGLE5 34.3.0

CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
2311  123-002-001  IS-NR           Active     -----        47%         81%
3101  123-002-001  IS-NR           Active     -----        34%         50%
3103  123-002-001  IS-NR           Active     -----        21%         29%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 34%       Average CPU Capacity = 54%
Command Completed.
```

Skip steps 16 through 21, and go to step 22.

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*.

---

16. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 123-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   123-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2115   123-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

Skip steps 17 through 21, and go to step 22.

NOTE: Step 17 is performed only if the application running on the card shown in the rept-stat-card output in step 9 is EOAM. If the application running on the card is IPS, skip step 17 and go to step 18.

17. To load the **bpdcm** GPL on the GPSM-II, it must be loaded on the standby MASP (GPSM-II) first. To determine which MASP is active, enter the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 05-03-01 10:19:18 GMT  Y       35 05-03-01 10:19:18 GMT
FD CRNT  Y      106                       Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 05-02-31 20:27:53 GMT
```

The output of the **rept-stat-db** command shows which MASP is active with the indicator **(ACTV)** following the TDM card location. The indicator **(STDBY)** following the TDM card location shows which MASP is standby.

For this example, the MASP associated with TDM 1116 is active and the MASP associated with TDM 1114 is standby.

---

18. Display the terminal configuration in the database with the **rtrv-trm** command.

If the application running on the card is EOAM, the OAP terminals must be taken out of service. The OAP terminals are shown in the output with the entry **OAP** in the **TYPE** field. If no OAP terminals are shown in the **rtrv-trm** command output, skip steps 19 through 21 and go to step 22.

If the application running on the card is IPS, the Telnet terminals associated with the card shown in step 9 must be taken out of service. The Telnet terminals are shown in the output with the entry **TELNET** in the **TYPE** field.

This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. The Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE     COMM         FC     TMOUT MXINV DURAL
1    VT320     9600-7-E-1 SW     30    5     99:59:59
2    KSR       9600-7-E-1 HW     30    5     INDEF
3    PRINTER   4800-7-E-1 HW     30    0     00:00:00
4    VT320     2400-7-E-1 BOTH   30    5     00:30:00
5    VT320     9600-7-O-1 NONE   30    5     00:00:30
6    OAP      19200-7-E-1 SW     0     5     INDEF
7    PRINTER   9600-7-N-2 HW     30    5     00:30:00
8    KSR      19200-7-E-2 BOTH   30    5     00:30:00
9    OAP      19200-7-E-1 SW     0     5     INDEF
10   VT320     9600-7-E-1 HW     30    5     00:30:00
11   VT320     4800-7-E-1 HW     30    5     00:30:00
12   PRINTER   9600-7-E-1 HW     30    4     00:30:00
13   VT320     9600-7-O-1 NONE   30    5     00:30:00
14   VT320     9600-7-E-2 SW     30    8     00:30:00
15   VT320     9600-7-N-2 HW     30    5     00:30:00
16   VT320     9600-7-E-2 BOTH   30    3     00:30:00

TRM  TYPE       LOC              TMOUT MXINV DURAL
17   TELNET     1201             60    5     00:30:00
18   TELNET     1201             60    5     00:30:00
19   TELNET     1201             60    5     00:30:00
20   TELNET     1201             60    5     00:30:00
21   TELNET     1201             60    5     00:30:00
22   TELNET     1201             60    5     00:30:00
23   TELNET     1201             60    5     00:30:00
24   TELNET     1201             60    5     00:30:00
25   TELNET     1203             60    5     00:30:00
26   TELNET     1203             60    5     00:30:00
27   TELNET     1203             60    5     00:30:00
28   TELNET     1203             60    5     00:30:00
39   TELNET     1203             60    5     00:30:00
30   TELNET     1203             60    5     00:30:00
31   TELNET     1203             60    5     00:30:00
32   TELNET     1203             60    5     00:30:00
33   TELNET     1208             60    5     00:30:00
34   TELNET     1208             60    5     00:30:00
35   TELNET     1208             60    5     00:30:00
36   TELNET     1208             60    5     00:30:00
37   TELNET     1208             60    5     00:30:00
38   TELNET     1208             60    5     00:30:00
39   TELNET     1208             60    5     00:30:00
40   TELNET     1208             60    5     00:30:00

TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO
```

```
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

19. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

20. Place the required terminals out of service using the **rmv-trm** command.

If the OAP terminals are being placed out of service, the **force=yes** parameter must be used when placing the last OAP terminal out of service.

To place the OAP terminals out of service in this example, enter these commands.

```
rmv-trm:trm=6
rmv-trm:trm=9:force=yes
```

CAUTION: Placing the OAP terminals out of service will disable the SEAS feature on the EAGLE 5 SAS.

To place the Telnet terminals out of service in this example, enter these commands.

```
rmv-trm:trm=17
rmv-trm:trm=18
rmv-trm:trm=19
rmv-trm:trm=20
rmv-trm:trm=21
rmv-trm:trm=22
rmv-trm:trm=23
rmv-trm:trm=24
```

CAUTION: Placing the Telnet terminals out of service will disable any Telnet sessions running on these terminals.

If the status of any of the terminals shown in the **PST** field in step 19 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the **rmv-trm** command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

NOTE: Step 21 is performed only if the OAP terminals were placed out of service in step 20. If the OAP terminals were not placed out of service in step 20, skip step 21 and go to step 22.

21. Change the terminal type of the OAP terminals to NONE with the **chg-trm** command, the **type=none** parameter, and with the values of the OAP terminals used in step 20. For this example, enter these commands.

```
chg-trm:trm=6:type=none
```

```
chg-trm:trm=9:type=none
```

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CHG-TRM: MASP B - COMPLTD
```

---

22. Place the card shown in step 9 out of service using the **rmv-card** command.

CAUTION: Multiple cards running the same flash GPL can be updated at the same time with the init-flash command (step 25). This requires that the cards in the locations specified with the init-flash command in step 25 are out of service. All the cards running a one of these applications (ss7ansi, ccs7itu, atmansi, atmitu, iplim, iplimi, ss7ipgw, ipgwi, vxwslan, vsccp, mcp, eroute, and ips) can be placed out of service. However, it is recommended that only some of the cards running a specific application are placed out of service. Placing all the cards running a specific application out of service will cause the traffic carried by these cards to be lost and disable the features supported by these cards.

CAUTION: If the eoam application is being updated, the card being placed out of service must be the GPSM-II associated with the standby MASP. Both cards running the eoam application cannot be placed out of service at the same time.

CAUTION: If there is only one card running these applications (ss7ansi, ccs7itu, atmansi, atmitu, iplim, iplimi, ss7ipgw, ipgwi, vxwslan, vsccp, mcp, eroute, or ips), shown in the APPL column in the rept-stat-card output in step 9, in the EAGLE 5 SAS, placing the card out of service will cause the traffic carried by this card to be lost and disable the feature that this card supports.

For this example, enter this command.

```
rmv-card:loc=2105
```

NOTE: If more than one card running the same flash GPL is to be updated in step 25, repeat this step for those cards.

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

If the card is running the **ss7ansi**, **ccs7itu**, **iplim**, **iplimi**, **ss7ipgw**, or **ipgwi** applications, and the card contains the last signaling link in a linkset, the **force=yes** parameter must be specified.

If the card is running the **vsccp** or **mcp** applications, and is the last card running that application in service, the **force=yes** parameter must be specified.

NOTE: If you do not wish to reload the TDM clock LCA bitfile, skip steps 23 and 24, and go to step 25.

23. Verify the status of the high-speed clocks by entering the **rept-stat-clk** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
CARD LOC = 1114 (Standby  )   CARD LOC = 1116 (Active   )
PRIMARY BITS     = Active     PRIMARY BITS     = Active
SECONDARY BITS   = Idle       SECONDARY BITS   = Idle
HS PRIMARY CLK   = Active     HS PRIMARY CLK   = Active
HS SECONDARY CLK = Idle       HS SECONDARY CLK = Idle
HS CLK TYPE      = RS422      HS CLK TYPE      = RS422
HS CLK LINELEN   = LONGHAUL   HS CLK LINELEN   = LONGHAUL

                              PST           SST       AST
SYSTEM CLOCK                  IS-NR         Active    -----
ALARM STATUS     = No Alarms.
# Cards using CLK A = 009     # Cards with bad CLK A = 000
# Cards using CLK B = 000     # Cards with bad CLK B = 000
# Cards using CLK I = 000

                              PST           SST       AST
HS SYSTEM CLOCK               IS-NR         Active    -----
ALARM STATUS      = No Alarms.
# Cards using HS CLK A = 002  # Cards with bad HS CLK A = 000
# Cards using HS CLK B = 000  # Cards with bad HS CLK B = 000
# Cards using HS CLK I = 000

Command Completed.
```

If the **rept-stat-clk** output does not show any high-speed clocks (**HS SYSTEM CLOCK**, **HS PRIMARY CLK**, **HS SECONDARY CLK**, **HS CLK TYPE**, and **HS CLK LINELEN** fields), the EAGLE 5 SAS does not contain any cards that are capable of using high-speed master timing.

NOTE: If the `HS CLK TYPE` and `HS CLK LINELEN` values shown in step 1 are set to the system default values (`HS CLK TYPE = RS422` and `HS CLK LINELEN = LONGHAUL`), skip step 24 and go to step 25.

24. Visually verify the part numbers of both TDMs in the EAGLE 5 SAS. To load the TDM clock LCA bitfile, the part numbers of both TDMs must be 870-0774-15 or later.

If the TDM part numbers are 870-0774-15 or later, go to step 25.

If the TDM part numbers are not 870-0774-15 or later, the TDMs must be replaced with TDM part numbers 870-0743-15 or later. Contact the Customer Care Center before replacing the TDMs. Refer to "Customer Care Center" on page 1-8 for the contact information. If the older TDMs are not replaced, this procedure cannot be performed.

---

25. Load the GPL onto the card inhibited in step 22 using the **`init-flash`** command with the **`code=appr`** parameter to load the approved version of the GPL onto the card. For this example, enter this command.

```
init-flash:code=appr:loc=2105
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Downloading for card 2105 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT EAGLE5 34.3.0
    BPHCAP Downloading for card 2105 Complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

If the card inhibited in step 22 is a GPSM-II, and you are reloading the TDM clock LCA bitfile, the **`initclk=yes`** and, if necessary, the **`force=yes`** parameters must be specified with the **`init-flash`** command.

CAUTION: If reloading the TDM clock LCA bitfile would cause a system clock outage, the `force=yes` parameter must be used with the `init-flash` command. A system clock outage can be caused by either the EAGLE 5 SAS having only one TDM (a simplex MASP configuration) or if the status of the high-speed clocks, shown in the `rept-stat-clk` output in step 23, on the TDM which is not being reset is Fault. A system clock outage will result in a loss of traffic on some or all signaling links.

The following command example loads the GPL onto the GPSM-II card and reloads the TDM clock LCA bitfile.

```
init-flash:initclk=yes:loc=1113:code=appr
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for card 1113 Started.
;
```

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for card 1113 Completed.
```

Updating more than One Card at the Same Time

If more than one card running the same flash GPL is being updated, enter the **init-flash** command with these parameters along with the **code=appr** parameter:

sloc – the first card location in the range of card locations

eloc – the last card location in the range of card locations

gpl – the flash GPL being updated

NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter. When the sloc, eloc, and gpl parameters are specified, only the cards running the GPL specified by the gpl parameter and within the range specified by the sloc and eloc parameters are updated. All other cards in the range specified by the sloc and eloc parameters are skipped.

Entering this example command will update the cards in the locations 1101 to 2115 running the **bpdcm** flash GPL with the approved version of the **bpdcm** GPL.

```
init-flash:code=appr:sloc=1101:eloc=2115:gpl=bpdcm
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for cards 1101 - 2115 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for cards 1101 - 2115 Completed.
    LOC 1101 : PASSED
    LOC 1102 : PASSED
    LOC 1112 : PASSED
    LOC 2105 : PASSED
    LOC 2107 : PASSED
    LOC 2111 : PASSED
    LOC 2112 : PASSED
    LOC 2115 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

When the **init-flash** command has completed successfully, the card specified in the **init-flash** command is rebooted.

---

26. Put the cards that were inhibited in step 22 back into service using the **rst-card** command. For this example, enter this command.

```
rst-card:loc=2105
```

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been allowed.
```

---

27. Verify that the GPL from step 25 has loaded and that the card has returned to its in-service normal (IS-NR) state using the **rept-stat-card** command. For this example, enter this command.

rept-stat-card:loc=2105

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CARD  VERSION      TYPE    APPL      PST           SST       AST
2105  123-003-000  DCM     VXWSLAN   IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  BPDCM GPL         = 002-003-000 +
  IMT BUS A         = Conn
  IMT BUS B         = Conn
  SLK A PST         = IS-NR       LS=lsnsspn2  CLLI=-----------
  SCCP SERVICE CARD = 1212
  SLAN SERVICE CARD = ----
Command Completed.
```

The '+' symbol indicates that the GPL has not been activated.

NOTE: If the version number of the bpdcm GPL shown in the rept-stat-card command output is different than the version specified in step 5, contact the Customer Care Center. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

28. Activate the approved GPL loaded onto the cards in step 25 using the **act-flash** command. For this example, enter this command.

act-flash:loc=2105

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for card 2105 Completed.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

Activating more than One Card at the Same Time

If more than one card running the same flash GPL was updated in step 25, enter the **act-flash** command with these parameters:

sloc – the first card location in the range of card locations

eloc – the last card location in the range of card locations

gpl – the flash GPL being activated

NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter. When the sloc, eloc, and gpl parameters are specified, only the cards running the GPL specified by the gpl parameter and within the range specified by the sloc and eloc parameters are updated. All other cards in the range specified by the sloc and eloc parameters are skipped.

Entering this example command will activate the flash GPLs on the cards in the locations 1101 to 2115.

act-flash:sloc=1101:eloc=2115:gpl=bpdcm

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for cards 1101 - 2115 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for cards 1101 - 2115 Completed.
    LOC 1101 : PASSED
    LOC 1102 : PASSED
    LOC 1112 : PASSED
    LOC 2105 : PASSED
    LOC 2107 : PASSED
    LOC 2111 : PASSED
    LOC 2112 : PASSED
    LOC 2115 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

29. Verify the GPLs on the cards using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 6. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output. For this example, enter these commands.

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPDCM    1113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1115   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1307   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2101   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2105   002-003-000       002-003-000   002-002-000
BPDCM    2113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2205   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2207   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2213   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2301   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2305   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2307   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2311   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3101   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3105   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3107   002-002-000 ALM   002-003-000   002-002-000
Command Completed
```

NOTE: If the GPL being displayed by the rept-stat-gpl command is the bpdcm GPL, the output of the rept-stat-gpl command will show any DCMs, DSMs, or GPSM-II cards that are inserted in the EAGLE 5 SAS, whether they are configured in the database or not.

NOTE: If the card's application, shown in the `rept-stat-card` output in step 9, is `ss7ansi`, `ccs7itu`, `atmansi`, `atmitu`, `iplim`, `iplimi`, `ss7ipgw`, `ipgwi`, perform steps 30 and 31, then go to step 39. Skip steps 33 through 38.

30. Place the signaling links that were deactivated in step 12 back into service using the **`act-slk`** command. For this example, enter these commands.

`act-slk:loc=1201:link=a`

`act-slk:loc=1201:link=b`

`act-slk:loc=1201:link=a1`

`act-slk:loc=1201:link=b1`

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

```
rlghncxa03w 06-03-01 11:55:49 GMT  EAGLE5 34.3.0
Activate SLK message sent to card
```

31. Verify that the signaling links activated in step 30 are back in service using the **`rept-stat-slk`** command with the card location and signaling link. For this example, enter these commands.

`rept-stat-slk:loc=1201:link=a`

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,A   lsnmpl1   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

`rept-stat-slk:loc=1201:link=b`

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,B   lsnmpl2   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

`rept-stat-slk:loc=1201:link=a1`

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,A1  lsnmpl3   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

`rept-stat-slk:loc=1201:link=b1`

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,B1  lsnmpl4   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

NOTE: If the card's application, shown in the `rept-stat-card` output in step 9, is `vxwslan`, perform steps 32 and 33, then go to step 39. Skip steps 34 through 38.

32. Place the TCP/IP data link that was deactivated in step 14 back into service using the **`act-dlk`** command. For this example, enter this command.

`act-dlk:loc=2105`

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

```
rlghncxa03w 06-03-01 11:55:49 GMT  EAGLE5 34.3.0
Activate Link message sent to card.
```

---

33. Verify that the TCP/IP data links activated in step 32 are back in service with the **`rept-stat-dlk`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 17:00:36 GMT  EAGLE5 34.3.0
DLK    PST           SST        AST
1303   IS-NR         Avail      ---
2101   IS-NR         Avail      ---
2103   IS-NR         Avail      ---
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
```

NOTE: If the application running on the card is not EOAM, skip steps 34 through 38, and go to step 39.

NOTE: If the application running on the is IPS, perform steps 36 and 37, then go to step 39. Skip steps 34, 35, and 38.

NOTE: If you do not wish to load the new version of the `bpdcm` GPL onto the other GPSM-II card running the EOAM application, skip this step and go to step 35.

34. If you wish to load the new GPL onto the GPSM-II card making up the active MASP, enter the **`init-card`** command specifying the location of the GPSM-II card making up active MASP. For this example, enter the **`init-card:loc=1115`** command. This message should appear.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Init Card command issued to card 1115
```

After the **`init-card`** command has completed, repeat this procedure from step 22, specifying the card location used in the **`init-card`** command.

NOTE: If OAP terminals are not shown in the `rtrv-trm` command output in step 18, skip steps 35 through 37, and go to step 38.

NOTE: If the application running on the is IPS, skip step 35 and go to step 36.

35. Change the terminal type of the terminals that were changed to **`NONE`** in step 21 to the terminal type OAP with the **`chg-trm`** command and the **`type=oap`** parameter. The terminal type is shown in the **`TYPE`** field in the **`rtrv-trm`** command output in step 18. For this example, enter these commands.

chg-trm:trm=6:type=oap

chg-trm:trm=9:type=oap

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CHG-TRM: MASP B - COMPLTD
```

36. Put the required terminals back into service with the **rst-trm** command.

If OAP terminals were placed out of service in step 20, for this example, enter these commands.

rst-trm:trm=6

rst-trm:trm=9

If Telnet terminals were placed out of service in step 20, for this example, enter these commands.

rst-trm:trm=17

rst-trm:trm=18

rst-trm:trm=19

rst-trm:trm=20

rst-trm:trm=21

rst-trm:trm=22

rst-trm:trm=23

rst-trm:trm=24

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

37. Verify that the terminals are in service with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
```

```
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

38. This procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If you wish to update one of the other flash GPLs, remove the removable cartridge from the removable cartridge drive on the MDAL card, and repeat this procedure from step 1.

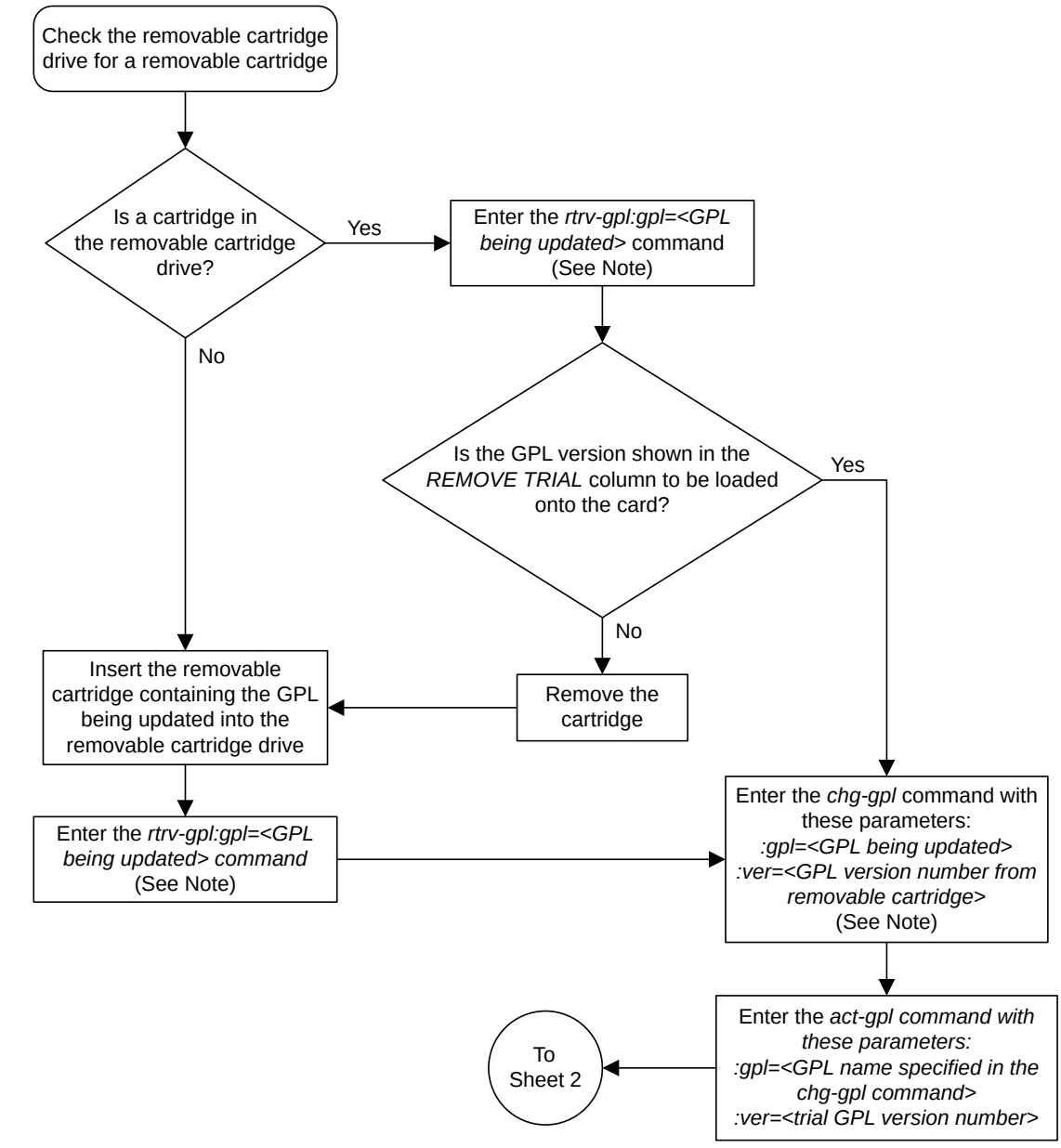
NOTE: If the application running on the card is EOAM, do not perform step 39. This procedure is finished.

39. If you wish to load the new GPL onto the other cards, other than the GPSM-II, shown in step 8, repeat this procedure from step 9 for each card.

If the new GPL updated in this procedure is not being loaded on the other cards in the EAGLE 5 SAS, this procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

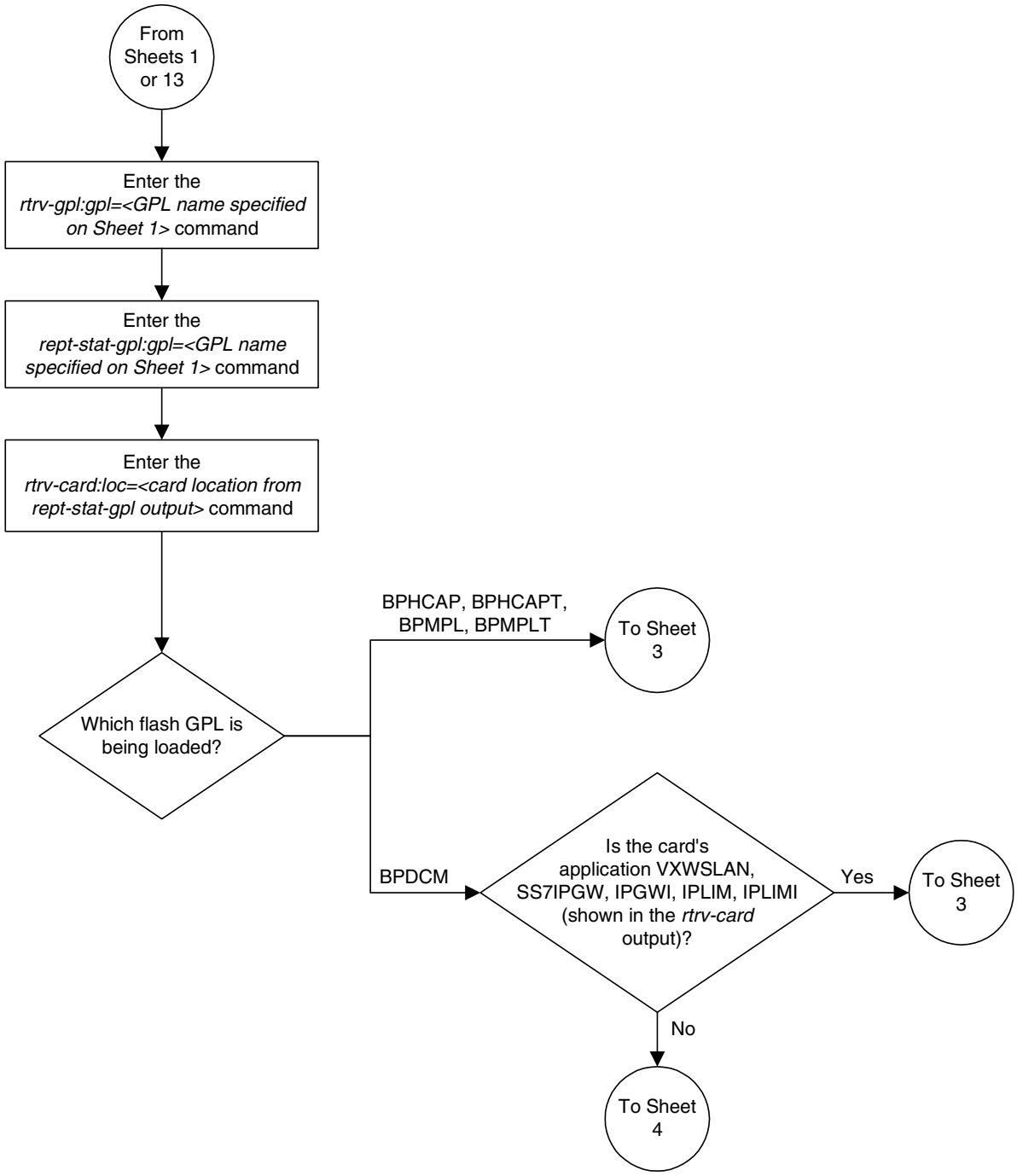
If you wish to update one of the other flash GPLs, repeat this procedure from step 1.

Flowchart 3-5. Updating the Flash GPLs (Sheet 1 of 13)

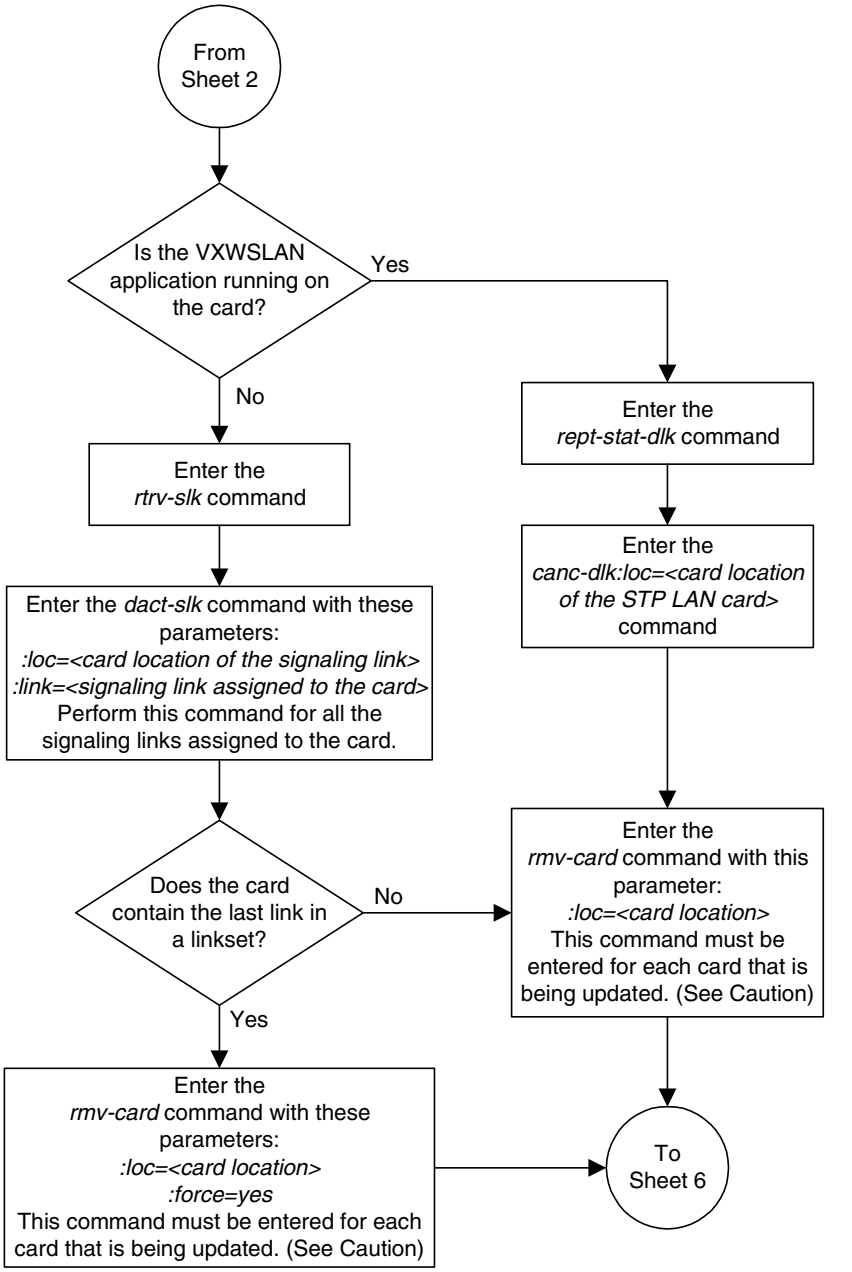


Note: This procedure is used to update these GPLs: BPHCAP, BPHCAPT, BPMPL, BPMLPT, BPDCM. These names are used as the value of the *GPL* parameter of the *chg-gpl*, *act-gpl*, *rept-stat-gpl*, and *rtrv-gpl* commands.

Flowchart 3-5. Updating the Flash GPLs (Sheet 2 of 13)

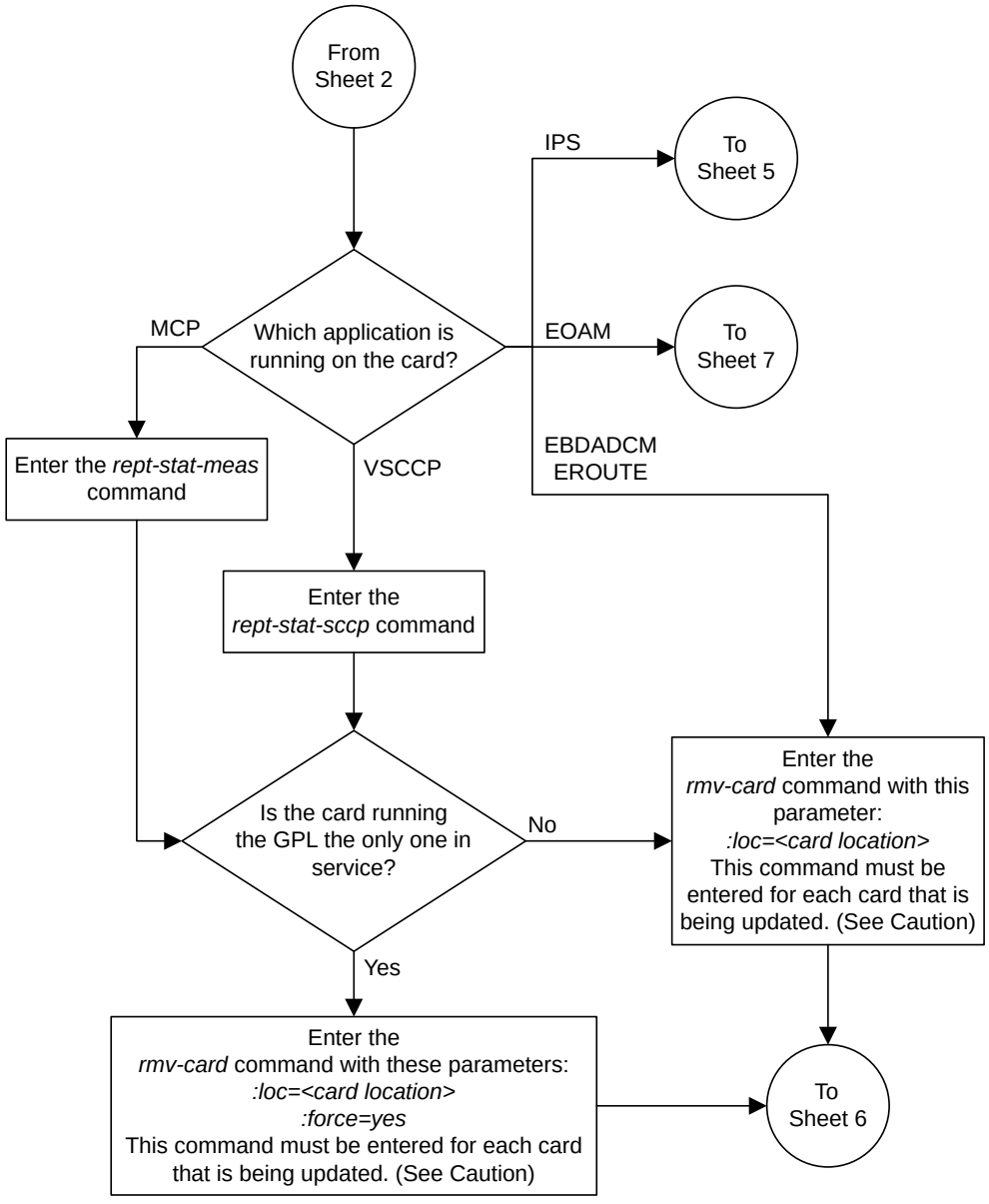


Flowchart 3-5. Updating the Flash GPLs (Sheet 3 of 13)

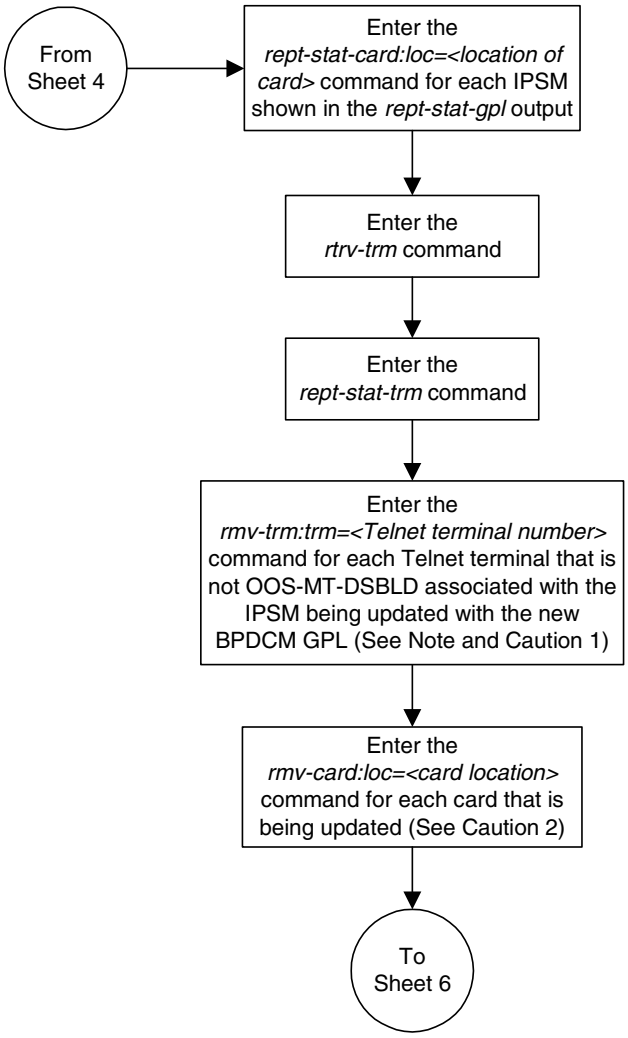


Caution: Multiple cards running the same flash GPL can be updated at the same time with the *init-flash* command. This requires that the cards in the locations specified with the *init-flash* command are out of service. All the cards running a one of these applications (ss7ansi, ccs7itu, atmansi, atmitu, iplim, iplimi, ss7ipgw, ipgwi, and vxwslan) can be placed out of service.
However, it is recommended that only some of the cards running a specific application are placed out of service. Placing all the cards running a specific application out of service will cause the traffic carried by these cards to be lost and disable the features supported by these cards.

Flowchart 3-5. Updating the Flash GPLs (Sheet 4 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 5 of 13)



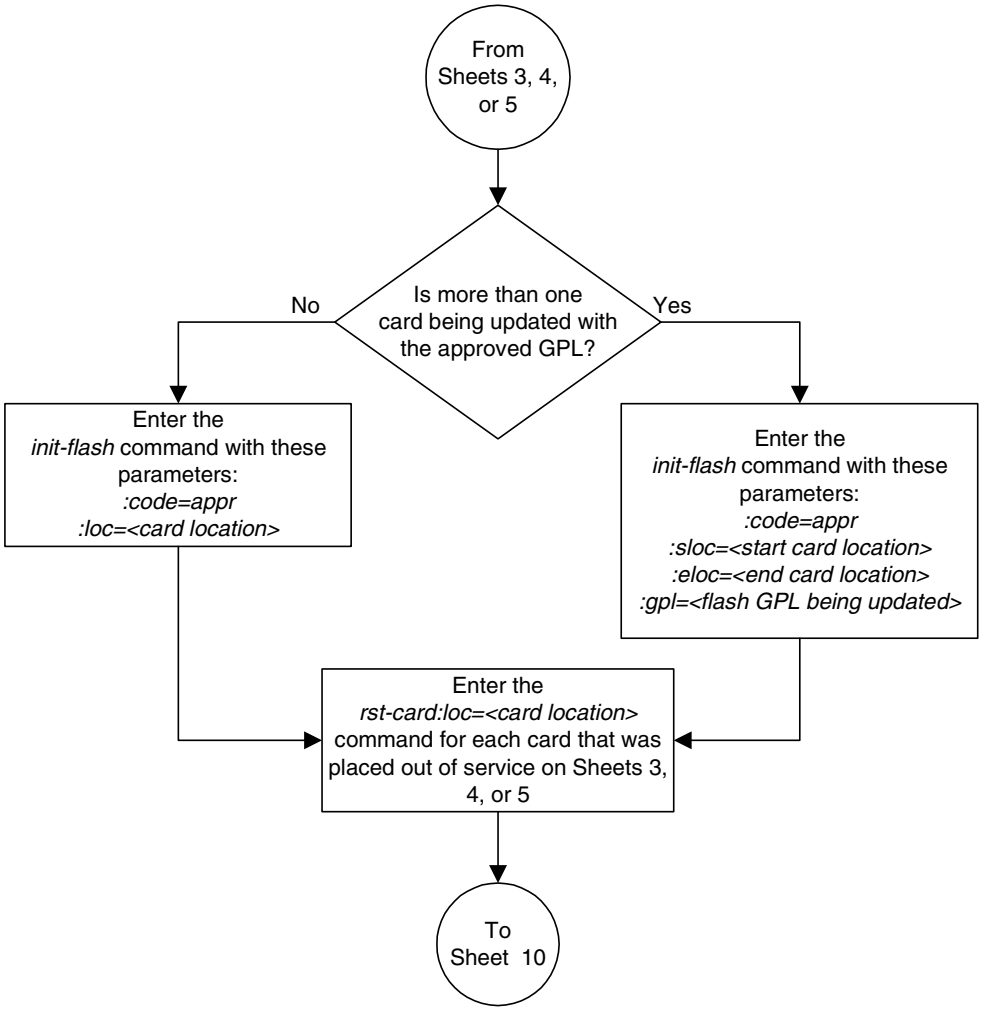
Note: Each IPSM has 8 Telnet terminals associated with it. The rtrv-trm output shows the Telnet terminals that are associated with each IPSM.

Cautions:

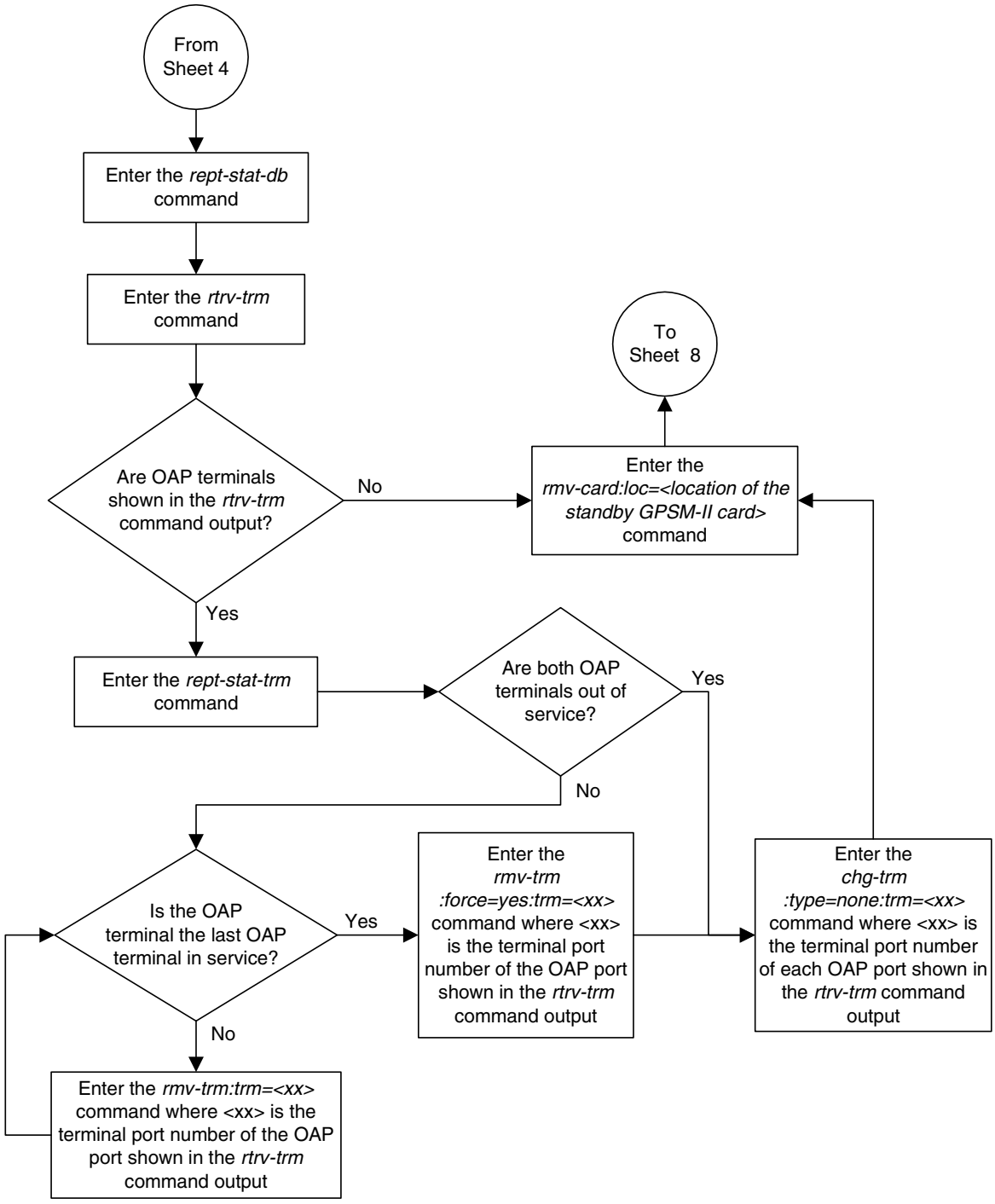
1. Placing the Telnet terminals out of service will disable all Telnet sessions supported by the terminals associated with the IPSM.

2. Multiple cards running the same flash GPL can be updated at the same time with the *init-flash* command. This requires that the cards in the locations specified with the *init-flash* command are out of service. All the IPSMs can be placed out of service at the same time. However, it is recommended that only some of the IPSMs are placed out of service. Placing all the IPSMs out of service will cause the traffic carried by IPSMs to be lost and disable the IP User Interface and FTP Retrieve and Replace features.

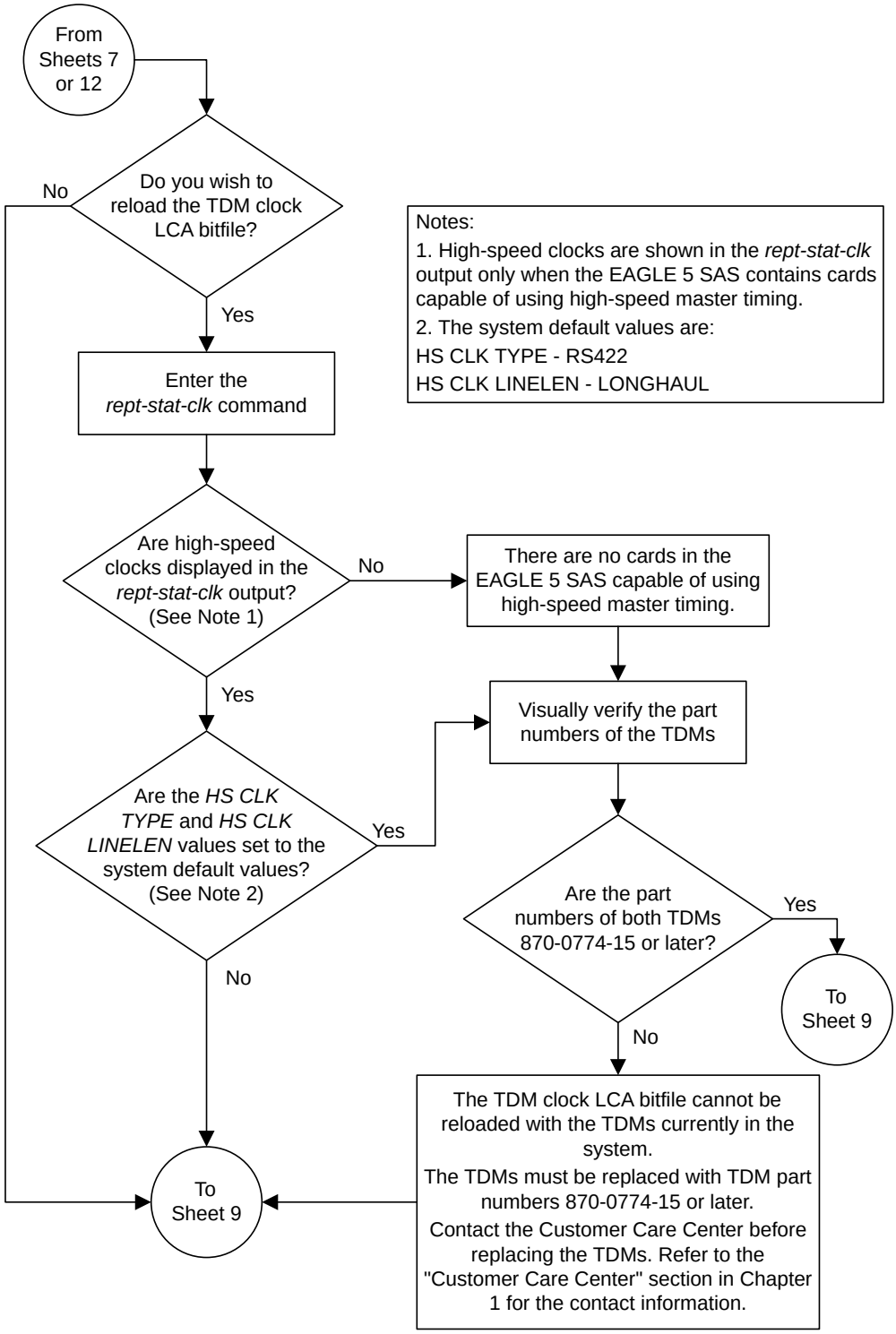
Flowchart 3-5. Updating the Flash GPLs (Sheet 6 of 13)



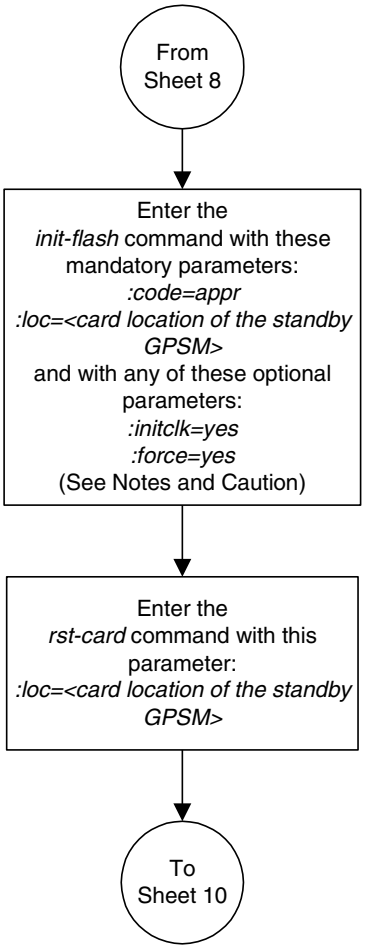
Flowchart 3-5. Updating the Flash GPLs (Sheet 7 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 8 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 9 of 13)

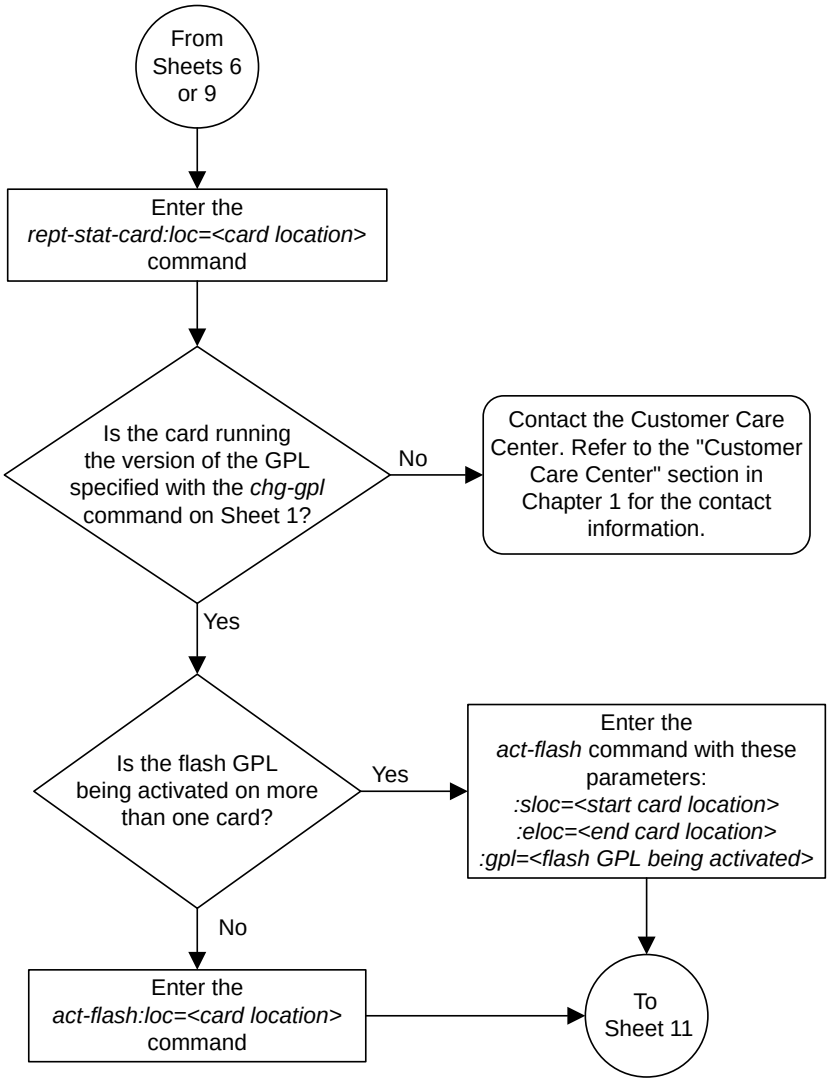


Notes:

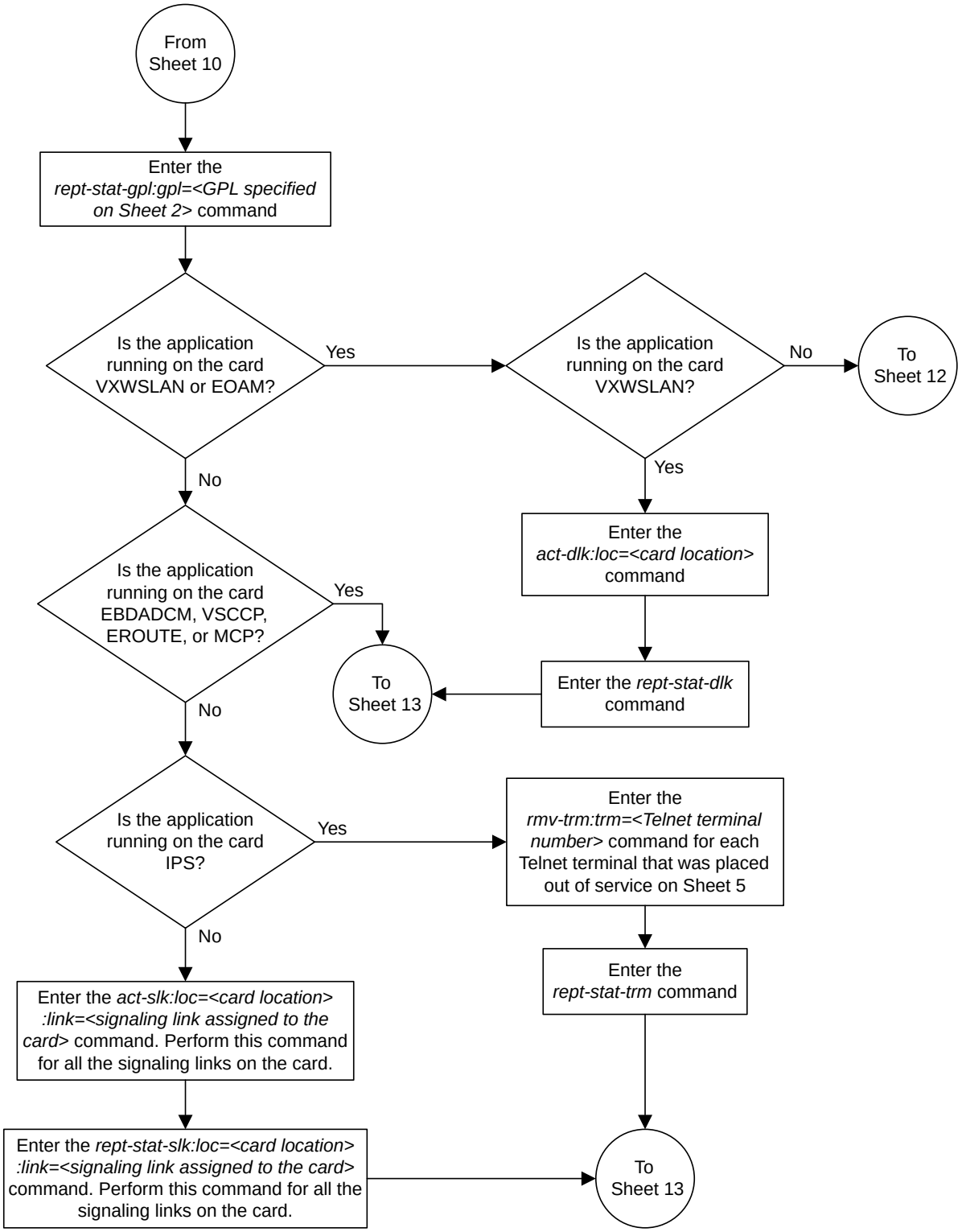
1. The *initclk=yes* parameter can be specified only if the part numbers of the TDMs in the system are 870-0774-15 or later. See Sheet 8.
2. The *force=yes* parameter can be specified only if the *initclk=yes* parameter is specified.
3. The *force=yes* parameter should be used only if the TDM clock LCA bitfile reload would cause a system clock outage. A system clock outage can be caused by either the system having only one TDM (a simplex MASP configuration) or if the status of high-speed clocks on the TDM which is not being reset is Fault. See the *rept-stat-clk* output from Sheet 8.

Caution: A clock outage will result in a loss of traffic on some or all signaling links.

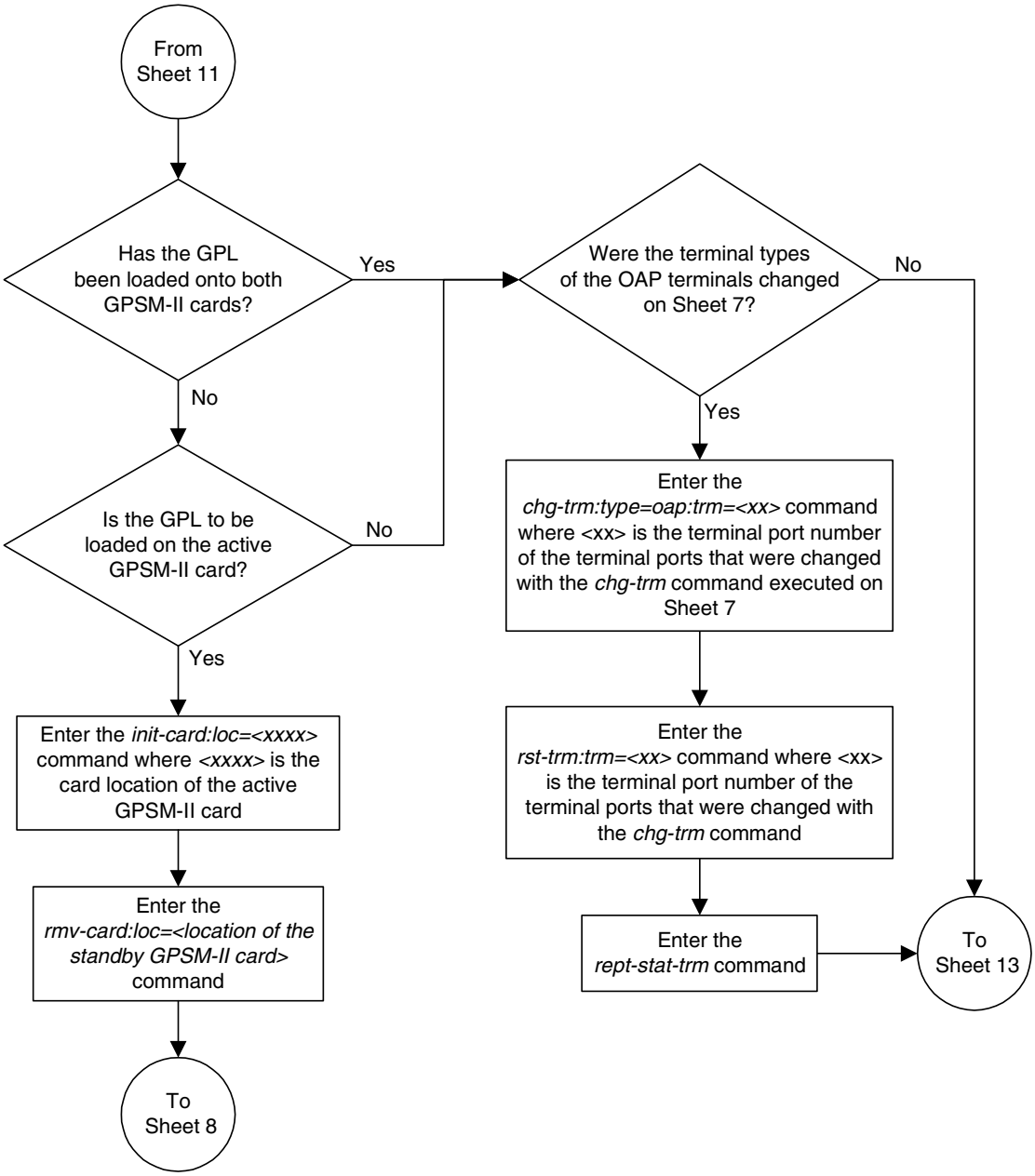
Flowchart 3-5. Updating the Flash GPLs (Sheet 10 of 13)



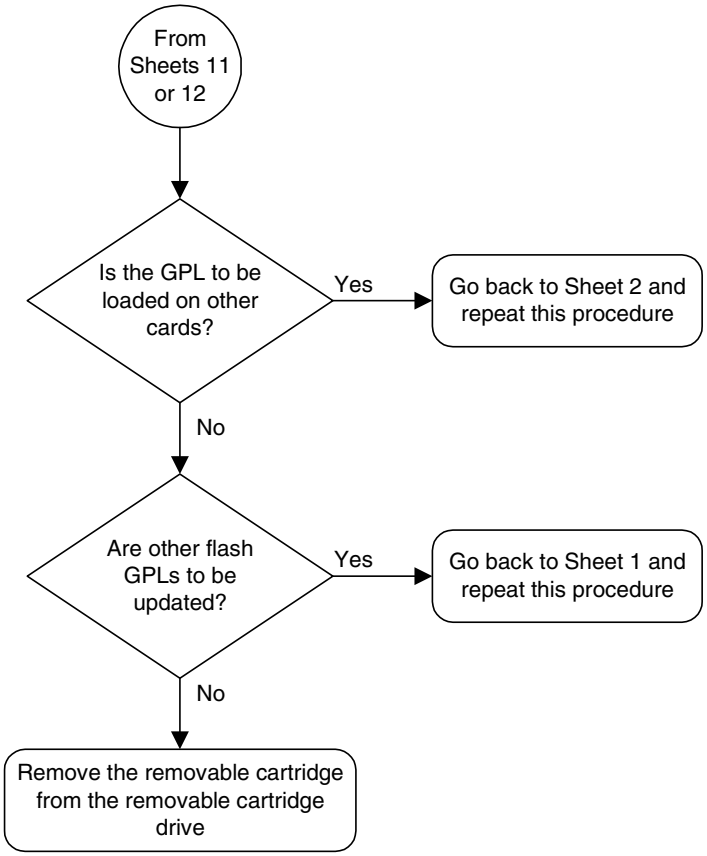
Flowchart 3-5. Updating the Flash GPLs (Sheet 11 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 12 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 13 of 13)



Updating One of the Flash GPLs on the HC MIMs

The flash GPLs on the HC MIM are: **blvxw**, **blbios**, **bldiag**, **blcpld**, **plde1t1**, **pldpmc1**, and **imtpci**. This procedure updates each HC MIM flash GPL individually using the **init-flash** and **act-flash** commands instead of updating all these GPLs at the same time using the **flash-card** command.

To update all the HC MIM flash GPLs at the same time using the **flash-card** command, perform the "Updating All the Flash GPLs on the HC MIMs" procedure on page 3-111.

The HC MIM flash GPL names **blvxw**, **blbios**, **bldiag**, **blcpld**, **plde1t1**, **pldpmc1**, and **imtpci**, are used as the value of the **gpl** parameter of the **chg-gpl**, **act-gpl**, **rept-stat-gpl**, and **rtrv-gpl** commands. HC MIMs run either the SS7ANSI or CCS7ITU applications for E1 or T1 signaling links.

A removable cartridge containing the HC MIM flash GPLs that are being updated is required.

CAUTION: Before any of the flash GPLs can be updated on the HC MIM, all the signaling links on the HC MIM, and the HC MIM must be taken out of service.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the **rept-stat-slk** and **rtrv-slk** commands used in this procedure can output information for a long period of time, the **rept-stat-slk** and **rtrv-slk** commands can be canceled and the output to the terminal stopped. There are three ways that the **rept-stat-slk** and **rtrv-slk** commands can be canceled.

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

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

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. For this example, enter this command.

   rtrv-gpl:gpl=blvxw

   This is an example of the possible output.

   ```
   rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   BLVXW     1114  125-002-000  125-002-000      125-001-000  125-003-000
   BLVXW     1116  125-002-000  125-002-000      125-001-000  -----------
   ```

   If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

   If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is the version that is to be loaded onto the cards, skip steps 2, 3, and 4, and go to step 5.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

3. Insert the removable cartridge containing the **blvxw** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

4. Display the GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the **gpl** parameter value specified in step 1. For this example, enter this command.

   rtrv-gpl:gpl=blvxw

   This is an example of the possible output.

   ```
   rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   BLVXW     1114  125-002-000  125-002-000      125-001-000  125-003-000
   BLVXW     1116  125-002-000  125-002-000      125-001-000  -----------
   ```

5. Change the GPLs, using the **chg-gpl** command and specifying the value for the trial GPL shown in the **REMOVE TRIAL** column in the output of the **rtrv-gpl** command used in step 4. For this example, enter this command.

   chg-gpl:gpl=blvxw:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

BLVXW upload on 1114 completed
BLVXW upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

6. Activate the trial GPL, using the **act-gpl** command and specifying the name and version of the trial GPL specified in step 5. For this example, enter this command.

   act-gpl:gpl=blvxw:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
BLVXW activate on 1114 completed
BLVXW activate on 1116 completed
```

7. Verify that the GPL on the removable cartridge is the trial GPL on the fixed disk using the **rtrv-gpl** command with the **gpl** parameter value specified in step 6. For this example, enter this command.

   rtrv-gpl:gpl=blvxw

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW     1114  125-003-000  125-003-000      125-002-000  125-003-000
BLVXW     1116  125-003-000  125-003-000      125-002-000  -----------
```

8. Verify the GPLs on the fixed disk and the cards that are running the GPLs using the **rept-stat-gpl** command with the **gpl** parameter value equal to the **gpl** parameter value specified in step 7. For this example, enter this command.

   rept-stat-gpl:gpl=blvxw

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BLVXW    1303   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2101   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2103   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2205   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2207   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2211   125-002-000 ALM   125-003-000   125-002-000
Command Completed
```

9. Display the status of the card, shown in the **rept-stat-gpl** output in step 8, that the GPL will be loaded onto using the **rept-stat-card** command and specifying the location of the card. For this example, enter this command.

rept-stat-card:loc=1303

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
1303   125-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 125-002-000
  BLCPLD  GPL version = 125-002-000
  BLDIAG  GPL version = 125-002-000
  BLBIOS  GPL version = 125-002-000
  BLVXW   GPL version = 125-002-000
  PLDE1T1 GPL version = 125-002-000
  PLDPMC1 GPL version = 125-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

10. Display the signaling links associated with the card shown in step 9. Enter the **rtrv-slk** command with the card location specified in step 9. For this example, enter this command>

rtrv-slk:loc=1303

This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT  EAGLE5 34.3.0

                                    L2T                PCR  PCR   E1   E1
LOC  LINK LSN         SLC TYPE      SET  BPS    ECM    N1   N2    LOC  PORT TS
1303 A    e11303a      0  LIME1     1    64000  PCR    76   3800  1303 2    12
1303 B    e11303b      0  LIME1     1    56000  BASIC  ---  ----- 1303 1    2
1303 A1   e11303a      1  LIME1     1    56000  BASIC  ---  ----- 1303 1    3
1303 B3   e11303b      1  LIME1     1    56000  BASIC  ---  ----- 1303 1    7
```

11. Deactivate the SS7 signaling links on the card using the **dact-slk** command. For this example, enter these commands.

dact-slk:loc=1303:link=a

dact-slk:loc=1303:link=b

dact-slk:loc=1303:link=a1

dact-slk:loc=1303:link=b3

CAUTION: These command examples place the E1 signaling links on card 1303 out of service. This will interrupt service on the E1 signaling links on card 1303 and allow the GPL to be loaded on to card 1303.

Do not deactivate all the E1 or T1 signaling links in the EAGLE 5 SAS at the same time. Doing so will take all the E1 or T1 signaling links out of service and isolate the EAGLE 5 SAS from the network.

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

```
rlghncxa03w 06-03-01 11:45:18 GMT  EAGLE5 34.3.0
Deactivate SLK message sent to card
```

---

12. Place the card shown in step 9 out of service using the **rmv-card** command.

CAUTION: Multiple cards running the same flash GPL can be updated at the same time with the `init-flash` command (step 13). This requires that the cards in the locations specified with the `init-flash` command in step 13 are out of service. All the HC MIMs can be placed out of service. However, it is recommended that only some of the HC MIMs are placed out of service. Placing all the HC MIMs out of service will cause all the traffic on the E1 or T1 signaling links assigned to the HC MIMs to be lost.

CAUTION: If there is only one HC MIM in the EAGLE 5 SAS, placing the HC MIM out of service will cause all the traffic on the E1 or T1 signaling links assigned to the HC MIMs to be lost.

For this example, enter this command.

```
rmv-card:loc=1303
```

NOTE: If more than one card running the same flash GPL is to be updated in step 13, repeat this step for those cards.

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

If the HC MIM contains the last signaling link in a linkset, the **force=yes** parameter must be specified.

---

13. Load the approved version of the GPL onto the card inhibited in step 12 using the **init-flash** command with the **code=appr** parameter.

NOTES:

1. **If the BLBIOS GPL is specified with the `init-flash` command, and the BLCPLD GPL currently running on the card is not activated (the `act-flash` command has not been performed on the BLCPLD GPL), then the `init-flash` command will be rejected.**
2. **If the BLCPLD GPL is specified with the `init-flash` command, and the BLBIOS GPL currently running on the card is not activated (the**

act-flash command has not been performed on the BLBIOS GPL), then the init-flash command will be rejected.

3. **The init-flash command contains the boot parameter which has two values, yes or no. The yes value is the default value for the boot parameter. The HC MIM will be re-initialized when the flash GPL download is complete if the boot parameter is not specified or if the boot=yes parameter is specified. To prevent the HC MIM from being re-initialized, the boot=no parameter must be specified with the init-flash command. However, the HC MIM must be re-initialized after the blcpld or bldiag GPLs are downloaded to the HC MIM.**

For this example, enter this command.

init-flash:code=appr:loc=1303:gpl=blvxw

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Downloading for card 1303 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT EAGLE5 34.3.0
    BLVXW Downloading for card 1303 Complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

Updating more than One Card at the Same Time

If more than one card running the same flash GPL is being updated, enter the **init-flash** command with these parameters along with the **code=appr** parameter:

sloc – the first card location in the range of card locations

eloc – the last card location in the range of card locations

gpl – the flash GPL being updated

NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter. When the sloc, eloc, and gpl parameters are specified, only the cards running the GPL specified by the gpl parameter and within the range specified by the sloc and eloc parameters are updated. All other cards in the range specified by the sloc and eloc parameters are skipped.

Entering this example command will update the cards in the locations 1303 to 2103 running the **blvxw** flash GPL with the approved version of the **blvxw** GPL.

init-flash:code=appr:sloc=1303:eloc=2103:gpl=blvxw

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for cards 1303 - 2103 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for cards 1303 - 2103 Completed.
    LOC 1303 : PASSED
    LOC 2101 : PASSED
```

```
    LOC 2103 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

See Note 3 on page 3-101.

---

4. Put the cards that were inhibited in step 12 back into service using the **rst-card** command. The **rst-card** command also loads the approved version of the GPL onto the card.

For this example, enter this command.

rst-card:code=appr:loc=1303

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been allowed.
```

---

5. Verify that the GPL from step 13 has loaded and that the card has returned to its in-service normal (IS-NR) state using the **rept-stat-card** command. For this example, enter this command.

rept-stat-card:loc=1303

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
1303   125-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 125-002-000
  BLCPLD  GPL version = 125-002-000
  BLDIAG  GPL version = 125-002-000
  BLBIOS  GPL version = 125-002-000
  BLVXW   GPL version = 125-003-000 +
  PLDE1T1 GPL version = 125-002-000
  PLDPMC1 GPL version = 125-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  SIGNALING LINK STATUS
      SLK    PST                LS            CLLI
      A      OOS-MT-DSBLD       e11303a       -----------
      B      OOS-MT-DSBLD       e11303b       -----------
      A1     OOS-MT-DSBLD       e11303a       -----------
      B3     OOS-MT-DSBLD       e11303b       -----------
Command Completed.
```

The '+' symbol indicates that the GPL has not been activated.

NOTE: If the version number of the `blvxw` GPL shown in the `rept-stat-card` command output is different than the version specified in step 5, contact the Customer Care Center. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

6. Activate the GPL loaded onto the cards specified in step 13 using the **act-flash** command with the card location and the name of the GPL specified in step 13. For this example, enter this command.

   act-flash:loc=1303:gpl=blvxw

   When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for card 1303 Completed.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

   Activating more than One Card at the Same Time

   If more than one card running the same flash GPL was updated in step 13, enter the **act-flash** command with these parameters:

   sloc – the first card location in the range of card locations

   eloc – the last card location in the range of card locations

   gpl – the flash GPL being activated

   NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter. When the sloc, eloc, and gpl parameters are specified, only the cards running the GPL specified by the gpl parameter and within the range specified by the sloc and eloc parameters are updated. All other cards in the range specified by the sloc and eloc parameters are skipped.

   Entering this example command will activate the flash GPLs on the cards in the locations 1303 to 2103.

   act-flash:sloc=1303:eloc=2103:gpl=blvxw

   When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for cards 1303 - 2103 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for cards 1303 - 2103 Completed.
    LOC 1303 : PASSED
    LOC 2101 : PASSED
    LOC 2103 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

7. Verify the GPLs on the cards using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 16. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output. For this example, enter this command.

rept-stat-gpl:gpl=blvxw

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BLVXW    1303   125-003-000       125-003-000   125-002-000
BLVXW    2101   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2103   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2205   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2207   125-002-000 ALM   125-003-000   125-002-000
BLVXW    2211   125-002-000 ALM   125-003-000   125-002-000
Command Completed
```

8. Place the signaling links that were deactivated in step 11 back into service using the **act-slk** command. For this example, enter these commands.

act-slk:loc=1303:link=a

act-slk:loc=1303:link=b

act-slk:loc=1303:link=a1

act-slk:loc=1303:link=b3

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

```
rlghncxa03w 06-03-01 11:55:49 GMT  EAGLE5 34.3.0
Activate SLK message sent to card
```

9. Verify that the signaling links activated in step 18 are back in service using the **rept-stat-slk** command with the card location and signaling link. For this example, enter these commands.

rept-stat-slk:loc=1303:link=a

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,A   e11303a   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1303:link=b

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,B   e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1303:link=a1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,A1  e11303a   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1303:link=b3

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,B3  e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

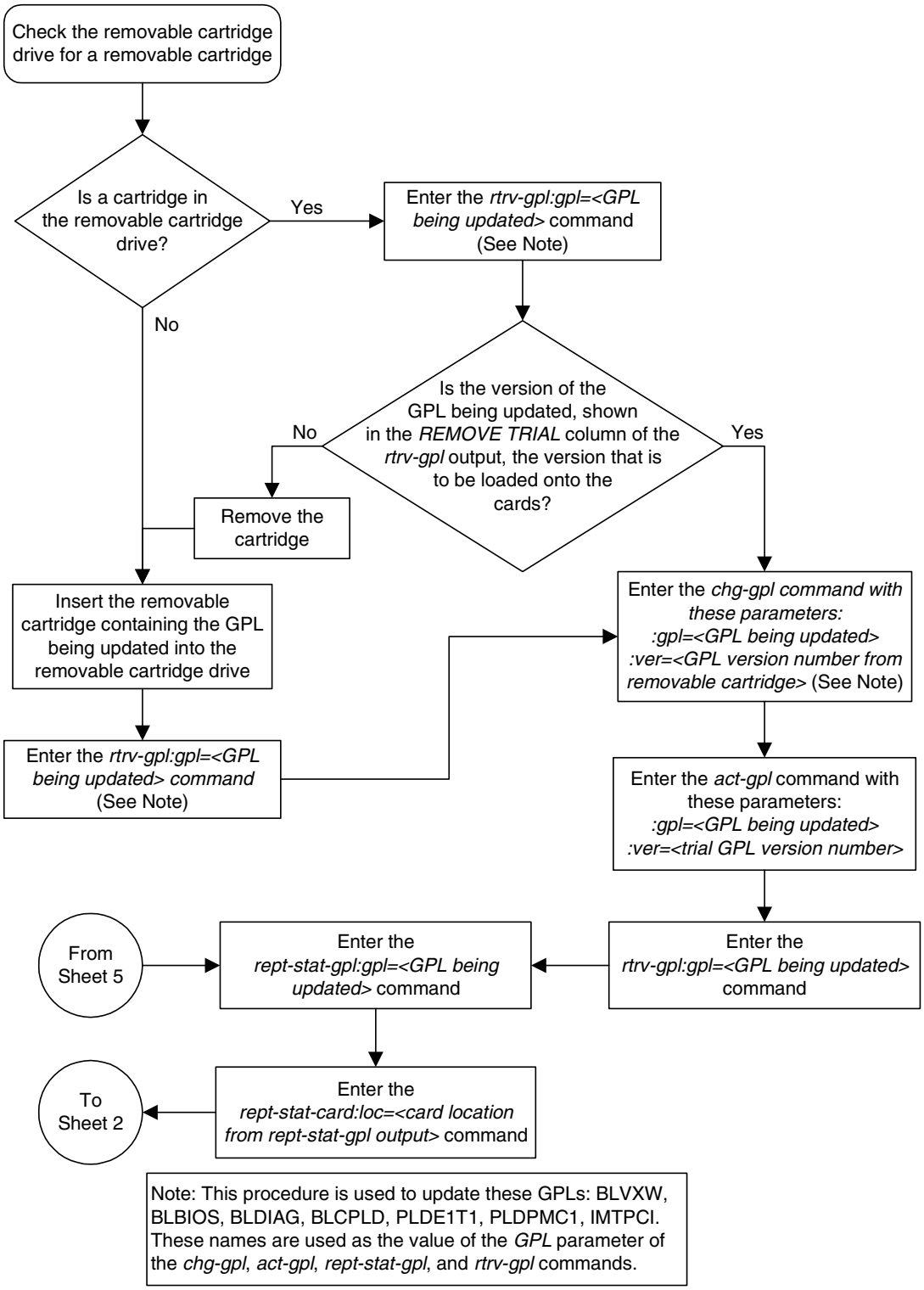
---

10. If you wish to load the new approved GPL onto the other cards repeat this procedure from step 9 for each card.

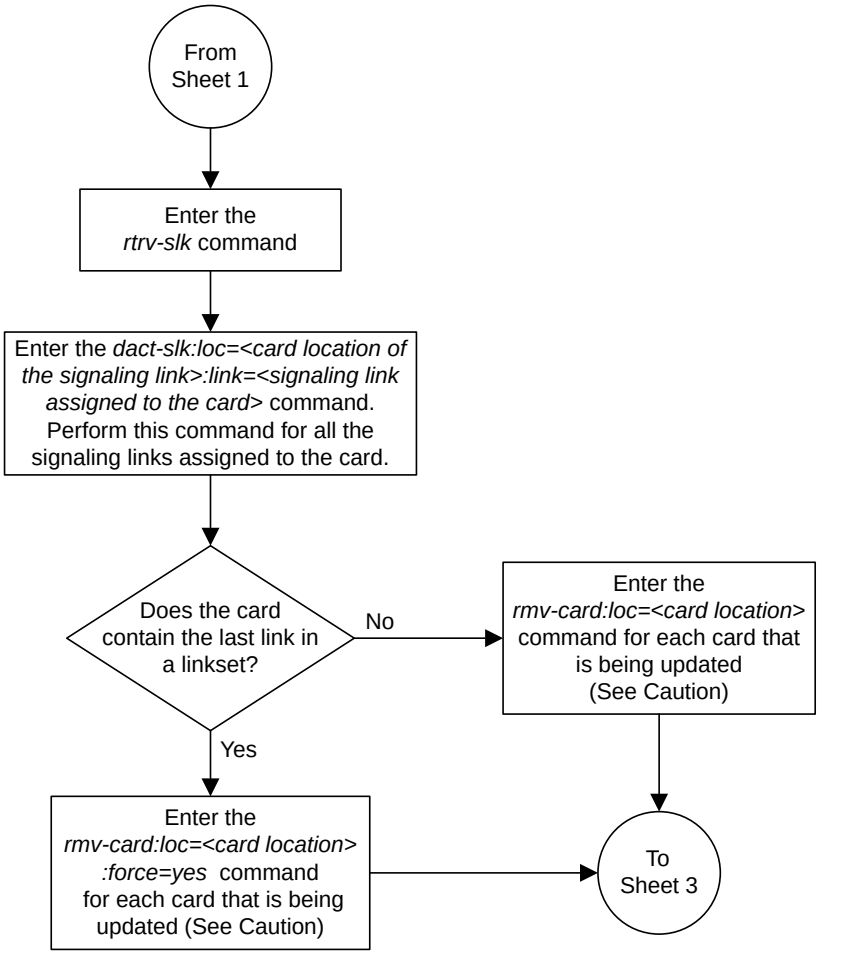
If the new GPL updated in this procedure is not being loaded on the other cards in the EAGLE 5 SAS, this procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If you wish to update one of the other flash GPLs, repeat this procedure from step 1.

Flowchart 3-6. Updating One of the Flash GPLs on the HC MIMs (Sheet 1 of 5)



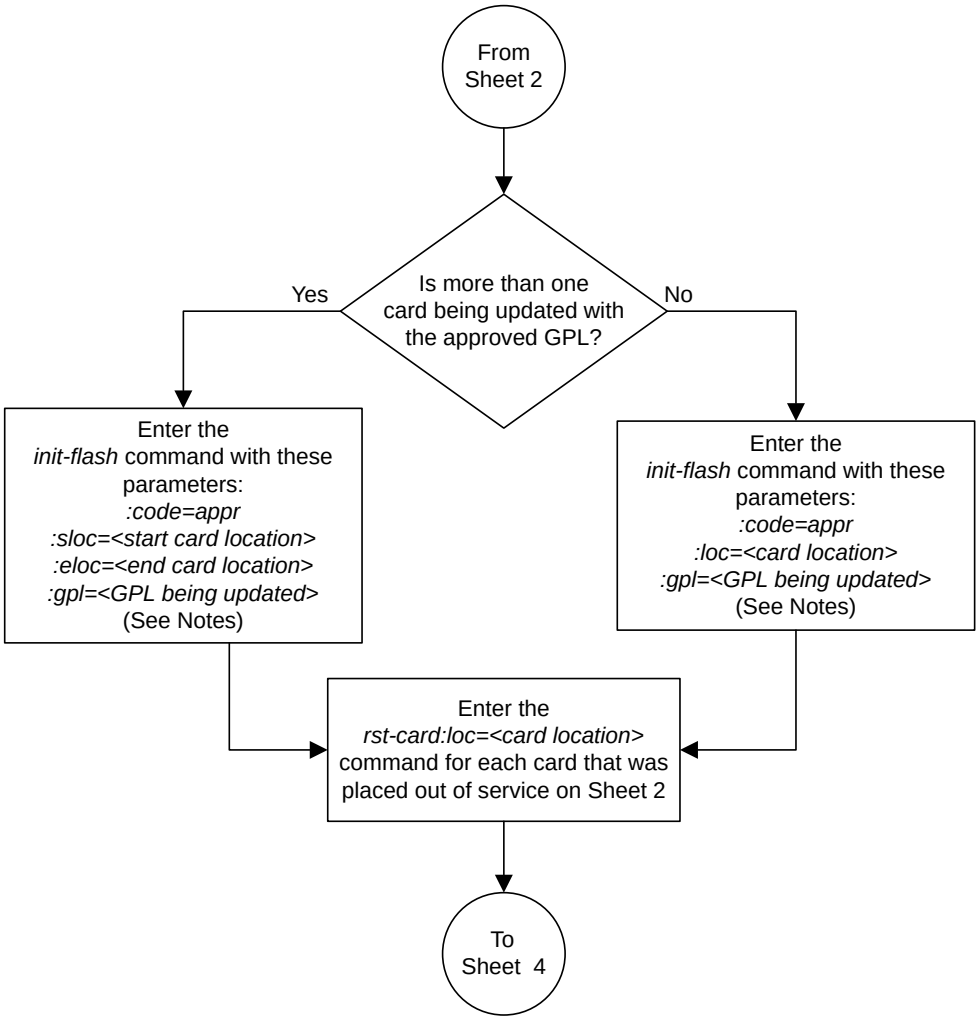
Flowchart 3-6. Updating One of the Flash GPLs on the HC MIMs (Sheet 2 of 5)



Caution: Multiple HC MIMs can be updated at the same time with the *init-flash* command. This requires that the HC MIMs in the locations specified with the *init-flash* command are out of service.

However, it is recommended that only some of the HC MIMs are placed out of service. Placing all the HC MIMs out of service will cause all the traffic on the E1 or T1 signaling links assigned to the HC MIMs to be lost.

Flowchart 3-6. Updating One of the Flash GPLs on the HC MIMs (Sheet 3 of 5)



Notes:

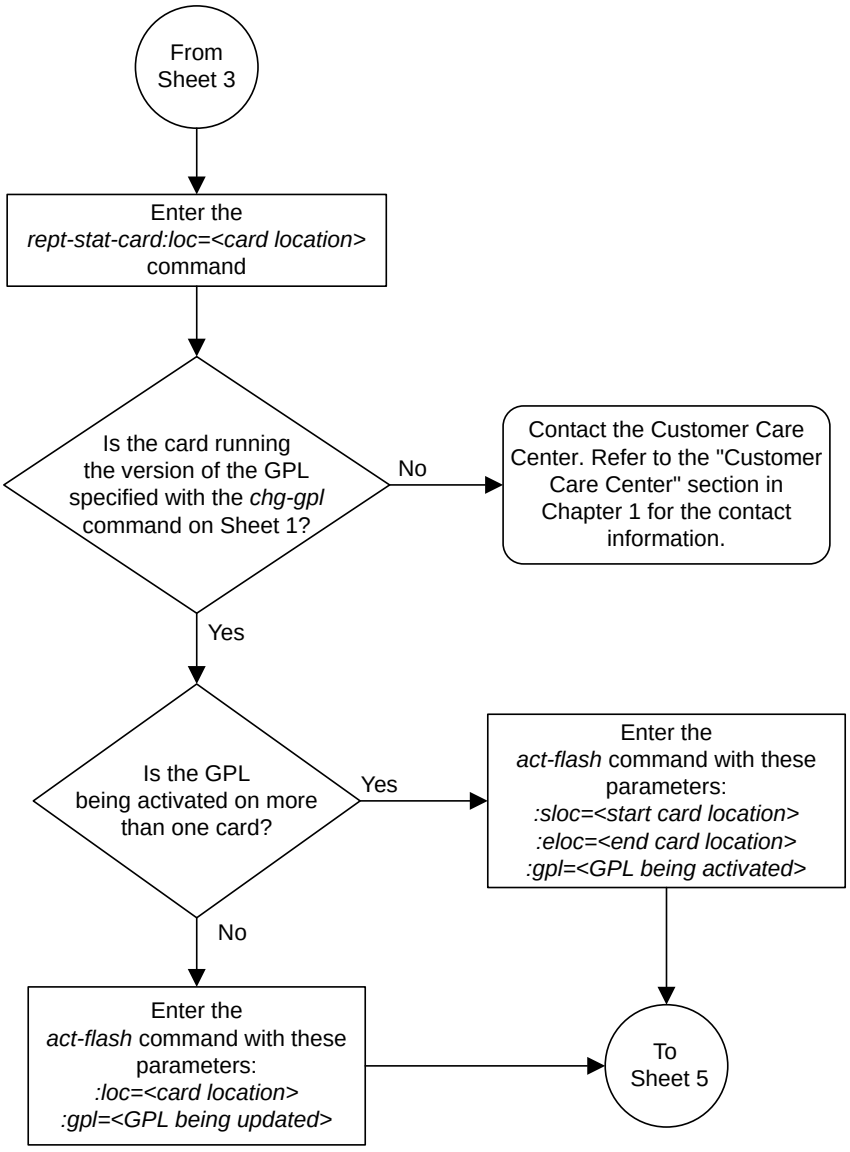
1. The card or cards specified in the *init-flash* command will be re-initialized.

2. If the BLBIOS GPL is specified with the *init-flash* command, and the BLCPLD GPL is not activated (the *act-flash* command has not been performed on the BLCPLD GPL), then the *init-flash* command will be rejected.

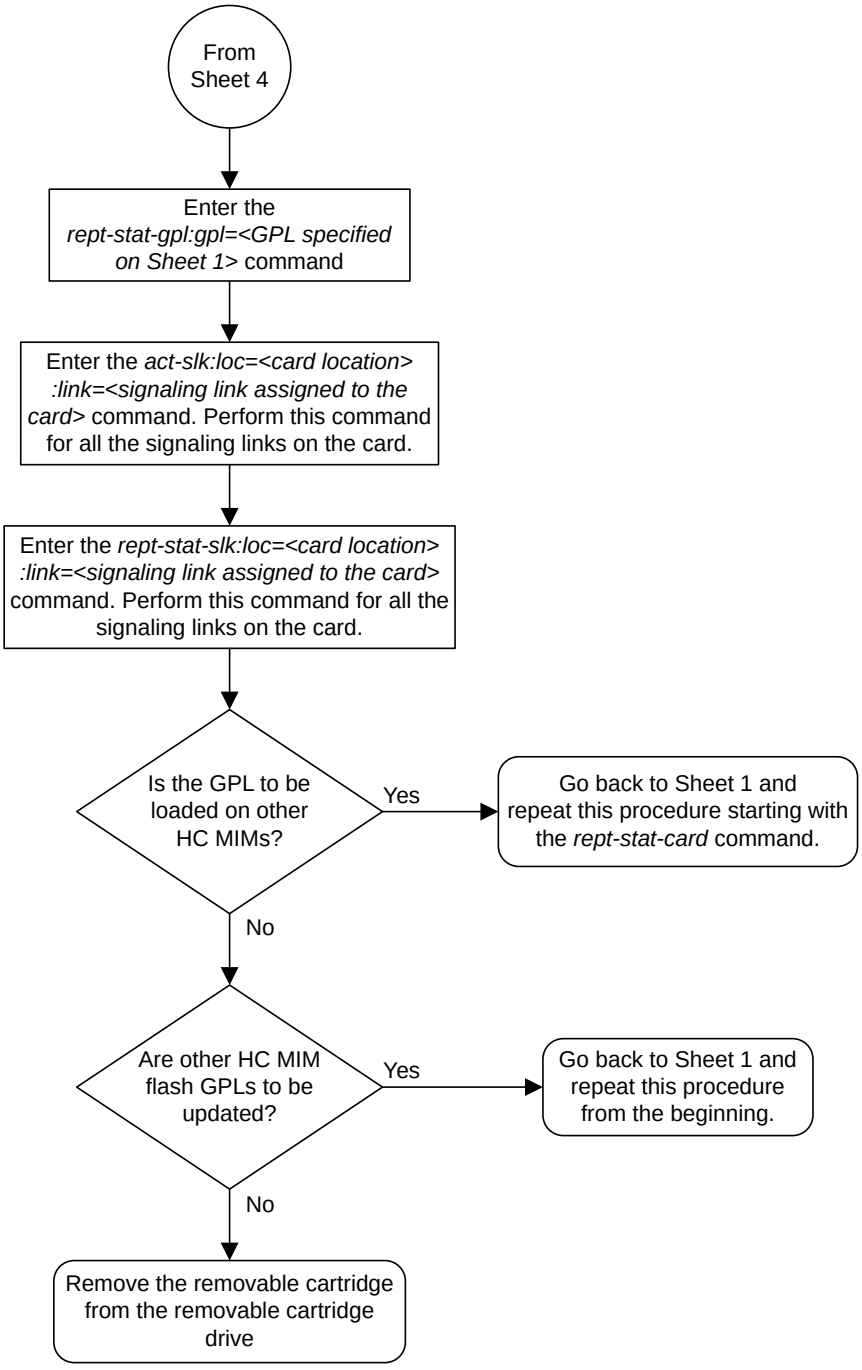
3. If the BLCPLD GPL is specified with the *init-flash* command, and the BLBIOS GPL is not activated (the *act-flash* command has not been performed on the BLBIOS GPL), then the *init-flash* command will be rejected.

4. The *init-flash* command contains the *boot* parameter which has two values, *yes* or *no*. The *yes* value is the default value for the *boot* parameter. The HC MIM will be re-initialized when the flash GPL download is complete if the *boot* parameter is not specified or if the *boot=yes* parameter is specified. To prevent the HC MIM from being re-initialized, the *boot=no* parameter must be specified with the *init-flash* command. However, the HC MIM must be re-initialized after the *blcpld* or *bldiag* GPLs are downloaded to the HC MIM.

Flowchart 3-6. Updating One of the Flash GPLs on the HC MIMs (Sheet 4 of 5)



Flowchart 3-6. Updating One of the Flash GPLs on the HC MIMs (Sheet 5 of 5)



Updating All the Flash GPLs on the HC MIMs

The flash GPLs on the HC MIM are: **blvxw**, **blbios**, **bldiag**, **blcpld**, **plde1t1**, **pldpmc1**, and **imtpci**. This procedure updates all these GPLs at the same time using the **flash-card** command, instead of updating each HC MIM flash GPL individually using the **init-flash** and **act-flash** commands. To update each HC MIM flash GPL individually using the **init-flash** and **act-flash** commands, perform the "Updating One of the Flash GPLs on the HC MIMs" procedure on page 3-96.

The HC MIM flash GPL names **blvxw**, **blbios**, **bldiag**, **blcpld**, **plde1t1**, **pldpmc1**, and **imtpci**, are used as the value of the **gpl** parameter of the **chg-gpl**, **act-gpl**, **rept-stat-gpl**, and **rtrv-gpl** commands. HC MIMs run either the SS7ANSI or CCS7ITU applications for E1 or T1 signaling links.

A removable cartridge containing the HC MIM flash GPLs that are being updated is required.

CAUTION: Before any of the flash GPLs can be updated on the HC MIM, all the signaling links on the HC MIM, and the HC MIM must be taken out of service.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the **rept-stat-slk** and **rtrv-slk** commands used in this procedure can output information for a long period of time, the **rept-stat-slk** and **rtrv-slk** commands can be canceled and the output to the terminal stopped. There are three ways that the **rept-stat-slk** and **rtrv-slk** commands can be canceled.

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

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

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, display the HC MIM flash GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. Enter the **rtrv-gpl** command for each HC MIM flash GPL. For this example, enter these commands.

rtrv-gpl:gpl=blvxw

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW     1114  125-002-000  125-002-000      125-001-000  125-003-000
BLVXW     1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=blbios

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBIOS    1114  125-002-000  125-002-000      125-001-000  125-003-000
BLBIOS    1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=bldiag

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG    1114  125-002-000  125-002-000      125-001-000  125-003-000
BLDIAG    1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=blcpld

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  125-002-000  125-002-000      125-001-000  125-003-000
BLCPLD    1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=plde1t1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDE1T1   1114  125-002-000  125-002-000      125-001-000  125-003-000
PLDE1T1   1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=pldpmc1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDPMC1   1114  125-002-000  125-002-000      125-001-000  125-003-000
PLDPMC1   1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=imtpci

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  125-002-000  125-002-000      125-001-000  125-003-000
IMTPCI    1116  125-002-000  125-002-000      125-001-000  -----------
```

If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If the version of the GPL shown in the **REMOVE TRIAL** column of the **rtrv-gpl** output is the version that is to be loaded onto the cards, skip steps 2, 3, and 4, and go to step 5.

---

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

---

3. Insert the removable cartridge containing the latest HC MIM flash GPLs into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

---

4. Display the HC MIM flash GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl** command with the **gpl** parameter value equal to the GPL being updated. Enter the **rtrv-gpl** command for each HC MIM flash GPL. For this example, enter these commands.

rtrv-gpl:gpl=blvxw

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW     1114  125-002-000  125-002-000      125-001-000  125-003-000
BLVXW     1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=blbios

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBIOS    1114  125-002-000  125-002-000      125-001-000  125-003-000
BLBIOS    1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=bldiag

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG    1114  125-002-000  125-002-000      125-001-000  125-003-000
BLDIAG    1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=blcpld

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  125-002-000  125-002-000      125-001-000  125-003-000
BLCPLD    1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=plde1t1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDE1T1   1114  125-002-000  125-002-000      125-001-000  125-003-000
PLDE1T1   1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=pldpmc1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDPMC1   1114  125-002-000  125-002-000      125-001-000  125-003-000
PLDPMC1   1116  125-002-000  125-002-000      125-001-000  -----------
```

rtrv-gpl:gpl=imtpci

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  125-002-000  125-002-000      125-001-000  125-003-000
IMTPCI    1116  125-002-000  125-002-000      125-001-000  -----------
```

5. Change the GPLs using the **chg-gpl** command and specifying the value for the trial GPL shown in the **REMOVE TRIAL** column in the output of the **rtrv-gpl** command (in either steps 1 or 4) for each HC MIM flash GPL.

   For this example, enter these commands.

   chg-gpl:gpl=blvxw:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

BLVXW upload on 1114 completed
BLVXW upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

   chg-gpl:gpl=blbios:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

BLBIOS upload on 1114 completed
BLBIOS upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

   chg-gpl:gpl=bldiag:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

BLDIAG upload on 1114 completed
BLDIAG upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

   chg-gpl:gpl=blcpld:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

BLCPLD upload on 1114 completed
BLCPLD upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

   chg-gpl:gpl=plde1t1:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

PLDE1T1 upload on 1114 completed
PLDE1T1 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

chg-gpl:gpl=pldpmc1:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

PLDPMC1 upload on 1114 completed
PLDPMC1 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

chg-gpl:gpl=imtpci:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

IMTPCI upload on 1114 completed
IMTPCI upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

---

6. Activate the trial GPL, using the **act-gpl** command and specifying the name and version of the trial GPL specified in step 5. For this example, enter these commands.

act-gpl:gpl=blvxw:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
BLVXW activate on 1114 completed
BLVXW activate on 1116 completed
```

act-gpl:gpl=blbios:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
BLBIOS activate on 1114 completed
BLBIOS activate on 1116 completed
```

act-gpl:gpl=bldiag:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
BLDIAG activate on 1114 completed
BLDIAG activate on 1116 completed
```

act-gpl:gpl=blcpld:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
BLCPLD activate on 1114 completed
BLCPLD activate on 1116 completed
```

act-gpl:gpl=plde1t1:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
PLDE1T1 activate on 1114 completed
PLDE1T1 activate on 1116 completed
```

act-gpl:gpl=pldpmc1:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
PLDPMC1 activate on 1114 completed
PLDPMC1 activate on 1116 completed
```

act-gpl:gpl=imtpci:ver=125-003-000

These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
IMTPCI activate on 1114 completed
IMTPCI activate on 1116 completed
```

---

7. Verify that the GPL on the removable cartridge is the trial GPL on the fixed disk using the **rtrv-gpl** command with the **gpl** parameter value specified in step 6. For this example, enter these commands.

rtrv-gpl:gpl=blvxw

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW     1114  125-003-000  125-003-000      125-002-000  125-003-000
BLVXW     1116  125-003-000  125-003-000      125-002-000  -----------
```

rtrv-gpl:gpl=blbios

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBIOS    1114  125-003-000  125-003-000      125-002-000  125-003-000
BLBIOS    1116  125-003-000  125-003-000      125-002-000  -----------
```

rtrv-gpl:gpl=bldiag

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG     1114  125-003-000  125-003-000      125-002-000  125-003-000
BLDIAG     1116  125-003-000  125-003-000      125-002-000  -----------
```

rtrv-gpl:gpl=blcpld

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  125-003-000  125-003-000      125-002-000  125-003-000
BLCPLD    1116  125-003-000  125-003-000      125-002-000  -----------
```

rtrv-gpl:gpl=plde1t1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDE1T1   1114  125-003-000  125-003-000      125-002-000  125-003-000
PLDE1T1   1116  125-003-000  125-003-000      125-002-000  -----------
```

rtrv-gpl:gpl=pldpmc1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDPMC1   1114  125-003-000  125-003-000      125-002-000  125-003-000
PLDPMC1   1116  125-003-000  125-003-000      125-002-000  -----------
```

rtrv-gpl:gpl=imtpci

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT EAGLE5 34.3.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  125-003-000  125-003-000      125-002-000  125-003-000
IMTPCI    1116  125-003-000  125-003-000      125-002-000  -----------
```

8. Verify the HC MIMs in the EAGLE 5 SAS using the **rept-stat-gpl** command with the **gpl=ss7hc** parameter. For this example, enter this commands.

rept-stat-gpl:gpl=ss7hc

This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL     CARD   RUNNING           APPROVED      TRIAL
SS7HC   1303   125-003-000       125-003-000   125-002-000
SS7HC   2101   125-003-000       125-003-000   125-002-000
SS7HC   2103   125-003-000       125-003-000   125-002-000
SS7HC   2205   125-003-000       125-003-000   125-002-000
SS7HC   2207   125-003-000       125-003-000   125-002-000
SS7HC   2211   125-003-000       125-003-000   125-002-000
Command Completed
```

9. Choose one of the cards displayed in step 8. Display the HC MIM flash GPLs running on the HC MIM, using the **rept-stat-gpl** command and specifying the location of the HC MIM. For this example, enter this command.

rept-stat-gpl:loc=1303

This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1203      125-003-000        125-003-000   125-002-000
           IMTPCI                          125-003-000   125-002-000
           BLBIOS                          125-003-000   125-002-000
           BLCPLD                          125-003-000   125-002-000
           BLVXW                           125-003-000   125-002-000
           BLDIAG                          125-003-000   125-002-000
           PLDE1T1                         125-003-000   125-002-000
           PLDPMC1                         125-003-000   125-002-000

                                           ACTIVE        INACTIVE
           IMTPCI        125-002-000 ALM   125-002-000   -----------
           BLBIOS        125-002-000 ALM   125-002-000   -----------
           BLCPLD        125-002-000 ALM   125-002-000   -----------
           BLVXW         125-002-000 ALM   125-002-000   -----------
           BLDIAG        125-002-000 ALM   125-002-000   -----------
           PLDE1T1       125-002-000 ALM   125-002-000   -----------
           PLDPMC1       125-002-000 ALM   125-002-000   -----------
    Command Completed.

Command Completed.
```

The **flash-card** command will load only those HC MIM flash GPLs whose approved versions are different from the versions that the HC MIM is running. The version of the GPL that the card is running is shown in the **RUNNING** column in the **rept-stat-gpl** output. The approved version of the HC MIM flash GPL is shown in the **APPROVED** column of the **rept-stat-gpl** output. If the **RUNNING** and **APPROVED** versions of an HC MIM flash GPL are the same, the **flash-card** command will not load that HC MIM flash GPL.

---

10. Display the status of the HC MIM using the **rept-stat-card** command and specifying the location of the HC MIM used in step 9. For this example, enter this command.

rept-stat-card:loc=1303

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
1303   125-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 125-002-000
  BLCPLD  GPL version = 125-002-000
  BLDIAG  GPL version = 125-002-000
  BLBIOS  GPL version = 125-002-000
  BLVXW   GPL version = 125-002-000
  PLDE1T1 GPL version = 125-002-000
```

```
  PLDPMC1 GPL version = 125-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  SIGNALING LINK STATUS
      SLK    PST                LS            CLLI
      A      IS-NR              e11303a       -----------
      B      IS-NR              e11303b       -----------
      A1     IS-NR              e11303a       -----------
      B3     IS-NR              e11303b       -----------
Command Completed.
```

11. Display the signaling links associated with the card shown in step 10. Enter the **rtrv-slk** command with the card location specified in step 10. For this example, enter this command.

rtrv-slk:loc=1303

This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT  EAGLE5 34.3.0

                                    L2T                PCR  PCR   E1   E1
LOC  LINK LSN          SLC TYPE     SET  BPS    ECM    N1   N2    LOC  PORT TS
1303 A    e11303a       0  LIME1    1    64000  PCR    76   3800  1303 2    12
1303 B    e11303b       0  LIME1    1    56000  BASIC  ---  ----- 1303 1    2
1303 A1   e11303a       1  LIME1    1    56000  BASIC  ---  ----- 1303 1    3
1303 B3   e11303b       1  LIME1    1    56000  BASIC  ---  ----- 1303 1    7
```

12. Deactivate the SS7 signaling links on the card using the **dact-slk** command. For this example, enter these commands.

dact-slk:loc=1303:link=a

dact-slk:loc=1303:link=b

dact-slk:loc=1303:link=a1

dact-slk:loc=1303:link=b3

CAUTION: These command examples place the E1 signaling links on card 1303 out of service. This will interrupt service on the E1 signaling links on card 1303 and allow the GPL to be loaded on to card 1303.

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

```
rlghncxa03w 06-03-01 11:45:18 GMT  EAGLE5 34.3.0
Deactivate SLK message sent to card
```

13. Place the card shown in step 10 out of service using the **rmv-card** command.

For this example, enter this command.

```
rmv-card:loc=1303
```

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

If the HC MIM contains the last signaling link in a linkset, the **force=yes** parameter must be specified.

---

14. Load the approved version of the HC MIM flash GPLs onto the card inhibited in step 13 using the **flash-card** command with the **code=appr** parameter.

The **flash-card** command will load only those HC MIM flash GPLs whose approved versions are different from the versions that the HC MIM is running. The version of the GPL that the card is running is shown in the **RUNNING** column in the **rept-stat-gpl** output. The approved version of the HC MIM flash GPL is shown in the **APPROVED** column of the **rept-stat-gpl** output. If the **RUNNING** and **APPROVED** versions of an HC MIM flash GPL are the same, the **flash-card** command will not load that HC MIM flash GPL.

CAUTION: The force=yes is an optional parameter of the flash-card command. The force=yes parameter must be specified if the HC MIM was not taken out of service with the rmv-card command in step 12. If the force=yes parameter is specified with the flash-card command, the signaling links on the HC MIM will be taken out of service and traffic on these links could be lost.

For this example, enter this command.

```
flash-card:code=appr:loc=1303
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Downloading BLBIOS on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 download BLBIOS complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Downloading BLDIAG on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 download BLDIAG complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Downloading PLDE1T1 on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 download PLDE1T1 complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Downloading IMTPCI on card 1303.
```

```
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 download IMTPCI complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Downloading BLVXW on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 download BLVXW complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Downloading PLDPMC1 on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 download PLDPMC1 complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Activating BLBIOS on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 activation BLBIOS complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Activating BLDIAG on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 activation BLDIAG complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Activating PLDE1T1 on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 activation PLDE1T1 complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Activating IMTPCI on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 activation IMTPCI complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Activating BLVXW on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 activation BLVXW complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Activating PLDPMC1 on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 activation PLDPMC1 complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Downloading BLCPLD on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 download BLCPLD complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Activating BLCPLD on card 1303.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Flash Card: Card 1303 activation BLCPLD complete.
```

```
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

The HC MIM specified in the **flash-card** command will be re-initialized when the HC MIM flash GPL downloads are complete.

---

15. Put the card that was taken out of service in step 13 back into service using the **rst-card** command. The **rst-card** command also loads the approved versions of the HC MIM flash GPLs onto the card.

For this example, enter this command.

rst-card:loc=1303

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been allowed.
```

---

16. Verify that the HC MIM flash GPLs from step 14 has loaded and that the card has returned to its in-service normal (IS-NR) state using the **rept-stat-card** command. For this example, enter this command.

rept-stat-card:loc=1303

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
1303   125-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 125-003-000
  BLCPLD  GPL version = 125-003-000
  BLDIAG  GPL version = 125-003-000
  BLBIOS  GPL version = 125-003-000
  BLVXW   GPL version = 125-003-000
  PLDE1T1 GPL version = 125-003-000
  PLDPMC1 GPL version = 125-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  SIGNALING LINK STATUS
      SLK    PST                LS            CLLI
      A      OOS-MT-DSBLD       e11303a       -----------
      B      OOS-MT-DSBLD       e11303b       -----------
      A1     OOS-MT-DSBLD       e11303a       -----------
      B3     OOS-MT-DSBLD       e11303b       -----------
Command Completed.
```

NOTE: If the version number of any of the HC MIM flash GPLs shown in the rept-stat-card command output is different than the version specified in step 5, contact the Customer Care Center. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

17. Place the signaling links that were deactivated in step 12 back into service using the **act-slk** command. For this example, enter these commands.

act-slk:loc=1303:link=a

act-slk:loc=1303:link=b

act-slk:loc=1303:link=a1

act-slk:loc=1303:link=b3

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

```
rlghncxa03w 06-03-01 11:55:49 GMT  EAGLE5 34.3.0
Activate SLK message sent to card
```

---

18. Verify that the signaling links activated in step 17 are back in service using the **rept-stat-slk** command with the card location and signaling link. For this example, enter these commands.

rept-stat-slk:loc=1303:link=a

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,A   e11303a   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1303:link=b

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,B   e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1303:link=a1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,A1  e11303a   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1303:link=b3

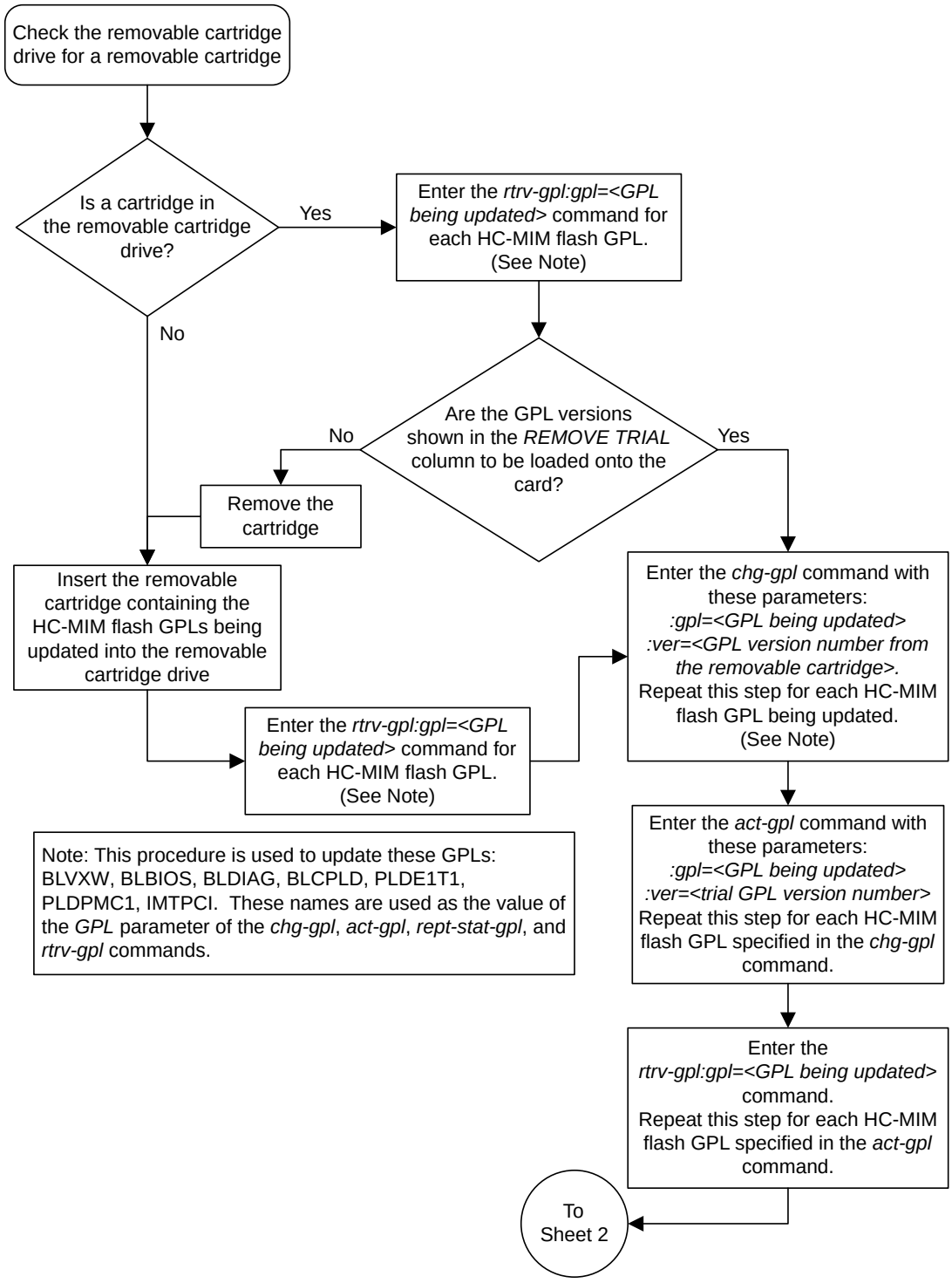
This is an example of the possible output.

```
rlghncxa03w 06-03-01 13:06:25 GMT EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1303,B3  e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

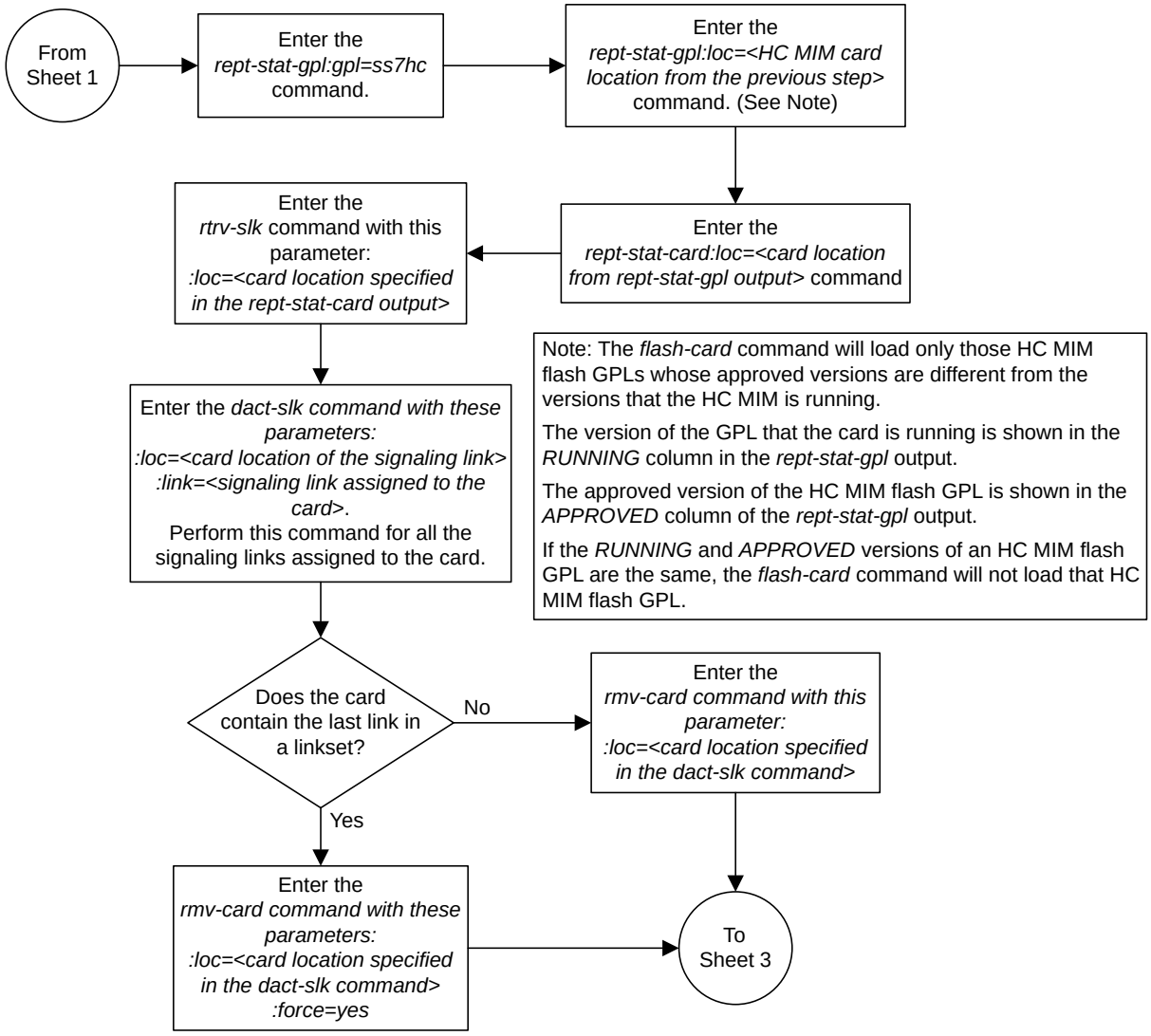
---

19. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

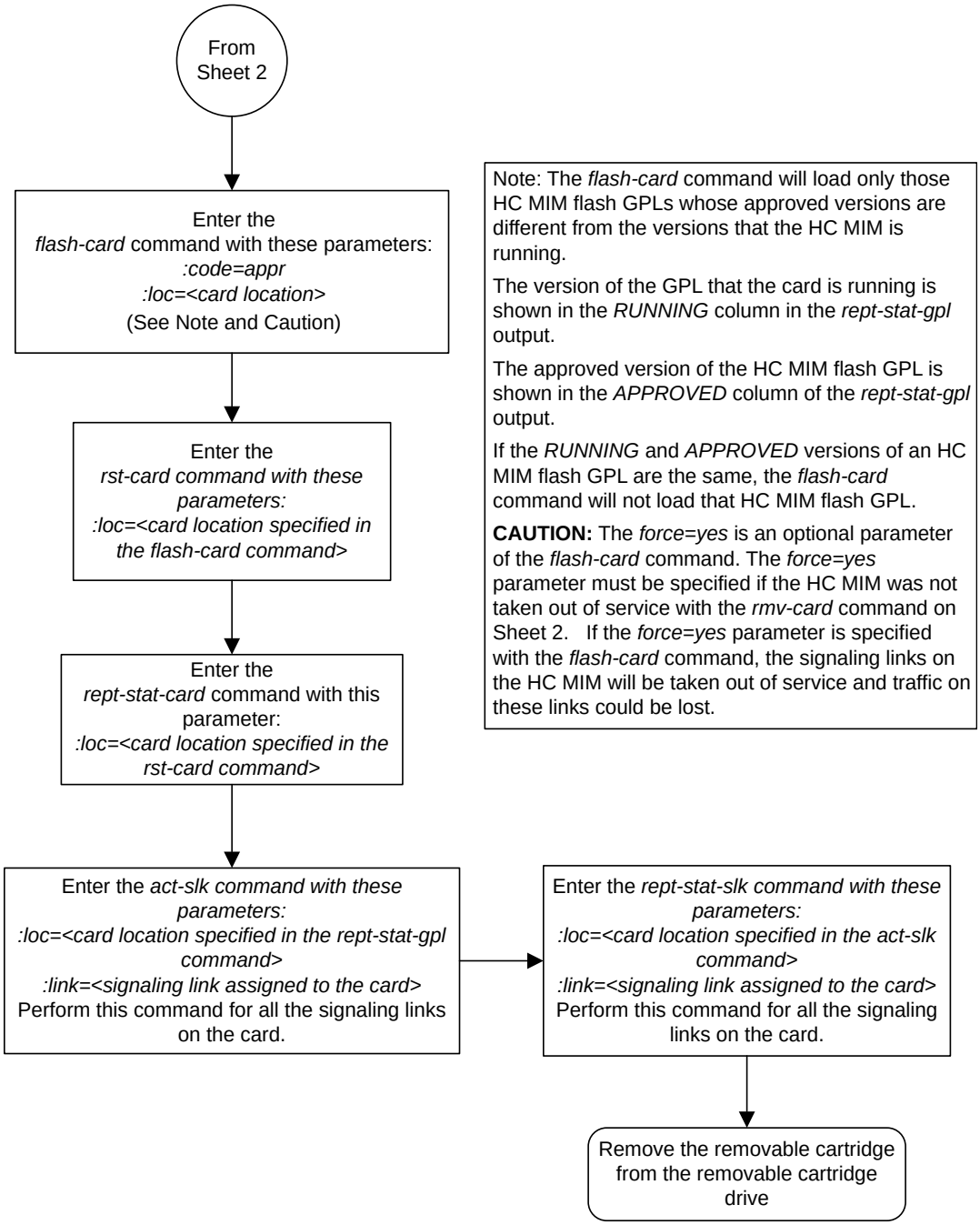
Flowchart 3-7. Updating All the Flash GPLs on the HC MIMs (Sheet 1 of 3)



Flowchart 3-7. Updating All the Flash GPLs on the HC MIMs (Sheet 2 of 3)



Flowchart 3-7. Updating All the Flash GPLs on the HC MIMs (Sheet 3 of 3)



Updating the BPHMUX GPL

This section presents the procedure for updating the **bphmux** generic program load (GPL). The **bphmux** GPL is used by the High-Speed Multiplexer (HMUX) card to control the IMT bus and resides on the fixed disk. The HMUX card resides only in slots 9 and 10 in each shelf in the EAGLE 5 SAS.

This section presents the procedure for loading the **bphmux** GPL onto the EAGLE 5 SAS as a trial version from a removable cartridge, then making the trial version of the **bphmux** GPL the approved version.

If any card is not running the version of the GPL shown in the **RELEASE** column of the **rtrv-gpl** output, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output, and next to the GPL version in the **APPROVED** column in the **rtrv-gpl** output.

The removable cartridge that contains the **bphmux** GPL to be loaded on to the EAGLE 5 SAS is required.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

3. Insert the removable cartridge containing the **bphmux** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

4. Display the **bphmux** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPHMUX    1114  118-002-000  118-002-000      118-001-000  118-003-000
BPHMUX    1116  118-002-000  118-002-000      118-001-000  -----------
```

5. Change the GPLs, using the **chg-gpl** command and specifying the value for the trial **bphmux** GPL shown in the **REMOVE TRIAL** column in the output of the **rtrv-gpl** command used in step 4. For this example, enter this command.

   chg-gpl:gpl=bphmux:ver=118-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

BPHMUX upload on 1114 completed
BPHMUX upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

6. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial **bphmux** GPL used in step 5. For this example, enter this command.

   act-gpl:gpl=bphmux:ver=118-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
BPHMUX activate on 1114 completed
BPHMUX activate on 1116 completed
```

7. Verify that the **bphmux** GPL on the removable cartridge is the approved GPL on the fixed disk using the **rtrv-gpl:gpl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPHMUX    1114  118-003-000  118-003-000      118-002-000  118-003-000
BPHMUX    1116  118-003-000  118-003-000      118-002-000  -----------
```

8. Verify the **bphmux** GPLs on the fixed disk and the cards that are running the **bphmux** GPLs using the **rept-stat-gpl:gpl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPHMUX   1109   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1110   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1209   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1210   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1309   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1310   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2109   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2110   118-002-000 ALM   118-003-000   118-002-000
Command Completed
```

9. Load the approved **bphmux** GPL onto a card selected from the cards shown in step 8 using the **init-flash:code=appr** command. For this example, enter this command.

init-flash:code=appr:loc=1109

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Downloading for card 1109 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT EAGLE5 34.3.0
    BPHMUX Downloading for card 1109 Complete.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

Updating more than One HMUX Card at the Same Time

Multiple HMUX cards can be updated at the same time with the **init-flash** command. The multiple HMUX cards being updated must be on the same IMT bus. Specifying card locations XX09 for the **sloc** and **eloc** parameters specifies the HMUX cards on IMT bus A. Specifying card locations XX10 for the **sloc** and **eloc** parameters specifies the HMUX cards on IMT bus B.

To update more than one HMUX card on the same IMT bus, enter the **init-flash** command with these parameters along with the **code=appr** parameter:

sloc – the first card location in the range of card locations

eloc – the last card location in the range of card locations

gpl – bphmux

NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter.

For example, to update the HMUX cards on IMT Bus B shown in step 8 with the approved version of the **bphmux** GPL, enter this command.

init-flash:code=appr:sloc=1110:eloc=2110:gpl=bphmux

To update the HMUX cards on IMT bus A shown in step 8, the **sloc=1109** and **eloc=2109** parameters would be specified with the **init-flash** command.

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for cards 1110 - 2110 Started.
;
    rlghncxa03w 97-09-09 13:07:15 GMT EAGLE5 34.3.0
    FLASH Memory Download for cards 1110 - 2110 Completed.
    LOC 1110 : PASSED
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

10. Re-initialize the HMUX cards specified in step 9 using the **init-mux** command with the **loc** parameter. For this example, enter this command.

init-mux:loc=1109

If more than one HMUX card was specified in step 9, re-initialize the IMT bus containing the cards specified in step 9 by entering **init-mux** command and specifying the IMT bus (the **bus** parameter) containing the cards specified in step 9. Specifying card locations XX09 for the **sloc** and **eloc** parameters in step 9 requires that IMT bus A is re-initialized. Specifying card locations XX10 for the **sloc** and **eloc** parameters in step 9 requires that IMT bus B is re-initialized.

For this example, enter this command.

init-mux:bus=a

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Command Completed.
```

NOTE: Executing this command produces two alarms: 0002 - Card is not running approved GPL, indicating that the version of the bphmux GPL running on the card is not the approved version, and 0004 - Card is running non-activated GPL, indicating that the new version of the bphmux GPL running on the card has not been activated.

---

11. Verify that the approved **bphmux** GPL from step 10 has loaded and that the state of the card is in-service normal (IS-NR) state using the **rept-stat-card** command. If more than one card was specified in steps 9 and 10, enter the **rept-stat-card** command for each specified card. For this example, enter this command.

rept-stat-card:loc=1109:mode=full

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
1109   118-003-000  HMUX      HMUX       IS-NR          Active     -----
  ALARM STATUS       = No Alarms
  APPROVED VERSION     = 118-003-000
  FPGA VERSION       = 022-005
Command Completed.
```

NOTE: If the version number of the **bphmux** GPL shown in the **rept-stat-card** command output is different than the version specified in step 5, contact the Customer Care Center. Refer to "Customer Care Center" on page 1-8 for the contact information.

---

12. Activate the approved **bphmux** GPL loaded onto the card in step 9 using the **act-flash** command. For this example, enter this command.

act-flash:loc=1109

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for card 1109 Completed.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

Activating the BPHMUX GPL on more than One HMUX Card at the Same Time

If more than one HMUX card was specified in step 9, enter the **act-flash** command with these parameters:

sloc – the first card location in the range of card locations

eloc – the last card location in the range of card locations

gpl – bphmux

NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter.

For example, to activate the BPHMUX GPL on the HMUX cards on IMT Bus B shown in step 8 with the trial version of the **bphmux** GPL, enter this command.

act-flash:sloc=1110:eloc=2110:gpl=bphmux

To activate the BPHMUX GPL on the HMUX cards on IMT bus A shown in step 8, the **sloc=1109** and **eloc=2109** parameters would be specified with the **act-flash** command.

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for cards 1110 - 2110 Started.
;
    rlghncxa03w 97-09-09 13:07:15 GMT EAGLE5 34.3.0
    FLASH Memory Activation for cards 1110 - 2110 Completed.
    LOC 1110 : PASSED
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

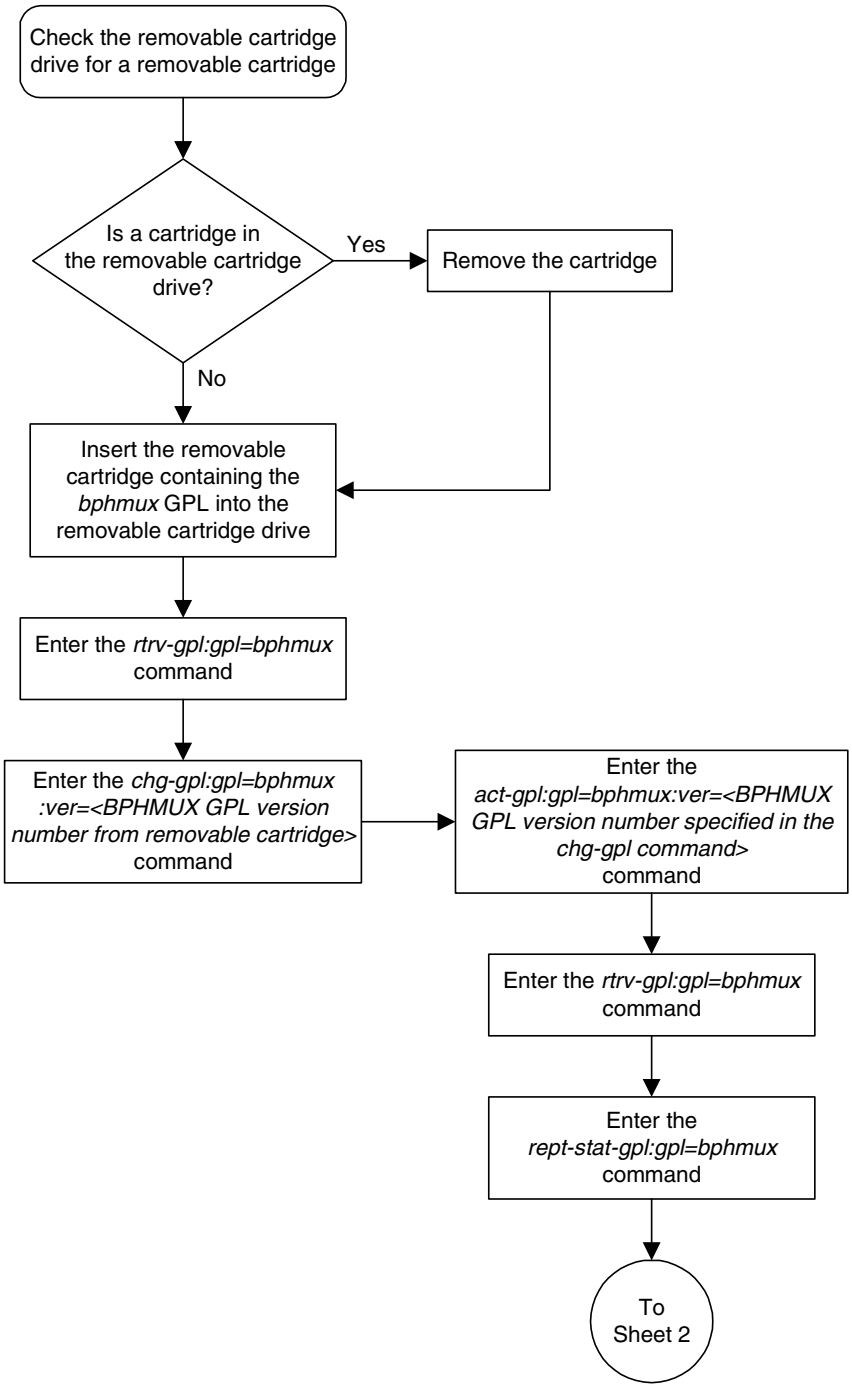
13. Verify the **bphmux** GPLs on the fixed disk and the cards that are running the **bphmux** GPLs using the **rept-stat-gpl:gpl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPHMUX   1109   118-003-000       118-003-000   118-002-000
BPHMUX   1110   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1209   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1210   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1309   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1310   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2109   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2110   118-002-000 ALM   118-003-000   118-002-000
Command Completed
```

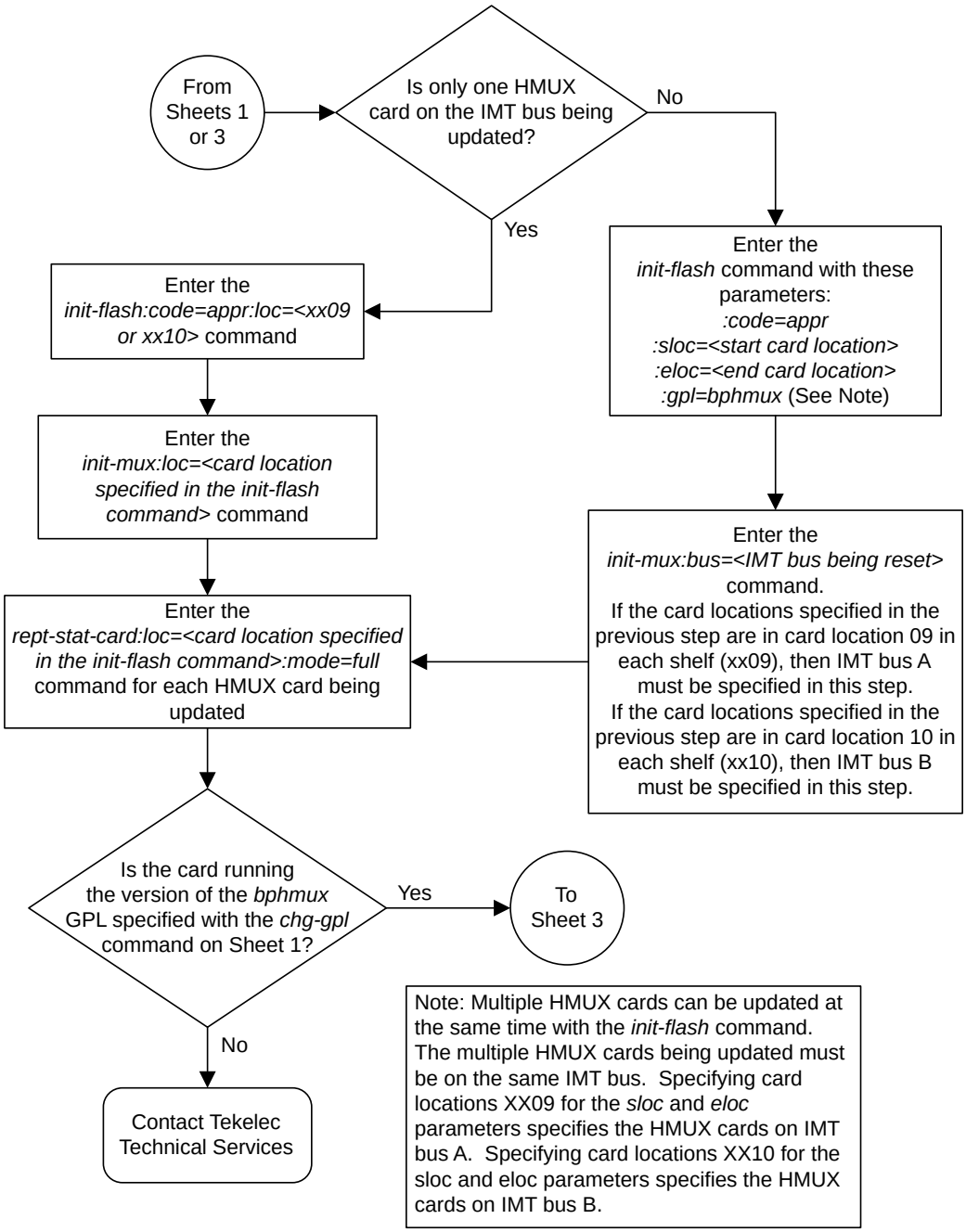
14. To load the **bphmux** GPL on the other HMUX cards, repeat steps 9 through 13 for each card.

15. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

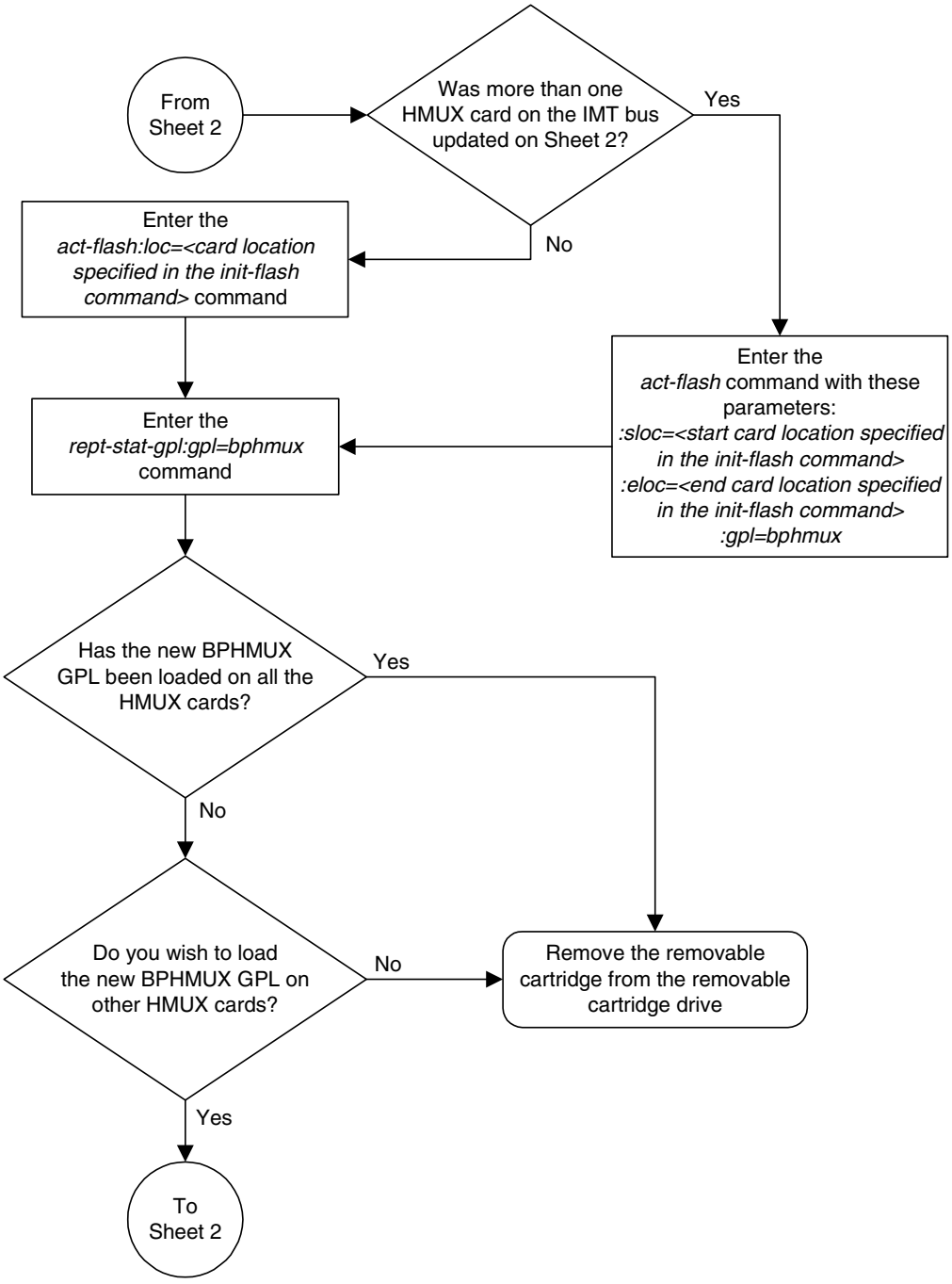
Flowchart 3-8. Updating the BPHMUX GPL (Sheet 1 of 3)



Flowchart 3-8. Updating the BPHMUX GPL (Sheet 2 of 3)



Flowchart 3-8. Updating the BPHMUX GPL (Sheet 3 of 3)



Updating the HIPR GPL

This section presents the procedure for updating the **hipr** generic program load (GPL). The **hipr** GPL is used by the High-Speed IMT Packet Router (HIPR) card to control the IMT bus and resides on the fixed disk. The HIPR card resides only in slots 9 and 10 in each shelf in the EAGLE 5 SAS.

This section presents the procedure for loading the **hipr** GPL onto the EAGLE 5 SAS as a trial version from a removable cartridge, then making the trial version of the **hipr** GPL the approved version.

If any card is not running the approved version of the GPL shown in the **RELEASE** column of the **rtrv-gpl** output, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output, and next to the GPL version in the **APPROVED** column in the **rtrv-gpl** output.

The removable cartridge that contains the **hipr** GPL to be loaded on to the EAGLE 5 SAS is required.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

3. Insert the removable cartridge containing the **hipr** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

4. Display the **hipr** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=hipr** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
HIPR      1114  125-002-000  125-002-000      125-001-000  125-003-000
HIPR      1116  125-002-000  125-002-000      125-001-000  -----------
```

5. Change the GPLs, using the **chg-gpl** command and specifying the value for the trial **hipr** GPL shown in the **REMOVE TRIAL** column in the output of the **rtrv-gpl** command used in step 4. For this example, enter this command.

   chg-gpl:gpl=hipr:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

HIPR upload on 1114 completed
HIPR upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

NOTE: If you wish to leave the HIPR cards running the trial version of the hipr GPL, skip steps 6 and 7, and go to step 8.

6. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial **hipr** GPL shown in step 5. For this example, enter this command.

   act-gpl:gpl=hipr:ver=125-003-000

   These messages should appear.

```
rlghncxa03w 06-03-01 06:54:39 GMT EAGLE5 34.3.0
HIPR activate on 1114 completed
HIPR activate on 1116 completed
```

7. Verify that the **hipr** GPL on the removable cartridge is the approved GPL on the fixed disk using the **rtrv-gpl:gpl=hipr** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
HIPR      1114  125-003-000  125-003-000      125-002-000  125-003-000
HIPR      1116  125-003-000  125-003-000      125-002-000  -----------
```

8. Verify the **hipr** GPLs on the fixed disk and the cards that are running the **hipr** GPLs using the **rept-stat-gpl:gpl=hipr** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
HIPR     1109   125-002-000 ALM   125-003-000   125-002-000
HIPR     1110   125-002-000 ALM   125-003-000   125-002-000
HIPR     1209   125-002-000 ALM   125-003-000   125-002-000
HIPR     1210   125-002-000 ALM   125-003-000   125-002-000
HIPR     1309   125-002-000 ALM   125-003-000   125-002-000
HIPR     1310   125-002-000 ALM   125-003-000   125-002-000
HIPR     2109   125-002-000 ALM   125-003-000   125-002-000
HIPR     2110   125-002-000 ALM   125-003-000   125-002-000
Command Completed
```

9. Load the approved **hipr** GPL onto a card selected from the cards shown in step 8 using the **init-flash:code=appr** command. For this example, enter this command.

init-flash:code=appr:loc=1109

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Downloading for card 1109 Started.
;
    rlghncxa03w 06-03-01  11:11:28 GMT EAGLE5 34.3.0
    HIPR Downloading for card 1109 Complete.
;

    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

Updating more than One HIPR Card at the Same Time

Multiple HIPR cards can be updated at the same time with the **init-flash** command. The multiple HIPR cards being updated must be on the same IMT bus. Specifying card locations XX09 for the **sloc** and **eloc** parameters specifies the HIPR cards on IMT bus A. Specifying card locations XX10 for the **sloc** and **eloc** parameters specifies the HIPR cards on IMT bus B.

To update more than one HIPR card on the same IMT bus, enter the **init-flash** command with these parameters along with the **code=appr** parameter:

sloc – the first card location in the range of card locations

eloc – the last card location in the range of card locations

gpl – hipr

NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter.

For example, to update the HIPR cards on IMT Bus B shown in step 8 with the approved version of the **hipr** GPL, enter this command.

init-flash:code=appr:sloc=1110:eloc=2110:gpl=hipr

To update the HIPR cards on IMT bus A shown in step 8, the **sloc=1109** and **eloc=2109** parameters would be specified with the **init-flash** command.

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Download for cards 1110 - 2110 Started.
;
    rlghncxa03w 97-09-09 13:07:15 GMT EAGLE5 34.3.0
    FLASH Memory Download for cards 1110 - 2110 Completed.
    LOC 1110 : PASSED
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
```

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Command Completed.
```

10. Re-initialize the HIPR cards specified in step 9 using the **init-mux** command with the **loc** parameter. For this example, enter this command.

init-mux:loc=1109

If more than one HMUX card was specified in step 9, re-initialize the IMT bus containing the cards specified in step 9 by entering **init-mux** command and specifying the IMT bus (the **bus** parameter) containing the cards specified in step 9. Specifying card locations XX09 for the **sloc** and **eloc** parameters in step 9 requires that IMT bus A is re-initialized. Specifying card locations XX10 for the **sloc** and **eloc** parameters in step 9 requires that IMT bus B is re-initialized.

For this example, enter this command.

init-mux:bus=a

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Command Completed.
```

NOTE: Executing this command produces two alarms: 0002 - Card is not running approved GPL, indicating that the version of the hipr GPL running on the card is not the approved version, and 0004 - Card is running non-activated GPL, indicating that the new version of the hipr GPL running on the card has not been activated.

11. Verify that the approved **hipr** GPL from step 10 has loaded and that the state of the card is in-service normal (IS-NR) state using the **rept-stat-card** command. If more than one card was specified in steps 9 and 10, enter the **rept-stat-card** command for each specified card. For this example, enter this command.

rept-stat-card:loc=1109:mode=full

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
1109   125-003-000  HIPR      HIPR       IS-NR          Active     -----
  ALARM STATUS       = No Alarms
  TRIAL  VERSION     = 125-003-000
  FPGA VERSION       = 022-005
Command Completed.
```

NOTE: If the version number of the **hipr** GPL shown in the **rept-stat-card** command output is different than the version specified in step 5, contact the Customer Care Center. Refer to “Customer Care Center” on page 1-8 for the contact information.

12. Activate the approved **hipr** GPL loaded onto the card in step 9 using the **act-flash** command. For this example, enter this command.

act-flash:loc=1109

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for card 1109 Completed.
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

Activating the HIPR GPL on more than One HIPR Card at the Same Time

If more than one HIPR card was specified in step 9, enter the **act-flash** command with these parameters:

sloc – the first card location in the range of card locations

eloc – the last card location in the range of card locations

gpl – hipr

NOTE: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter.

For example, to activate the HIPR GPL on the HIPR cards on IMT Bus B shown in step 8 with the trial version of the **hipr** GPL, enter this command.

act-flash:sloc=1110:eloc=2110:gpl=hipr

To activate the HIPR GPL on the HIPR cards on IMT bus A shown in step 8, the **sloc=1109** and **eloc=2109** parameters would be specified with the **act-flash** command.

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    FLASH Memory Activation for cards 1110 - 2110 Started.
;
    rlghncxa03w 97-09-09 13:07:15 GMT EAGLE5 34.3.0
    FLASH Memory Activation for cards 1110 - 2110 Completed.
    LOC 1110 : PASSED
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
    Command Completed.
```

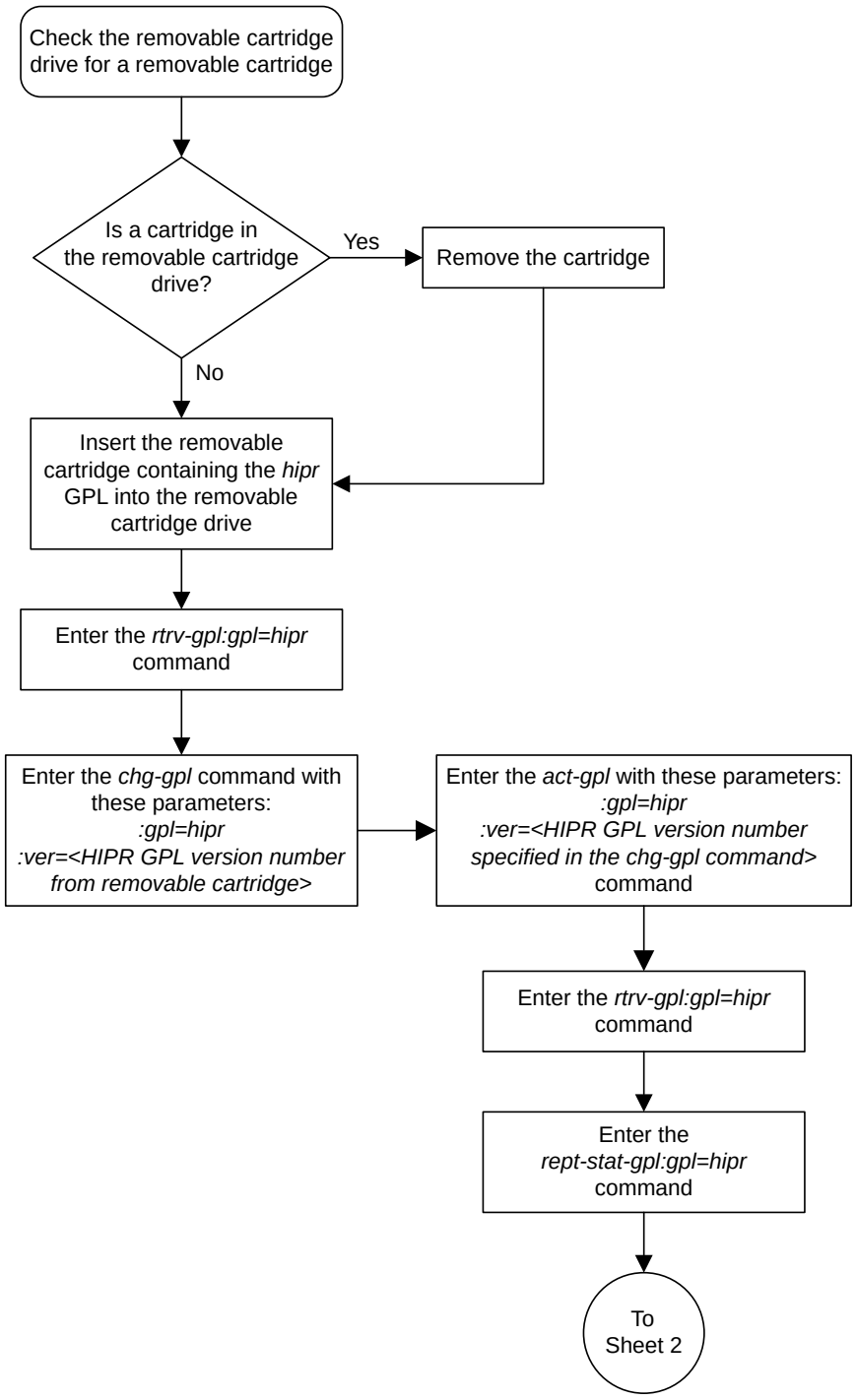
13. Verify the **hipr** GPLs on the fixed disk and the cards that are running the **hipr** GPLs using the **rept-stat-gpl:gpl=hipr** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:40:26 GMT  EAGLE5 34.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
HIPR     1109   125-003-000       125-003-000   125-002-000
HIPR     1110   125-002-000 ALM   125-003-000   125-002-000
HIPR     1209   125-002-000 ALM   125-003-000   125-002-000
HIPR     1210   125-002-000 ALM   125-003-000   125-002-000
HIPR     1309   125-002-000 ALM   125-003-000   125-002-000
HIPR     1310   125-002-000 ALM   125-003-000   125-002-000
HIPR     2109   125-002-000 ALM   125-003-000   125-002-000
HIPR     2110   125-002-000 ALM   125-003-000   125-002-000
Command Completed
```

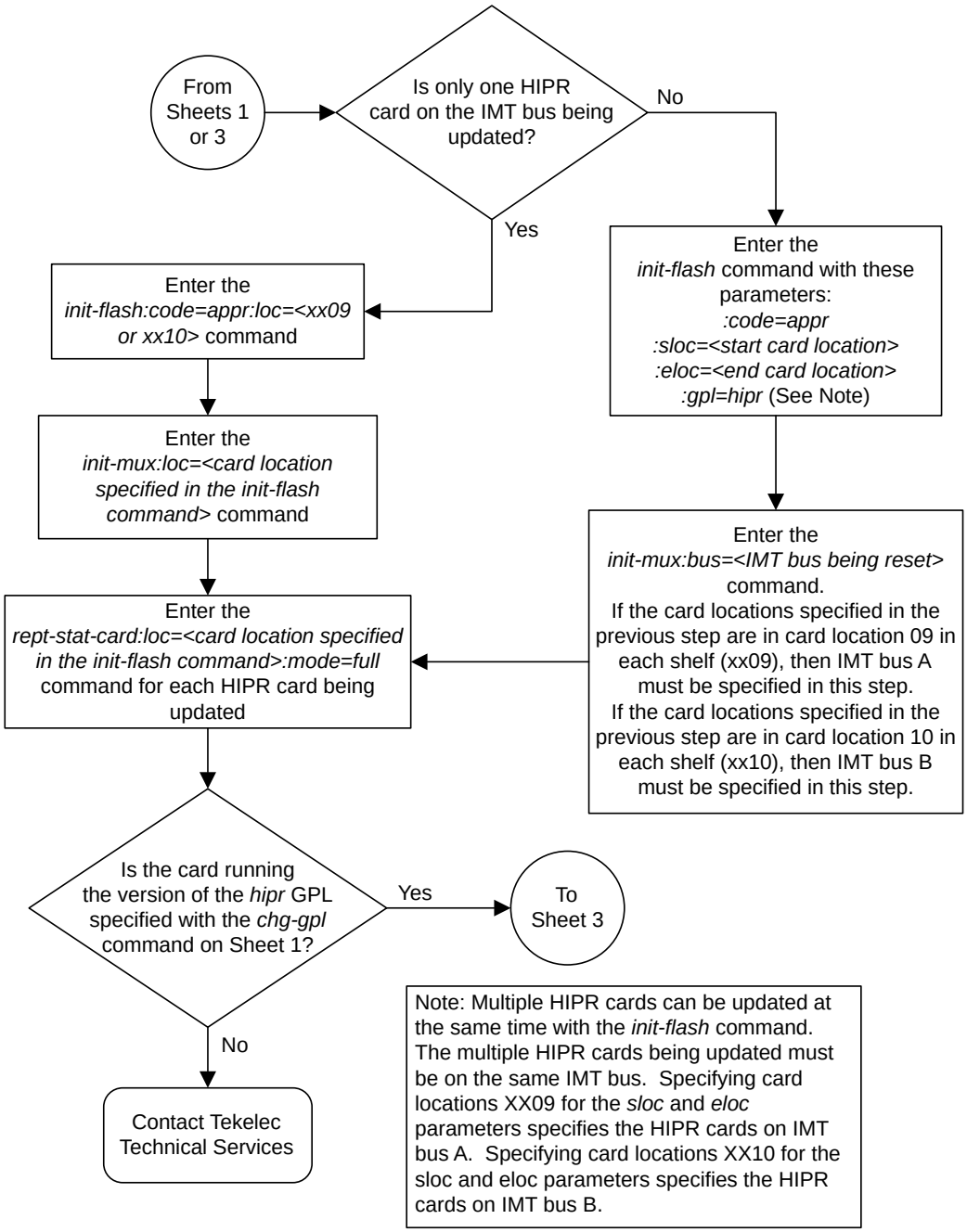
14. To load the **hipr** GPL on the other HIPR cards, repeat steps 9 through 13 for each card.

15. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

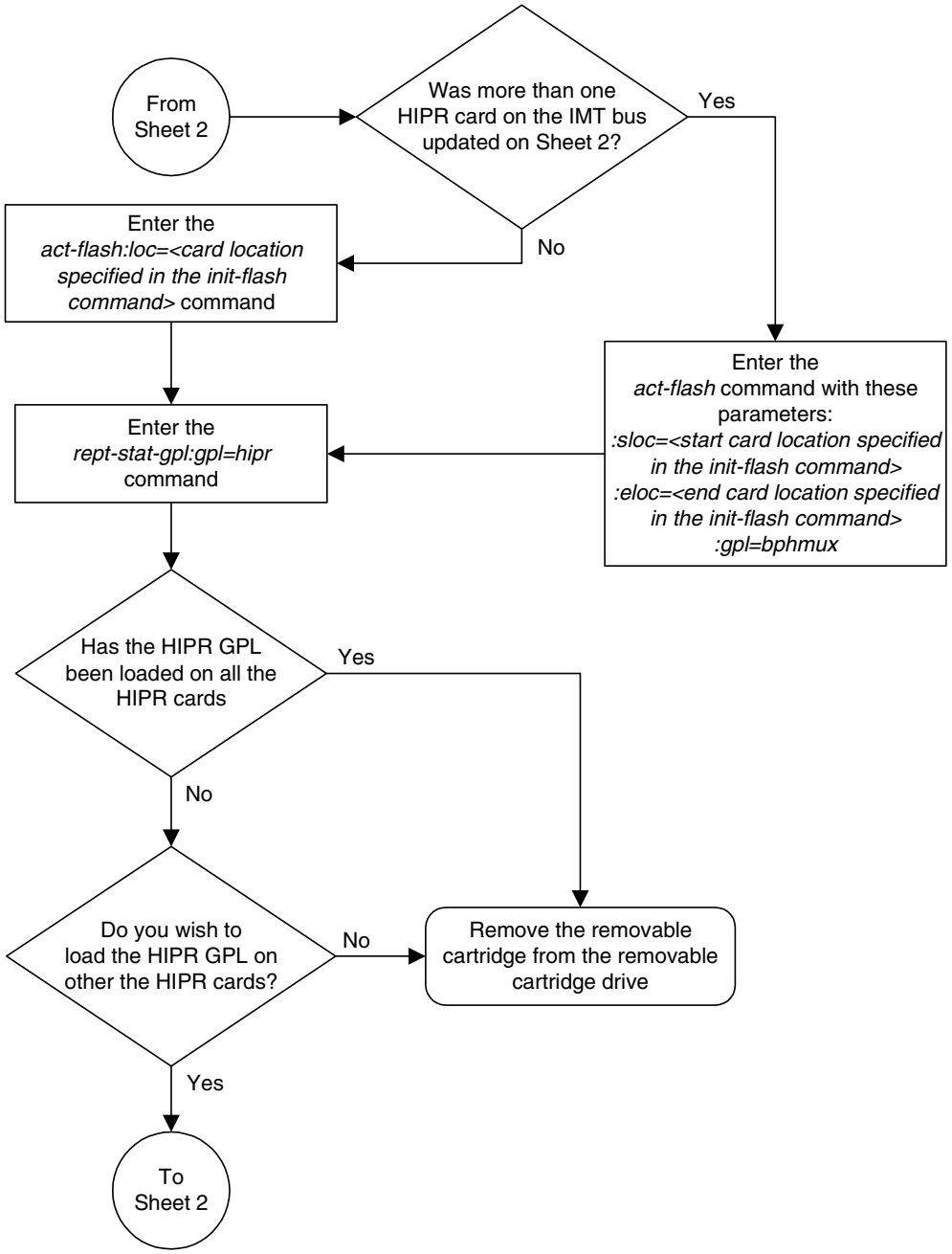
Flowchart 3-9. Updating the HIPR GPL (Sheet 1 of 3)



Flowchart 3-9. Updating the HIPR GPL (Sheet 2 of 3)



Flowchart 3-9. Updating the HIPR GPL (Sheet 3 of 3)



Making the Trial Utility GPL the Approved Utility GPL

This procedure is used to make the trial **utility** generic program load (GPL) the approved **utility** GPL.

The **utility** GPL cannot be loaded and run from the removable cartridge like the other GPLs. The approved version of the **utility** GPL is on the fixed disk. The trial version of the **utility** GPL is located on the removable cartridge. This procedure loads the trial **utility** GPL from the removable cartridge to the fixed disk and makes it the approved **utility** GPL.

The removable cartridge that contains the **utility** GPL to be loaded on to the EAGLE 5 SAS is required.

Procedure

1. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

3. Insert the removable cartridge containing the **utility** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

4. Display the **utility** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=utility** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
UTILITY   1114  153-000-000  153-000-000      153-001-000  153-001-000
UTILITY   1116  153-000-000  153-000-000      -----------  -----------
```

5. Change the GPLs, using the **chg-gpl** command and specifying the value for the trial **utility** GPL shown in the output of the **rtrv-gpl** command used in step 4. For this example, enter this command.

   chg-gpl:gpl=utility:ver=153-001-000

   This message should appear.

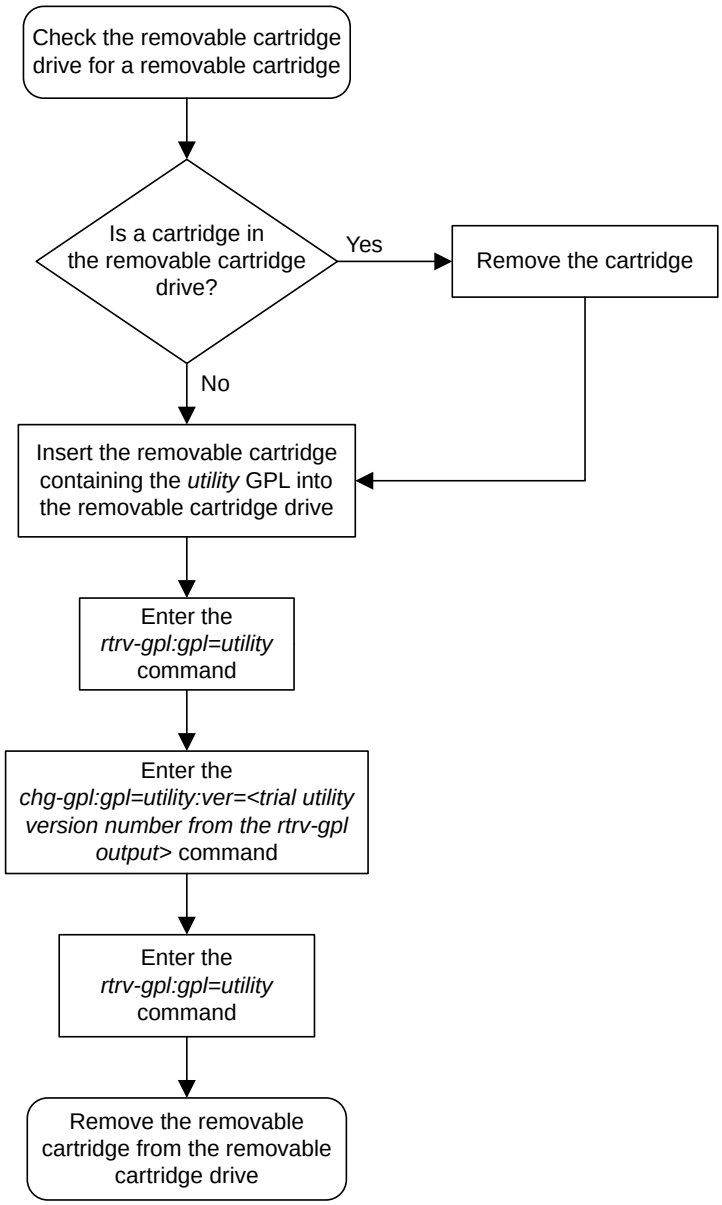
```
rlghncxa03w 06-03-01 06:52:20 GMT EAGLE5 34.3.0
GPL Auditing  ON

UTILITY upload to 1114 completed
UTILITY upload to 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

6. Display the **utility** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=utility** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
UTILITY   1114  153-001-000  153-001-000      153-001-000  153-001-000
UTILITY   1116  153-001-000  153-001-000      -----------  -----------
```

7. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

Flowchart 3-10. Making the Trial Utility GPL the Approved Utility GPL



Updating the OAP GPL

This section presents the procedure for updating the **oap** generic program load (GPL). The **oap** GPL is the software running on the **oap** used for the SEAS feature. This software is assigned a version number using the GPL numbering scheme used by the EAGLE 5 SAS GPL version numbers. When the OAP is connected to the EAGLE 5 SAS, the **oap** GPL version number is transmitted to the EAGLE 5 SAS.

The EAGLE 5 SAS's system release ID table contains the version numbers of all the GPLs used on the EAGLE 5 SAS, including the **oap** GPL. The **oap** GPL version number must match the number contained in the EAGLE 5 SAS's system release ID table. The EAGLE 5 SAS's system release ID table contains the approved version number of the **oap** GPL. This version number is shown in the **APPROVED** column of the **rept-stat-gpl** command output and in the **RELEASE** and **APPROVED** columns of the **rtrv-gpl** command outputs. If the **oap** GPL version transmitted to the EAGLE 5 SAS does not match the **oap** GPL version number in the EAGLE 5 SAS's system release ID table, the indicator **ALM** is displayed next to the GPL version in the **RUNNING** column of the **rept-stat-gpl** output. The **RUNNING** column in the **rept-stat-gpl** command output shows what **oap** GPL version the OAP is actually running. The **ALM** indicator is also displayed next to the **APPROVED** column in the **rtrv-gpl** output.

There is no trial version of the **oap** GPL, so dashes are displayed in the **TRIAL** column in both the **rtrv-gpl** and **rept-stat-gpl** command outputs.

If a removable cartridge is in the removable cartridge drive on the MDAL, the **oap** GPL version number on the removable cartridge is displayed in the **REMOVE TRIAL** column in the **rtrv-gpl** command output.

Only OAPs that are connected to the EAGLE 5 SAS are shown in the **rtrv-gpl** and **rept-stat-gpl** command outputs. The OAPs are shown in the **rtrv-gpl** and **rept-stat-gpl** command outputs as OAP A and OAP B. If only one OAP is connected to the EAGLE 5 SAS, it is shown **rtrv-gpl** and **rept-stat-gpl** command outputs as OAP A and is the only OAP shown in the **rtrv-gpl** and **rept-stat-gpl** command outputs.

To get rid of the alarm condition caused by the mismatched **oap** GPL versions, either the OAP must be upgraded, or the correct **oap** GPL must be loaded from a removable cartridge using the **chg-gpl:gpl=oap** command. To determine which action must be performed, enter the **rept-stat-gpl** command. If the **oap** GPL version shown in the **RUNNING** column is less than the **oap** GPL version shown in the **APPROVED** column, contact the Customer Care Center (refer to "Customer Care Center" on page 1-8 for the contact information) to have the OAPs upgraded.

If the **oap** GPL version shown in the **RUNNING** column is greater than the **oap** GPL version shown in the **APPROVED** column, then the **oap** GPL must be loaded from the removable cartridge with the **chg-gpl** command.

CAUTION: The `chg-gpl:gpl=oap` command copies the system release ID table from the removable cartridge onto the EAGLE 5 SAS. This not only changes the approved version number of the `oap` GPL on the EAGLE 5 SAS, but will also change the approved GPL version numbers of any GPLs whose version numbers on the removable cartridge are different from the version numbers that are on the EAGLE 5 SAS. This results in the cards not running the approved GPL and the `ALM` indicator will be shown in the `rept-stat-gpl` and `rtrv-gpl` command outputs for that GPL. Go to the procedures for that GPL located in this chapter to clear the `ALM` indicator for that GPL.

The removable cartridge that contains the `oap` GPL to be loaded on to the EAGLE 5 SAS is required if the `oap` GPL is to be loaded onto the EAGLE 5 SAS using the `chg-gpl` command.

Procedure

1. Display the `oap` GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl:gpl=oap` command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
OAP          A  028-003-000  028-003-000      -----------  -----------
OAP          B  028-003-000  028-003-000      -----------  -----------
```

2. Display the `oap` GPLs in the database using the `rept-stat-gpl:gpl=oap` command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 12:55:34 GMT EAGLE5 34.3.0
GPL       CARD      RUNNING            APPROVED      TRIAL
OAP          A      028-004-000 ALM    028-003-000   -----------
OAP          B      028-003-000        028-003-000   -----------
Command Completed.
```

   If the `oap` GPL version shown in the `RUNNING` column is less than the `oap` GPL version shown in the `APPROVED` column, contact the Customer Care Center (refer to "Customer Care Center" on page 1-8 for the contact information) to have the OAPs upgraded

   If the `oap` GPL version shown in the `RUNNING` column is greater than the `oap` GPL version shown in the `APPROVED` column, then the `oap` GPL must be loaded from the removable cartridge with the `chg-gpl` command.

   If there are two OAPs connected to the EAGLE 5 SAS and they are running different `oap` GPL versions, as shown in the output example in this step, the OAP not showing the `ALM` indicator should be upgraded to run the same `oap` GPL version as the one that has the `ALM` indicator. Contact the Customer Care Center (refer to "Customer Care Center" on page 1-8 for the contact information) to have the OAPs upgraded

   For this example, the `oap` GPL must be loaded from the removable cartridge using the `chg-gpl` command. Go to step 3.

3. Check the removable cartridge drive on the MDAL card for a removable cartridge. If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

4. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled). To write protect a removable cartridge, see "Write Protecting the Removable Cartridge" on page 2-6.

5. Insert the removable cartridge containing the **oap** GPL into the removable cartridge drive on the MDAL card. For more information on inserting the removable cartridge in the removable cartridge drive, see "Inserting the Removable Cartridge" on page 2-8.

6. Display the **oap** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=oap** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
OAP          A  028-003-000  028-003-000      -----------  028-004-000
OAP          B  028-003-000  028-003-000      -----------  -----------
```

7. Load the **oap** GPL from the removable cartridge using the **chg-gpl:gpl=oap** command.

   These messages should appear.

```
rlghncxa03w 06-03-01  11:43:04  GMT  EAGLE5 34.3.0
GPL Auditing  ON

System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

8. Verify the **oap** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:gpl=oap** command. This is an example of the possible output.

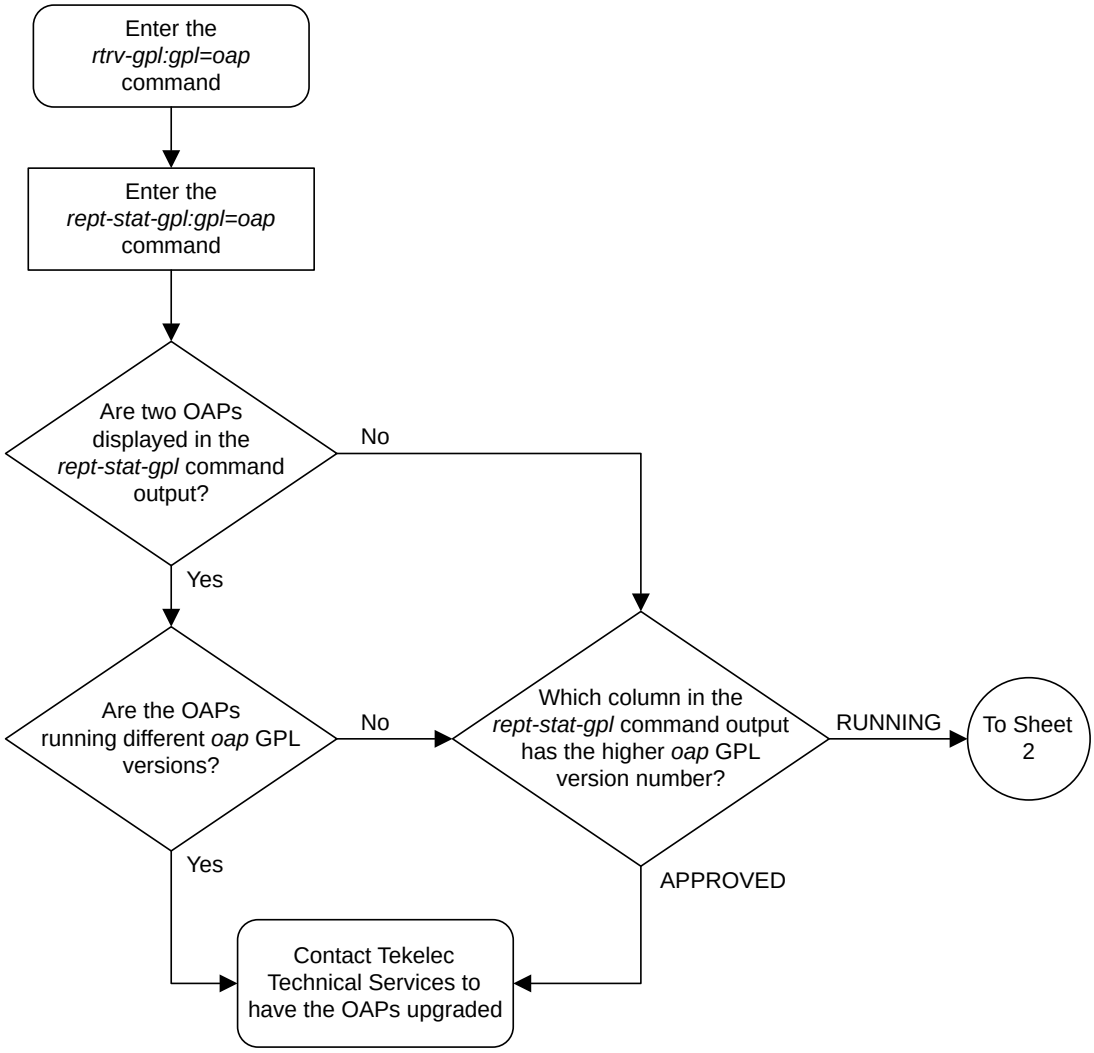
```
rlghncxa03w 06-03-01 07:01:08 GMT EAGLE5 34.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
OAP          A  028-004-000  028-004-000      -----------  028-004-000
OAP          B  028-004-000  028-004-000      -----------  -----------
```

9. Display the **oap** GPLs in the database using the **rept-stat-gpl:gpl=oap** command. This is an example of the possible output.

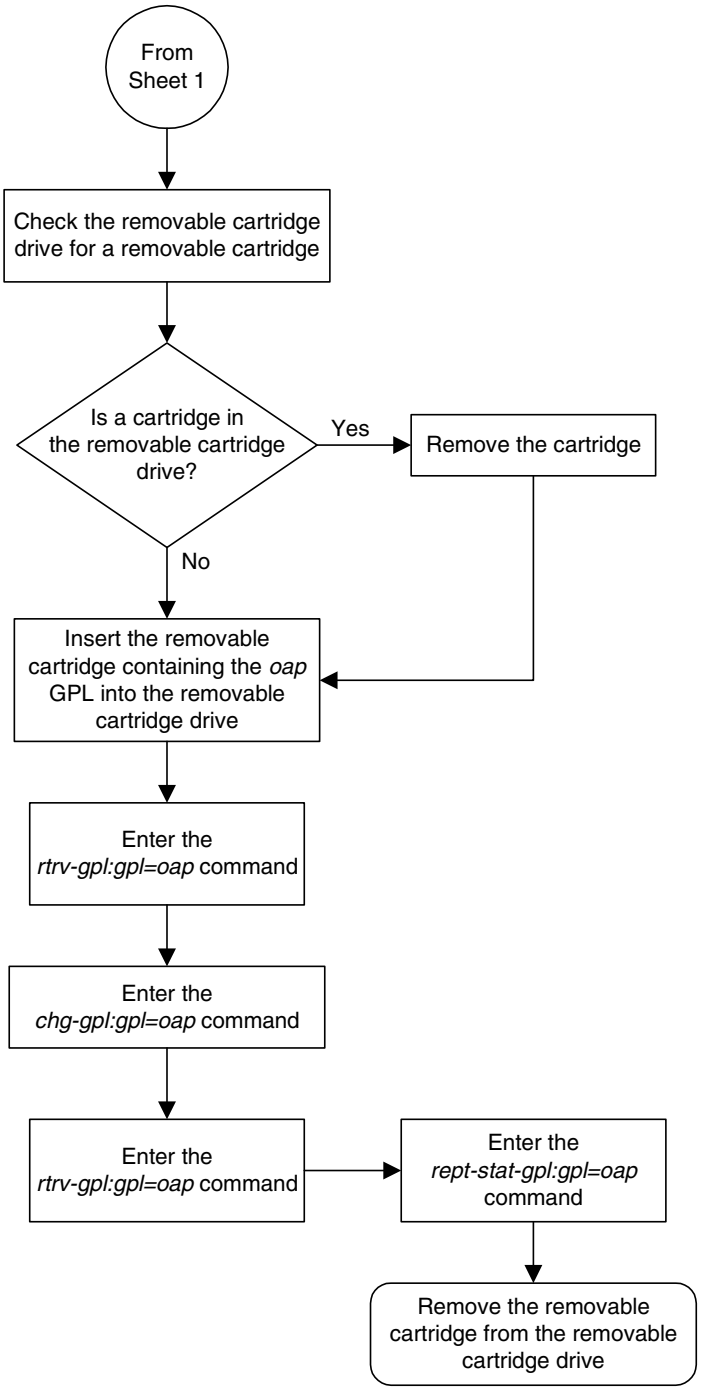
```
rlghncxa03w 06-03-01 12:55:34 GMT EAGLE5 34.3.0
GPL      CARD      RUNNING            APPROVED      TRIAL
OAP         A      028-004-000        028-004-000   -----------
OAP         B      028-004-000        028-004-000   -----------
Command Completed.
```

10. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

Flowchart 3-11. Updating the OAP GPL (Sheet 1 of 2)



Flowchart 3-11. Updating the OAP GPL (Sheet 2 of 2)



Reloading the TDM LCA Clock Bitfile

This procedure is used to reload the clock LCA (logic cell array) bitfile on the TDMs using the **init-card** command. To reload the TDM clock LCA bitfile, the GPSM-II card associated with the TDM being reloaded is initialized by entering the **init-card** command with the **initclk=yes** parameter.

It is recommended that the card specified in the **init-card** command is the GPSM-II card in the standby MASP. The **rept-stat-clk** output in step 1 shows which TDM is the standby TDM with the entry **(Standby)** after the TDM's card location. If the TDM in card location 1114 is the standby TDM, card location 1113 must be specified. If the TDM in card location 1116 is the standby TDM, card location 1115 must be specified.

The TDM clock LCA bitfile can be reloaded only on TDMs with part numbers 870-0774-15 or later. If the EAGLE 5 SAS contains older TDMs, these TDMs must be replaced with TDMs 870-0774-15 or later to perform this procedure.

NOTE: Contact the Customer Care Center before replacing the TDMs. Refer to "Customer Care Center" on page 1-8 for the contact information.

The **init-card** also contains the **force=yes** parameter. The **force=yes** parameter can be used only with the **initclk=yes** parameter. The **force=yes** parameter must be used if reloading the TDM clock LCA bitfile would cause a system clock outage.

CAUTION: A system clock outage can be caused by either the EAGLE 5 SAS having only one TDM (a simplex MASP configuration) or if the status of the high-speed clocks, shown in the rept-stat-clk output in step 1, on the TDM which is not being reset is Fault. A system clock outage will result in a loss of traffic on some or all signaling links.

Procedure

1. Verify the status of the high-speed clocks by entering the **rept-stat-clk** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
CARD LOC = 1114 (Active   )   CARD LOC = 1116 (Standby  )
PRIMARY BITS     = Active     PRIMARY BITS     = Active
SECONDARY BITS   = Idle       SECONDARY BITS   = Idle
HS PRIMARY CLK   = Active     HS PRIMARY CLK   = Active
HS SECONDARY CLK = Idle       HS SECONDARY CLK = Idle
HS CLK TYPE      = RS422      HS CLK TYPE      = RS422
HS CLK LINELEN   = LONGHAUL   HS CLK LINELEN   = LONGHAUL

                              PST           SST       AST
SYSTEM CLOCK                  IS-NR         Active    -----
ALARM STATUS     = No Alarms.
# Cards using CLK A = 009     # Cards with bad CLK A = 000
# Cards using CLK B = 000     # Cards with bad CLK B = 000
# Cards using CLK I = 000

                              PST           SST       AST
HS SYSTEM CLOCK               IS-NR         Active    -----
ALARM STATUS      = No Alarms.
# Cards using HS CLK A = 002  # Cards with bad HS CLK A = 000
# Cards using HS CLK B = 000  # Cards with bad HS CLK B = 000
# Cards using HS CLK I = 000

Command Completed.
```

   If the **rept-stat-clk** output does not show any high-speed clocks (**HS SYSTEM CLOCK**, **HS PRIMARY CLK**, **HS SECONDARY CLK**, **HS CLK TYPE**, and **HS CLK LINELEN** fields), the EAGLE 5 SAS does not contain any cards that are capable of using high-speed master timing.

   NOTE: If the HS CLK TYPE and HS CLK LINELEN values shown in step 1 are set to the system default values (HS CLK TYPE = RS422 and HS CLK LINELEN = LONGHAUL), skip step 2 and go to step 3.

2. Visually verify the part numbers of both TDMs in the EAGLE 5 SAS. To load the TDM clock LCA bitfile, the part numbers of both TDMs must be 870-0774-15 or later.

   If the TDM part numbers are 870-0774-15 or later, go to step 3.

   If the TDM part numbers are not 870-0774-15 or later, the TDMs must be replaced with TDM part numbers 870-0743-15 or later. Contact the Customer Care Center before replacing the TDMs. Refer to "Customer Care Center" on page 1-8 for the contact information. If the older TDMs are not replaced, this procedure cannot be performed.

3. Display the terminal configuration in the database with the **rtrv-trm** command.

If any OAP terminals are present, they must be taken out of service. The OAP terminals are shown in the output with the entry **OAP** in the **TYPE** field. If no OAP terminals are shown in the **rtrv-trm** command output, skip steps 4 through 6 and go to step 7.

This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    30    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    PRINTER  4800-7-E-1 HW    30    0     00:00:00
4    VT320    2400-7-E-1 BOTH  30    5     00:30:00
5    VT320    9600-7-O-1 NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
10   VT320    9600-7-E-1 HW    30    5     00:30:00
11   VT320    4800-7-E-1 HW    30    5     00:30:00
12   PRINTER  9600-7-E-1 HW    30    4     00:30:00
13   VT320    9600-7-O-1 NONE  30    5     00:30:00
14   VT320    9600-7-E-2 SW    30    8     00:30:00
15   VT320    9600-7-N-2 HW    30    5     00:30:00
16   VT320    9600-7-E-2 BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL
17   TELNET    1201             60    5     00:30:00
18   TELNET    1201             60    5     00:30:00
19   TELNET    1201             60    5     00:30:00
20   TELNET    1201             60    5     00:30:00
21   TELNET    1201             60    5     00:30:00
22   TELNET    1201             60    5     00:30:00
23   TELNET    1201             60    5     00:30:00
24   TELNET    1201             60    5     00:30:00
25   TELNET    1203             60    5     00:30:00
26   TELNET    1203             60    5     00:30:00
27   TELNET    1203             60    5     00:30:00
28   TELNET    1203             60    5     00:30:00
39   TELNET    1203             60    5     00:30:00
30   TELNET    1203             60    5     00:30:00
31   TELNET    1203             60    5     00:30:00
32   TELNET    1203             60    5     00:30:00
33   TELNET    1208             60    5     00:30:00
34   TELNET    1208             60    5     00:30:00
35   TELNET    1208             60    5     00:30:00
36   TELNET    1208             60    5     00:30:00
37   TELNET    1208             60    5     00:30:00
38   TELNET    1208             60    5     00:30:00
39   TELNET    1208             60    5     00:30:00
40   TELNET    1208             60    5     00:30:00

TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO
```

```
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

4. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

5. Place the OAP terminals out of service using the **rmv-trm** command.

The **force=yes** parameter must be used when placing the last OAP terminal out of service.

To place the OAP terminals out of service in this example, enter these commands.

```
rmv-trm:trm=6
rmv-trm:trm=9:force=yes
```

CAUTION: Placing the OAP terminals out of service will disable the SEAS feature on the EAGLE 5 SAS.

If the status of any of the terminals shown in the **PST** field in step 4 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the **rmv-trm** command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

NOTE: Step 6 is performed only if the OAP terminals were placed out of service in step 5. If the OAP terminals were not placed out of service in step 5, skip step 6 and go to step 7.

6. Change the terminal type of the OAP terminals to NONE with the **chg-trm** command, the **type=none** parameter, and with the values of the OAP terminals used in step 5. For this example, enter these commands.

```
chg-trm:trm=6:type=none

chg-trm:trm=9:type=none
```

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CHG-TRM: MASP B - COMPLTD
```

---

7. Place the GPSM-II card in the standby MASP out of service using the **rmv-card** command.

   The **rept-stat-clk** output in step 1 shows which TDM is the standby TDM with the entry **(Standby)** after the TDM's card location. If the TDM in card location 1114 is the standby TDM, card location 1113 must be specified in this step. If the TDM in card location 1116 is the standby TDM, card location 1115 must be specified in this step.

   For this example, enter this command.

   rmv-card:loc=1115

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

8. Load the TDM clock LCA bitfile onto the TDM associated with the GPSM-II card inhibited in step 7 using the **init-card** command with the **initclk=yes** parameter and the card location of the standby GSPM-II card.

CAUTION: If reloading the TDM clock LCA bitfile would cause a system clock outage, the force=yes parameter must be used with the init-card command. A system clock outage can be caused by either the EAGLE 5 SAS having only one TDM (a simplex MASP configuration) or if the status of the high-speed clocks, shown in the rept-stat-clk output in step 1, on the TDM which is not being reset is Fault. A system clock outage will result in a loss of traffic on some or all signaling links.

   For this example, enter this command.

   init-card:initclk=yes:loc=1115

   When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-03-01 13:01:59 GMT  EAGLE5 34.3.0
    Init Card command issued to card 1115
;

    rlghncxa03w 06-03-01 13:01:59 GMT  EAGLE5 34.3.0
*   3021.0013  * CARD 1115 EOAM        Card is isolated from the system
;

    rlghncxa03w 06-03-01 13:03:10 GMT  EAGLE5 34.3.0
    3022.0014    CARD 1115 EOAM        Card is present
                 ASSY SN:  1216115
```

9. Put the GPSM-II card that was inhibited in step 8 back into service using the **rst-card** command with the card location specified in step 8. For this example, enter this command.

rst-card:loc=1115

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

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Card has been allowed.
```

NOTE: If you do not wish to load the TDM clock LCA bitfile on the other TDM in the EAGLE 5 SAS, skip this step and go to step 11.

10. If you wish to load the TDM clock LCA bitfile onto the TDM making up the active MASP, enter the **init-card** command specifying the location of the GPSM-II card making up active MASP. Initializing the GPSM-II card of the active MASP makes the MASPs switch roles. The active MASP becomes the standby MASP, and the standby

For this example, enter the **init-card:loc=1113** command. This message should appear.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
Init Card command issued to card 1113
```

After the **init-card** command has completed, repeat steps 7, 8, and 9, specifying the card location used in the **init-card** command.

---

11. Verify the status of the high-speed clocks by entering the **rept-stat-clk** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 11:34:04 GMT  EAGLE5 34.3.0
CARD LOC = 1114 (Standby  )   CARD LOC = 1116 (Active   )
PRIMARY BITS     = Active     PRIMARY BITS     = Active
SECONDARY BITS   = Idle       SECONDARY BITS   = Idle
HS PRIMARY CLK   = Active     HS PRIMARY CLK   = Active
HS SECONDARY CLK = Idle       HS SECONDARY CLK = Idle
HS CLK TYPE      = RS422      HS CLK TYPE      = RS422
HS CLK LINELEN   = LONGHAUL   HS CLK LINELEN   = LONGHAUL

                              PST           SST       AST
SYSTEM CLOCK                  IS-NR         Active    -----
ALARM STATUS     = No Alarms.
# Cards using CLK A = 009     # Cards with bad CLK A = 000
# Cards using CLK B = 000     # Cards with bad CLK B = 000
# Cards using CLK I = 000

                              PST           SST       AST
HS SYSTEM CLOCK               IS-NR         Active    -----
ALARM STATUS      = No Alarms.
# Cards using HS CLK A = 002  # Cards with bad HS CLK A = 000
# Cards using HS CLK B = 000  # Cards with bad HS CLK B = 000
# Cards using HS CLK I = 000

Command Completed.
```

NOTE: If OAP terminals are not shown in the `rtrv-trm` command output in step 3, skip steps 12 through 14, and go to step 15.

12. Change the terminal type of the terminals that were changed to **`NONE`** in step 6 to the terminal type OAP with the **`chg-trm`** command and the **`type=oap`** parameter. The terminal type is shown in the **`TYPE`** field in the **`rtrv-trm`** command output in step 3. For this example, enter these commands.

`chg-trm:trm=6:type=oap`

`chg-trm:trm=9:type=oap`

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-03-01  11:11:28 GMT  EAGLE5 34.3.0
CHG-TRM: MASP B - COMPLTD
```

13. If the OAP terminals were placed out of service in step 5, put the OAP terminals back into service with the **`rst-trm`** command. For this example, enter these commands.

`rst-trm:trm=6`

`rst-trm:trm=9`

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

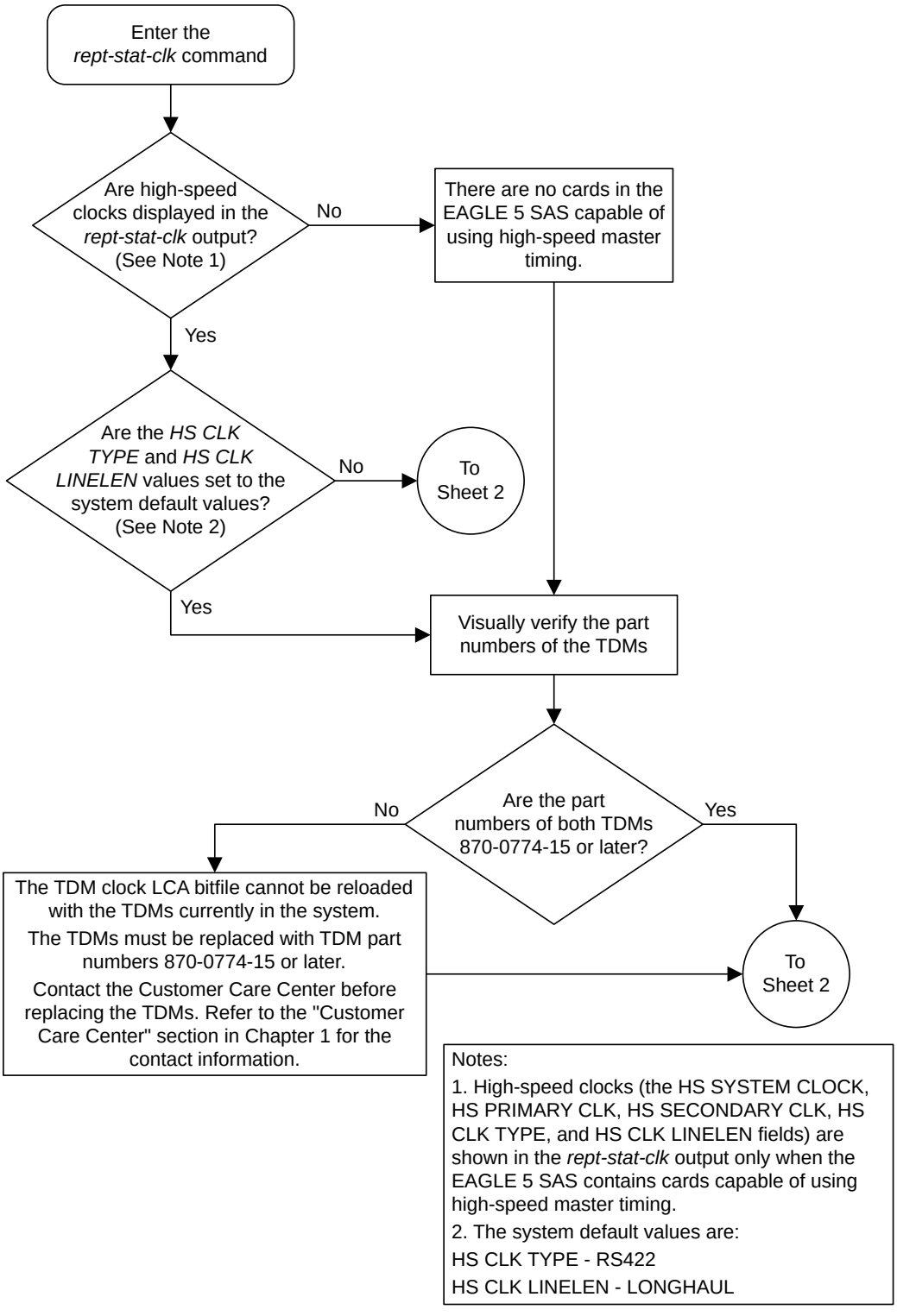
14. Verify that the terminals are in service with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

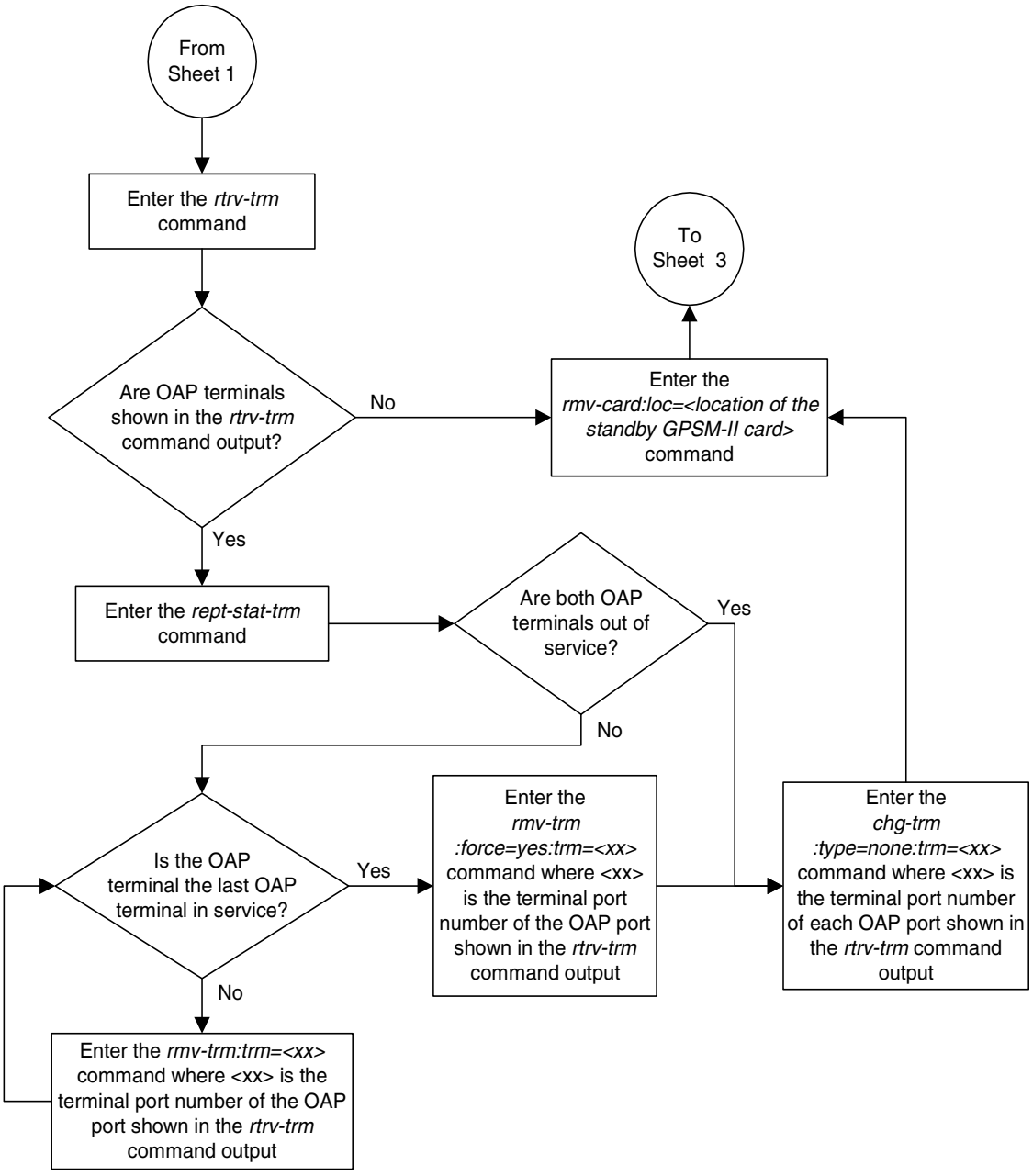
15. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

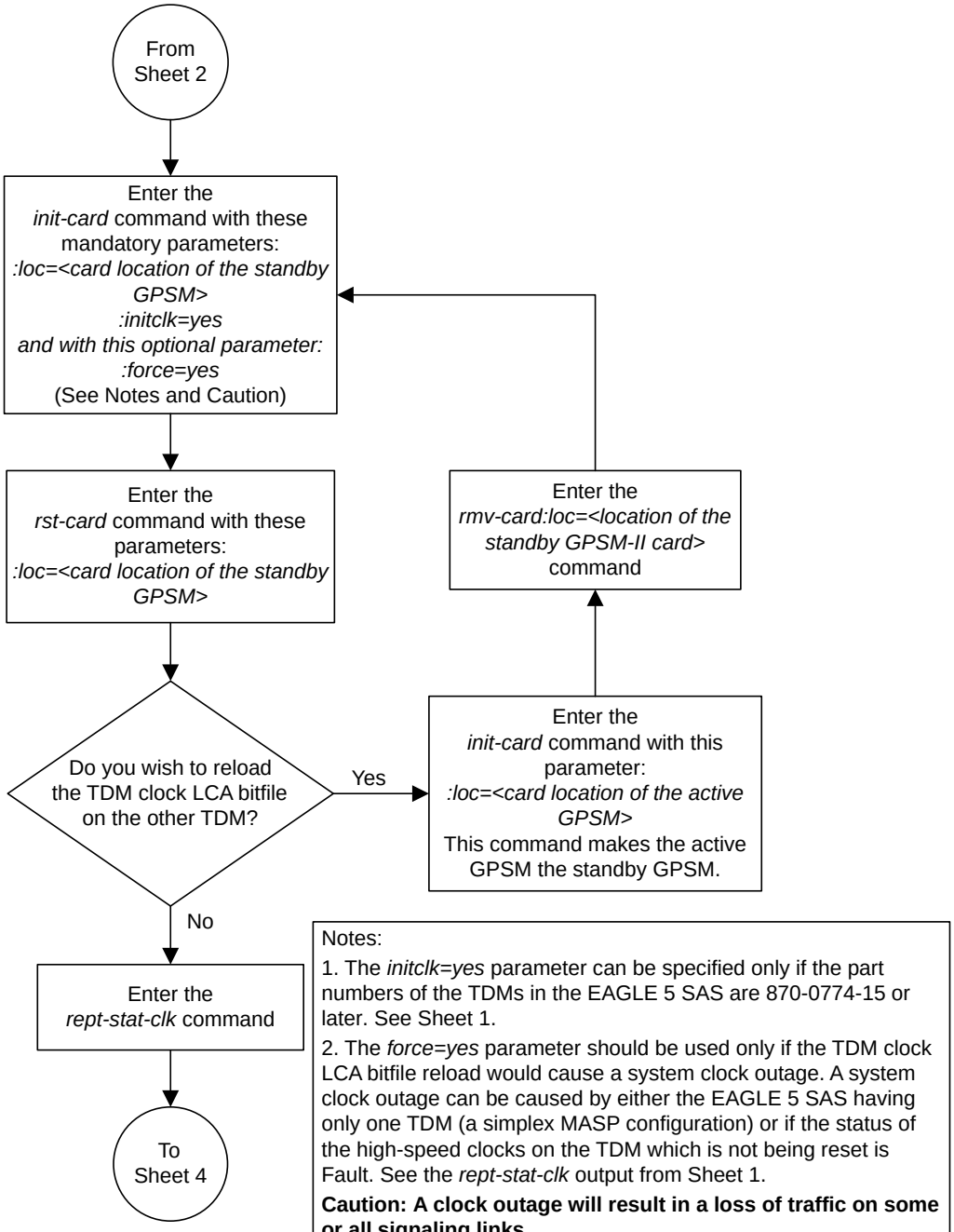
Flowchart 3-12. Reloading the TDM LCA Clock Bitfile (Sheet 1 of 4)



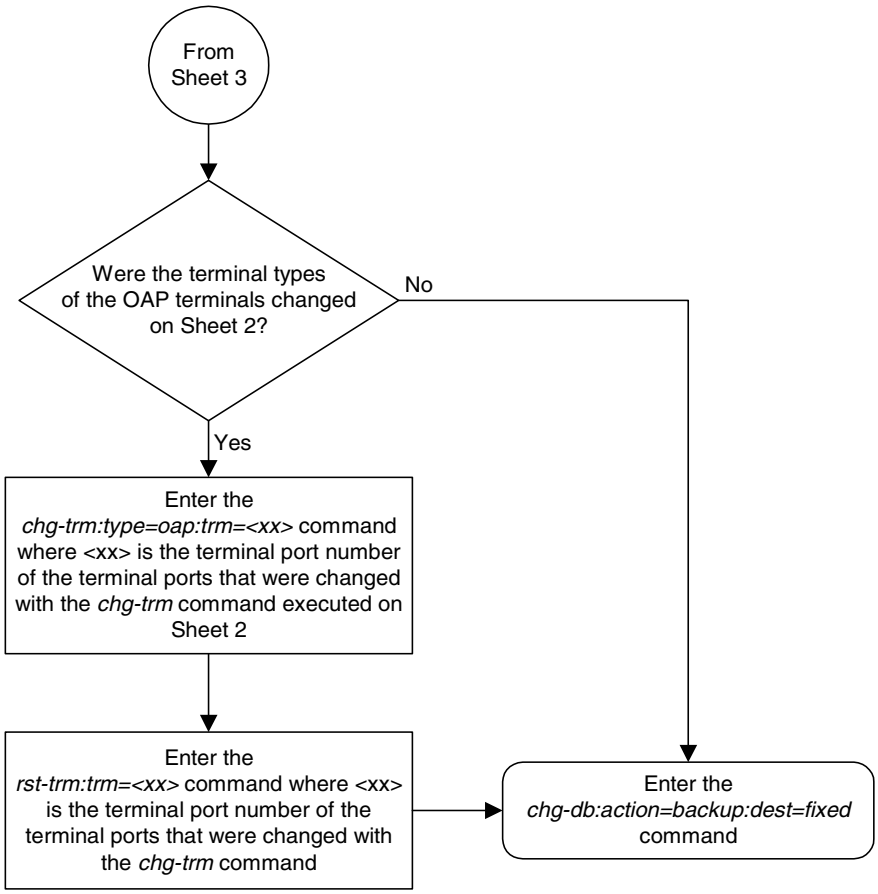
Flowchart 3-12. Reloading the TDM LCA Clock Bitfile (Sheet 2 of 4)



Flowchart 3-12. Reloading the TDM LCA Clock Bitfile (Sheet 3 of 4)



Flowchart 3-12. Reloading the TDM LCA Clock Bitfile (Sheet 4 of 4)



4

System Administration Procedures

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Introduction

This chapter contains system administration procedures. The items discussed in this section are:

- The date and time
- User IDs and passwords
- Terminal configuration
- Shelves
- Cards
- Security Log
- Unauthorized Use Warning Message
- UIM Thresholds
- MCPMs, IP links, and FTP servers for the Measurements Platform
- IPSMs for the IP User Interface (Telnet) feature
- Configuring the Network Security Options
- Configuring the Restore Device State Option

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.

Setting the Clock and Date on the EAGLE 5 SAS

This procedure is used to set the EAGLE 5 SAS's clock and date.

Procedure

1. To set the date, use the **set-date** command. The date must be entered in the form YYMMDD (YY for the year, MM for the month, and DD for the day of the month). For example, to set the date to March 7, 2003, enter this command.

   ```
   set-date:date=030307
   ```

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

   ```
   rlghncxa03w 06-03-01 09:33:19 GMT  EAGLE5 34.3.0
   Date set complete.
   ```

2. To set the clock, use the **set-time** command. The time must be entered in the form HHMM (HH for the hour, and MM for the minutes). The hour is based on a 24-hour clock. The time zone can also be specified. If the time zone is not specified, then the EAGLE 5 SAS uses the time zone that was entered with the previous **set-time** command. The values for the time zone parameter are shown in Table 4-1. The entry in the Abbreviation column of Table 4-1 is the value to be specified for the time zone parameter.

Table 4-1. Time Zones

Time Zone	Abbreviation	Offset from GMT (hours)
Greenwich Mean Time	GMT	0
US Eastern Daylight Time	EDT	- 4
US Eastern Standard Time	EST	- 5
US Pacific Daylight Time	PDT	- 7
US Pacific Standard Time	PST	- 8
US Mountain Daylight Time	MDT	- 6
US Mountain Standard Time	MST	- 7
US Central Daylight Time	CDT	- 5
US Central Standard Time	CST	- 6
US Hawaiian Daylight Time	HDT	- 9
US Hawaiian Standard Time	HST	- 10
Atlantic Daylight Time	ADT	- 3
Atlantic Standard Time	AST	- 4
Western European Time	WET	0
Universal Time Coordinated	UTC	0

Table 4-1. Time Zones (Continued)

Time Zone	Abbreviation	Offset from GMT (hours)
British Summer Time	BST	+ 1
Western European Summer Time	WEST	+ 1
Central European Time	CET	+ 1
Central European Summer Time	CEST	+ 2
Eastern European Time	EET	+ 2
Eastern European Summer Time	EEST	+ 3
French Summer Time	FST	+ 2
French Winter Time	FWT	+ 1
Brazil Standard Time	BRA	- 3
Middle European Time	MET	+ 1
Middle European Summer Time	MEST	+ 2
Moscow Time	MSK	+ 3
Moscow Summer Time	MSD	+ 4
Australian Eastern Standard Time	AEST	+ 10
Australian Eastern Daylight Time	AEDT	+ 11
Australian Western Standard Time	AWST	+ 8
Australian Western Daylight Time	AWDT	+ 9
Australian Central Standard Time	ACST	+ 9.5
Australian Central Daylight Time	ACDT	+ 10.5
New Zealand Standard Time	NZST	+ 12
New Zealand Daylight Time	NZDT	+ 13
South African Standard Time	SAST	+ 2
China Coast Time	CCT	+ 8
Republic of Korea	ROK	+ 9
India Standard Time	IST	+ 5.5
India Daylight Time	IDT	+ 6.5
Alaska Standard Time	AKST	-9
Alaska Daylight Time	AKDT	-8
Newfoundland Standard Time	NST	-3.5
Newfoundland Daylight Time	NDT	-2.5

For example, to set the time to 14:20 (2:20 PM) in the Greenwich Mean time zone, enter this command.

set-time:time=1420:tz=gmt

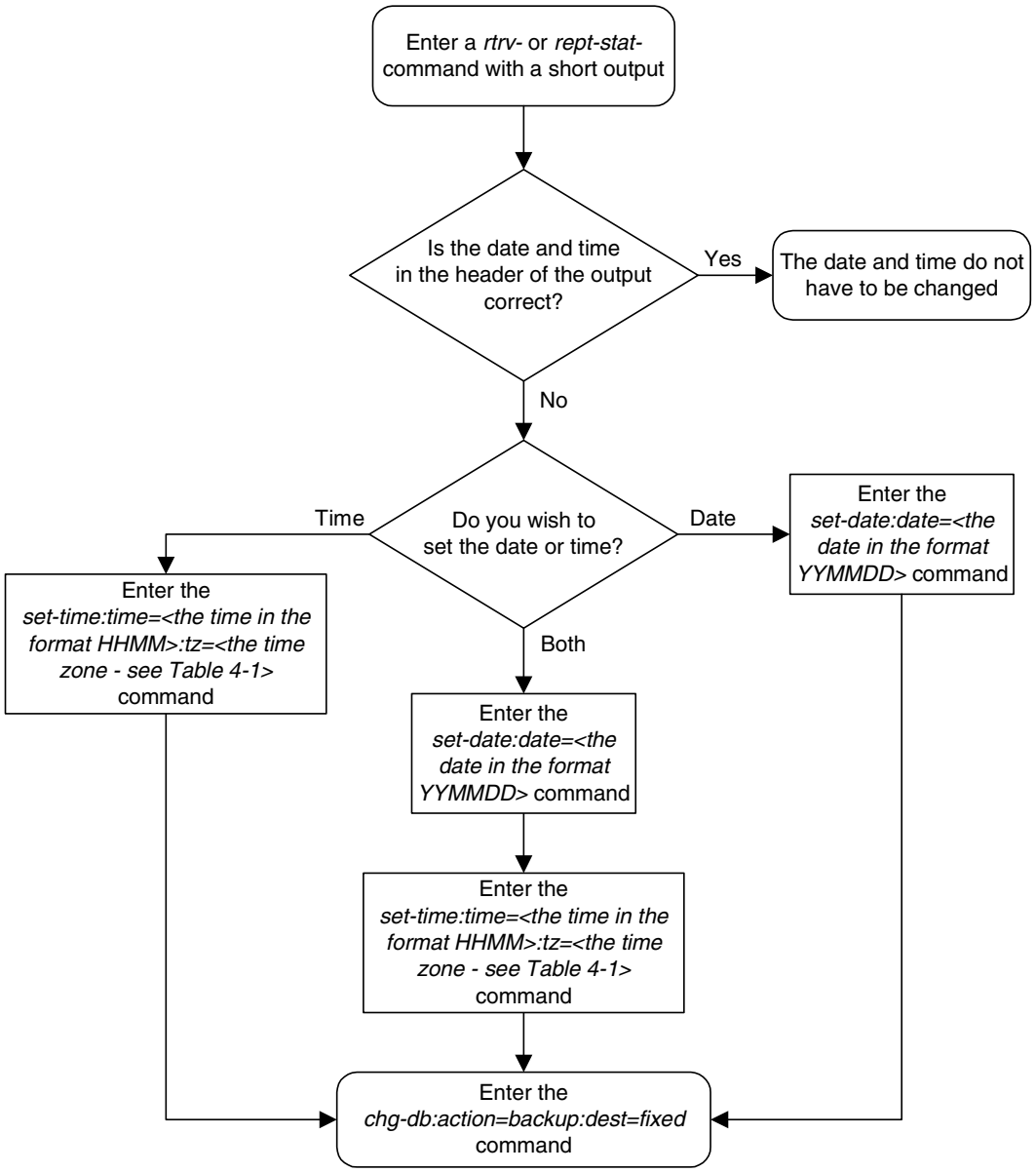
When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-03-01 14:20:00 GMT  EAGLE5 34.3.0
Time set complete.
```

3. 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 4-1. Setting the System Clock and Date



Changing the Security Defaults

This procedure is used to change the user ID and password requirements for the EAGLE 5 SAS using the **chg-secu-dflt** command. The **chg-secu-dflt** command uses these parameters.

:**page** – The amount of time, in days, that the specified user's password can be used before the user must change their password. The value of this parameter applies to all EAGLE 5 SAS user IDs unless a different value is specified for a specific user ID with the **ent-user** or **chg-user** command.

:**uout** – The number of consecutive days that a user ID can remain active in the EAGLE 5 SAS and not be used. When the user ID has not been used for the number of days specified by the **uout** parameter, that user ID is no longer valid and the EAGLE 5 SAS rejects any attempt to log into the EAGLE 5 SAS with that user ID. The value of this parameter applies to all user IDs in the EAGLE 5 SAS unless a different value is specified for a specific user ID with the **ent-user** or **chg-user** command.

:**multlog** – are the user IDs allowed to log on to more than one terminal at any given time.

:minlen – the minimum length of the password

:alpha – the minimum number of alpha characters (a - z)

:num – the minimum number of numeric characters (0 - 9)

:punc – the minimum number of punctuation characters (any printable character that is not an alphabetic character, a numeric character, the space bar)

:wrnln – the line number of the text of the unauthorized use warning message. The unauthorized use warning message can contain from 1 to 20 lines of text.

:wrntx – the text of the line number of the unauthorized use warning message. The each line of text can contain up to 70 alphanumeric characters and must be enclosed in quotes (").

This procedure does not use the **wrnln** and **wrntx** parameters. These parameters are used to configure the unauthorized use warning message that is displayed when a user logs into the EAGLE 5 SAS. To configure the unauthorized use warning message, go to the "Configuring the Unauthorized Use Warning Message" procedure on page 4-11.

Even though the **minlen** parameter specifies the minimum length of a password, the password must also contain the minimum number characters defined by the **alpha**, **num**, and **punc** parameters.

The examples in this procedure are used to change the security defaults to these values.

page = 100 days

uout = 50 days

multlog = **yes**, to allow the user IDs in the EAGLE 5 SAS to log onto more than one terminal at any given time.

minlen = 12 characters

alpha = 2 characters

num = 2 characters

punc = 2 characters

NOTE: When the EAGLE 5 SAS is delivered to the user, the database will contain these security default values.

:page = 90 days

:uout = 90 days

:multlog = no

:minlen = 8 characters

:alpha = 1 character

:num = 1 character

:punc = 1 character

The **rtrv-secu-dflt** command uses the **msg** parameter to specify whether the unauthorized use warning message text is displayed in the command output. The **msg** parameter has two values.

yes – the unauthorized use warning message text is displayed.

no – the unauthorized use warning message text is not displayed.

The default value for this parameter is **no**.

Regardless of the value specified for the **msg** parameter, the user ID and password security defaults are displayed in the **rtrv-secu-dflt** command output.

Procedure

1. Display the current security defaults by entering the **rtrv-secu-dflt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
```

2. Change the current security defaults by entering the **chg-secu-dflt** command. For this example, enter this command.

   chg-secu-dflt:page=100:uout=50:multlog=yes:minlen=12:alpha=2 :num=2:punc=2

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

```
rlghncxa03w 06-03-01 11:43:04 GMT EAGLE5 34.3.0
CHG-SECU-DFLT: MASP A - COMPLTD
```

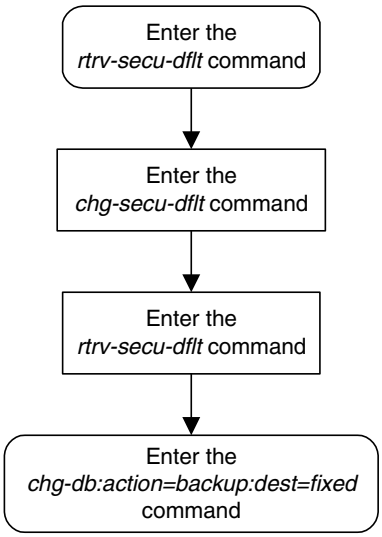
3. Verify the changes with the **rtrv-secu-dflt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
SECURITY DEFAULTS
-----------------
PAGE          100
UOUT           50
MULTLOG       YES
MINLEN         12
ALPHA           2
NUM             2
PUNC            2
```

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 4-2. Changing the System's Security Defaults



Configuring the Unauthorized Use Warning Message

This procedure is used to configure the unauthorized use warning message that is displayed after a user successfully logs into the EAGLE 5 SAS. This message is configured with the **wrnln** and **wrntx** parameters of the **chg-secu-dflt** command. These are all of the parameters of the **chg-secu-dflt** command.

:**page** – The amount of time, in days, that the specified user's password can be used before the user must change their password. The value of this parameter applies to all user IDs in the EAGLE 5 SAS unless a different value is specified for a specific user ID with the **ent-user** or **chg-user** command.

:**uout** – The number of consecutive days that a user ID can remain active in the EAGLE 5 SAS and not be used. When the user ID has not been used for the number of days specified by the **uout** parameter, that user ID is no longer valid and the EAGLE 5 SAS rejects any attempt to log into the EAGLE 5 SAS with that user ID. The value of this parameter applies to all user IDs in the EAGLE 5 SAS unless a different value is specified for a specific user ID with the **ent-user** or **chg-user** command.

:**multlog** – are the user IDs allowed to log on to more than one terminal at any given time.

:minlen – the minimum length of the password

:alpha – the minimum number of alpha characters (a - z)

:num – the minimum number of numeric characters (0 - 9)

:punc – the minimum number of punctuation characters (any printable character that is not an alphabetic character, a numeric character, the space bar)

:wrnln – the line number of the text of the unauthorized use warning message. The unauthorized use warning message can contain from 1 to 20 lines of text.

:wrntx – the text of the line number of the unauthorized use warning message. The each line of text can contain up to 70 alphanumeric characters and must be enclosed in quotes (“). A text line with no characters can be specified with this text string, “”. This prevents the text line from being displayed in the unauthorized use warning message. A blank line is specified with this text string, “ “, the blank space character enclosed in double quotes.

The **chg-secu-dflt** parameters **page**, **uout**, **multlog**, **minlen**, **alpha**, **num**, and **punc** are used to change the user ID and password security defaults on the EAGLE 5 SAS. To change the user ID and password security defaults, go to the "Changing the Security Defaults" procedure on page 4-7.

NOTE: When the EAGLE 5 SAS is delivered to the user, the database will contain this login warning message.

```
NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.
```

The example in this procedure is used to change the unauthorized use warning message from the system default message to this message.

```
************************************************************
*   NOTICE: This is a private computer system.             *
*   UNAUTHORIZED ACCESS OR USE WILL BE PROSECUTED          *
*                                                          *
*                                                          *
*   02/17/00 Notice!!! System will be upgraded between     *
*                      the hours of 2am-3am on 11/23/96    *
*                                                          *
*                                                          *
************************************************************
```

The **rtrv-secu-dflt** command uses the **msg** parameter to specify whether the unauthorized use warning message text is displayed in the command output. The **msg** parameter has two values.

yes – the unauthorized use warning message text is displayed.

no – the unauthorized use warning message text is not displayed.

The default value for this parameter is **no**.

Regardless of the value specified for the **msg** parameter, the user ID and password security defaults are displayed in the **rtrv-secu-dflt** command output.

Procedure

1. Display the current text of the unauthorized use warning message by entering the **rtrv-secu-dflt** command with the **msg=yes** parameter. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
WARNING MESSAGE
---------------
1:"NOTICE: This is a private computer system."
2:"Unauthorized access or use may lead to prosecution."
3:" "
4:""
5:""
6:""
7:""
8:""
9:""
10:""
11:""
12:""
13:""
14:""
15:""
16:""
17:""
18:""
19:""
20:""
```

2. Change the unauthorized use warning message by entering the **chg-secu-dflt** command with the **wrnln** and **wrntx** parameters. For this example, enter these commands.

```
chg-secu-dflt:wrnln=1:wrntx="*******************************************************"
chg-secu-dflt:wrnln=2:wrntx="*  NOTICE: This is a private computer system.*"
chg-secu-dflt:wrnln=3:wrntx="*  UNAUTHORIZED ACCESS OR USE WILL BE PROSECUTED*"
chg-secu-dflt:wrnln=4:wrntx="* ....................................*"
chg-secu-dflt:wrnln=5:wrntx=" ....................................*"
chg-secu-dflt:wrnln=6:wrntx="* 11/17/97 Notice!!! System will be upgraded between*"
chg-secu-dflt:wrnln=7:wrntx="*                  the hours of 2am-3am on 02/07/00*"
chg-secu-dflt:wrnln=8:wrntx="* ....................................*"
chg-secu-dflt:wrnln=9:wrntx="* ....................................*"
chg-secu-dflt:wrnln=10:wrntx="*******************************************************"
chg-secu-dflt:wrnln=11:wrntx=" "
chg-secu-dflt:wrnln=12:wrntx=""
chg-secu-dflt:wrnln=13:wrntx=""
chg-secu-dflt:wrnln=14:wrntx=""
chg-secu-dflt:wrnln=15:wrntx=""
chg-secu-dflt:wrnln=16:wrntx=""
chg-secu-dflt:wrnln=17:wrntx=""
chg-secu-dflt:wrnln=18:wrntx=""
chg-secu-dflt:wrnln=19:wrntx=""
chg-secu-dflt:wrnln=20:wrntx=""
```

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

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
CHG-SECU-DFLT: MASP A - COMPLTD
```

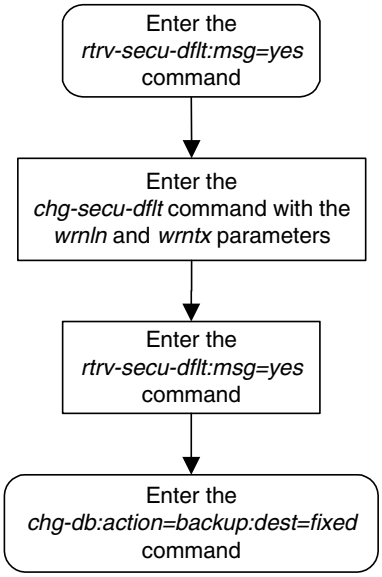
3. Verify the changes with the **rtrv-secu-dflt:msg=yes** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
SECURITY DEFAULTS
-----------------
PAGE            60
UOUT            90
MULTLOG         NO
MINLEN           8
ALPHA            1
NUM              1
PUNC             1
WARNING MESSAGE
---------------
1:"*****************************************************"
2:"*  NOTICE: This is a private computer system.       *"
3:"*  UNAUTHORIZED ACCESS OR USE WILL BE PROSECUTED    *"
4:"*                                                   *"
5:"*                                                   *"
6:"* 02/17/00 Notice!!! System will be upgraded between *"
7:"*                 the hours of 2am-3am on 02/07/00  *"
8:"*                                                   *"
9:"*                                                   *"
10:"*****************************************************"
11:" "
12:""
13:""
14:""
15:""
16:""
17:""
18:""
19:""
20:""
```

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 4-3. Configuring the Unauthorized Use Warning Message



Changing the Security Log Characteristics

This procedure is used to change the characteristics of the EAGLE 5 SAS's security log using the **chg-attr-seculog** command. The **chg-attr-seculog** command uses these parameters.

:upldalm – whether the security log alarms are on. The security log alarms are:

- upload required – the percentage of the maximum capacity of the security log exceeds the value of the **upslg** parameter. The security log entries need to be copied to the file transfer area of the fixed disk.
- log overflowed – the security log has become 100% full and log entries are being lost. The security log entries must be copied to the file transfer area of the fixed disk.
- standby log contains >0 un-uploaded entries – the security log on the standby fixed disk contains entries that have not been copied to the file transfer area of the fixed disk. Usually, the security log on the standby fixed disk contains no entries, but for some reason, for example, a MASP switchover resulting in the active MASP security log becoming the standby MASP security log, the security log on the standby fixed disk contains uncopied security log entries.

  The **upldalm=yes** parameter turns the security log alarms on. The **upldalm=no** turns the security log alarms off. If a security log alarm has been generated, the **upldalm=no** parameter lowers the alarm.

:upslg – the threshold at which the EAGLE 5 SAS generates the upload required security log alarm, if the **upldalm=yes** parameter has been specified. The threshold is the percentage of the maximum capacity of the security log.

When the EAGLE 5 SAS is delivered to the user, the security log characteristics will be set to these values:

:upldalm = yes

:upslg = 90

Procedure

1. Display the current characteristics of the security log by entering the **rtrv-attr-seculog** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
Security log attributes
-----------------------
UPLDALM       no
UPSLG         80
```

2. Change the characteristics of the security log by entering the **chg-attr-seculog** command. For this example, enter this command.

   chg-attr-seculog:upldalm=yes:upslg=90

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

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
CHG-ATTR-SECULOG: MASP A - COMPLTD
```

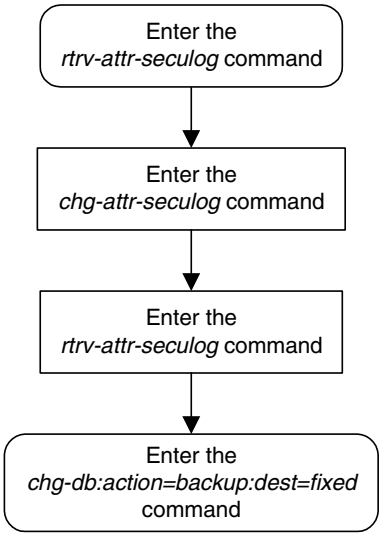
3. Verify the changes with the **rtrv-attr-seculog** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
Security log attributes
-----------------------
UPLDALM      yes
UPSLG         90
```

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 4-4. Changing the Security Log Characteristics



Copying the Security Log to the File Transfer Area

This procedure is used to copy the EAGLE 5 SAS's security log to the file transfer area of the fixed disk using the **copy-seculog** command. The **copy-seculog** command uses these parameters.

:dfile – the name of the file created in the file transfer area containing the security log entries copied with the **copy-seculog** command.

:slog – the security log that is copied to the file transfer area, the security log on the active fixed disk or the standby fixed disk.

:dloc – the file transfer area that is receiving the copy of the security log, the file transfer area on the active fixed disk or the file transfer area on the standby fixed disk.

The filename can contain from 1 to 32 characters. If the filename contains special characters such as blank spaces, colons, dashes, periods, ampersands (&), etc. (for example, **eagle123.doc**), the filename must be enclosed in double quotes. For example, **:dfile="eagle123.doc"**.

If a filename is not specified, the EAGLE 5 SAS specifies its own filename with this format, **yymmddx.log**, where **yymmdd** are the current year/month/day that the security log file was created, and **x** is either **a** for the copy of the security log on the active fixed disk or **s** for the copy of the security log on the standby fixed disk.

Procedure

1. Display the current characteristics of the security log by entering the **rept-stat-seculog** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
            -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 04-06-01 04-05-30
                                      11:23:56 15:59:06 14:02:22

1116 Standby 693     7     No   No    03-12-05 04-06-01 04-05-30
                                      11:24:12 14:00:06 14:02:13
```

2. Copy the security log to the file transfer area by entering the **copy-seculog** command. For this example, copy the security log on the active fixed disk to the file transfer area on the fixed disk. Enter this command.

   copy-seculog:dfile=security1.log:slog=act:dloc=act

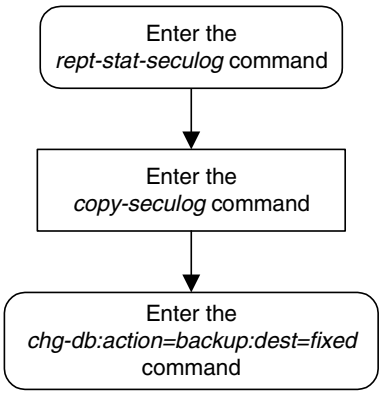
   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-03-17 16:02:37 GMT  EAGLE5 34.3.0
Security log on TDM 1114 copied to file security1.log on TDM 1114
```

3. Verify the changes with the **rept-stat-seculog** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:04:43 GMT  EAGLE5 34.3.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  1       1     No   No    04-06-01 04-06-01 04-06-01
                                      16:04:43 16:04:43 16:02:37

1116 Standby 0       0     No   No    03-12-05 04-06-01 04-05-30
                                      11:24:12 14:00:06 14:02:13
```

Flowchart 4-5. Copying the Security Log to the File Transfer Area



Adding a User to the System

This procedure is used to add a user to the EAGLE 5 SAS using the **ent-user** command. This procedure can only be performed if you have been assigned the command class "Security Administration." If the user ID does not exist in the database, the user's characteristics cannot be changed.

NOTE: This procedure can be performed on all terminals (1 - 40) if the Eagle OA&M IP Security Enhancements feature is on. If this feature is on, the entry YES is shown for terminals 17 through 40 in the SECURE column in the rtrv-trm output. The output of the rtrv-ctrl-feat command also shows if this feature is on or off. If this feature is off, this procedure can be performed only on terminals 1 through 16. If you wish to use the Eagle OA&M IP Security Enhancements feature, and the feature is not on, go to the "Activating the Eagle OA&M IP Security Enhancement Controlled Feature" procedure on page A-12 to enable and activate this feature.

The **ent-user** command uses these parameters.

:uid – The user ID to be added to the database

:all – The user has access to all commands in all non-configurable command classes (**dbg**, **link**, **sys**, **sa**, **pu**, **db**, and if the LNP feature is enabled, **lnpbas**, **lnpdb**, **lnpsub**).

:dbg – The user has access to all commands in the command class "Debug."

:link – The user has access to all commands in the command class "Link Maintenance."

:sys – The user has access to all commands in the command class "System Maintenance."

:sa – The user has access to all commands in the command class "Security Administration."

:pu – The user has access to all commands in the command class "Program Update."

:db – The user has access to all commands in the command class "Database Administration."

:lnpbas – The user has access to all commands in the command class "LNP Basic."

:lnpdb – The user has access to all commands in the command class "LNP Database Administration."

:lnpsub – The user has access to all commands in the command class "LNP Subscription."

:cc1 - **:cc8** – Eight configurable command classes. These parameters specified whether or not the user has access to the commands in the specified configurable command class. The value of these parameters consist of the configurable command class name (1 alphabetic character followed by 2

alphanumeric characters), and either yes or no. The command class name and the yes or no values are separated by a dash. For example, to assign a user the permission to use the commands in configurable command class **db1**, the **cc1=db1-yes** parameter would be specified.

To specify any configurable command classes, the Command Class Management feature must be enabled and activated. Enter the **rtrv-ctrl-feat** command to verify whether or not the Command Class Management feature is enabled. If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 to enable and activate the Command Class Management feature. Up to 32 configurable command classes can be assigned to users. When the Command Class Management feature is enabled and activated, the configurable command class names are given the names **u01** - **u32**. These command class names, the descriptions of these command classes, and the commands assigned to these command classes can be changed using the "Configuring Command Classes" procedure on page 4-80.

The **ent-user** command allows up to eight configurable command classes to be assigned to the user. Use the "Changing User Information" procedure on page 4-35 to assign the other 24 configurable command classes to the user, if desired.

:**page** – The amount of time, in days, that the specified user's password can be used before the user must change their password.

If the **page** parameter is not specified with the **ent-user** command, the EAGLE 5 SAS uses the value configured for the **page** parameter specified by the **chg-secu-dflt** command to determine the age of the user's password.

:**uout** – The number of consecutive days that a user ID can remain active in the EAGLE 5 SAS and not be used. When the user ID has not been used for the number of days specified by the **uout** parameter, that user ID is no longer valid and the EAGLE 5 SAS rejects any attempt to log into the EAGLE 5 SAS with that user ID.

If the **uout** parameter is not specified with the **ent-user** command, the EAGLE 5 SAS uses the value configured for the **uout** parameter specified by the **chg-secu-dflt** command to determine the number of consecutive days that a user ID can remain active on the EAGLE 5 SAS and not be used

:**revoke** – Is the specified user ID in service? Any login attempts using a revoked user ID are rejected by the EAGLE 5 SAS. The **revoke=yes** parameter cannot be specified for a user ID assigned to the security administration command class.

The words **seas** or **none** cannot be used for user IDs to prevent any conflict with the use of these words in the UID field of the security log. The word **none** in the UID field of the security log refers to any command that was logged that had no user ID associated with it. The word **seas** refers to any command logged in the security log that entered the EAGLE 5 SAS on either of the two OAP ports.

To assign a user to the LNP Basic, LNP Database Administration, or LNP subscription command classes, the LNP feature must be enabled. This can be verified with the **rtrv-ctrl-feat** command. If the LNP feature is not enabled, perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

This example shows an **rtrv-secu-user** command output when the LNP feature is enabled and the Command Class Management feature is enabled and activated. If the LNP feature is not enabled, the fields **LNPBAS**, **LNPDB**, **LNPSUB** are not shown in the **rtrv-secu-user** command output. If the Command Class Management feature is not enabled and activated, the 32 configurable command classes, shown in the following example as fields **U01** - **U32**, are not shown in the **rtrv-secu-user** command output.

An asterisk (*) displayed after the value in the **PAGE** or **UOUT** fields indicates that the system-wide default **page** or **uout** parameter values, as configured on the **chg-secu-dflt** command, is in effect for the user ID.

```
rlghncxa03w 06-03-01 08:33:48 GMT EAGLE5 34.3.0
                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                750 0    0    NO  YES  YES YES YES YES YES YES YES YES

           U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES


                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES YES YES YES YES YES YES YES

           U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES


                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
moe                  100 30   60   YES YES  YES YES YES YES YES YES YES YES

           U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO

                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
jack                 10  30 * 30 * NO  YES  YES YES YES YES YES YES YES YES

           U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

Canceling the RTRV-SECU-USER Command

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

- Press the **F9** function key on the keyboard at the terminal where the **rtrv-secu-user** command was entered.
- Enter the **canc-cmd** without the **trm** parameter at the terminal where the **rtrv-secu-user** command was entered.
- Enter the **canc-cmd:trm=<xx>**, where **<xx>** is the terminal where the **rtrv-secu-user** command was entered, from another terminal other that the terminal where the **rtrv-secu-user** 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. Verify whether or not the user ID you wish to add to the database is in the database by entering the **rtrv-secu-user** command and specifying the desired user ID with the **uid** parameter. For this example, enter this command.

rtrv-secu-user:uid=frodo

If the user ID being added to the database is displayed in the **rtrv-secu-user** output, the user ID cannot be used in this procedure. The attributes of the user ID shown in the **rtrv-secu-user** output can be changed in the "Changing User Information" procedure on page 4-35.

If the user ID being added to the database is not in the database, the error message E2199 is displayed.

```
E2199 Cmd Rej: The specified user identification is not defined
```

NOTE: If the `lnpbas`, `lnpdb`, or `lnpsub` parameters are not being specified in this procedure, or the `LNPBAS`, `LNPDB`, or `LNPSUB` fields are shown in the `rtrv-secu-user` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled by entering the **`rtrv-ctrl-feat`** command. If the LNP feature is enabled, the LNP telephone number quantity is shown in the **`LNP TNs`** field of the **`rtrv-ctrl-feat`** output.

   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*.

   If the LNP feature is enabled, go to step 3.

   If the LNP feature is not enabled, perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

NOTE: If the `cc1` through `cc8` parameters are not being specified in this procedure, skip steps 3 and 4, and go to step 5. If configurable command classes are shown in the `rtrv-secu-user` output, skip this step, and go to step 4.

3. Verify that the Command Class Management feature is enabled and activated, by entering the **`rtrv-ctrl-feat`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

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*.

If the Command Class Management feature is enabled and activated (**`status = on`**), go to step 4.

If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 and enable and activate the Command Class Management feature.

CAUTION: If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

---

4. Display the descriptions of the configurable command classes in the database by entering the **rtrv-cmd** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
canc-slk            link
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link

.
.
.

chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are not in the database, go to the "Configuring Command Classes" procedure on page 4-80 and configure the desired command classes.

5. After you enter the **ent-user** command, you will be prompted for a password for the user that is being added. The password must meet the requirements defined by the **chg-secu-dflt** command. Once you enter the **ent-user** command, you will not be able to enter any other commands until the user ID and password combination has been accepted by the EAGLE 5 SAS. The password requirements must be verified before the **ent-user** command is executed. Display the password requirements by entering the **rtrv-secu-dflt** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
SECURITY DEFAULTS
-----------------
PAGE            60
UOUT            90
MULTLOG         NO
MINLEN           8
ALPHA            1
NUM              1
PUNC             1
```

The password can contain from one to twelve characters. For this example, the password must contain at lease eight characters, no more than twelve, with at least one alpha character (a-z), at least one numeric character (0-9), and at least one punctuation character (any printable character that is not an alphabetic character, a numeric character, the space bar). The password requirements are shown in these fields in the **rtrv-secu-dflt** command output.

- **MINLEN** – the minimum length of the password
- **ALPHA** – the minimum number of alpha characters
- **NUM** – the minimum number of numeric characters
- **PUNC** – the minimum number of punctuation characters

The password is not case sensitive. For security reasons, the password is never displayed on the terminal.

6. Add the new user ID to the database using the **ent-user** command. The user ID must contain 1 alpha character and up to 15 alphanumeric characters. The first character of a user ID must be an alpha character. Even though a period is not an alphanumeric character, one of the 15 alphanumeric characters can be a period.

   The other parameters assign command class permissions to the user ID. If **yes** is entered for any of these parameters, the user will have access to that class of commands. If **no** is entered, the user will not have access to that class of commands. These parameters are optional and if not specified, the user is not assigned to that command class. The user is assigned to the Basic command class whether any of these other parameters are specified. Refer to the *Commands Manual* for a list of commands permitted with each command class. For this example, the user ID **frodo** is being added with access to these command classes: link maintenance, system maintenance, database administration, and debug.

   The **frodo** user ID will use the values for the **page** and **uout** parameters configured with the **chg-secu-dflt** command. For this example, enter this command.

   ```
   ent-user:uid=frodo:link=yes:sys=yes:db=yes:dbg=yes
   :cc1=db1-yes
   ```

   This message should appear.

   ```
   rlghncxa03w 06-03-01  09:12:36 GMT  EAGLE5 34.3.0
   ENT-USER: MASP A - COMPLTD
   ```

---

7. You are prompted for a password for the user that is being added. Enter the new password. Make sure that the password meets the password requirements displayed in the output of the **rtrv-secu-dflt** command, executed in step 5.

---

8. At the prompt **verify password**, re-enter the password that was entered in step 7 again.

---

9. When the **command executed** message appears, the execution of the command has been completed, and the user ID and password has been added to the database.

---

10. Verify the changes using the **rtrv-secu-user** command with the user ID specified in step 6. For this example, enter this command.

rtrv-secu-user:uid=frodo

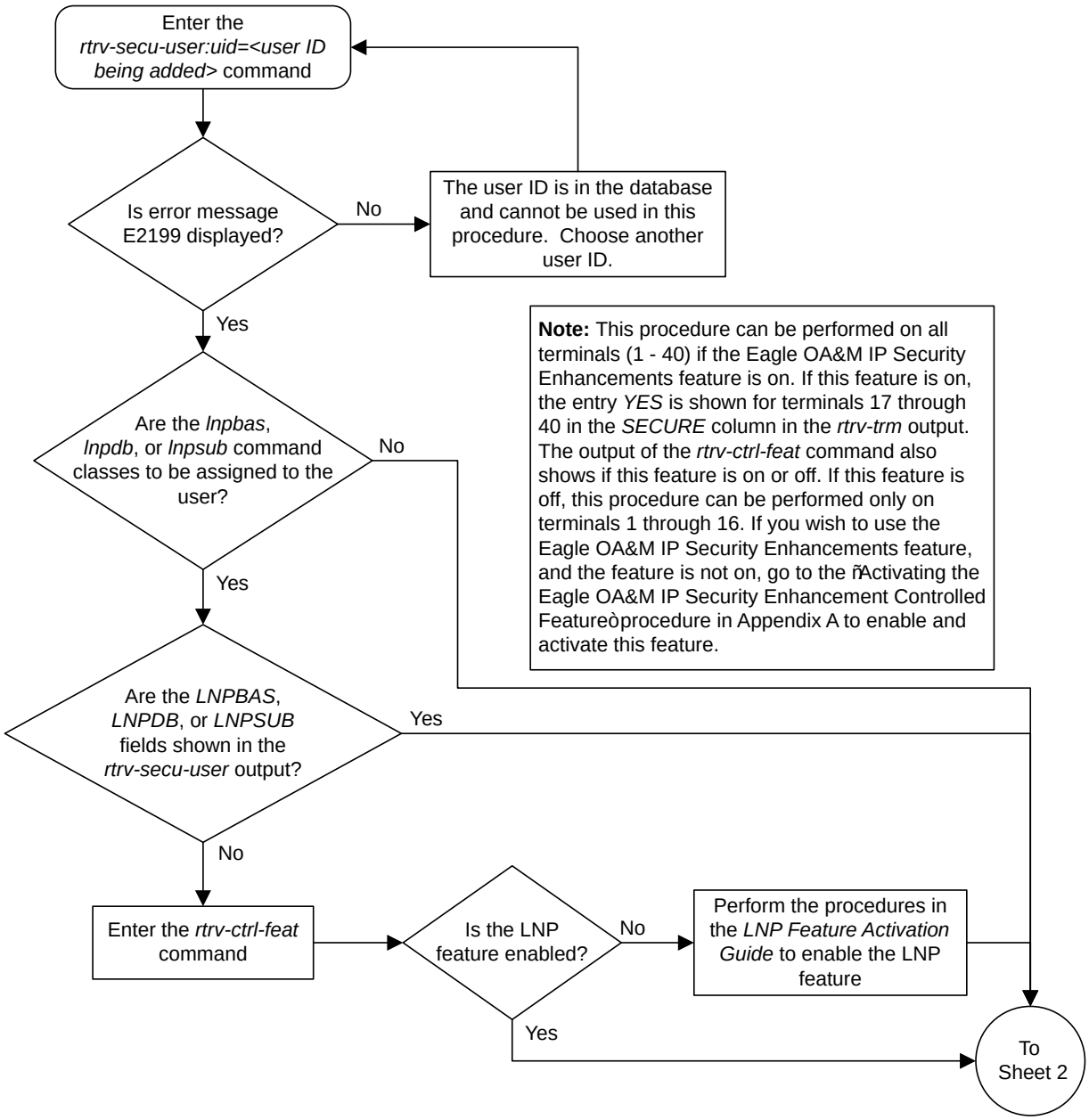
This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:33:48 GMT EAGLE5 34.3.0
                                                                    LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO  NO  NO

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO
```

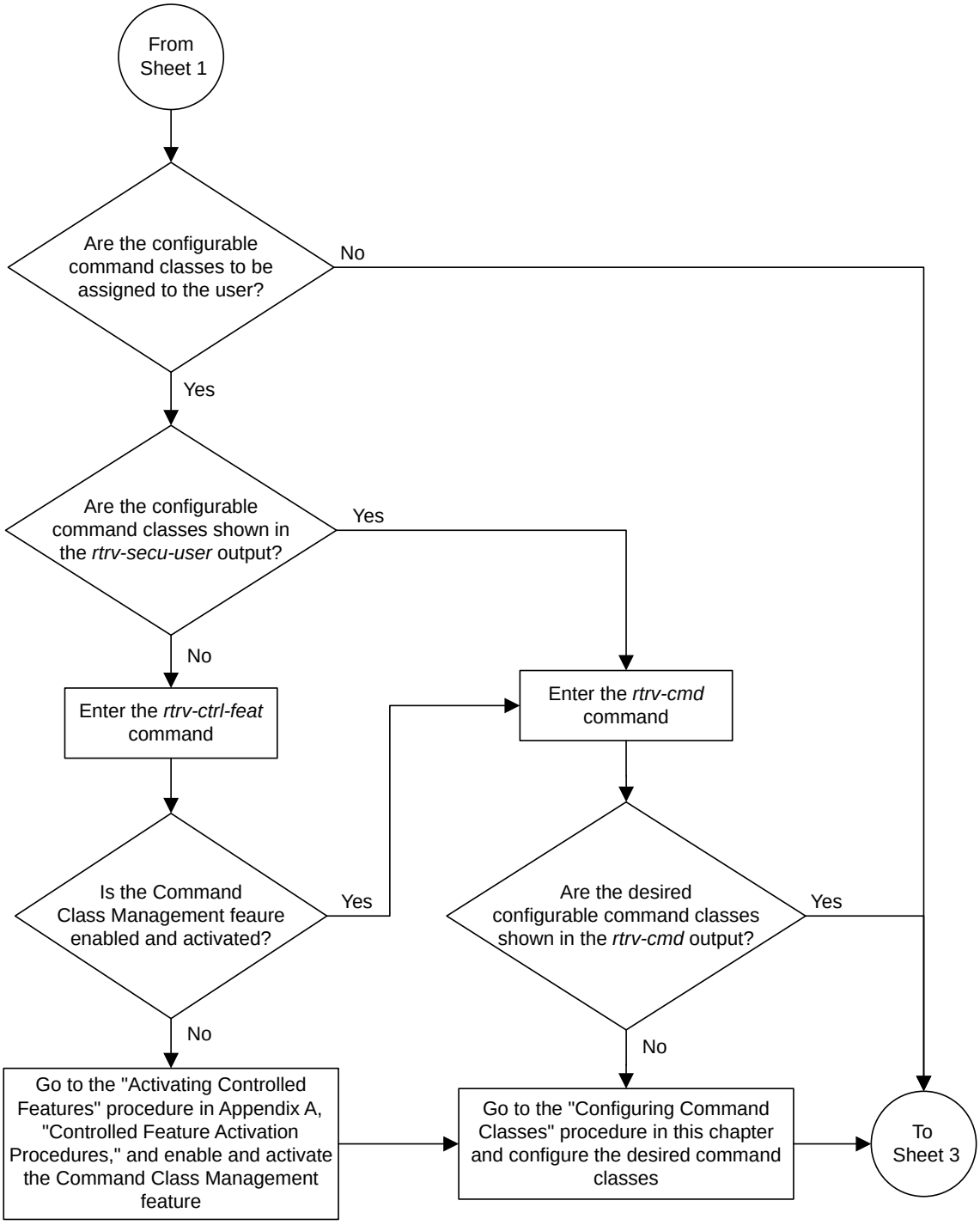
11. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

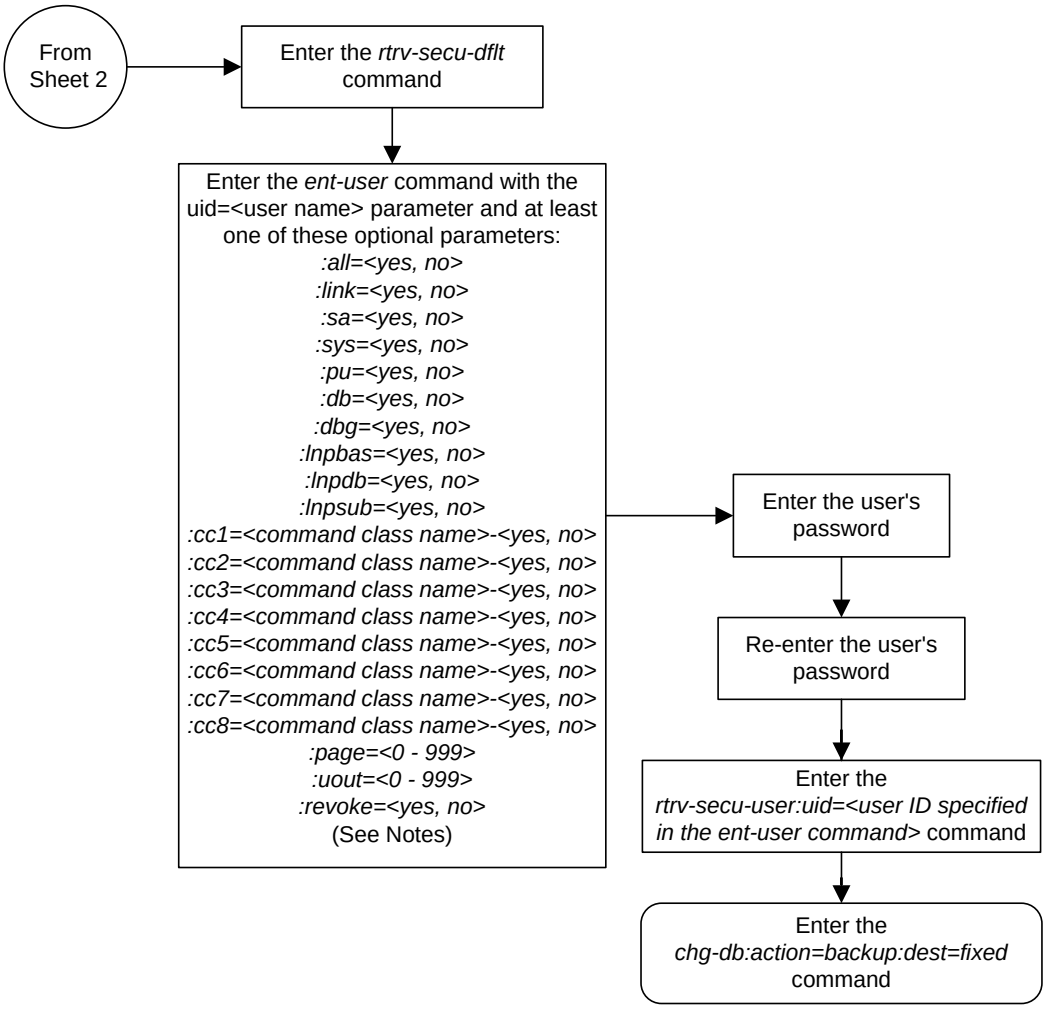
Flowchart 4-6. Adding a User to the System (Sheet 1 of 3)



Flowchart 4-6. Adding a User to the System (Sheet 2 of 3)



Flowchart 4-6. Adding a User to the System (Sheet 3 of 3)



Notes:

1. The *revoke=yes* parameter cannot be specified with the *sa* parameter value is *yes*.

2. To specify the *lnpbas*, *lnpdb*, or *lnpsub* parameters, the LNP feature must be enabled..

3. To specify the *cc1* through *cc8* parameters, the Command Class Management feature must be enabled and activated.

4. The user can have a maximum of 32 configurable command classes assigned. The *ent-user* command can assign up to 8 configurable command classes. Go to the Changing User Information procedure to assign the other 24 configurable command classes to the user.

5. The *all* parameter specifies whether or not all non-configurable command classes (*link*, *sa*, *sys*, *pu*, *db*, *dbg*, *lnpbas*, *lnpdb*, *lnpsub*) can be used by the user,

6. If the *all* parameter and individual non-configurable command classes are specified with the *ent-user* command, the value of the specified individual non-configurable command classes overrides the value of the *all* parameter.

Removing a User from the System

This procedure is used to remove a user from the EAGLE 5 SAS using the **dlt-user** command. This procedure can only be performed if you have been assigned the command class "Security Administration." If the user ID does not exist in the database, the user's characteristics cannot be changed.

Procedure

1. Display the user IDs in the database using the **rtrv-secu-user** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:33:48 GMT EAGLE5 34.3.0
                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO  NO  NO

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO


                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES YES YES YES YES YES YES YES

           U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES


                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
fred                 750 0    0    NO  YES  YES YES YES YES YES YES YES YES

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO

                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  YES YES YES YES

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

2. Remove the user ID from the database by using the **dlt-user** command. The **dlt-user** command has only one parameter, **uid**, which is the user ID that you wish to remove from the database. For this example, enter this command.

   dlt-user:uid=travist

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

   ```
   rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
   DLT-USER: MASP A - COMPLTD
   ```

3. Verify the changes using the **rtrv-secu-user** command and specifying the user ID used in step 2 with the **uid** parameter. For this example, enter this command.

   rtrv-secu-user:uid=travist

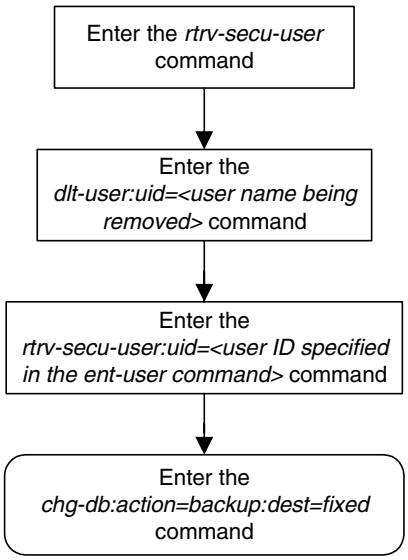
   If the user ID was removed in step 2, error message E2199 is displayed.

   ```
   E2199 Cmd Rej: The specified user identification is not defined
   ```

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 4-7. Removing a User from the System



Changing User Information

This procedure is used to change the characteristics of a user on the EAGLE 5 SAS using the **chg-user** command. This procedure can only be performed if you have been assigned the command class "Security Administration." If the user ID does not exist in the database, the user's characteristics cannot be changed.

NOTE: The pid parameter can be specified for this procedure on all terminals (1 - 40) if the Eagle OA&M IP Security Enhancements feature is on. If this feature is on, the entry YES is shown for terminals 17 through 40 in the SECURE column in the rtrv-trm output. The output of the rtrv-ctrl-feat command also shows if this feature is on or off. If this feature is off, the pid parameter can be specified for this procedure only on terminals 1 through 16. If you wish to use the Eagle OA&M IP Security Enhancements feature, and the feature is not on, go to the "Activating the Eagle OA&M IP Security Enhancement Controlled Feature" procedure on page A-12 to enable and activate this feature.

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

:uid – The ID of a user in the database

:nuid – New user ID – The new ID of the user specified by the **uid** parameter.

:pid – Password ID (only required if changing the password of a user) – The password of the user specified by the **uid** parameter.

:all – The user has access to all commands in all command classes.

:dbg – The user has access to all commands in the command class "Debug."

:link – The user has access to all commands in the command class "Link Maintenance."

:sys – The user has access to all commands in the command class "System Maintenance."

:sa – The user has access to all commands in the command class "Security Administration."

:pu – The user has access to all commands in the command class "Program Update."

:db – The user has access to all commands in the command class "Database Administration."

:lnpbas – The user has access to all commands in the command class "LNP Basic."

:lnpdb – The user has access to all commands in the command class "LNP Database Administration."

:lnpsub – The user has access to all commands in the command class "LNP Subscription."

:cc1 - :cc8 – Eight configurable command classes. These parameters specified whether or not the user has access to the commands in the specified configurable command class. The value of these parameters consist of the configurable command class name (1 alphabetic character followed by 2 alphanumeric characters), and either yes or no. The command class name and the yes or no values are separated by a dash. For example, to assign a user the permission to use the commands in configurable command class **db1**, the **cc1=db1-yes** parameter would be specified.

To specify any configurable command classes, the Command Class Management feature must be enabled and activated. Enter the **rtrv-ctrl-feat** command to verify whether or not the Command Class Management feature is enabled. If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 to enable and activate the Command Class Management feature. Up to 32 configurable command classes can be assigned to users. When the Command Class Management feature is enabled and activated, the configurable command class names are given the names **u01 - u32**. These command class names, the descriptions of these command classes, and the commands assigned to these command classes can be changed using the "Configuring Command Classes" procedure on page 4-80.

The **chg-user** command can assign a maximum of eight configurable command classes to the user each time the **chg-user** command is performed.

:**page** – The amount of time, in days, that the specified user's password can be used before the user must change their password.

If the **page** parameter is not specified with the **ent-user** command, the EAGLE 5 SAS uses the value configured for the **page** parameter specified by the **chg-secu-dflt** command to determine the age of the user's password.

:**uout** – The number of consecutive days that a user ID can remain active on the EAGLE 5 SAS and not be used. When the user ID has not been used for the number of days specified by the **uout** parameter, that user ID is no longer valid and the EAGLE 5 SAS rejects any attempt to log into the EAGLE 5 SAS with that user ID.

If the **uout** parameter is not specified with the **ent-user** command, the EAGLE 5 SAS uses the value configured for the **uout** parameter specified by the **chg-secu-dflt** command to determine the number of consecutive days that a user ID can remain active on the EAGLE 5 SAS and not be used

:**revoke** – Is the specified user ID in service? Any login attempts using a revoked user ID are rejected by the EAGLE 5 SAS. The **revoke=yes** parameter cannot be specified for a user ID assigned to the security administration command class.

:**rstlsl** – resets the last successful login date for a user ID to the current date. If the user ID is out of service because the user ID has been idle longer that the value of the **uout** parameter defined by either the **ent-user** or **chg-secu-dflt** commands, this parameter brings that user ID back into service.

To assign a user to the LNP Basic, LNP Database Administration, or LNP subscription command classes, the LNP feature must be enabled. This can be verified with the **rtrv-ctrl-feat** command. If the LNP feature is not enabled, perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

This example shows an **rtrv-secu-user** command output when the LNP feature is turned on and the Command Class Management feature is enabled and activated. If the LNP feature is not enabled, the fields **LNPBAS**, **LNPDB**, **LNPSUB** are not shown in the **rtrv-secu-user** command output. If the Command Class Management feature is not enabled and activated, the 32 configurable command classes, shown in the following example as fields **U01** - **U32**, are not shown in the **rtrv-secu-user** command output.

An asterisk (*) displayed after the value in the **PAGE** or **UOUT** fields indicates that the system-wide default **page** or **uout** parameter values, as configured on the **chg-secu-dflt** command, is in effect for the user ID.

```
rlghncxa03w 06-03-01 08:33:48 GMT EAGLE5 34.3.0
                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                750 0    0    NO  YES  YES YES YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES


                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES YES YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES


                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
moe                  100 30   60   YES YES  YES YES YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO


                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
jack                 10  30 * 30 * NO  YES  YES YES YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

Procedure

1. Display the user IDs in the database using the **rtrv-secu-user** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:33:48 GMT EAGLE5 34.3.0
                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO  NO  NO

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO


                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES YES YES YES YES YES YES YES

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES


                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
fred                 750 0    0    NO  YES  YES YES YES YES YES YES YES YES

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            NO  YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO

                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  YES YES YES YES

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

NOTE: If the `lnpbas`, `lnpdb`, or `lnpsub` parameters are not being specified in this procedure, or the `LNPBAS`, `LNPDB`, or `LNPSUB` fields are shown in the `rtrv-secu-user` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled by entering the `rtrv-ctrl-feat` command. If the LNP feature is enabled, the LNP telephone number quantity is shown in the `LNP TNs` field of the `rtrv-ctrl-feat` output.

   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*.

   If the LNP feature is enabled, go to step 3.

   If the LNP feature is not enabled, perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

NOTE: If the `cc1` through `cc8` parameters are not being specified in this procedure, skip steps 3 and 4, and go to step 5. If configurable command classes are shown in the `rtrv-secu-user` output, skip this step, and go to step 4.

3. Verify that the Command Class Management feature is enabled and activated, by entering the `rtrv-ctrl-feat` command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

   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*.

   If the Command Class Management feature is enabled and activated (status = on), go to step 4.

   If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 and enable and activate the Command Class Management feature.

CAUTION: If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

---

4. Display the descriptions of the configurable command classes in the database by entering the **rtrv-cmd** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
canc-slk            link
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link

.
.
.

chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are not in the database, go to the "Configuring Command Classes" procedure on page 4-80 and configure the desired command classes.

NOTE: A user ID cannot be changed while the user is logged on, except when the `revoke=yes` parameter is specified with the `chg-user` command. It is assumed that if the user ID is being revoked, the intent is to immediately deny the user access to the EAGLE 5 SAS. In this case, the user will be logged off when the database is updated.

5. Verify that the user is not logged on the EAGLE 5 SAS using the **`rept-stat-user`** command. If the user is logged on to the EAGLE 5 SAS, the **`chg-user`** command will log the user off the EAGLE 5 SAS when the command is executed. Notify the user to log off the EAGLE 5 SAS. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:15 GMT  EAGLE5 34.3.0
REPT-STAT-USER COMPLTD
USER ID    TERM# IDLE SINCE          COMMAND         STATE
fred         3   04-06-01 05:06:43  rept-stat-user  PROCESSING
frodo       13   04-06-01 08:12:23  chg-db          IDLE
manny        1   04-06-01 04:37:56  ent-dlk         IDLE
travist      7   04-06-01 10:06:22  rtrv-meas       IDLE
```

---

6. Change the user's characteristics using the **`chg-user`** command.

   The **`nuid`** parameter changes the user ID of a user. This parameter is optional and if not specified, the user ID is not changed. The user ID must contain 1 alpha character and up to 15 alphanumeric characters. The first character of a user ID must be an alpha character. Even though a period is not an alphanumeric character, one of the 15 alphanumeric characters can be a period.

   The **`pid`** parameter specifies whether the password is to be changed. If **`no`** is selected, the password is not changed. If **`yes`** is entered, you will be prompted for a new password for the user. Enter the new password for the user. You do not need to know the old password with this command. The password must meet the requirements defined by the **`chg-secu-dflt`** command. Display the password requirements by entering the **`rtrv-secu-dflt`** command.

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
SECURITY DEFAULTS
-----------------
PAGE            60
UOUT            90
MULTLOG         NO
MINLEN           8
ALPHA            1
NUM              1
PUNC             1
```

   The password can contain from one to twelve characters. For this example, the password must contain at least eight characters, no more than twelve, with at least one alpha character (a-z), at least one numeric character (0-9), and at least one punctuation character (any printable character that is not an alphabetic

character, a numeric character, the space bar). The password requirements are shown in these fields in the **rtrv-secu-dflt** command output.

- **MINLEN** – the minimum length of the password
- **ALPHA** – the minimum number of alpha characters
- **NUM** – the minimum number of numeric characters
- **PUNC** – the minimum number of punctuation characters

The password is not case sensitive. For security reasons, the password is never displayed on the terminal.

At the prompt **verify password**, enter the new password again. This **pid** parameter is optional and the default value is **no**.

The other parameters assign command class permissions to the user ID. If **yes** is selected for any of these parameters, the user will have access to that class of commands. If **no** is entered, the user will not have access to that class of commands. These parameters are optional and if not specified, the values are not changed.

For this example, the user ID **manny** is being changed to **bilbo**, and the PU, DB, DBG, and DB1 command class values are changed. Enter this command.

chg-user:uid=manny:nuid=bilbo:pu=no:db=no:dbg=no:db1=yes

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
CHG-USER: MASP A - COMPLTD
```

7. Verify the changes using the **rtrv-secu-user** command and specifying the user ID used in step 6 with the **uid** parameter. If the user ID was changed in step 6, specify the new user ID . For this example, enter this command.

   rtrv-secu-user:uid=bilbo

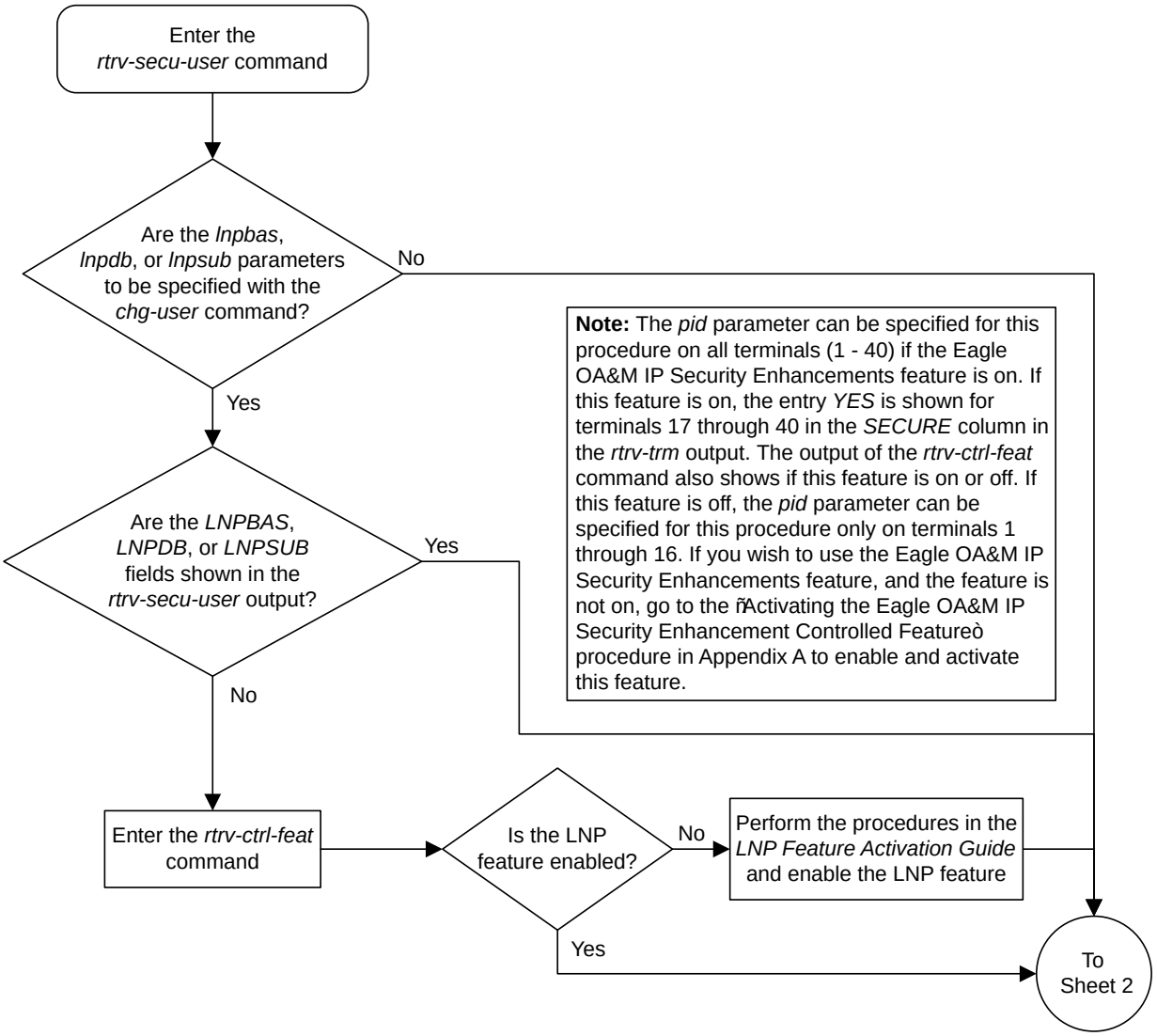
   This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:33:48 GMT EAGLE5 34.3.0
                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
bilbo                36  60   60   NO  YES  YES YES NO  NO  NO  YES YES YES

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES
```

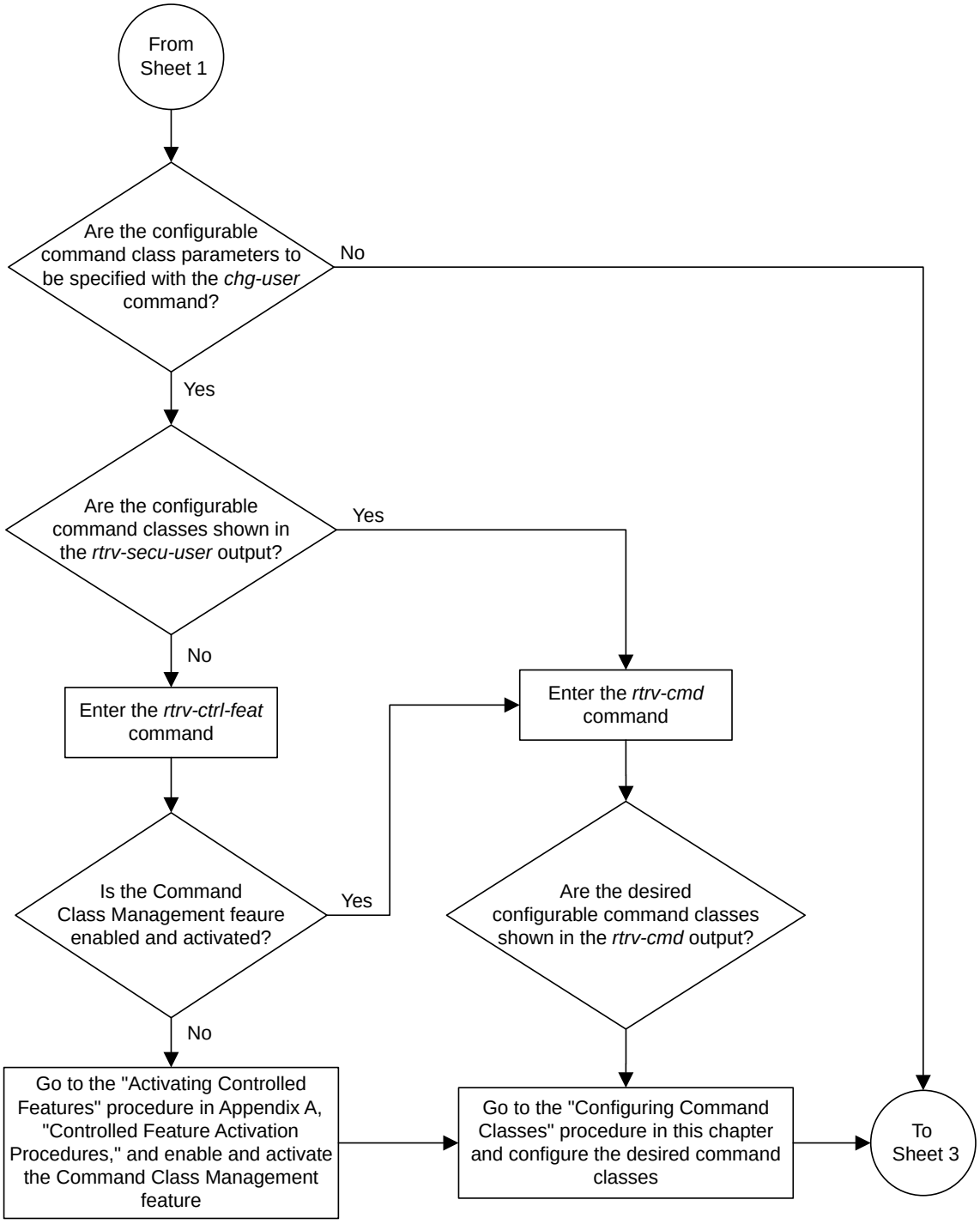
8. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

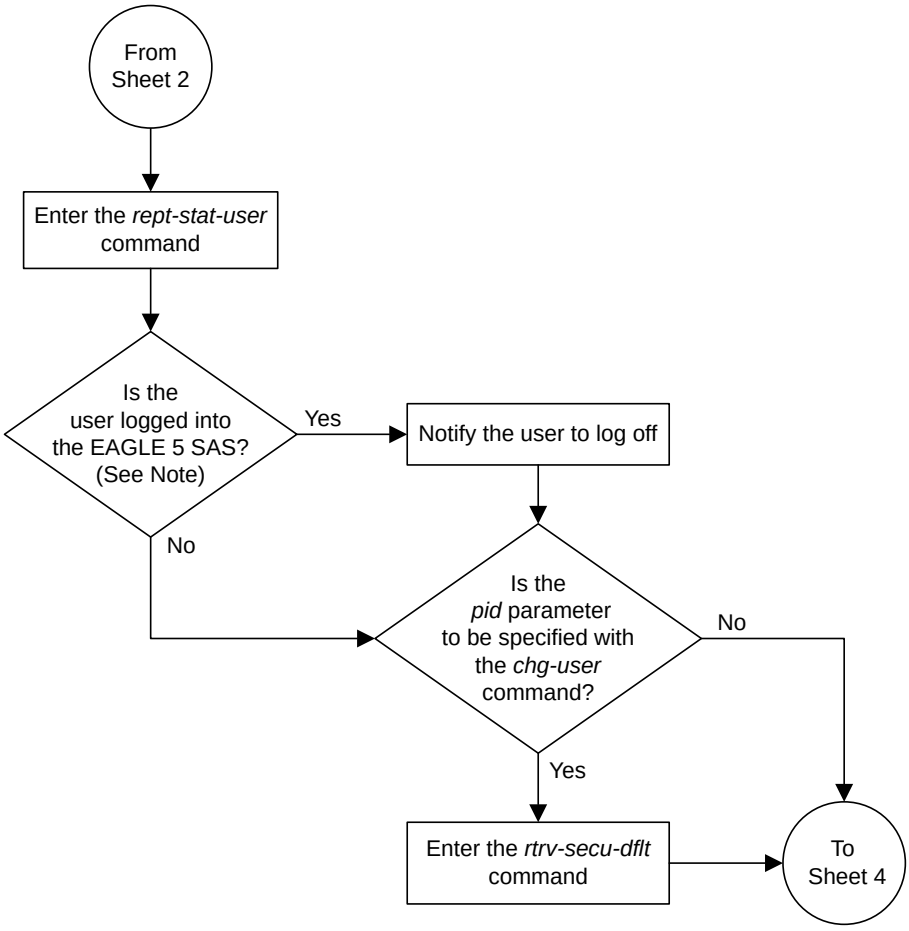
Flowchart 4-8. Changing User Information (Sheet 1 of 5)



Flowchart 4-8. Changing User Information (Sheet 2 of 5)

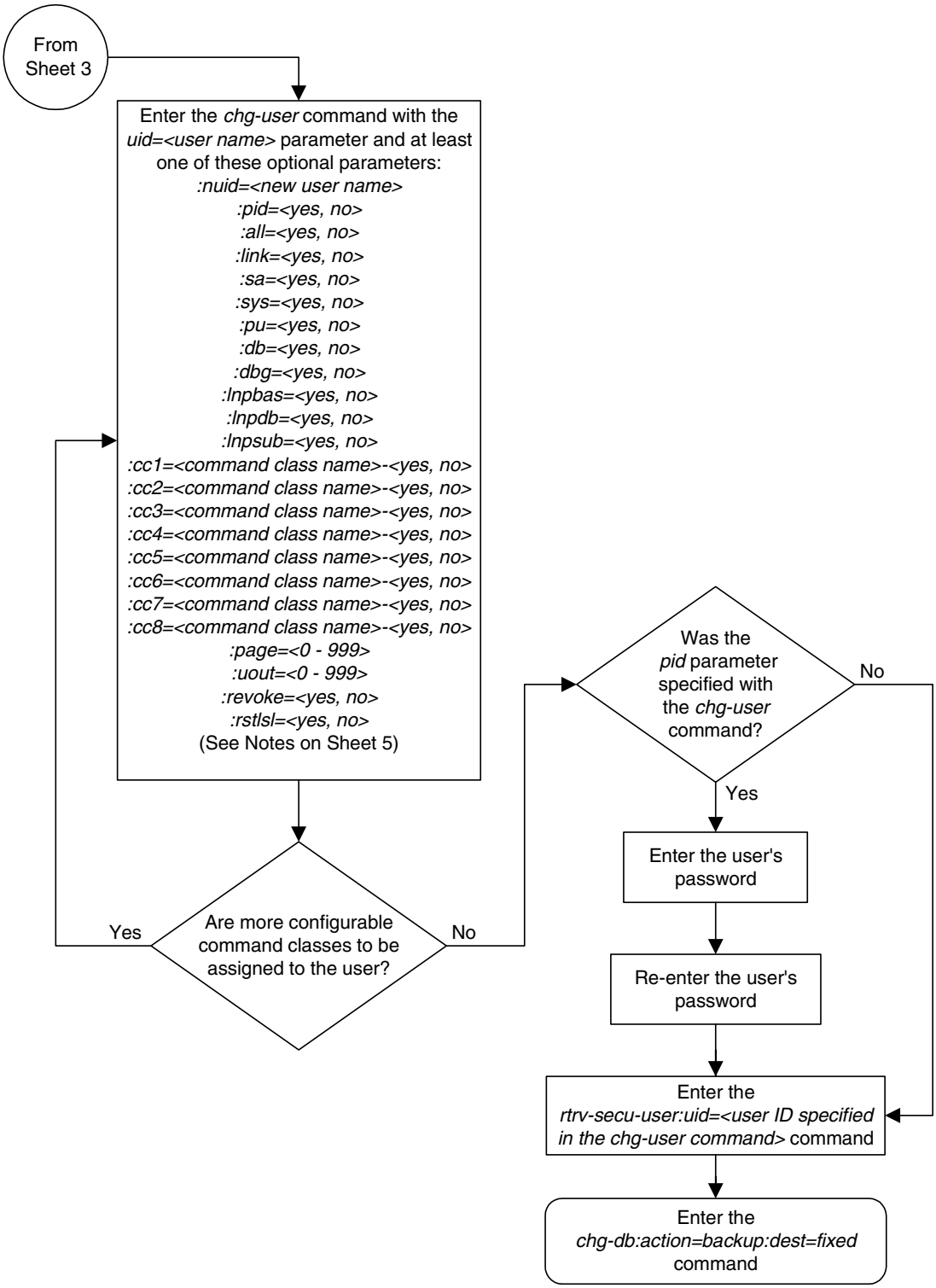


Flowchart 4-8. Changing User Information (Sheet 3 of 5)



Note: A user ID cannot be changed while the user is logged on, except when the *revoke=yes* parameter is specified with the *chg-user* command. It is assumed that if the user ID is being revoked, the intent is to immediately deny the user access to the EAGLE 5 SAS. In this case, the user will be logged off when the database is updated.

Flowchart 4-8. Changing User Information (Sheet 4 of 5)



Flowchart 4-8. Changing User Information (Sheet 5 of 5)

Notes:

1. The words SEAS and NONE are reserved by the EAGLE 5 SAS and cannot be specified as values for the *nuid* parameter.

2. The *revoke=yes* parameter cannot be specified when the *sa* parameter value is *yes*.

3. To specify the *lnpbas*, *lnpdb*, or *lnpsub* parameters, the LNP feature must be enabled.

4. To specify the *cc1* through *cc8* parameters, the Command Class Management feature must be enabled and activated.

5. The user can have a maximum of 32 configurable command classes assigned.

6. The *all* parameter specifies whether or not all non-configurable command classes (*link*, *sa*, *sys*, *pu*, *db*, *dbg*, *lnpbas*, *lnpdb*, *lnpsub*) can be used by the user,

7. If the *all* parameter and individual non-configurable command classes are specified with the *ent-user* command, the value of the specified individual non-configurable command classes overrides the value of the *all* parameter.

8. The password must adhere to all password provisioning rules as shown in the *rtrv-secu-dflt* output. These rules are displayed on the screen when the password prompt is presented.

Changing a Password

There are two different procedures that can be used to change passwords. This procedure allows a specific user to change their own password using the **chg-pid** command. The other procedure is for the EAGLE 5 SAS administrator to change the password of any user (see "Changing User Information" on page 4-35).

The rules for the format of the password are determined by the **chg-secu-dflt** command (see the "Changing the Security Defaults" procedure on page 4-7 for more information) and are displayed in the scroll area of the terminal before the password prompt is issued, or by entering the **rtrv-secu-dflt** command.

The password is not case sensitive. For security reasons, the password is never displayed on the terminal.

NOTE: This procedure can be performed on all terminals (1 - 40) if the Eagle OA&M IP Security Enhancements feature is on. If this feature is on, the entry YES is shown for terminals 17 through 40 in the SECURE column in the rtrv-trm output. The output of the rtrv-ctrl-feat command also shows if this feature is on or off. If this feature is off, this procedure can be performed only on terminals 1 through 16. If you wish to use the Eagle OA&M IP Security Enhancements feature, and the feature is not on, go to the "Activating the Eagle OA&M IP Security Enhancement Controlled Feature" procedure on page A-12 to enable and activate this feature.

Procedure

1. Log into the EAGLE 5 SAS using the **login** or **act-user** command. This is an example of the messages that appear when you have successfully logged onto the EAGLE 5 SAS.

```
NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.

0 LOGIN failures since last successful LOGIN
Last successful LOGIN was on port 4 on 04-06-01 @ 09:12:36
```

2. Enter the **chg-pid** command.

3. At the prompt **enter old password**, enter your current password. This is a security feature of this command. It prevents another user from changing the password of the user that is logged in to the EAGLE 5 SAS who may have stepped away from the terminal without logging off.

4. At the prompt **enter new password**, the minimum requirements for passwords are displayed as shown in the following example.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
New password must contain:
  - between 1 and 12 characters
  - at least 1 alphabetic character(s) ('a' - 'z')
  - at least 1 numeric character(s) ('0' - '9')
  - at least 1 punctuation character(s) (e.g. $%@#)
```

   Enter your new password making sure that the password meets the minimum requirements for passwords on your EAGLE 5 SAS.

   If the password is rejected, it did not meet the minimum requirements for passwords. Go back to step 2 and start the process of changing the password again making sure that the new password meets the minimum character requirements.

5. At the prompt **verify new password**, enter the password that was entered in step 4 again. If the password is rejected, either the new password entered in this step did not match the password entered in step 4, or the password entered in step 3 did not match the original password. Go back to step 2 and start the process of changing the password again making sure that the current password entered in step 3 is correct and that the new password meets the minimum character requirements shown at the **enter new password** prompt.

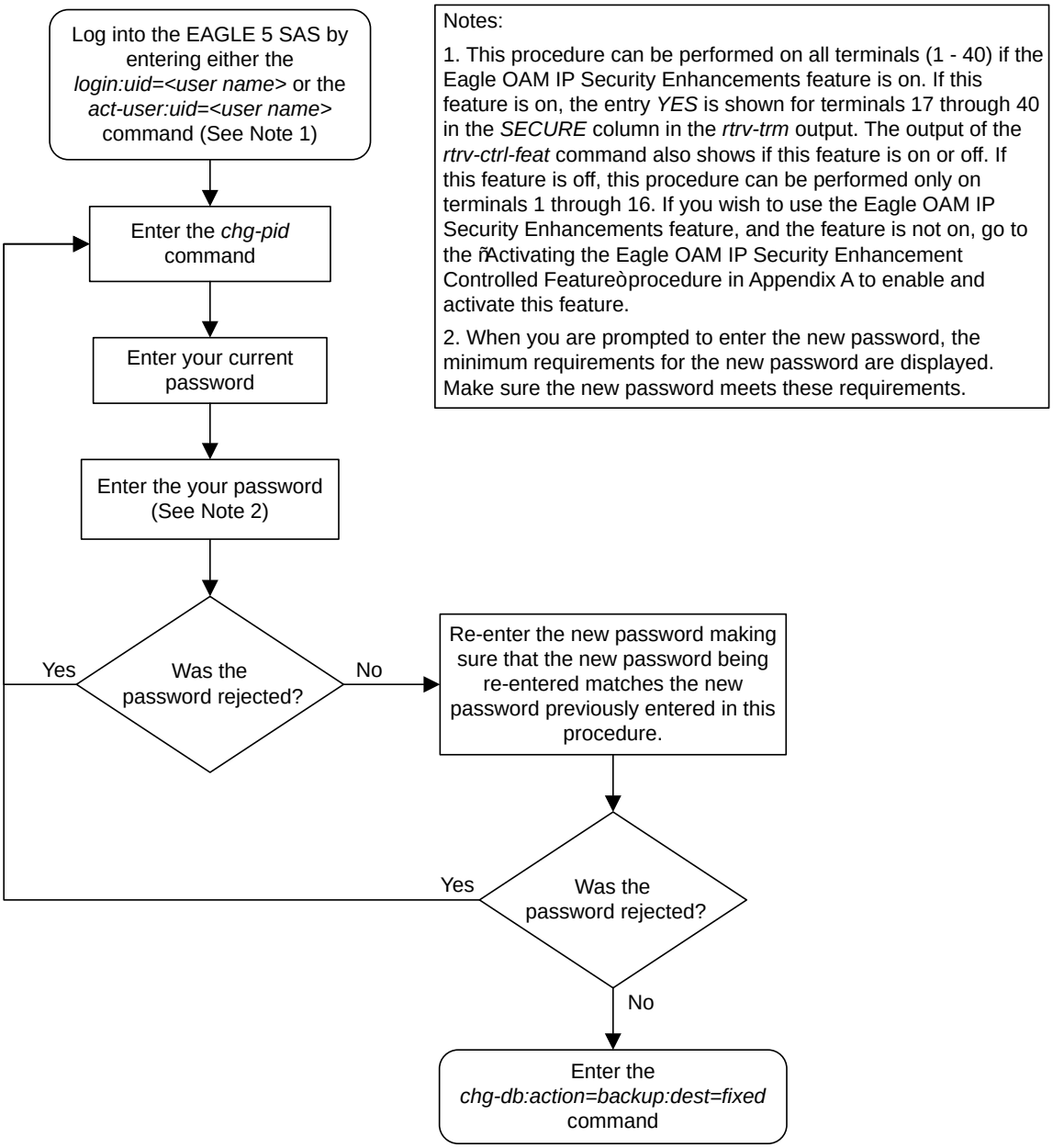
6. When the **command executed** message appears, the execution of the command has been completed, and the new password has been entered into the EAGLE 5 SAS database. This message should also appear.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
CHG-PID: MASP A - COMPLTD
```

7. 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 4-9. Changing a Password



Changing Terminal Characteristics

This procedure is used to change the characteristics of a terminal, except for the OAP port and a measurements terminal for an EAGLE 5 SAS containing a maximum of 700 signaling links, using the **chg-trm** command.

To configure a measurements terminal for an EAGLE 5 SAS containing a maximum of 700 signaling links, go to the "Configuring the Measurements Terminal for an EAGLE 5 SAS Containing 700 Signaling Links" procedure on page 4-121.

To configure a terminal as an OAP port, refer to the *System Manual - EOAP*.

The communication attributes can be changed on any terminal except on the terminal you are logged on to. The message output group assignments can be changed on any terminal, including the terminal you are logged on to. The **chg-trm** command uses these parameters.

:trm – terminal numbers (1 - 40, terminals 1-16 are serial terminals, terminals 17-40 are telnet terminals)

:baud – Serial port baud rate (2400, 4800, 9600, or 19200)

:sb – The number of stop bits used in communications with the device (1 or 2)

:prty – Parity used by the device (odd, even, none)

:type – The type of device being connected (See the "Terminal Types" section on page 4-55)

:fc – The type of flow control used between the EAGLE 5 SAS and the output devices. (sw - software, hw - hardware, both, none)

:tmout – The maximum amount of time, in minutes, that a login session on the specified port can remain idle (that is, no user input) on the port before being automatically logged off. (0 - 99, see the "Security Parameters" section on page 4-57)

:**mxinv** – The login failure threshold – The number of login attempt failures or attempts to unlock a terminal that can occur on the terminal before the terminal is disabled. (0 - 9, see the "Security Parameters" section on page 4-57)

:**dural** – The length of time that the terminal is disabled after the login failure threshold has been exceeded. (See the "Security Parameters" section on page 4-57)

:**all** – Specifies whether or not all unsolicited messages are displayed on the specified terminal (yes or no)

:traf – Specifies whether or not traffic related unsolicited messages are displayed on the specified terminal (yes or no)

:link – Specifies whether or not link maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

:sa – Specifies whether or not security administration related unsolicited messages are displayed on the specified terminal (yes or no)

:db – Specifies whether or not database related unsolicited messages are displayed on the specified terminal (yes or no)

:sys – Specifies whether or not system maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

:pu – Specifies whether or not program update related unsolicited messages are displayed on the specified terminal (yes or no)

:lnpdb – Specifies whether or not LNP database administration related unsolicited messages are displayed on the specified terminal (yes or no)

:lnpsub – Specifies whether or not LNP subscription related unsolicited messages are displayed on the specified terminal (yes or no)

NOTE: The lnpdb and lnpsub parameters cannot be specified in this procedure.

:uimrd – Specifies whether or not UIM redirect related unsolicited messages are displayed on the specified terminal (yes or no)

:appserv – Specifies whether or not application server related unsolicited messages are displayed on the specified terminal. (yes or no)

:appss – Specifies whether or not application subsystem related unsolicited messages are displayed on the specified terminal (yes or no)

:card – Specifies whether or not card related unsolicited messages are displayed on the specified terminal (yes or no)

:clk – Specifies whether or not clock related unsolicited messages are displayed on the specified terminal (yes or no)

:dbg – Specifies whether or not debug related unsolicited messages are displayed on the specified terminal (yes or no)

:gtt – Specifies whether or not global title translation related unsolicited messages are displayed on the specified terminal (yes or no)

:gws – Specifies whether or not gateway screening related unsolicited messages are displayed on the specified terminal (yes or no)

:meas – Specifies whether or not measurements maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

:mon – Specifies whether or not unsolicited messages related to the Sentinel monitoring functions are displayed on the specified terminal (yes or no)

:mps – Specifies whether or not MPS related unsolicited messages are displayed on the specified terminal (yes or no)

:seas – Specifies whether or not SEAS maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

:slan – Specifies whether or not SLAN maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

The messages assigned to the output message groups defined by the **traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, and **slan** parameters are listed in the *Maintenance Manual*.

Certain UIMs (unsolicited information messages) can be assigned to the UIM Redirect output group or remain in their original output message group. The **uimrd** parameters of the **chg-trm** and **chg-stpopts** commands determine which output groups these UIMs are assigned to and how the EAGLE 5 SAS handles them.

The **uimrd=yes** parameter of the **chg-stpopts** command tells the EAGLE 5 SAS to put these UIMs in the unsolicited UIM redirect output message group. If the **uimrd=no** parameter is specified with the **chg-stpopts** command, the messages remain in their original output message group. The **uimrd=yes** parameter of the **chg-trm** command allows the specified terminals to receive unsolicited UIM redirect output messages.

Table 4-2 shows the combination of the values of both **uimrd** parameters and how the EAGLE 5 SAS handles the messages. The unsolicited output group message assignments are listed in the *Maintenance Manual*.

Table 4-2. UIMRD Parameter Combinations

Value of the **uimrd** parameter with **chg-trm** command	Value of the **uimrd** parameter with **chg-stpopts** command	Action
No	No	The UIMs remain in their original output message group and are output to terminals receiving messages from the original output message group.
No	Yes	The UIMs are in the UIM Redirect output group but are not output to any terminal.
Yes	No	The UIMs remain in their original output message group and are output to terminals receiving messages from the original output message group. Even though the **uimrd** parameter with the **chg-trm** command is set to **yes**, there are no messages in the UIM redirect output group because the **uimrd** parameter with the **chg-stpopts** command is set to **no**. No UIM redirect messages are output to any terminal.

Table 4-2. UIMRD Parameter Combinations (Continued)

Value of the `uimrd` parameter with `chg-trm` command	Value of the `uimrd` parameter with `chg-stpopts` command	Action
Yes	Yes	The UIMs are in the UIM Redirect output group and are output to terminals receiving unsolicited UIM redirect messages.

If the **type=vt320** or **type=sccs** parameters are specified, the value of the **prty** parameter cannot be **none**. The value of the **prty** parameter must be either **odd** or **even**.

The EAGLE 5 SAS requires at least two terminals assigned to the Security Administration command class. The terminal type of a terminal assigned to the Security Administration command class cannot be changed to these terminal types, printer (**:type=printer**), none (**:type=none**), or OAP (**:type=oap**), if the change would leave the EAGLE 5 SAS with only one terminal assigned to the Security Administration command class. The command class assignments of the terminal are shown with the **rtrv-secu-trm** command. If the terminal type is being changed to either **oap**, **printer**, or **none**, go to the "Changing Terminal Command Class Assignments" procedure on page 4-72 and make sure that the command class assignment for the terminal being changed does not have the Security Administration command class assigned to it, or change the command class assignment of another terminal to include the Security Administration command class.

If the **all=yes** parameter and the **traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, or **slan** parameters are specified, for example, **chg-trm:trm=1:all=yes:pu=no**; all the message output groups are set to **yes** with the exception of the message output groups specified in the **chg-trm** command which are set to **no**. In this example, the value of all the message output groups is **yes** (**all=yes**) with the exception of the program update message output group which has the value **no** (**pu=no**).

The total value of the terminals' baud rate cannot be greater than 172,032. If the total baud rate of the terminals exceeds 172,032, change the baud rates of the terminals so that the total baud rate is not greater than 172,032.

Only four terminals should be configured to receive unsolicited system maintenance messages (**:sys=yes**).

If the communication attributes (**baud**, **sb**, **prty**, and **fc**) or the terminal type (**type**) for the terminal are being changed, the terminal must be placed out of service with the **rmv-trm** command before the changes can be made. If the terminal being changed is the last OAP port that is in service, the **force=yes** parameter must be used with the **rmv-trm** command.

If only the output message group or security (**tmout**, **mxinv**, **dural**) parameters are being changed, the terminal can remain in service when the **chg-trm** command is executed.

Terminal Types

There are nine terminal types that can be used on the EAGLE 5 SAS.

The **VT320** type is the standard terminal used for entering commands, displaying command responses, displaying periodic system status information at screen specific locations, and scrolling unsolicited messages.

The **PRINTER** type is used with printers for recording UAMs, UIMs and echoed command responses.

The **KSR** type mimics older style teleprinters (that is, printers with a keyboard).

The **OAP** type is used to connect directly to the OAP, which provides support for the SEAS and LNP features. The OAP terminal type is not used in this procedure. To configure a terminal as an OAP port, refer to the *System Manual - EOAP*.

The **SCCS** type is used for some network monitoring and surveillance applications. SCCS terminals are the same as KSR terminals, except a pre-defined "start-of-message" character is added to indicate the beginning of a new command response or unsolicited message.

The **NONE** type is typically used to indicate unused terminals.

The **MGMT** terminal type, or management terminal, provides a machine to machine messaging interface between the EAGLE 5 SAS and the customer's network to provide network surveillance.

The **TELNET** terminal type provides up to 24 IP based connections to the EAGLE 5 SAS's user interface using a telnet client, in addition to the 16 RS-232 terminals. The telnet terminals are numbered from 17 to 40. The telnet terminals are configured automatically when the IP User Interface (Telnet) feature is enabled and activated, and when the IPSMs are configured in the database. The EAGLE 5 SAS can have 3 IPSMs, with each IPSM supporting eight telnet terminals. The **baud**, **prty**, **sb**, and **fc** parameters cannot be specified with the **chg-trm** command for a telnet terminal, but all other terminal parameters can be specified and changed for a telnet terminal. For terminals 17 to 40, the values for the **type** parameter can be only **telnet**, **none**, or **emsalm**.

NOTE: If the chg-trm command is executed from a telnet terminal (terminals 17 to 40), only the output group parameters (all, traf, link, sa, db, sys, pu, lnpdb, lnpsub, uimrd, appserv, appss, card, clk, dbg, gtt, gws, meas, mon, mps, seas, slan) and the terminal type can be changed.

The **EMSALM** terminal type provides an alarm monitoring capability that displays only UAMs and system alive messages generated by the EAGLE 5 SAS. UIMs and autonomous reports are not displayed on the EMSALM terminals, even if the output group settings for these terminals would allow these messages to be displayed on these terminals.

CAUTION: EMSALM terminals can accept login requests and commands, however these operations may interfere with the alarm monitoring functions of the EMSALM terminals and should be performed on another terminal.

The **EMSALM** terminal type can be assigned to any terminal, serial (terminals 1 to 16) or telnet (terminals 17 to 40). When the terminal type is changed to **emsalm**, all the output message group settings for that terminal are set to **yes**, even if any of the output message groups were set to **no** before the terminal type change. These output message group settings can be changed, if desired. The communications attributes (**baud**, **prty**, **sb**, **fc**) and security parameter values (**tmout**, **mxinv**, **dural**) are not changed.

CAUTION: It is recommended that all the output message group settings for an EMSALM terminal are set to yes. Changing any of the output message group settings to no could prevent alarm messages controlled by the output message group from being displayed on the EMSALM terminal.

CAUTION: If a terminal dedicated to measurements collection is configured (see the "Configuring the Measurements Terminal for an EAGLE 5 SAS Containing 700 Signaling Links" procedure on page 4-121), it is recommended that this terminal is not changed to an EMSALM terminal.

When the terminal type is changed from **emsalm** to another terminal type, the output message group settings, communications attributes, and security parameter values are not changed.

When assigning the **EMSALM** terminal type to a serial terminal, the communication attribute (**baud**, **prty**, **sb**, **fc**), security (**tmout**, **mxinv**, **dural**), and output group (**traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, **slan**) parameters values can be changed.

When assigning the **EMSALM** terminal type to a telnet terminal, only the security (**tmout**, **mxinv**, **dural**), and output group (**traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, **slan**) parameters values can be changed.

Security Parameters

The monitoring of a terminal's idle time (**tmout**) and the automatic logout function only applies to terminal types VT320 (**type=vt320**), KSR, (**type=ksr**), SCCS (**type=sccs**), and MGMT (**type=mgmt**). The **tmout** parameter can be specified with other terminal types, but it will have no effect. The system default value for the **tmout** parameter is 30 minutes. The **tmout=0** parameter value allows the terminal to remain idle indefinitely without being automatically logged off.

To impose a temporary lockout of a terminal after a particular number of login attempt failures or a particular number of attempts to unlock a terminal have occurred, the **mxinv** and **dural** values for that terminal must be greater than 0.

The **mxinv=0** parameter value prevents any temporary lockout of the terminal regardless of the number of successive failed login or unlock attempts that were made at the terminal. No messages are issued regarding the temporary lockout. This action applies even if the **dural** parameter value is greater than 0.

The **dural=0** parameter prevents the terminal from being temporarily locked out. If the **mxinv** parameter value is greater than 0 and the **dural** parameter value is 0, the EAGLE 5 SAS issues messages concerning login failure threshold, but the terminal will not be locked out.

The value of the **dural** parameter can be expressed in seconds (0 - 59), minutes and seconds (0 - 5959), or hours, minutes, and seconds (0 - 995959). The value **999999** for the **dural** parameter disables the terminal, when the login failure threshold has been exceeded, for an indefinite period of time. A terminal that is disabled for an indefinite period of time is identified by the entry **INDEF** in the **DURAL** field of the **rtrv-trm** command output. A terminal disabled indefinitely can only be restored to service by inhibiting the terminal with the **rmv-trm** command, then placing it into service with the **rst-trm** command.

When the EAGLE 5 SAS is delivered to the user, the **mxinv** and **dural** parameters will be set to these values:

:mxinv = 5

:dural = 0100 (1 minute, 0 seconds)

The RTRV-TRM Output

The output of the **rtrv-trm** command is displayed in two parts. The first part displays the communication security attributes of the terminal. The communication attributes of the terminal, **BAUD**, **PRTY** (parity), **SB** (stop bits), and **DBTS** (data bits), are displayed in the **COMM** field of the **rtrv-trm** output and are displayed in this format: BAUD–DBTS–PRTY–SB. The second part of the **rtrv-trm** command output displays the types of unsolicited messages the terminal may receive. An example of the **rtrv-trm** command output is shown in this example.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
3    VT320    9600-7-E-1 SW    30    5     99:59:59


TRM  TRAF LINK SA  SYS PU  DB  UIMRD
3    NO   YES  NO  YES NO  YES YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
```

If the terminal is a telnet terminal (terminals 17 to 40) the **COMM** and **FC** fields are not displayed in the **rtrv-trm** output. The card location on the IPSM associated with the telnet terminals is displayed. The security status of the telnet terminal is displayed in the **SECURE** field. If the Eagle OA&M IP Security Enhancements feature is on, the telnet terminal is secure. The entry **yes** is shown in the **SECURE** field. If the Eagle OA&M IP Security Enhancements feature is off, the telnet terminal is not secure. The entry **no** is shown in the **SECURE** field. Appendix A, "Controlled Feature Activation Procedures," contains the procedures to enable and turn on, or turn off the Eagle OA&M IP Security Enhancements feature.

In this example, terminal 3 is running at 9600 baud with 7 data bits, even parity, and 1 stop bit.

Using Telnet Terminals in Place of Serial Terminals

For EAGLE 5 SAS releases 29.0 to 30.0, and releases 30.2 and greater with the Eagle OA&M IP Security feature disabled and off, serial terminals must be connected to the EAGLE 5 SAS and provisioned in the database because Security Administration commands cannot be executed from a telnet terminal.

For EAGLE 5 SAS releases 30.2 and greater, Security Administration commands, in addition to all other commands, can be executed from a telnet terminal only if the Eagle OA&M IP Security feature is enabled and on. The ability to execute commands from a particular terminal is dependent on the terminal command class assignments for that terminal. Even with the ability to execute most EAGLE 5 SAS commands from a telnet terminal, it is recommended that at least two serial terminals remain connected to the EAGLE 5 SAS. The **`act-echo`**, **`lock`**, and **`unlock`** commands cannot be executed from a telnet terminal. These terminals should be configured with at least Security Administration command class privileges.

By having serial terminals connected to the EAGLE 5 SAS, the user would still have access to the EAGLE 5 SAS in the event of a telnet terminal connection failure.

Upgrades of the EAGLE 5 SAS from a telnet terminal are not supported. When the EAGLE 5 SAS is upgraded, the MASPs are upgraded first, followed by the various cards in the EAGLE 5 SAS. The cards are upgraded by taking the cards out of service, then placing the cards back into service. When the IPSMs are taken out of service, the telnet sessions running on the IPSMs are disabled. This can result in losing the telnet terminal connection to the EAGLE 5 SAS. The Expanded Terminal Output Groups feature, introduced in release 31.3, can create a situation where UIMs required for the upgrade would not be displayed on the same telnet terminal that initiated the upgrade. The upgrade would be difficult to complete if the UIMs generated during the upgrade are not displayed on the same telnet terminal that initiated the upgrade.

The EAGLE 5 SAS upgrade procedure recommends that some method to capture command input and output during the upgrade process is used. The telnet terminals do not support capturing the input and output, nor can the EAGLE 5 SAS's **`act-echo`** command be used on a telnet terminal. Because of this limitation, the upgrade procedure should not be executed from a telnet terminal.

For any EAGLE 5 SAS release, whether the Eagle OA&M IP Security feature is enabled or not, if applicable, Kermit file transfers, required for the Security Log feature, are not supported from telnet terminals. The Kermit file transfers can be performed only from a serial terminal.

Procedure

1. Display the values of all terminals using the **rtrv-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE      COMM         FC    TMOUT MXINV DURAL
1    VT320     9600-7-E-1   SW    30    5     99:59:59
2    KSR       9600-7-E-1   HW    30    5     INDEF
3    PRINTER   4800-7-E-1   HW    30    0     00:00:00
4    VT320     2400-7-E-1   BOTH  30    5     00:30:00
5    VT320     9600-7-O-1   NONE  30    5     00:00:30
6    VT320     9600-7-E-2   SW    30    9     INDEF
7    PRINTER   9600-7-N-2   HW    30    5     00:30:00
8    KSR      19200-7-E-2   BOTH  30    5     00:30:00
9    VT320     9600-7-E-1   SW    30    7     00:30:00
10   VT320     9600-7-E-1   HW    30    5     00:30:00
11   VT320     4800-7-E-1   HW    30    5     00:30:00
12   PRINTER   9600-7-E-1   HW    30    4     00:30:00
13   VT320     9600-7-O-1   NONE  30    5     00:30:00
14   VT320     9600-7-E-2   SW    30    8     00:30:00
15   VT320     9600-7-N-2   HW    30    5     00:30:00
16   VT320     9600-7-E-2   BOTH  30    3     00:30:00


TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    1201             60    5     00:30:00   yes
18   TELNET    1201             60    5     00:30:00   yes
19   TELNET    1201             60    5     00:30:00   yes
20   TELNET    1201             60    5     00:30:00   yes
21   TELNET    1201             60    5     00:30:00   yes
22   TELNET    1201             60    5     00:30:00   yes
23   TELNET    1201             60    5     00:30:00   yes
24   TELNET    1201             60    5     00:30:00   yes

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    NO   NO   YES NO  NO  NO  NO
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    NO   YES  NO  NO  NO  YES NO
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO

     APP  APP
```

TRM	SERV	SS	CARD	CLK	DBG	GTT	GWS	MEAS	MON	MPS	SEAS	SLAN
1	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
2	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
3	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
4	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO	NO
5	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
6	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
7	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
8	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
9	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
10	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
11	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
12	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
13	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
14	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
15	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
16	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
17	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
18	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
19	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
20	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
21	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
22	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
23	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
24	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

NOTE: If telnet terminals are not being added in this procedure, skip step 2, and go to step 3.

2. If the **rtrv-trm** output in step 1 shows terminals 1 to 16 and you wish to add telnet terminals (**type=telnet**, terminals 17 through 40), go to the "Adding an IPSM" procedure on page 4-154. Adding an IPSM adds eight telnet terminals to the EAGLE 5 SAS.

   When an IPSM is added to the database, the eight telnet terminals associated with the IPSM are added to the database with default values for the security (**tmout**, **mxinv**, **dural**) and output message group (**traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, **slan**) parameters, and the **telnet** terminal type.

   The only actions that can be performed on terminals 17 through 40 is changing the terminal type to either **none**, **telnet**, or **emsalm**, and changing the security (**tmout**, **mxinv**, **dural**) and output message group (**traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, **slan**) parameters.

   If terminals 17 through 40 are being changed, go to step 3.

   If no changes are being to the telnet terminals, either to the existing telnet terminals, or to the telnet terminals that were added in this step with the "Adding an IPSM" procedure, this procedure is finished.

NOTE: If only the output message group or security parameters are being changed, skip steps 3 through 6, and go to step 7.

3. Display the status of the terminals by entering the **rept-stat-trm** command. This is an example of the possible output (another IPSM added from step 2).

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
```

```
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----

Command Completed.
```

4. If the communication attributes (**baud**, **sb**, **prty**, and **fc**) or the terminal type (**type**) for the terminal are being changed, inhibit the terminal you wish to change using the **rmv-trm** command and specify the port you wish to inhibit. If the terminal being changed is the last OAP port that is in service, the **force=yes** parameter must be used with the **rmv-trm** command. The OAP ports are shown by the entry **OAP** in the **TYPE** field in the **rtrv-trm** command output in step 1. For this example, enter these commands.

   rmv-trm:trm=4

   rmv-trm:trm=8

   rmv-trm:trm=19

   rmv-trm:trm=23

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

   ```
   rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
   Inhibit message sent to terminal

   rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
   Command Completed.
   ```

5. Verify that the terminal that was inhibited in step 4 is in the OOS-MT-DSBLD state by entering the **rept-stat-trm** command. For this command, enter these commands.

   rept-stat-trm:trm=4

   This is an example of the possible output.

   ```
   rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
   TRM   PST            SST           AST
   4     OOS-MT-DSBLD   MANUAL        -----
   Command Completed.
   ```

   rept-stat-trm:trm=8

   This is an example of the possible output.

   ```
   rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
   TRM   PST            SST           AST
   8     OOS-MT-DSBLD   MANUAL        -----
   Command Completed.
   ```

rept-stat-trm:trm=19

This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM    PST            SST           AST
19     OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

rept-stat-trm:trm=23

This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM    PST            SST           AST
23     OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

NOTE: If the terminal type is not being changed to either `printer` or `none`, skip this step and go to step 7.

6. Display the command class values of all terminals using the **`rtrv-secu-trm`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 12:31:04 GMT EAGLE5 34.3.0

TRM    LINK SA  SYS  PU   DB   DBG
1      NO   NO  YES  NO   YES  NO
2      NO   NO  NO   NO   YES  NO
3      YES  *** YES  YES  YES  YES
4      NO   YES NO   NO   NO   NO
5      YES  NO  NO   NO   YES  YES
6      NO   YES NO   NO   NO   NO
7      NO   *** YES  NO   YES  NO
8      NO   NO  NO   NO   NO   NO
9      YES  YES YES  YES  YES  YES
10     NO   NO  NO   NO   NO   NO
11     YES  NO  YES  NO   YES  YES
12     NO   *** NO   NO   NO   NO
13     NO   NO  NO   NO   YES  YES
14     NO   YES NO   NO   YES  YES
15     NO   NO  NO   NO   YES  YES
16     NO   NO  NO   NO   YES  YES
17     NO   NO  YES  NO   YES  NO
18     NO   NO  NO   NO   YES  NO
19     YES  NO  YES  YES  YES  YES
20     NO   YES NO   NO   NO   NO
21     YES  NO  NO   NO   YES  YES
22     NO   YES NO   NO   NO   NO
23     NO   NO  YES  NO   YES  NO
24     NO   NO  NO   NO   NO   NO
25     YES  YES YES  YES  YES  YES
26     NO   NO  NO   NO   NO   NO
27     YES  NO  YES  NO   YES  YES
28     NO   NO  NO   NO   NO   NO
29     NO   NO  NO   NO   YES  YES
30     NO   YES NO   NO   YES  YES
31     NO   NO  NO   NO   YES  YES
32     NO   NO  NO   NO   YES  YES
```

NOTE: If the terminal type is being changed to either `printer` or `none`, make sure the EAGLE 5 SAS has at least two terminals assigned to the Security Administration command class (shown in the `SA` column in the `rtrv-secu-trm` output). If the terminal being changed in this procedure is being removed from the Security Administration command class, and if this change would leave the EAGLE 5 SAS with only one terminal assigned to the Security Administration command class, go to the "Changing Terminal Command Class Assignments" procedure on page 4-72 and change the command class assignment of another terminal to include the Security Administration command class.

---

7. Change the terminal characteristics using the **`chg-trm`** command. For this example enter this command.

```
chg-trm:trm=4:baud=9600:traf=no:link=yes:sa=yes:db=yes

chg-trm:trm=19:type=none

chg-trm:trm=21:sys=yes:link=yes:sa=yes:db=yes:tmout=30

chg-trm:trm=8:type=emsalm

chg-trm:trm=23:type=emsalm
```

NOTE: If step 4 was not performed in this procedure (placing the terminal out of service), do not specify these parameters with the `chg-trm` command:

- **`baud`, `sb`, `prty`, `fc` (the communications attributes of the terminal). These parameters cannot be specified for terminals 17 to 40.**
- **the terminal type (`type`).**

CAUTION: If the terminal type is being changed to `emsalm`, it is recommended that all the output message group settings for an EMSALM terminal are set to `yes`. Changing any of the output message group settings to `no` could prevent alarm messages controlled by the output message group from being displayed on the EMSALM terminal.

CAUTION: If a terminal dedicated to measurements collection is configured (see the "Configuring the Measurements Terminal for an EAGLE 5 SAS Containing 700 Signaling Links" procedure on page 4-121), it is recommended that this terminal is not changed to an EMSALM terminal.

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

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
CHG-TRM: MASP A - COMPLTD
```

---

8. Verify the changes made in step 7 by using the **rtrv-trm** command with the terminal number specified in step 7. For this example, enter these commands.

rtrv-trm:trm=4

This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
4    VT320    9600-7-E-1 BOTH  30    5     00:30:00


TRM  TRAF LINK SA  SYS PU  DB  UIMRD
4    NO   YES  YES NO  NO  YES NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
```

rtrv-trm:trm=19

This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
19   NONE      1201             60    5     00:30:00   yes


TRM  TRAF LINK SA  SYS PU  DB  UIMRD
19   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
19   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

rtrv-trm:trm=21

This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
21   TELNET    1201             30    5     00:30:00   yes


TRM  TRAF LINK SA  SYS PU  DB  UIMRD
21   NO   YES  YES YES NO  YES NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
21   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

rtrv-trm:trm=8

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
8    EMSALM  19200-7-E-2  BOTH  30    5     00:30:00


TRM  TRAF LINK SA  SYS PU  DB  UIMRD
8    YES  YES  YES YES YES YES YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
```

```
rtrv-trm:trm=23
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
23   EMSALM    1201             60    5     00:30:00   yes


TRM  TRAF LINK SA  SYS PU  DB  UIMRD
23   YES  YES  YES YES YES YES YES YES YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
23   YES  YES YES  YES YES YES YES YES  YES YES YES  YES
```

NOTE: If the terminal was not inhibited in step 4, skip this step and go to step 10.

9. When the changes are complete, and if the terminal was inhibited in step 4, activate the terminal using the **rst-trm** command. For this example, enter these commands.

rst-trm:trm=4

rst-trm:trm=8

rst-trm:trm=19

rst-trm:trm=23

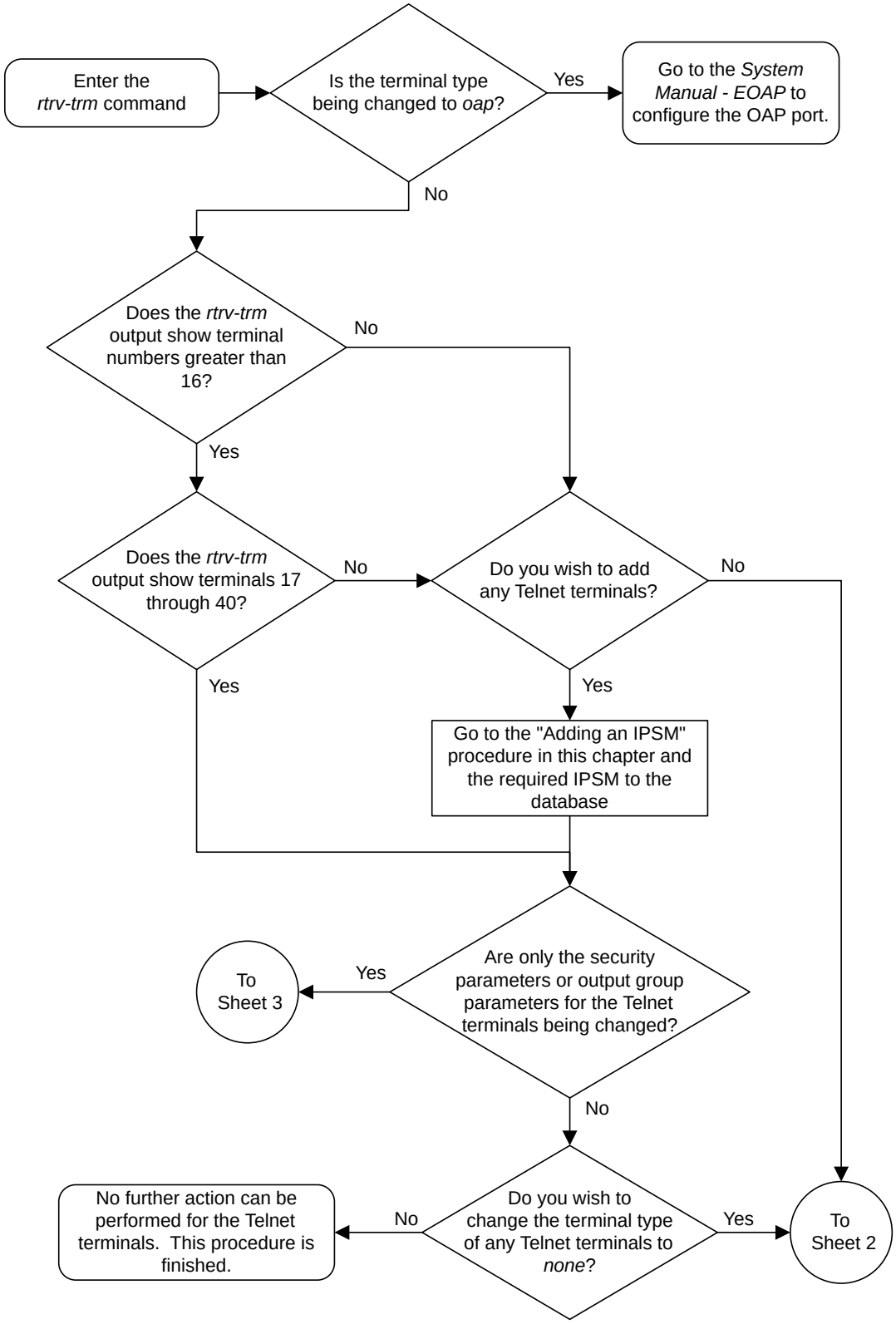
When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal
```

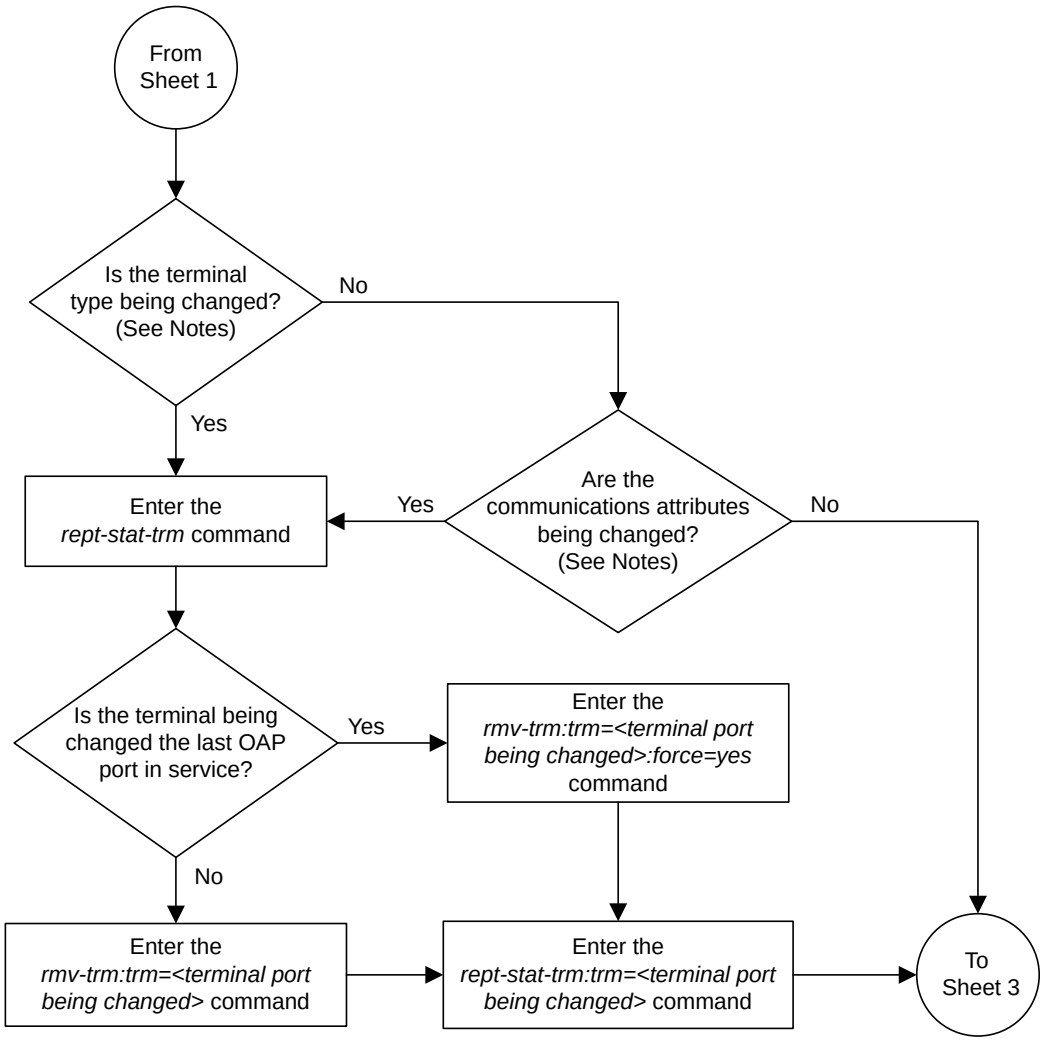
10. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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 4-10. Changing Terminal Characteristics (Sheet 1 of 4)



Flowchart 4-10. Changing Terminal Characteristics (Sheet 2 of 4)



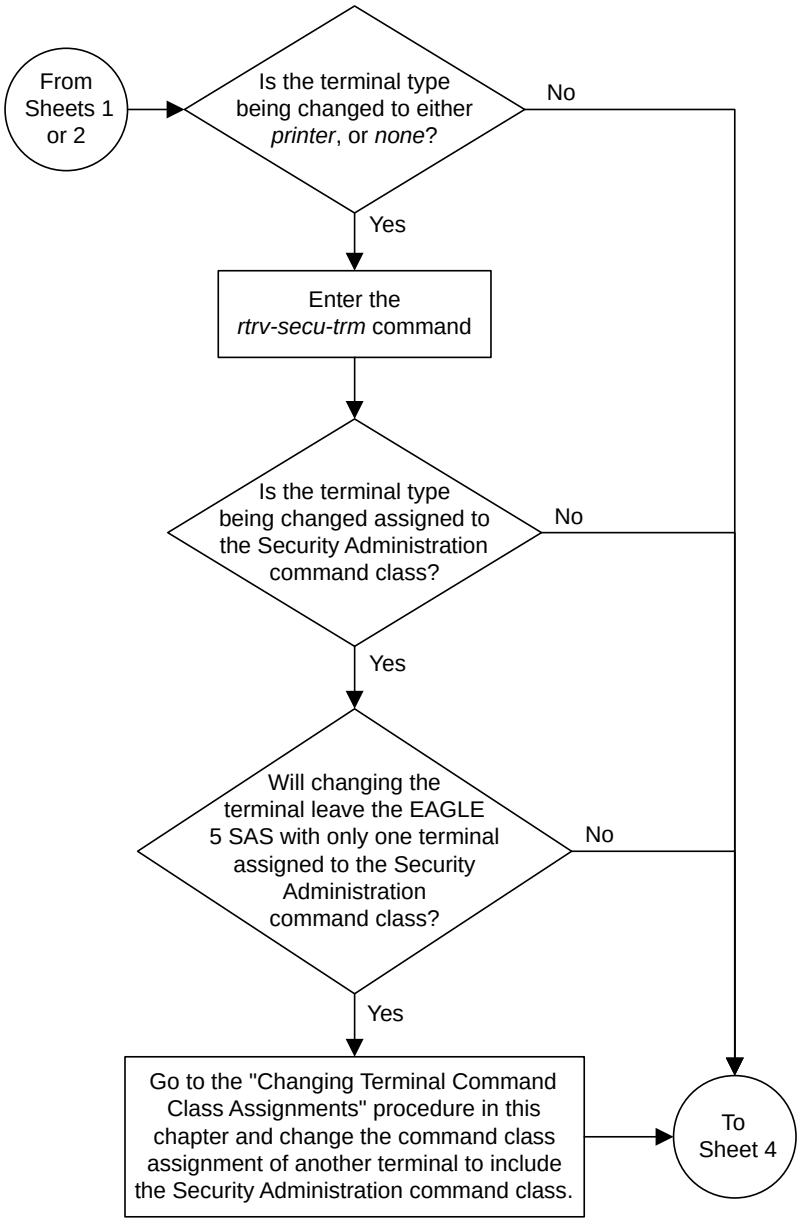
Notes:

1. If the terminal numbers are from 17 to 40, the values for the *type* parameter can be only *telnet, none*, or *emsalm*. The communication attributes for these terminals cannot be specified.

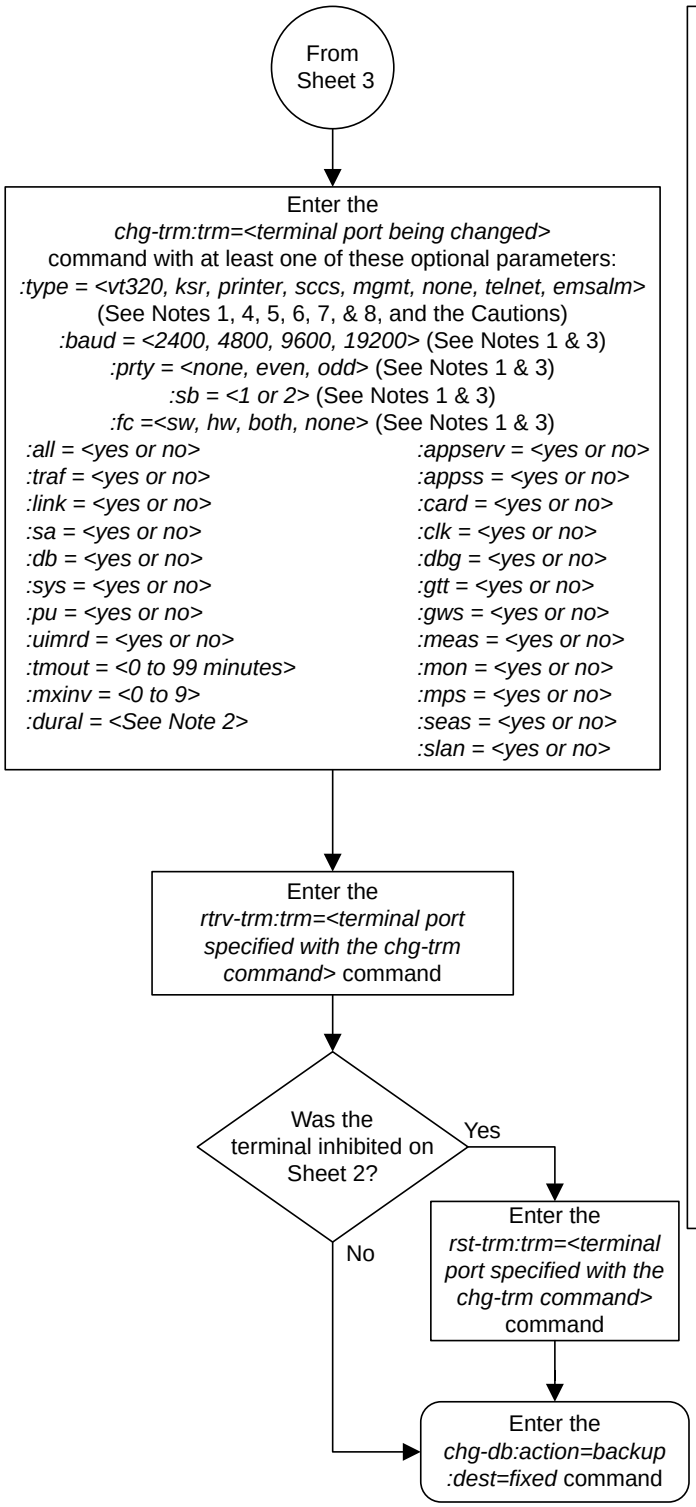
2. If the terminal numbers are from 1 to 16, the values for the *type* parameter can be *vt320*, *ksr*, *printer*, *sccs*, *mgmt*, *none*, or *emsalm*. The communication attributes for these terminals can be specified and changed.

3. The communications attributes are defined by these parameters: *baud* (baud rate), *prty* (parity), *sb* (stop bits), and *fc* (flow control).

Flowchart 4-10. Changing Terminal Characteristics (Sheet 3 of 4)



Flowchart 4-10. Changing Terminal Characteristics (Sheet 4 of 4)



Notes:

1. If the terminal was not placed out of service on Sheet 2, this parameter cannot be specified with the *chg-trm* command.

2. The value of the *dural* parameter can be expressed in seconds (0 - 59), minutes and seconds (0 - 5959), or hours, minutes, and seconds (0 - 995959). The value 999999 for the *dural* parameter disables the terminal, when the login failure threshold has been exceeded, for an indefinite period of time.

3. This parameter cannot be specified for terminals 17 through 40.

4. The *type=telnet* parameter cannot be specified for terminals 1 through 16. Valid terminal types for terminals 1 through 16 are *vt320*, *ksr*, *printer*, *sccs*, *mgmt*, *none*, or *emsalm.*

5. For terminals 17 through 40, the value of the *type* parameter can be only *telnet, none*, or *emsalm*.

6. The *chg-trm* command also contains the *lnpdb* and *lnpsub* parameters. These parameters cannot be specified in this procedure.

7. The output group settings are set to *yes* when the terminal type is changed to *emsalm*. The output group settings for an EMSALM terminal can be changed.

Caution: It is recommended that all the output message group settings for an EMSALM terminal are set to *yes*. Changing any of the output message group settings to *no* could prevent alarm messages controlled by the output message group from being displayed on the EMSALM terminal.

Caution: If a terminal dedicated to measurements collection is configured (see the ñConfiguring the Measurements Terminal for a 700 Signaling Link Systemò procedure in this chapter), it is recommended that this terminal is not changed to an EMSALM terminal.

8. The output group settings are not changed when the terminal type is changed from *emsalm* to another terminal type.

Changing Terminal Command Class Assignments

This procedure is used to change the assignment of command classes to a terminal using the **chg-secu-trm** command. This procedure can only be performed if you have been assigned the command class "Security Administration." This can be useful to restrict the types of commands that can be entered on an EAGLE 5 SAS terminal. This procedure can only be performed if you and the terminal have been assigned the command class "Security Administration." The EAGLE 5 SAS commands are grouped into these command classes.

- Basic
- Database Administration
- Debug
- Link Maintenance
- Program Update
- Security Administration
- System Maintenance
- 32 Configurable Command Classes
- LNP Basic
- LNP Database Administration
- LNP Subscription

NOTE: The LNP Basic, LNP Database Administration, and LNP subscription command classes cannot be specified in this procedure.

With the **chg-secu-trm** command, only six of these command classes can be assigned to a terminal. The Basic command class is automatically assigned to every terminal and to every user and is not configurable. Refer to the *Commands Manual* for a list of command classes and the commands assigned to them.

The **chg-secu-trm** command uses these parameters.

:trm – The terminal number

:all – The commands in all non-configurable command classes (**dbg**, **link**, **sys**, **sa**, **pu**, **db** can be entered on the specified terminal.

:db – Database Administration commands can be entered on the specified terminal.

:dbg – Debug commands can be entered on the specified terminal.

:**link** – Link Maintenance commands can be entered on the specified terminal.

:pu – Program Update commands can be entered on the specified terminal.

:sa – Security Administration commands can be entered on the specified terminal.

:sys – System Maintenance commands can be entered on the specified terminal.

:cc1 - **:cc8** – Eight configurable command classes. These parameters specify whether or not the commands in the specified configurable command class can be entered on the specified terminal. The value of these parameters consist of the configurable command class name (1 alphabetic character followed by 2 alphanumeric characters), and either yes or no. The command class name and the yes or no values are separated by a dash. For example, to allow commands in the configurable command class **db1** from terminal 5, the **cc1=db1-yes** parameter would be specified in the **chg-secu-trm** command for terminal5.

To specify any configurable command classes, the Command Class Management feature must be enabled and activated. Enter the **rtrv-ctrl-feat** command to verify whether or not the Command Class Management feature is enabled. If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 to enable and activate the Command Class Management feature. Up to 32 configurable command classes can be assigned to terminals. When the Command Class Management feature is enabled and activated, the configurable command class names are given the names **u01** - **u32**. These command class names, the descriptions of these command classes, and the commands assigned to these command classes can be changed using the "Configuring Command Classes" procedure on page 4-80.

The **chg-secu-trm** command allows up to eight configurable command classes to be assigned to a terminal each time the **chg-secu-trm** command is performed.

If the **all=yes** parameter and the **db**, **dbg**, **link**, **pu**, **sa**, or **sys, lnpbas, lnpdb**, or **lnpsub** parameter values are specified as **no**, for example, **chg-secu-trm:trm=1:all=yes:pu=no**; all commands can be entered on the specified terminal except those commands in the command class specified with the **chg-secu-trm** command. In this example, all commands can be entered on terminal 1 except for program update commands.

The terminal command class assignments cannot be changed for the specified terminal if a user is currently logged onto that terminal. This can be verified with the **rept-stat-user** command.

At least two terminals in the EAGLE 5 SAS must always be assigned to the security administration command class to prevent the EAGLE 5 SAS from becoming unadministerable.

It is possible that a terminal with the terminal type of **printer**, **oap**, or **none** can be assigned to the Security Administration command class. Terminals with these terminal types are not counted as having Security Administration authority since commands cannot be administered from these terminal types and is shown in the **rtrv-secu-trm** output report as "*******"instead of **yes**.

When the EAGLE 5 SAS is delivered to the user, the terminal command class assignments will be set to the system default values for these parameters.

all = no

db = no

dbg = no

link = no

pu = no

sa = yes

sys = no

The examples in this procedure are used to change the command class assignments to the terminal assigned to port 4 to these values: Link Maintenance = yes, Security Administration = no, Program Update = yes, Database Administration = yes.

Procedure

1. Display the command class values of all terminals using the **rtrv-secu-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 12:31:04 GMT EAGLE5 34.3.0

TRM    LINK SA  SYS  PU   DB   DBG
1      NO   NO  YES  NO   YES  NO
2      NO   NO  NO   NO   YES  NO
3      YES  *** YES  YES  YES  YES
4      NO   YES NO   NO   NO   NO
5      YES  NO  YES  NO   YES  YES
6      NO   NO  NO   NO   NO   NO
7      NO   NO  YES  NO   YES  NO
8      NO   NO  NO   NO   NO   NO
9      YES  YES YES  YES  YES  YES
10     NO   NO  NO   NO   NO   NO
11     YES  NO  YES  NO   YES  YES
12     NO   NO  NO   NO   NO   NO
13     NO   NO  NO   NO   YES  YES
14     NO   NO  NO   NO   YES  YES
15     NO   NO  NO   NO   YES  YES
16     NO   NO  NO   NO   YES  YES
```

NOTE: If the `cc1` through `cc8` parameters are not being specified in this procedure, skip steps 2 and 3, and go to step 4. If configurable command classes are shown in the `rtrv-secu-trm` output, skip this step, and go to step 3.

2. Verify that the Command Class Management feature is enabled and activated, by entering the **`rtrv-ctrl-feat`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

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*.

If the Command Class Management feature is enabled and activated (status = on), go to step 3.

If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 and enable and activate the Command Class Management feature.

CAUTION: If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

3. Display the descriptions of the configurable command classes in the database by entering the **rtrv-cmd** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
canc-slk            link
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link

.
.
.

chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are not in the database, go to the "Configuring Command Classes" procedure on page 4-80 and configure the desired command classes.

4. Verify that no users are logged onto the terminal whose command class assignments you wish to change using the **rept-stat-user** command. If the user is logged onto the terminal, notify the user to log off the terminal. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:15 GMT  EAGLE5 34.3.0
REPT-STAT-USER COMPLTD
USER ID    TERM# IDLE SINCE          COMMAND          STATE
fred         3   04-06-01 05:06:43  rept-stat-user   PROCESSING
frodo       13   04-06-01 08:12:23  chg-db           IDLE
manny        1   04-06-01 04:37:56  ent-dlk          IDLE
travist      7   04-06-01 10:06:22  rtrv-meas        IDLE
```

5. If you wish to change the Security Administration command class assignment of the specified terminal to **no** (**:sa=no**), make sure the EAGLE 5 SAS has at least two terminals assigned to the Security Administration command class. This is shown in the output of step 1, the **rtrv-secu-trm** command output, with the entry **YES** in the **SA** field. If this procedure would leave the EAGLE 5 SAS with only one terminal assigned to the Security Administration command class, use the **chg-secu-trm** command and change another terminal's assignment to the Security Administration command class from **NO** to **YES**. For this example, enter the **chg-secu-trm:trm=1:sa=yes** command.

6. Change the command class assignments of the terminal using the **chg-secu-trm** command. For this example enter this command.

   chg-secu-trm:trm=4:link=yes:sa=no:pu=yes:db=yes

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

```
rlghncxa03w 06-03-01 12:31:04 GMT EAGLE5 34.3.0
CHG-SECU-TRM: MASP A - COMPLTD
```

7. Verify the changes made in step 6 by using the **rtrv-secu-trm** command with the port number specified in step 6. For this example, enter this command.

   rtrv-secu-trm:trm=4

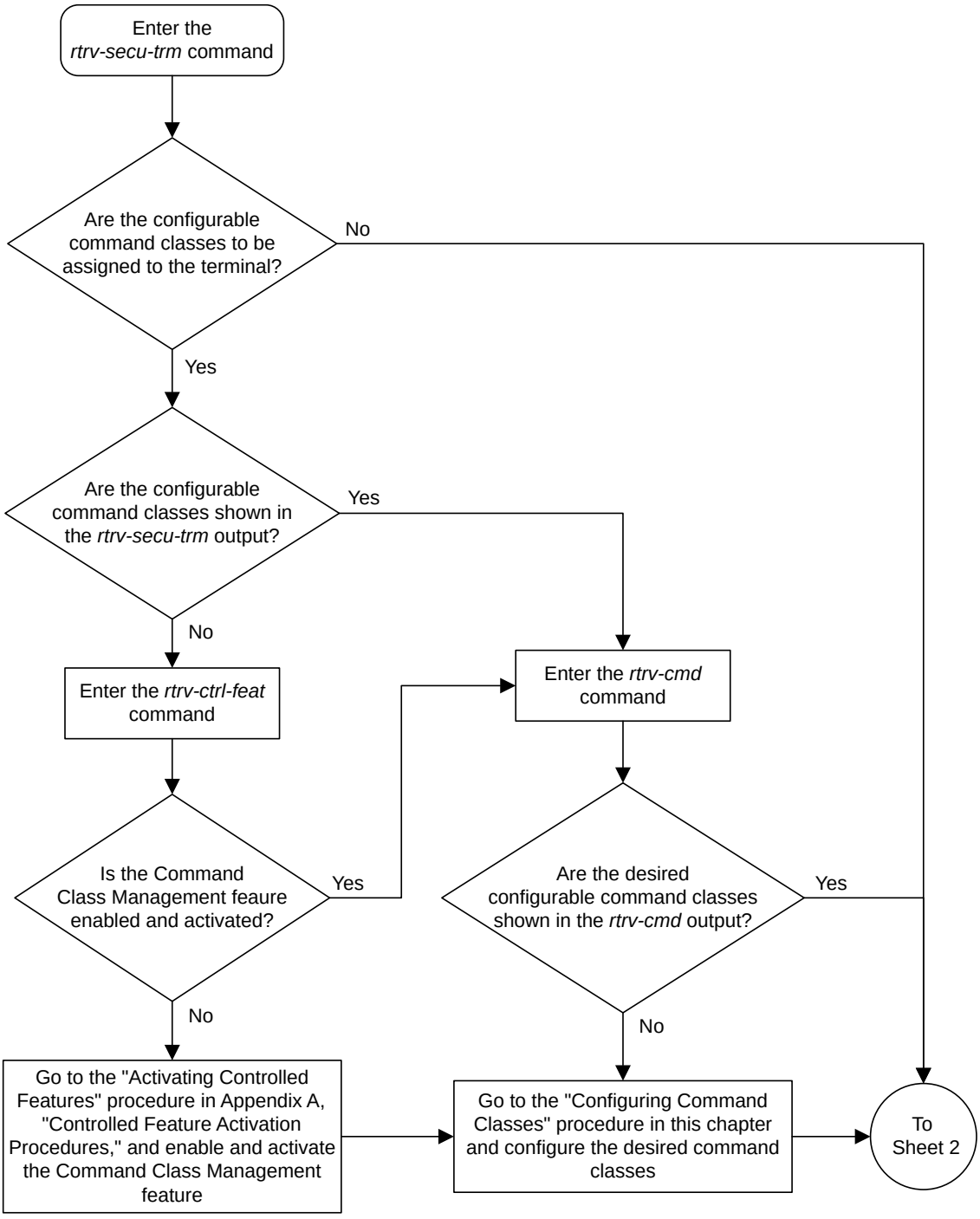
   This is an example of the possible output.

```
rlghncxa03w 06-03-01 12:31:04 GMT EAGLE5 34.3.0

TRM    LINK SA  SYS  PU   DB   DBG
4      YES  NO  NO   YES  YES  NO
```

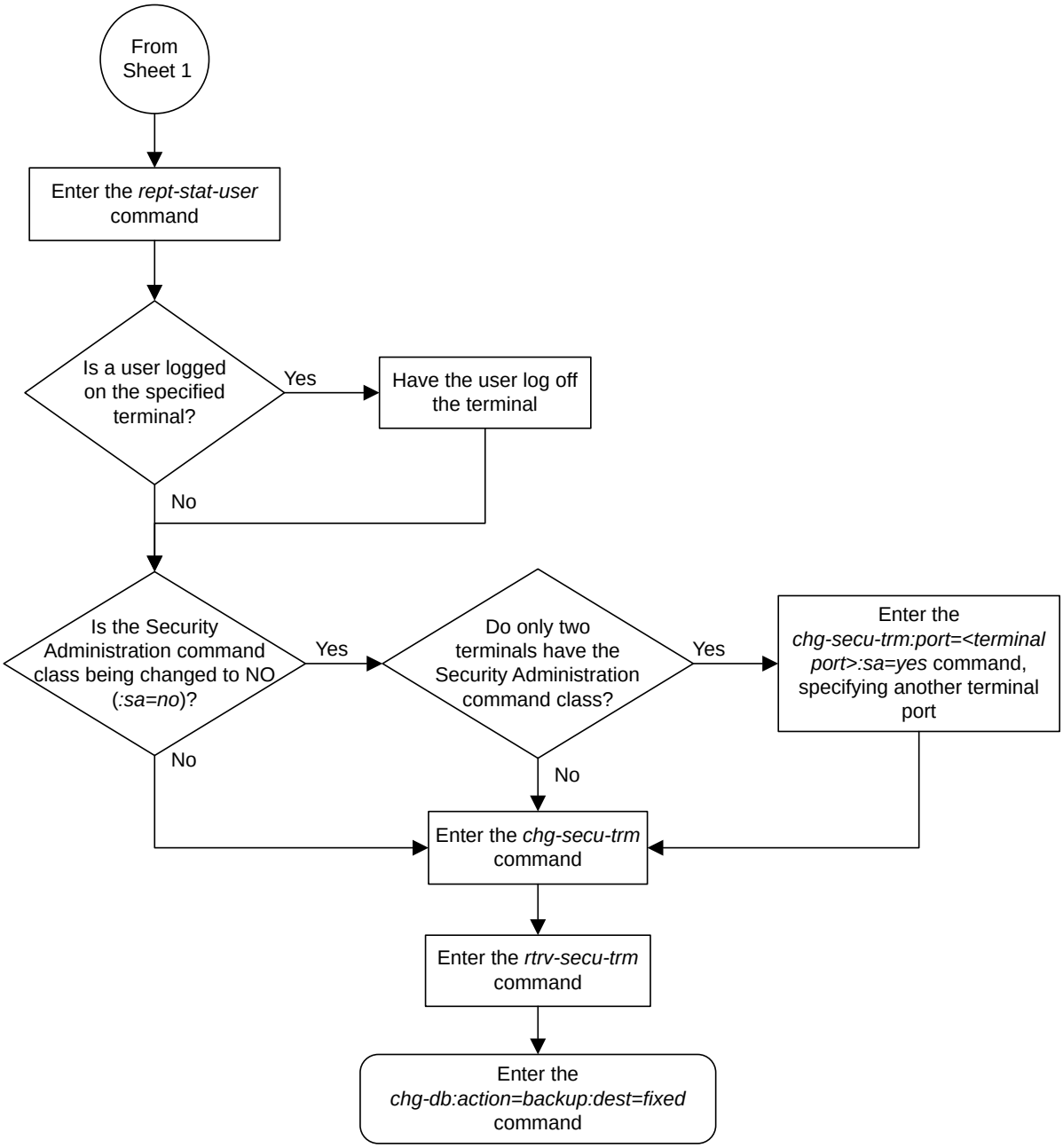
8. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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 4-11. Changing Terminal Command Class Assignments (Sheet 1 of 2)



Flowchart 4-11. Changing Terminal Command Class Assignments (Sheet 2 of 2)



Configuring Command Classes

This procedure is used to assign different names to the 32 configurable command classes, and to assign commands to these configurable command classes.

The EAGLE 5 SAS still has the non-configurable 10 command classes: Basic, Database Administration, Debug, Link Maintenance, Program Update, Security Administration, System Maintenance, LNP Basic, LNP Database Administration, LNP Subscription.

The Command Class Management feature allows commands from any of these non-configurable command classes to placed into another command class, which can be assigned to a user or terminal. This gives greater control over the commands that users can use, and to the commands that can be executed from a given terminal. For example, a user needs to use only these commands: **rtrv-card**, **rtrv-ls**, **rtrv-slk**, **rtrv-dstn**, **rtrv-rte**, **rtrv-user**, **rtrv-secu-user**, **rept-stat-db**, **rept-stat-card**, **rept-stat-slk**, **rept-stat-ls**, **rtrv-gpl**, **rept-stat-gpl**, **rept-stat-rte**, **rept-meas**.

To give this user access to these commands without the Command Class Management feature would require the user to be assigned to these command classes: Database, Security Administration, System Maintenance, Program Update, and Link Maintenance. In addition to giving access to the commands this user needs, this user has access to all the commands in these command classes. This would also allow the user to add, change, or remove database entities (cards, signaling links, routes, etc.), to inhibit signaling links, enable features with either the **chg-feat** or **enable-ctrl-feat** command that you may not want turned on.

The Command Class Management feature allows these commands to be placed in their own command class which can be assigned to the user. Once the new command class is configured with these commands, the commands will be in their original command classes as well as the new configured command class. The user can be restricted to executing the commands in the new configured command class.

Commands can also be removed from configurable command classes.

When the Command Class Management controlled feature is enabled and activated, these command classes are created with the names U01, U02, U03, ... U32. The names of these command classes, and the descriptions of these command classes can be changed with the **chg-cmdclass** command. The **chg-cmdclass** command uses these parameters.

:class – The current class name, shown in the **rtrv-cmdclass** command output.

:nclass – The new command class name consisting of 1 alphabetic character and 2 alpha-numeric characters.

:descr – The description of the new command class consisting of 1 alphabetic character and up to 31 alpha-numeric characters, enclosed in double quotes.

Commands can be assigned to these configurable command classes using the **chg-cmd** command. The **chg-cmd** command uses these parameters.

:cmd – The command being added or removed from the configurable command class.

:class1 - **:class8** – The name of the configurable command class that command is being added to or removed from with either yes (to add the command) or no (to remove the command) separated by a dash. For example, to add a command to configurable class **db1**, the **class1=db1-yes** parameter would be specified.

Up to eight configurable command classes can be specified with the **chg-cmd** command. To assign the command to more than eight configurable command classes, the repeat **chg-cmd** command until the desired number of configurable command classes, up to 32, have been specified.

To configure command classes, the Command Class Management feature must be enabled and activated. Enter the **rtrv-ctrl-feat** command to verify whether or not the Command Class Management feature is enabled. If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 to enable and activate the Command Class Management feature.

To add commands from the LNP Basic, LNP Database Administration, or LNP Subscription command classes, the LNP feature must be enabled. Enter the **rtrv-ctrl-feat** command to verify that the LNP feature is enabled. Perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

Procedure

1. Verify that the Command Class Management feature is enabled and activated, by entering the **rtrv-ctrl-feat** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

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*.

If the Command Class Management feature is enabled and activated (**status = on**), go to step 2.

If the Command Class Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 and enable and activate the Command Class Management feature.

CAUTION: If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the Trial Period Left column in the rtrv-ctrl-feat output.

2. Display the descriptions of the configurable command classes in the database by entering the **rtrv-cmd** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
canc-slk            link
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link

.
.
.

chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are in the database, and the commands are in the desired command classes, no further action is necessary. This procedure is finished.

NOTE: If the name of a configurable command class is not being changed, skip steps 3 and 4, and go to step 5.

3. Display the configurable command class descriptions by entering the **rtrv-cmdclass** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CLASS               DESCR
link                link maintenance commands
sa                  security administration commands
sys                 system maintenance commands
db                  database administration commands
dbg                 debug commands
pu                  program update commands
lnpbas              lnp basic commands
lnpdb               lnp database commands
lnpsub              lnp subscription commands
u01                 configurable command class 1
krb                 my command class description
u03                 configurable command class 3
dab                 your command class description
u05                 configurable command class 5
.
.
.
u32                 configurable command class 32
```

NOTE: The LNP Basic, LNP Database Administration, and LMNP subscription command classes cannot be specified in this procedure.

4. Change the configurable command class name or description by entering the **chg-cmdclass** command. For this example, enter these commands.

chg-cmdclass:class=u01:nclass=db1:descr="retrieve database commands"

chg-cmdclass:class=dab:nclass=s15

chg-cmdclass:class=u03:descr="user commands 3"

NOTE: The command classes link, sa, sys, db, dbg, and pu, cannot be changed.

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

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CHG-CMDCLASS: MASP A - COMPLTD
```

5. Verify the changes by entering the **rtrv-cmdclass** command, specifying the command class name, or new command class name if the command class name was changed, used in step 4. For this example, enter these commands.

   rtrv-cmdclass:class=db1

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CLASS               DESCR
db1                 retrieve database commands
```

   rtrv-cmdclass:class=s15

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CLASS               DESCR
s15                 your command class description
```

   rtrv-cmdclass:class=u03

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CLASS               DESCR
u03                 user commands 3
```

NOTE: If commands from the LNPBAS, LNPDB, or LNPSUB command classes are not being added to a configurable command class, or if the LNPBAS, LNPDB, and LNPSUB command classes are shown in the rtrv-cmdclass output in step 3 or in the rtrv-cmd output in step 2, skip this step, and go to step 7.

6. Verify that the LNP feature is enabled by entering the **rtrv-ctrl-feat** command. If the LNP feature is enabled, the LNP telephone number quantity is shown in the **LNP TNs** field of the **rtrv-ctrl-feat** output.

   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*.

   If the LNP feature is enabled, go to step 7.

   If the LNP feature is not enabled, perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

---

7. Add or remove a command from the desired command classes by entering the **chg-cmd** command. For this example, enter these commands.

   chg-cmd:cmd=rtrv-card:class1=db1-yes

   chg-cmd:cmd=tst-dlk:class1=krb-no

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

   ```
   rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   CHG-CMD: MASP A - COMPLTD
   ```

   Up to eight configurable command classes can be specified with the **chg-cmd** command. If you wish to assign the command to more than eight configurable command classes, but no more than 32 configurable command classes, repeat this step until the desired configurable command class assignements have been made.

---

8. Verify the changes by entering the **rtrv-cmd** command specifying the **cmd** parameter value used in step 6. For this example, enter these commands.

   rtrv-cmd:cmd=rtrv-card

   This is an example of the possible output.

   ```
   rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   CMD                 CLASS
   rtrv-card           db, db1
   ```

   rtrv-cmd:cmd=tst-dlk

   This is an example of the possible output.

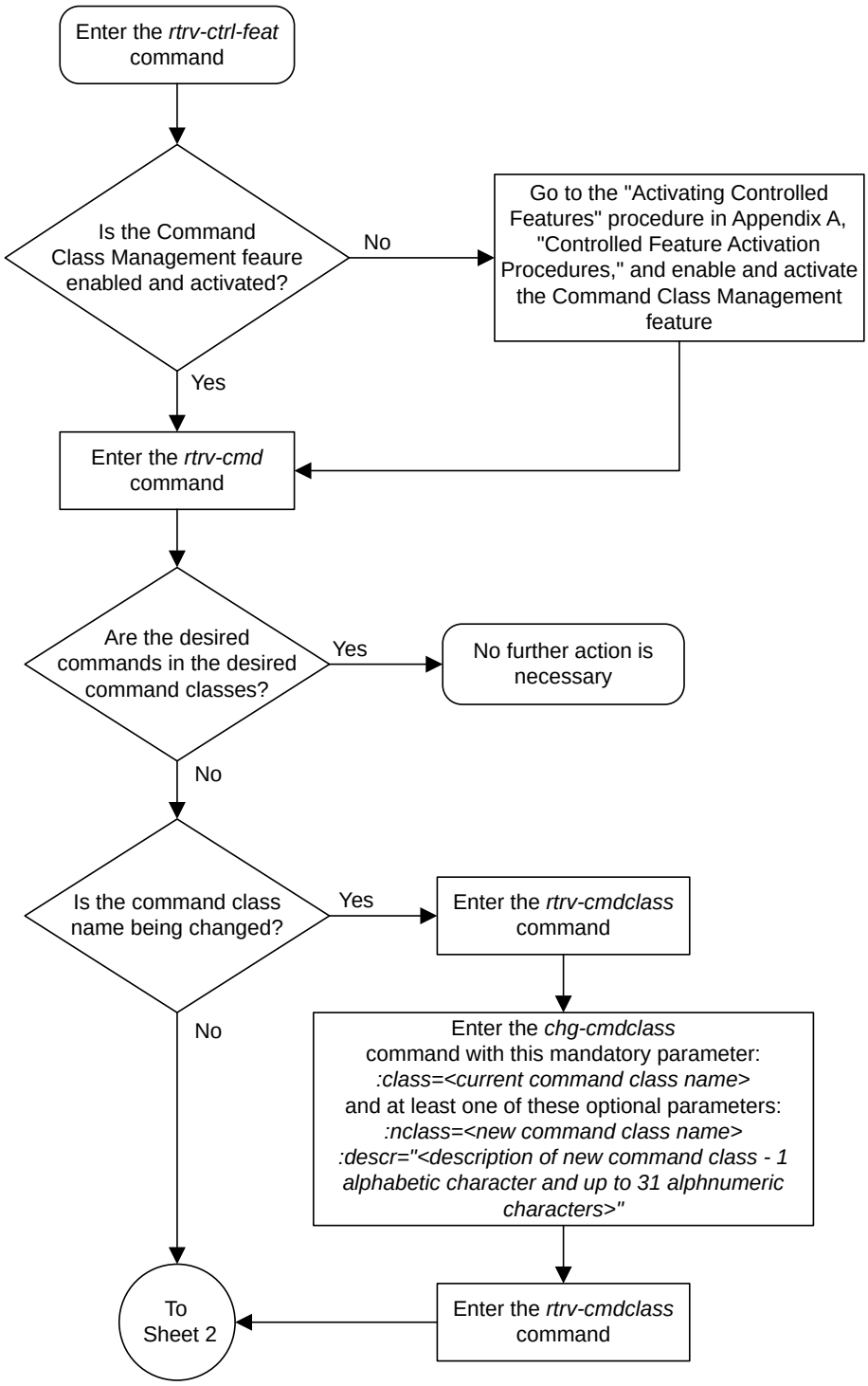
   ```
   rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   CMD                 CLASS
   tst-dlk             link
   ```

---

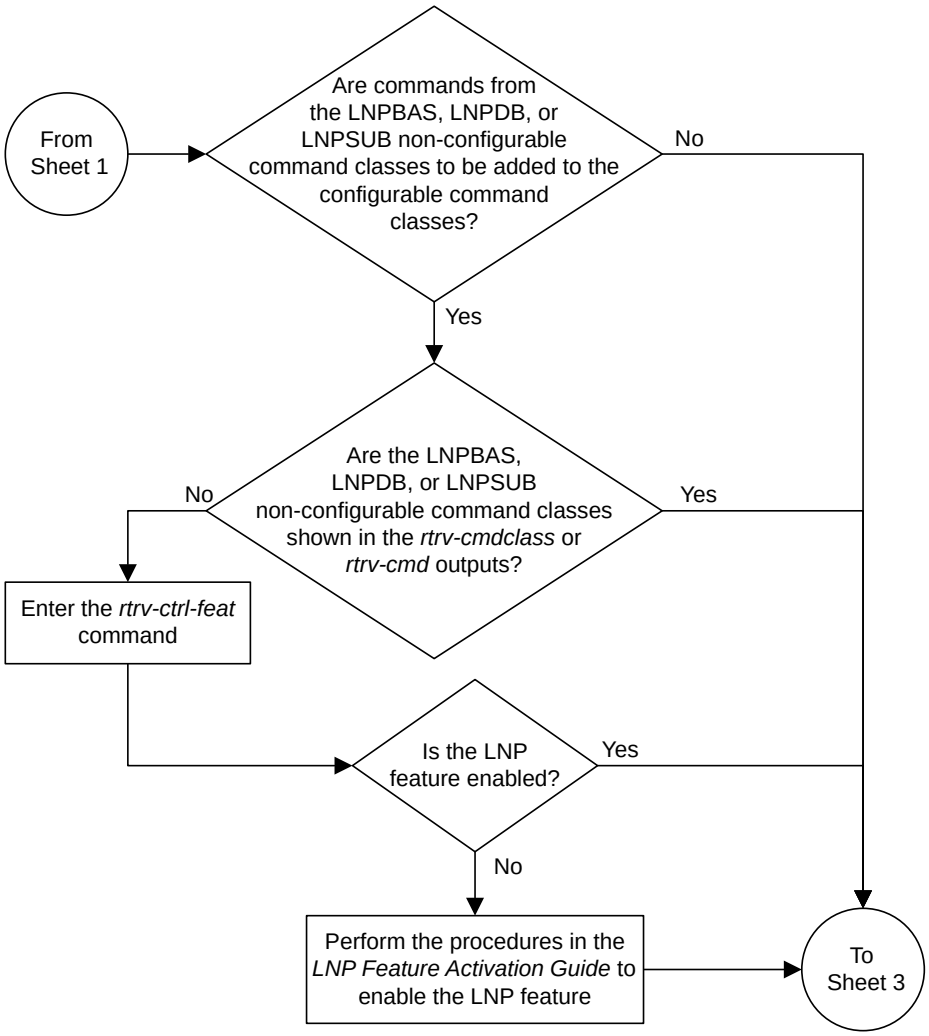
9. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   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.
   ```

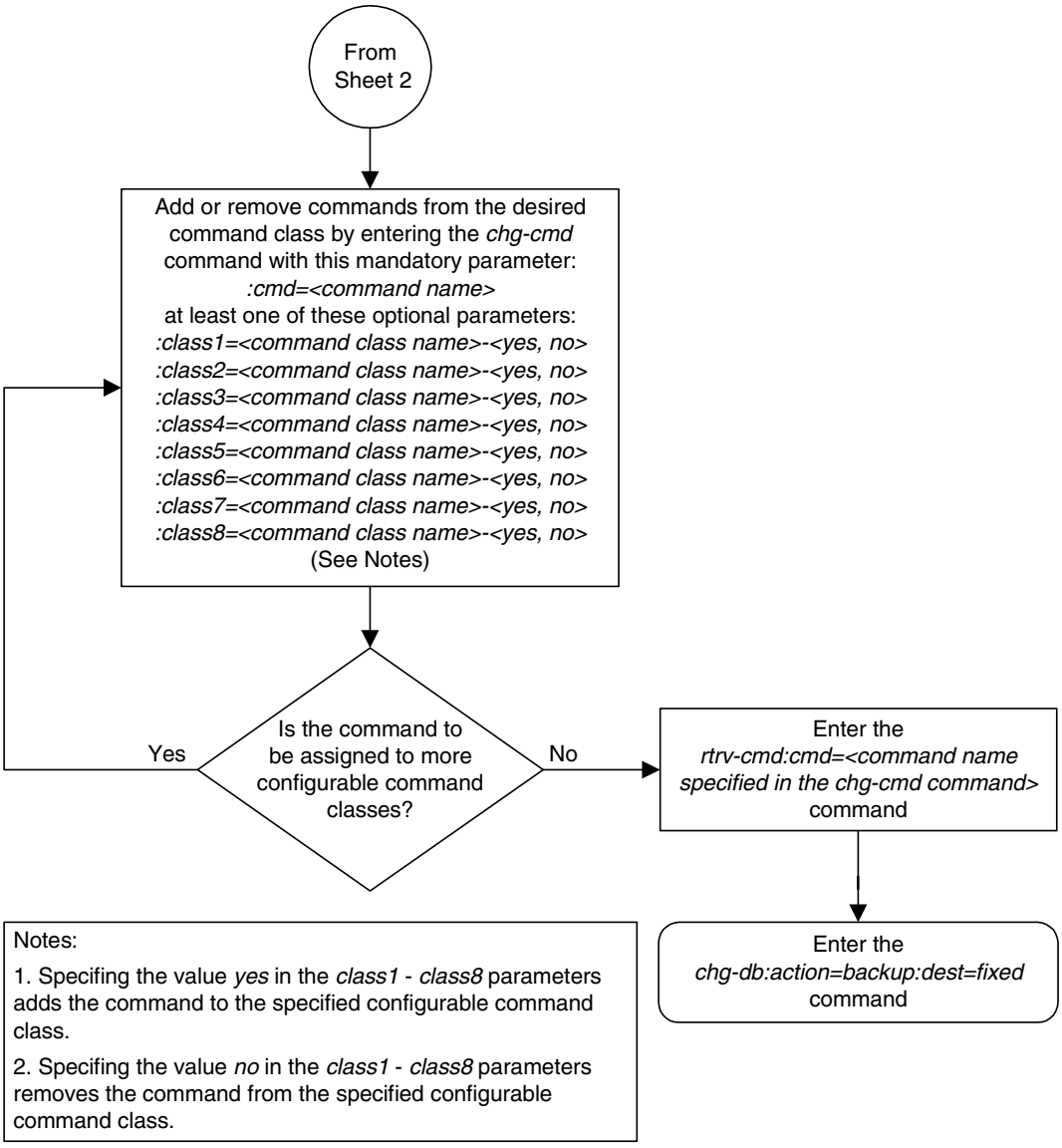
Flowchart 4-12. Configuring Command Classes (Sheet 1 of 3)



Flowchart 4-12. Configuring Command Classes (Sheet 2 of 3)



Flowchart 4-12. Configuring Command Classes (Sheet 3 of 3)



Adding a Shelf

This procedure is used to add a shelf to the database using the **ent-shlf** command. The shelf may not already exists in the database. The control shelf (Shelf 1100) cannot be added to the database. The **ent-shlf** command uses these parameters.

:type – The shelf type. There is only one shelf type that can be added to the database, an extension shelf, shown by the value for this parameter as **ext**.

:loc – The shelf location

The examples in this procedure are used to add an extension shelf to frame 3 of the EAGLE 5 SAS.

Procedure

1. Display the current shelf information using the **rtrv-shlf** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SHELF DISPLAY
FRAME SHELF        TYPE
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     2       EXTENSION
```

2. Add the shelf using the **ent-shlf** command. For this example, the shelf to be added is the first shelf in frame 3. Enter this command.

```
ent-shlf:loc=3100:type=ext
```

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
ENT-SHLF: MASP A - COMPLTD
```

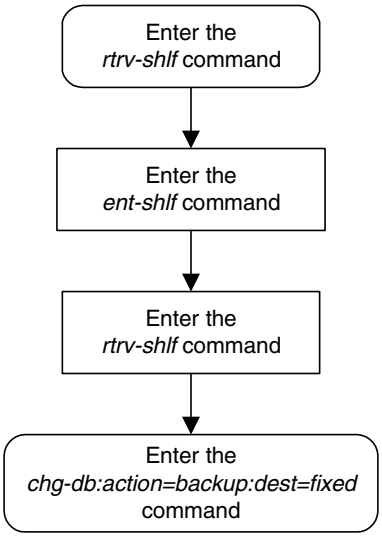
3. Verify the changes using the **rtrv-shlf** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SHELF DISPLAY
FRAME SHELF        TYPE
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     2       EXTENSION
  3     1       EXTENSION
```

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 4-13. Adding a Shelf



Removing a Shelf

This procedure is used to remove a shelf from the database using the **dlt-shlf** command. If the shelf to be removed does not exist in the database, it cannot be removed. The control shelf (Shelf 1100) cannot be removed from the database. The **dlt-shlf** command has only one parameter, **loc**, which is the location of the shelf.

Before a shelf can be removed from the database, all of the cards in that shelf must be removed from the database. The procedures for removing these cards are based on the application that is assigned to these cards. Table 4-3 shows the location of these procedures.

Table 4-3. Card Removal Procedures

Card Application	Procedure
SS7ANSI, ATMANSI, CCS7ITU, ATMITU	"Removing an SS7 LIM" on page 4-105 "Removing an E1 Card" in Appendix A, "E1 Interface," in the *Database Administration Manual - SS7* "Removing a T1 Card" in Appendix B, "T1 Interface," in the *Database Administration Manual - SS7*
SS7GX25	"Removing an X.25 LIM" in Chapter 2, "X.25 Gateway Configuration," in the *Database Administration Manual - Features*
SCCP	"Removing an SCCP Card" in Chapter 2, "Global Title Translation (GTT) Overview,"in the *Database Administration Manual - Global Title Translation* "Removing an SCCP Card" in the *LNP Feature Activation Guide*
VSCCP	
GLS	"Removing a GLS Card" in Chapter 2, "Gateway Screening (GWS) Overview," in the *Database Administration Manual - Gateway Screening*
STPLAN, VXWSLAN	"Removing an STP LAN Card" in Chapter 3, "STP LAN Configuration," in the *Database Administration Manual - Features*
EBDADCM	"Removing the DCM Applied to LSMS BLM-Based Operations" in the *LNP Feature Activation Guide*
EBDABLM	"Removing the BLM Applied to LSMS BLM-Based Operations" in the *LNP Feature Activation Guide*
IPLIM, IPLIMI, SS7IPGW, IPGWI	"Removing an IP Card" in Chapter 3, "IP^7 Secure Gateway Configuration Procedures," in the *Database Administration Manual - IP^7 Secure Gateway*
EROUTE	"Removing an STC Card" in Chapter 6, "Eagle Support for Integrated Sentinel Configuration," in the *Database Administration Manual - Features*
MCP	"Removing an MCPM" on page 4-132
IPS	"Removing an IPSM" on page 4-164
Note: These card applications do not support 24-bit ITU-N point codes: SS7GX25, STPLAN, VXWSLAN, EBDADCM, EBDABLM. The LNP feature and the Sentinel product do not support 24-bit ITU-N point codes.	

CAUTION: If any card in the shelf is the last card of that type in service, removing that card from the database will cause the traffic handled by that card to be lost or the feature requiring that card to be disabled. See Table 4-4 for a description of the effect that removing the last card type that is in service has on the EAGLE 5 SAS.

Table 4-4. Effect of Removing the Last In-Service Card Type from the Database

Card type	Application assigned to card	Effect on the EAGLE 5 SAS
LIMDS0, LIMOCU, LIMV35, LIME1, LIMT1, LIMCH	SS7ANSI	SS7 traffic is lost.
LIMATM	ATMANSI	
LIMDS0, LIMOCU, LIMV35, LIME1, LIMT1, LIMCH	CCS7ITU	ITU traffic is lost.
LIME1ATM	ATMITU	
LIMDS0, LIMOCU, LIMV35	SS7GX25	X.25 traffic is lost.
TSM	SCCP	Global title translation traffic is lost. If the LNP feature is enabled, LNP traffic is also lost. If the INP, G-PORT, G-FLEX, or EIR features are on, INP, G-PORT, G-FLEX, or EIR traffic is also lost.
DSM	VSCCP	
TSM	GLS	Gateway screening feature is disabled.
ACMENET	STPLAN	STP LAN feature is disabled.
DCM	VXWSLAN	
	EBDADCM	High-speed bulk download of the LNP database from the LSMS is disabled
TSM	EBDABLM	

Table 4-4. Effect of Removing the Last In-Service Card Type from the Database (Continued)

Card type	Application assigned to card	Effect on the EAGLE 5 SAS
DCM	IPLIM	Point-to-point connectivity for IP^7 Secure Gateway functions in ANSI networks is disabled.
	IPLIMI	Point-to-point connectivity for IP^7 Secure Gateway functions in ITU networks is disabled.
	SS7IPGW	Point-to-multipoint connectivity for IP^7 Secure Gateway functions in ANSI networks is disabled.
	IPGWI	Point-to-multipoint connectivity for IP^7 Secure Gateway functions in ITU networks is disabled.
STC	EROUTE	Monitoring of the EAGLE 5 SAS by the Sentinel is disabled.
MCPM	MCP	The Measurements Platform feature is disabled.
IPSM	IPS	IP Telnet sessions and the IP User Interface (Telnet) feature are disabled.

The examples in this procedure are used to remove shelf 1200 from the database.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMV35    SS7ANSI   sp4           A    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMDS0    CCS7ITU   nsp3          A    0   nsp4          B    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    1
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1211   TSM       SCCP
1212   TSM       GLS
1213   TSM       EBDABLM
1215   DCM       VXWSLAN
1217   DCM       EBDADCM
1301   LIMATM    ATMANSI   lsnatm1       A    0
1305   DCM       VXWSLAN
1307   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    2
1308   LIMATM    ATMANSI   lsnatm1       A    1
1317   DCM       VXWSLAN
```

   In this example, these cards must be removed from the database: 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1211, 1212, 1213, 1215, and 1217.

   NOTE: If the rtrv-card output shows that the shelf being removed from the database does not contain any cards running the SCCP or VSCCP applications, skip this step and go to step 3.

2. Verify whether or not that the global title translation (GTT), or enhanced global title translation (EGTT) features are on, by entering the **rtrv-feat** command. If these features are on, these entries appear in the **rtrv-feat** command output:

   - GTT – **GTT = on**
   - EGTT – **EGTT = 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*.

3. Verify that the LNP feature is enabled, by entering the **rtrv-ctrl-feat** command. If the LNP feature is enabled, the quantity shown in the **LNP TNs** field should be greater than zero.

   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*.

4. Based on the application assigned to the cards in the shelf to be removed, and the output of the **rtrv-feat** or **rtrv-ctrl-feat** command, if applicable, perform the appropriate procedures shown in Table 4-3 on page 4-92 and remove all the cards from the shelf. The application assigned to the card is shown in the **APPL** field of the **rtrv-card** command output in step 1.

5. Remove the shelf from the database using the **dlt-shlf** command. For this example, enter this command.

   dlt-shlf:loc=1200

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

   ```
   rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
   DLT-SHLF: MASP A - COMPLTD
   ```

6. Verify the changes with the **rtrv-shlf** command and specify the location of the shelf. For this example, enter this command.

   rtrv-shlf:loc=1200

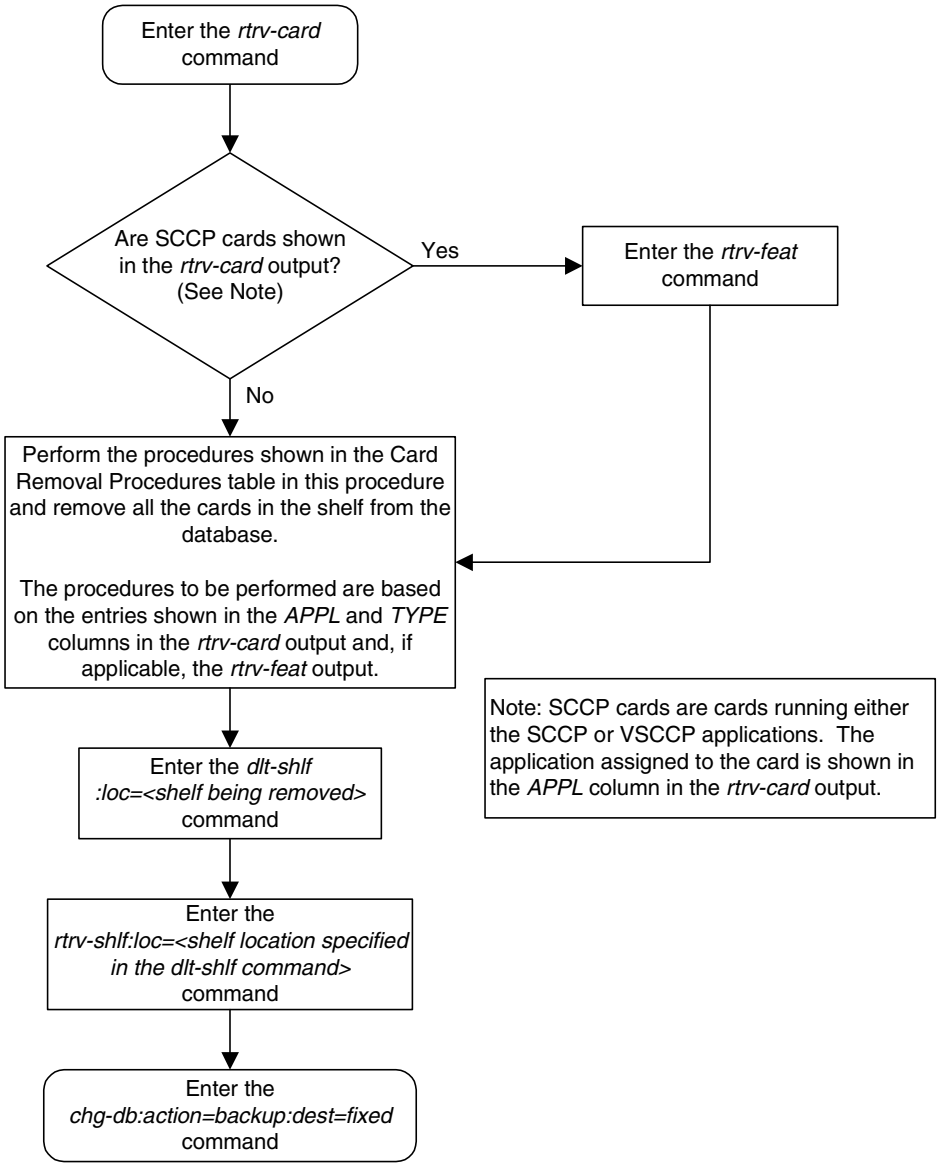
   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
   SHELF DISPLAY LOCATION=1200
   FRAME SHELF        TYPE

   This shelf is UNEQUIPPED in the database.
   ```

7. 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 4-14. Removing a Shelf



Adding an SS7 LIM

This procedure is used to add a low-speed SS7 LIM (link interface module) to the database using the **ent-card** command. The SS7 LIM cannot be added if it exists in the database.

NOTES:

1. LIM-E1 or LIMCH cards for E1 signaling links are configured in the database using the procedures in Appendix A, "E1 Interface," in the *Database Administration Manual - SS7*.

2. LIM-T1 or LIMCH cards for T1 signaling links are configured in the database using the procedures in Appendix B, "T1 Interface," in the *Database Administration Manual - SS7*.

3. LIM-ATM or LIME1ATM cards for ATM high-speed signaling links are configured in the database using the procedures in Appendix C, "ATM Signaling Link Configuration," in the *Database Administration Manual - SS7*.

4. IP cards (DCMs used for IP links) are configured in the database using the procedures in Chapter 3, "IP^7 Secure Gateway Configuration Procedures," in the *Database Administration Manual - SS7*.

5. X.25 LIMs are configured in the database using the procedures in Chapter 2, "X.25 Gateway Configuration," in the *Database Administration Manual - Features*.

Linksets and routes associated with X.25 LIMs do not support 24-bit ITU-N point codes.

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.

:appl – The application software that is assigned to the card.

:force – If the global title translation feature is on, the **force=yes** parameter allows the LIM to be added to the database even if the current SCCP transactions-per-second threshold is unable to support the additional SCCP transaction-per-second capacity created by adding the LIM. This parameter is obsolete and is no longer used.

Table 4-5 shows the valid card type (**type**) and card application (**appl**) combinations for the SS7 LIMs being added to the database and the names and part numbers of the hardware. This can be used to verify that the SS7 LIM being added to the database matches the card physically installed in the EAGLE 5 SAS. A maximum of 63 Multiport LIMs can be configured in the database. See the "Determining the Number of High-Speed and Low-Speed Signaling Links" section of Appendix D, "Reference Information," in the *Database Administration Manual - SS7* for information on how to determine the quantities of the different types of signaling links the EAGLE 5 SAS can have.

Table 4-5. SS7 LIM Card Type and Card Application Combinations

Card Name	Part Number	Card Type (:type)	Application Type (:appl)
LIM or LIM-AINF	870-1014-XX 870-1488-XX	limds0, limocu, limv35	ss7ansi, ccs7itu
EILA	870-2049-XX	limds0, limocu, limv35	ss7ansi, ccs7itu
LIM-DS0	870-1009-XX 870-1485-XX	limds0	ss7ansi, ccs7itu
LIM-OCU	870-1010-XX 870-1486-XX	limocu	ss7ansi, ccs7itu
LIM-V.35	870-1012-XX 870-1487-XX	limv35	ss7ansi, ccs7itu
MPL	870-2061-XX	limds0	ss7ansi

The LIM, LIM-AINF, or EILA is a link interface module using the AINF interface and can be installed in place of the LIM-DS0, LIM-OCU, or LIM-V.35. It is configured in the database as either a LIM-DS0, LIM-OCU, or LIM-V.35 card.

The MPL is the Mutiport LIM. The MPL contains eight SS7 signaling link ports as opposed to the LIM-DS0, LIM-OCU, LIM-V.35, LIM, LIM-AINF, or EILA, which contains only two SS7 signaling link ports.

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 on page 4-90.

The examples in this procedure are used to add the cards shown in Table 4-6 to the database.

Table 4-6. Example Card Configuration

Card Type	Application	Card Location
limds0	ss7ansi	1305
limocu	ccs7itu	1205
limv35	ss7ansi	1202
limds0 (MPL)	ss7ansi	1311

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    1
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1301   TSM       SCCP
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

The 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.

2. Using Table 4-5 on page 4-99 as a reference, verify that the card has been physically installed into the proper location.

3. Add the card using the **ent-card** command.

   For this example, enter these commands.

   ent-card:loc=1202:type=limv35:appl=ss7ansi

   ent-card:loc=1205:type=limocu:appl=ccs7itu

   ent-card:loc=1305:type=limds0:appl=ss7ansi

   ent-card:loc=1311:type=limds0:appl=ss7ansi

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
ENT-CARD: MASP A - COMPLTD
```

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

   rtrv-card:loc=1202

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1202   LIMV35    SS7ANSI
```

   rtrv-card:loc=1205

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1205   LIMOCU    CCS7ITU
```

   rtrv-card:loc=1305

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1305   LIMDS0    SS7ANSI
```

   rtrv-card:loc=1311

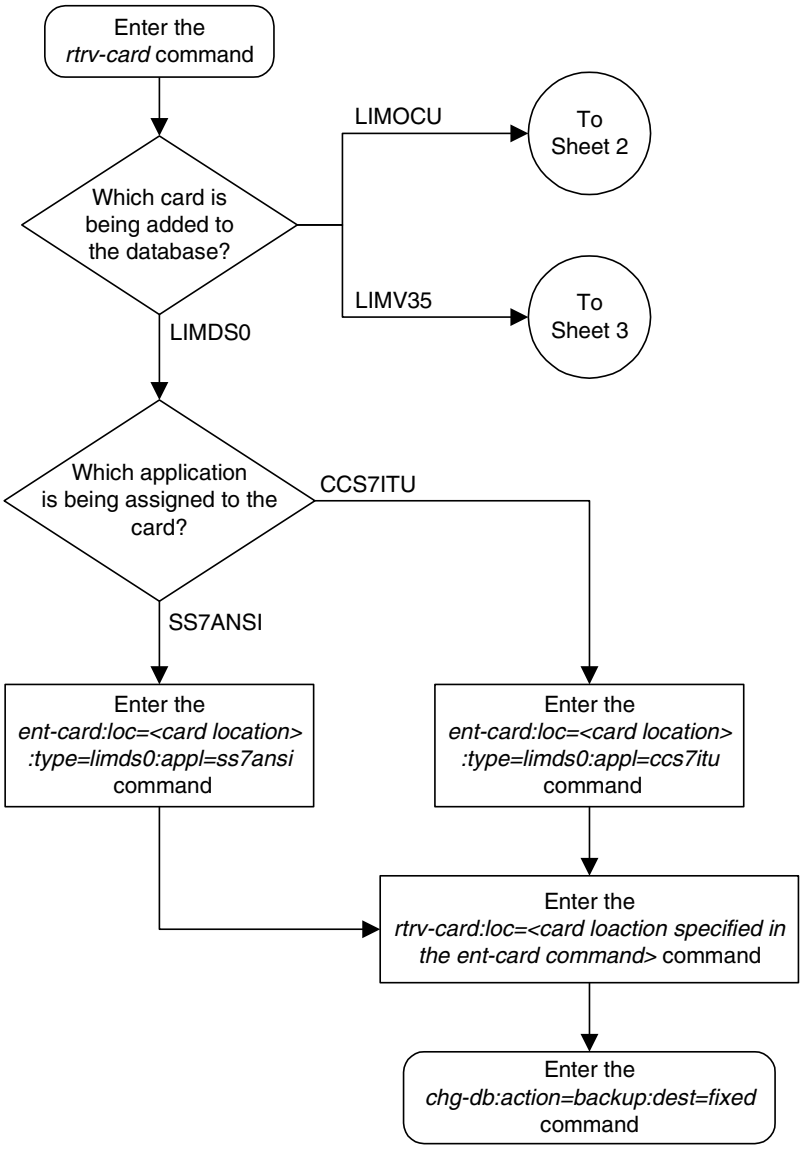
   This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1311   LIMDS0    SS7ANSI
```

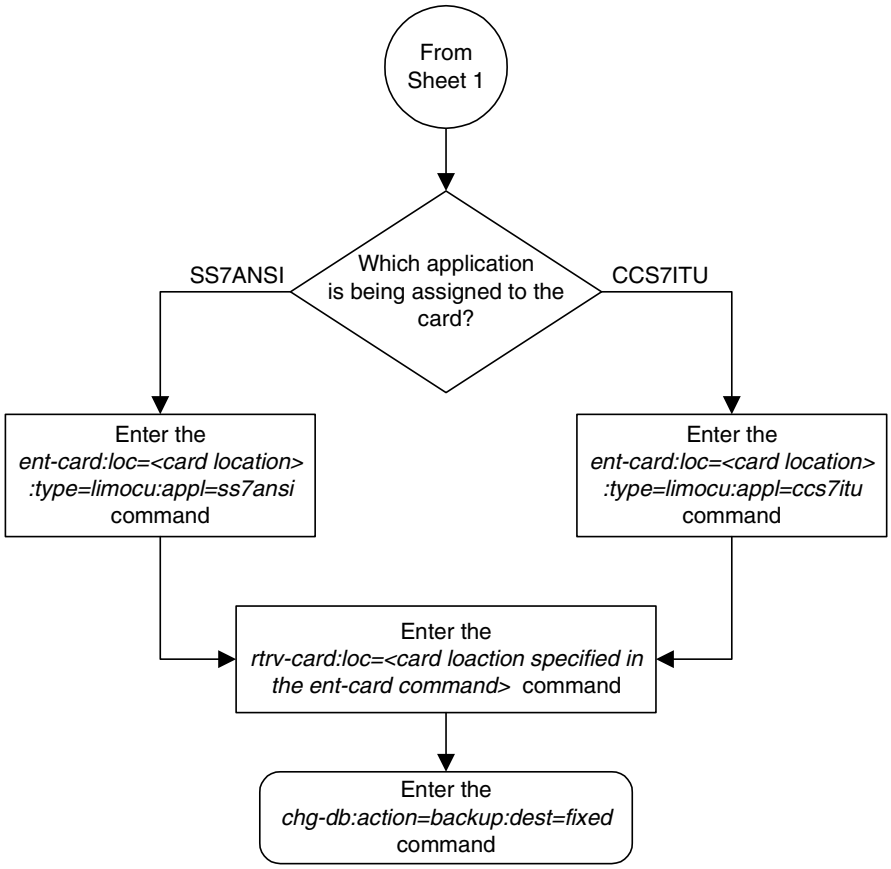
5. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

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

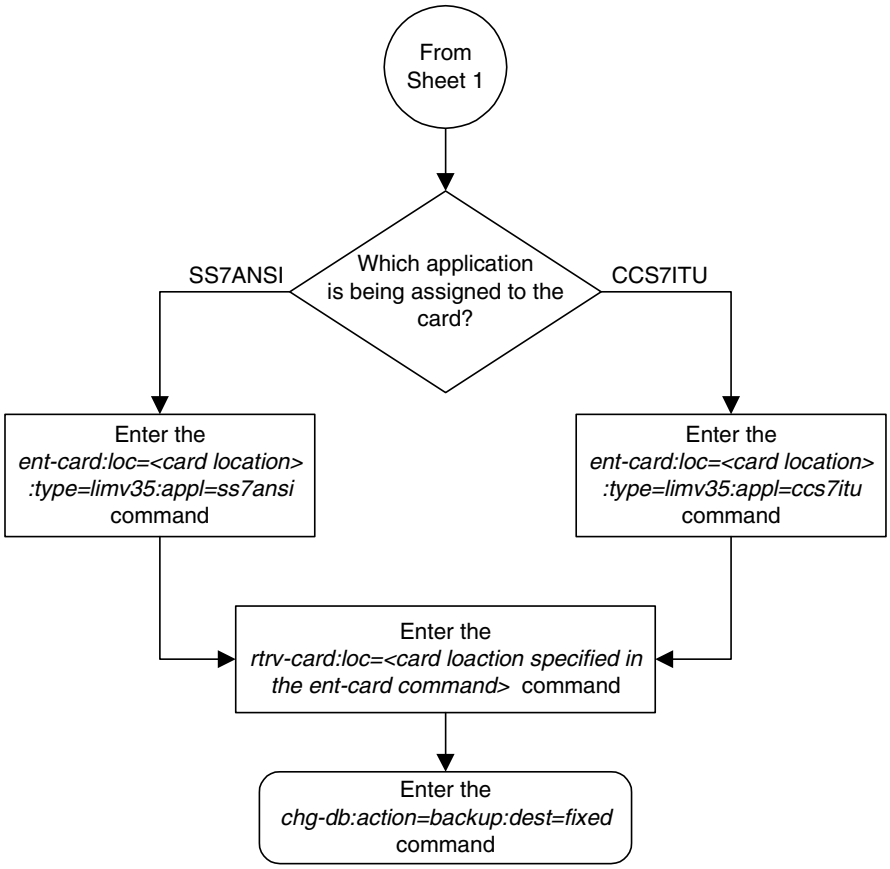
Flowchart 4-15. Adding an SS7 LIM (Sheet 1 of 3)



Flowchart 4-15. Adding an SS7 LIM (Sheet 2 of 3)



Flowchart 4-15. Adding an SS7 LIM (Sheet 3 of 3)



Removing an SS7 LIM

This procedure is used to remove an SS7 LIM (link interface module) from the database using the **dlt-card** command. The card cannot be removed if it does not exist in the database.

No SS7 signaling links can be assigned to the card you wish to remove from the database.

CAUTION: If the SS7 LIM is the last SS7 LIM in service, removing this card from the database will cause SS7 traffic to be lost and isolate the EAGLE 5 SAS from the network.

NOTES:

1. LIM-E1 or LIMCH cards for E1 signaling links are removed from the database using the procedures in Appendix A, "E1 Interface," in the *Database Administration Manual - SS7*.

2. LIM-T1 or LIMCH cards for T1 signaling links are removed from the database using the procedures in Appendix B, "T1 Interface," in the *Database Administration Manual - SS7*.

3. IP cards (DCMs used for IP links) are removed from the database using the procedures in Chapter 3, "IP^7 Secure Gateway Configuration Procedures," in the *Database Administration Manual - IP^7 Secure Gateway*.

4. X.25 LIMs are removed from the database using the procedures in Chapter 2, "X.25 Gateway Configuration," in the *Database Administration Manual - Features*.

Linksets and routes associated with X.25 LIMs do not support 24-bit ITU-N point codes.

The examples in this procedure are used to remove the SS7 LIMs in card location 1201, 1311, and 1318.

Canceling the REPT-STAT-CARD Command

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

- Press the **F9** function key on the keyboard at the terminal where the **rept-stat-card** command was entered.
- Enter the **canc-cmd** without the **trm** parameter at the terminal where the **rept-stat-card** command was entered.
- Enter the **canc-cmd:trm=<xx>**, where **<xx>** is the terminal where the **rept-stat-card** command was entered, from another terminal other that the terminal where the **rept-stat-card** 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 cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1202   LIMV35    SS7GX25   lsngwy        A    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
```

2. An SS7 LIM is identified by the entries **SS7ANSI**, **CCS7ITU**, or **ATMANSI** in the **APPL** field. Display the status of the SS7 signaling links on the card you wish to remove by entering the **rept-stat-slk** command, specifying the card location and signaling link. The card location is shown in the **CARD** field of the **rtrv-card** command output.

For this example, enter these commands.

rept-stat-slk:loc=1201:link=a

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,A   sp2       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

rept-stat-slk:loc=1201:link=b

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,B   sp1      ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

rept-stat-slk:loc=1318:link=a

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1318,A   lsnatm1   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

rept-stat-slk:loc=1311:link=a

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1311,A   sp2       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

rept-stat-slk:loc=1311:link=a1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1311,A1  sp7       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

rept-stat-slk:loc=1311:link=b

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1311,B   sp1       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

rept-stat-slk:loc=1311:link=b1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
SLK      LSN       CLLI        PST          SST       AST
1311,B1  sp3       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

3. Deactivate the links to the card that are not in an OOS-MT-DSBLD state using the **dact-slk** command. For this example, enter these commands.

dact-slk:loc=1201:link=a

dact-slk:loc=1201:link=b

dact-slk:loc=1318:link=a

dact-slk:loc=1311:link=a

dact-slk:loc=1311:link=a1

dact-slk:loc=1311:link=b

dact-slk:loc=1311:link=b1

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Deactivate Link message sent to card
```

4. Display the cards that are in service with the **rept-stat-card:stat=nr** command.

rept-stat-card:stat=nr

This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0
CARD  VERSION      TYPE    APPL      PST           SST       AST
1101  113-003-000  TSM     SCCP      IS-NR         Active    ---
1102  113-003-000  TSM     GLS       IS-NR         Active    ---
1103  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1104  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1109  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1110  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1201  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1202  113-002-000  LIMV35  SS7GX25   IS-NR         Active    ---
1203  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1204  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1205  113-003-000  LIMOCU  CCS7ITU   IS-NR         Active    ---
1206  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1207  113-002-000  LIMV35  SS7GX25   IS-NR         Active    ---
1208  113-002-000  LIMV35  SS7GX25   IS-NR         Active    ---
1209  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1210  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1212  113-003-000  TSM     SCCP      IS-NR         Active    ---
1214  113-003-000  TSM     GLS       IS-NR         Active    ---
1216  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1301  113-003-000  LIMATM  ATMANSI   IS-NR         Active    ---
1304  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1305  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1308  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1309  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1310  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1311  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1314  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1317  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1318  113-003-000  LIMATM  ATMANSI   IS-NR         Active    ---
```

5. If the signaling links on the card to be removed from the database is the last signaling link in a linkset, the **force=yes** parameter must be used with the **dlt-slk** command. To verify this, enter the **rtrv-ls** command with the linkset name shown in step 1 (**LSET NAME** field) or in step 2 (**LSN** field). For this example, enter these commands.

rtrv-ls:lsn=sp1

This is an example of the possible output

```
rlghncxa03w 06-03-01 16:31:35 GMT EAGLE5 34.3.0

                                L3T SLT              GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
sp1          240-020-000   scr1  1   1   yes A   2    off off off yes   off

           CLLI         TFATCABMLQ MTPRSE ASL8 IPGWAPC
           -----------  2          yes    yes  no

                                L2T         L1               PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM   N1   N2
           1201 B    0   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1311 B    0   LIMDS0  1    56000  ---  ---   BASIC ---  -----

                                LP            ATM
           LOC  LINK SLC TYPE    SET  BPS      TSEL      VCI    VPI   LL

                                LP         ATM                    E1ATM
           LOC  LINK SLC TYPE    SET BPS    TSEL     VCI   VPI  CRC4 SI SN

           LOC  LINK SLC TYPE    IPLIML2

           LOC  LINK SLC TYPE

                                L2T               PCR  PCR   E1   E1
           LOC  LINK SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

                                L2T               PCR  PCR   T1   T1
           LOC  LINK SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=sp2

This is an example of the possible output

```
rlghncxa03w 06-03-01 16:31:35 GMT EAGLE5 34.3.0

                                L3T SLT              GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
sp2          240-030-000   scr1  1   1   yes A   3    off off off yes   off

           CLLI         TFATCABMLQ MTPRSE ASL8 IPGWAPC
           -----------  2          yes    yes  no

                                L2T          L1              PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM   N1   N2
           1201 A    0   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1202 A    1   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1311 A    2   LIMDS0  1    56000  ---  ---   BASIC ---  -----

                                LP            ATM
           LOC  LINK SLC TYPE    SET  BPS      TSEL      VCI    VPI   LL

                                LP         ATM                    E1ATM
           LOC  LINK SLC TYPE    SET BPS    TSEL     VCI   VPI  CRC4 SI SN

           LOC  LINK SLC TYPE    IPLIML2
```

```
           LOC  LINK SLC TYPE

                                 L2T               PCR  PCR   E1   E1
           LOC  LINK SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

                                 L2T               PCR  PCR   T1   T1
           LOC  LINK SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=lsnatm1

This is an example of the possible output

```
rlghncxa03w 06-03-01 16:31:35 GMT EAGLE5 34.3.0

                                L3T SLT              GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
lsnatm1      240-040-000   scr1  1   1   yes A   2    off off off yes   off

           CLLI         TFATCABMLQ MTPRSE ASL8 IPGWAPC
           -----------  2          yes    yes  no

                                 L2T          L1              PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM   N1   N2

                                 LP            ATM
           LOC  LINK SLC TYPE    SET  BPS      TSEL      VCI    VPI   LL
           1301  A   0   LIMATM  3    1544000  INTERNAL  35     15
           1318  A   1   LIMATM  5    1544000  LINE      5      0

                                 LP         ATM                    E1ATM
           LOC  LINK SLC TYPE    SET BPS    TSEL     VCI   VPI  CRC4 SI SN

           LOC  LINK SLC TYPE    IPLIML2

           LOC  LINK SLC TYPE

                                 L2T               PCR  PCR   E1   E1
           LOC  LINK SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

                                 L2T               PCR  PCR   T1   T1
           LOC  LINK SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS


Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=sp3

This is an example of the possible output

```
rlghncxa03w 06-03-01 16:31:35 GMT EAGLE5 34.3.0
                           L3T  SLT
LSN       APCA (SS7)   SCRN  SET  SET BEI  LST LNKS GWSA GWSM GWSD SLSCI NIS
sp3       240-050-000  scr1  1    1   yes  A   3    off  off  off  yes   off

           CLLI         TFATCABMLQ MTPRSE ASL8 IPGWAPC
           -----------  2          yes    yes  no

                                 L2T          L1              PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM   N1   N2
           1203 A    0   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1204 A    1   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1311 B1   2   LIMDS0  1    56000  ---  ---   BASIC ---  -----
```

```
                          LP            ATM
          LOC  LINK SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL

                          LP         ATM                    E1ATM
          LOC  LINK SLC TYPE     SET BPS    TSEL     VCI   VPI  CRC4 SI SN

          LOC  LINK SLC TYPE     IPLIML2

          LOC  LINK SLC TYPE

                          L2T               PCR  PCR   E1   E1
          LOC  LINK SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS

                          L2T               PCR  PCR   T1   T1
          LOC  LINK SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS

Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=sp7

This is an example of the possible output

```
rlghncxa03w 06-03-01 16:31:35 GMT EAGLE5 34.3.0

                              L3T SLT              GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
sp7          240-060-000   scr1  1   1   yes A   3    off off off yes   off

          CLLI         TFATCABMLQ MTPRSE ASL8 IPGWAPC
          -----------  2           yes    yes  no

                           L2T          L1              PCR  PCR
          LOC  LINK SLC TYPE     SET  BPS    MODE TSET  ECM   N1   N2
          1308 B    0   LIMDS0   1    56000  ---  ---   BASIC ---  -----
          1311 A1   1   LIMDS0   1    56000  ---  ---   BASIC ---  -----
          1315 A    2   LIMDS0   1    56000  ---  ---   BASIC ---  -----

                          LP            ATM
          LOC  LINK SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL

                          LP         ATM                    E1ATM
          LOC  LINK SLC TYPE     SET BPS    TSEL     VCI   VPI  CRC4 SI SN

          LOC  LINK SLC TYPE     IPLIML2

          LOC  LINK SLC TYPE

                          L2T               PCR  PCR   E1   E1
          LOC  LINK SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS

                          L2T               PCR  PCR   T1   T1
          LOC  LINK SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS


Link set table is ( 10 of 1024)  1% full
```

6. Inhibit the card using the **rmv-card** command, specifying the card location. If the LIM to be inhibited contains the only signaling link in the linkset that in service, the **force=yes** parameter must also be specified. For this example, enter these commands.

   rmv-card:loc=1201

   rmv-card:loc=1318

   rmv-card:loc=1311

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

   ```
   rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
   Card has been inhibited.
   ```

7. Remove the signaling links on the specified card by using the **dlt-slk** command. If the output of step 5 shows that the signaling link being removed is the last signaling link in a linkset, the **force=yes** parameter must be used. For this example, enter these commands.

   dlt-slk:loc=1201:link=a

   dlt-slk:loc=1201:link=b

   dlt-slk:loc=1318:link=a

   dlt-slk:loc=1311:link=a

   dlt-slk:loc=1311:link=a1

   dlt-slk:loc=1311:link=b:force=yes

   dlt-slk:loc=1311:link=b1

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

   ```
   rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
   DLT-SLK: MASP A - COMPLTD
   ```

8. Remove the card 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 these commands.

   dlt-card:loc=1201

   dlt-card:loc=1318

   dlt-card:loc=1311

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

   ```
   rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
   DLT-CARD: MASP A - COMPLTD
   ```

9. Verify the changes using the **rtrv-card** command specifying the card that was removed in step 8. For this example, enter these commands.

rtrv-card:loc=1201

rtrv-card:loc=1318

rtrv-card:loc=1311

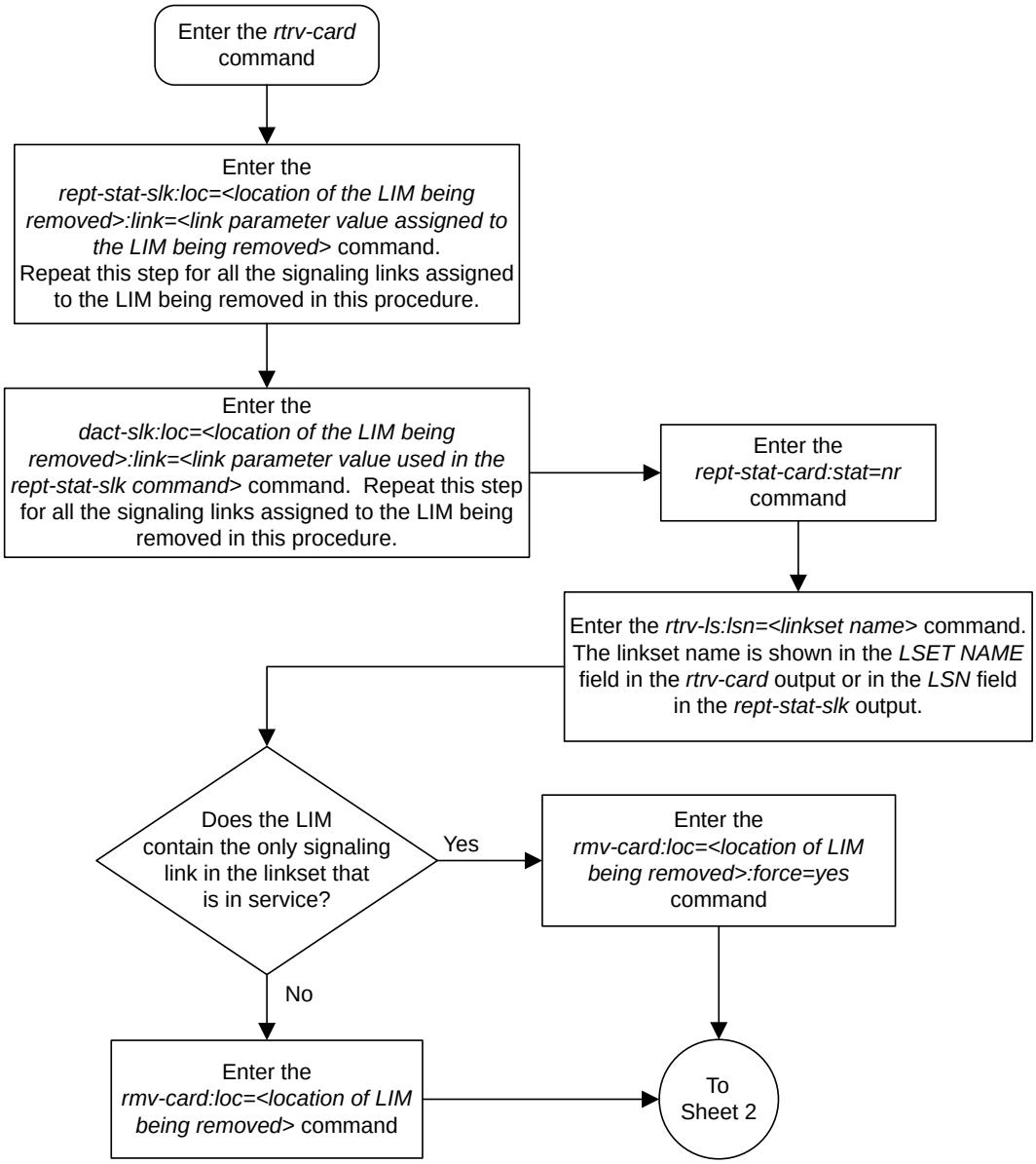
When these commands have successfully completed, this message should appear.

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

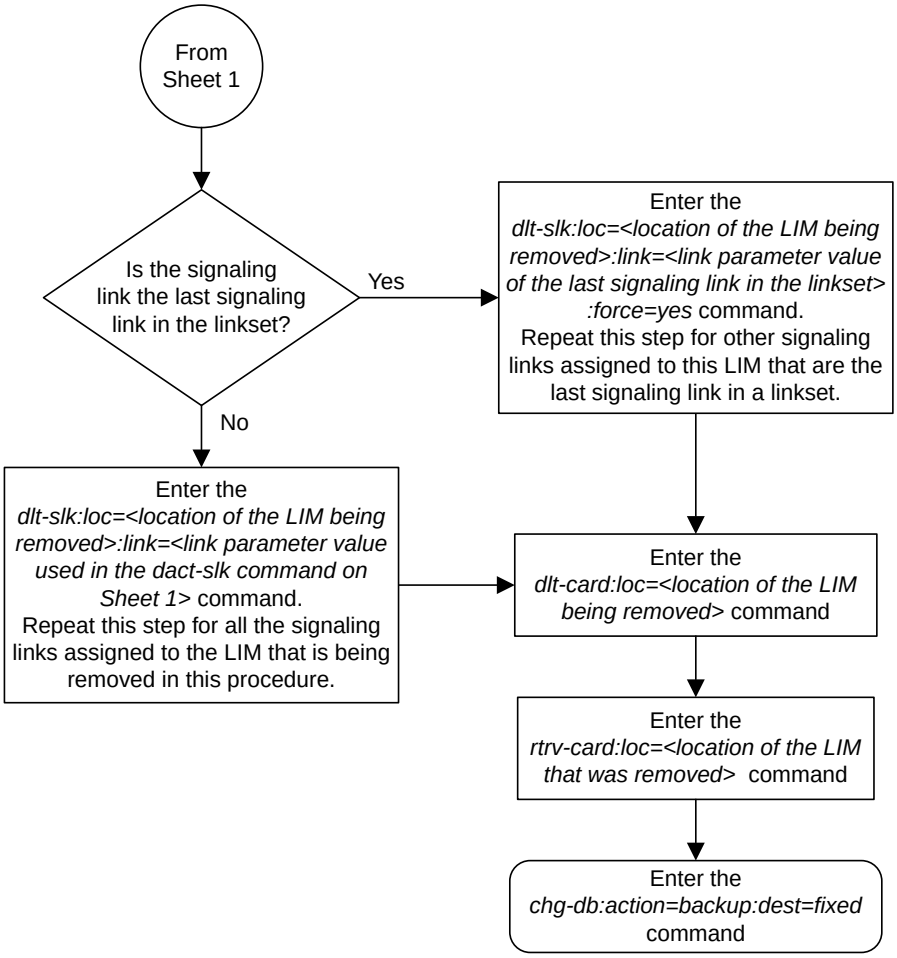
10. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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 4-16. Removing an SS7 LIM (Sheet 1 of 2)



Flowchart 4-16. Removing an SS7 LIM (Sheet 2 of 2)



Configuring the UIM Threshold

This procedure is used to configure the threshold (the number of times during a specified period of time) a specific UIM (unsolicited information message) is displayed at an EAGLE 5 SAS terminal using the **set-uim-acthresh** command.

The **set-uim-acthresh** command uses these parameters.

:uimn – The number of the UIM that the threshold is being created for, or the threshold being changed. The number of the UIM must exist in the EAGLE 5 SAS. See the *Maintenance Manual* for a list of the UIMs that can be displayed.

:limit – The number of UIMs that can be displayed in the amount of time specified by the **intrvl** parameter.

:intrvl – The amount of time, in minutes, that the number of UIMs specified by the **limit** parameter can be displayed at the EAGLE 5 SAS terminal.

:force – The **force=yes** parameter allows the **limit** parameter to be set to 0 should the conditions at the EAGLE 5 SAS make this action necessary. Setting the **limit** parameter to 0 prevents the specified UIM, and the information contained in the UIM, from being displayed at the EAGLE 5 SAS terminal. It is highly recommended that the **limit** parameter value is not set to 0.

When the **limit=0** and the **force=yes** parameters are specified with the **set-uim-acthresh** command, this message appears in the scroll area of the terminal display.

```
Caution: Setting LIMIT=0 suppresses UIM permanently
```

When creating a new UIM threshold, both the **limit** and **intrvl** parameters must be specified with the **set-uim-acthresh** command.

If you are changing an existing UIM threshold, either the **limit** or **intrvl** parameters must be specified with the **set-uim-acthresh** command.

The examples used in this procedure change the time interval for the existing UIM threshold for UIM 1155 from 30 minutes to 20 minutes, the number of UIMs displayed for existing UIM threshold for UIM 1162 from 100 to 25, and to create a new UIM threshold to display UIM 1075 for 175 times in 30 minutes. These changes are shown in Table 4-7.

Table 4-7. Example UIM Threshold Configuration

UIM Number	Old Limit	Old Time Interval	New Limit	New Time Interval
1155	50	30	No Change	20
1162	100	5	25	No Change
1075	N/A	N/A	175	30

Procedure

1. Display the UIM thresholds in the database using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:50:12 GMT EAGLE5 34.3.0
UIMN    LIMIT    INTRVL
1155     50       30
1162     100      5
1216     200      15

The UIM Threshold Table is (3 of 499) 1% full.
```

2. Configure the UIM threshold using the **set-uim-acthresh** command. For this example, enter these commands.

   set-uim-acthresh:uimn=1155:intrvl=20

   set-uim-acthresh:uimn=1162:limit=25

   set-uim-acthresh:uimn=1075:limit=175:intrvl=30

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

```
rlghncxa03w 06-03-01 08:50:12 GMT EAGLE5 34.3.0
SET-UIM-ACTHRESH: MASP A - COMPLTD
```

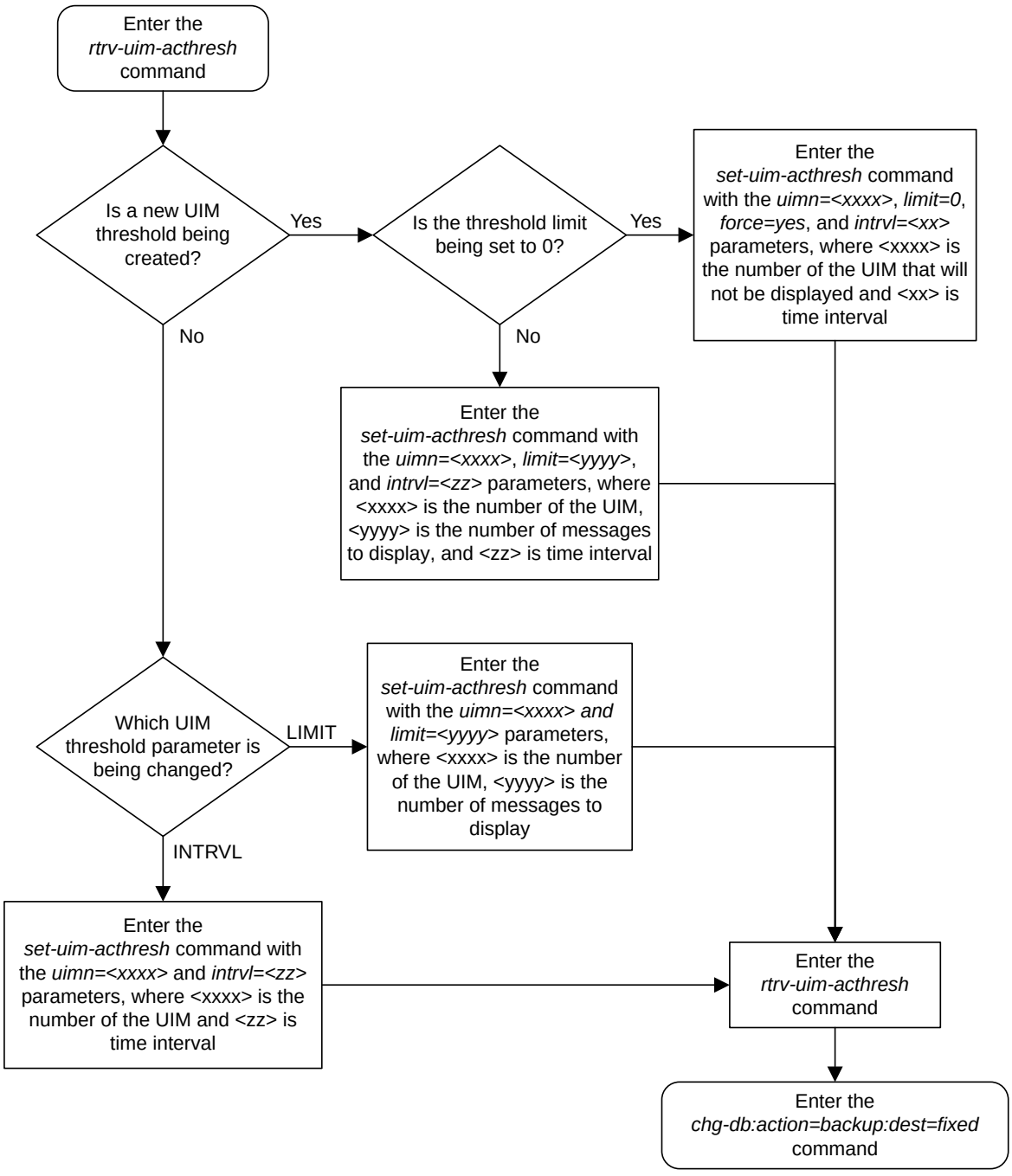
3. Verify the changes using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:50:12 GMT EAGLE5 34.3.0
UIMN    LIMIT    INTRVL
1075     175      30
1155     50       20
1162     25       5
1216     200      15

The UIM Threshold Table is (4 of 499) 1% full.
```

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 4-17. Configuring the UIM Threshold



Removing a UIM Threshold

This procedure is used to remove a UIM threshold from the database using the **dlt-uim-acthresh** command. The **dlt-uim-acthresh** command has only one parameter, **uimn**, which specifies the UIM number of the UIM threshold that is being removed from the database.

The UIM threshold must be in the database.

The example in this procedure removes the UIM threshold for UIM 1216 from the database.

Procedure

1. Display the UIM thresholds in the database using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:50:12 GMT EAGLE5 34.3.0
UIMN    LIMIT    INTRVL
1075     175      30
1155     50       20
1162     25       5
1216     200      15

The UIM Threshold Table is (4 of 499) 1% full.
```

2. Remove a UIM threshold from the database using the **dlt-uim-acthresh** command. For this example, enter this command.

   dlt-uim-acthresh:uimn=1216

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

```
rlghncxa03w 06-03-01 08:50:12 GMT EAGLE5 34.3.0
DLT-UIM-ACTHRESH: MASP A - COMPLTD
```

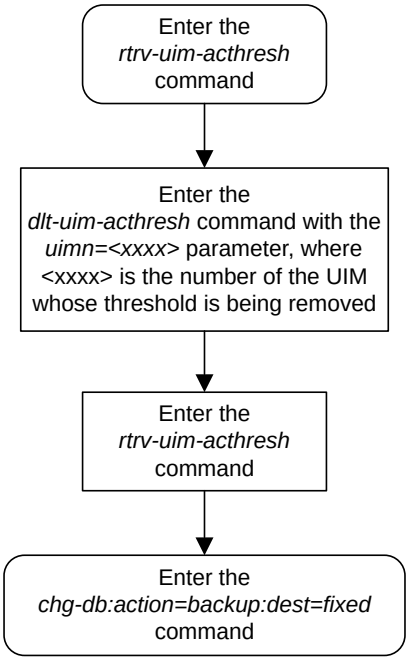
3. Verify the changes using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 08:50:12 GMT EAGLE5 34.3.0
UIMN    LIMIT    INTRVL
1075     175      30
1155     50       20
1162     25       5

The UIM Threshold Table is (3 of 499) 1% full.
```

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 4-18. Removing a UIM Threshold



Configuring the Measurements Terminal for an EAGLE 5 SAS Containing 700 Signaling Links

This procedure is used to configure a terminal to collect measurement reports on an EAGLE 5 SAS that contains from 501 to 700 signaling links. The **chg-trm** command is used to configure this terminal and uses these parameters to configure this terminal.

NOTE: The terminal being configured in this procedure must be terminals 1 through 16. Telnet terminals cannot be specified in this procedure.

NOTE: If the EAGLE 5 SAS contains more than 700 signaling links, do not perform this procedure. The Measurements Platform is required to collect measurement reports for systems containing more the 700 signaling links. See the *Maintenance Manual* for more information on the Measurements Platform.

:trm – Serial port number

:baud – Serial port baud rate

:sb – The number of stop bits used in communications with the device

:prty – Parity used by the device

:type – The type of device being connected.

:fc – The type of flow control used between the EAGLE 5 SAS and the output devices (vt320 terminal, modem, printer, or KSR terminal, or OAP port).

:tmout – The maximum amount of time that a login session on the specified port can remain idle (that is, no user input) on the port before being automatically logged off.

:**mxinv** – The login failure threshold

:**dural** – The length of time that the terminal is disabled after the login failure threshold has been exceeded.

:**all** – All unsolicited messages are received by the specified port

:traf – Traffic measurement related unsolicited messages are received by the specified port

NOTE: There are other parameters that can be used with the chg-trm command but these parameters cannot be used in this procedure. For more information on these parameters, go to the "Changing Terminal Characteristics" procedure on page 4-51, or to the chg-trm command description in the *Commands Manual*.

The measurement terminal must be configured with these parameter values:

- **trm**=<terminal being changed>
- **baud**=19200
- **type**=ksr
- **traf**=yes – all other output message groups must be set to no.

The other parameters listed in this procedure do not have to be specified with the **chg-trm** command. If these parameters are not specified with the **chg-trm** command, these default values will be assigned to the measurements terminal:

- **prty** – even
- **sb** – 1
- **fc** – sw (software)
- **tmout** – 30 minutes
- **mxinv** – 5
- **dural** – 100 (1 minute, 0 seconds)

The terminal must be placed out of service before it can be configured.

If the terminal being changed has output message groups other than **traf** set to **yes**, the **all=no** parameter must be specified with the **chg-trm** command. The **chg-trm** command can then specified with the **traf=yes** parameter.

The messages assigned to the output message groups defined by the **traf** parameters are listed in the *Maintenance Manual*.

The **tmout**, **dural**, and **mxinv** parameters can be applied to this terminal. See the "Security Parameters" section on page 4-57 for more information on these parameters.

The total value of the terminals' baud rate cannot be greater than 172,032. If the total baud rate of the terminals exceeds 172,032, change the baud rates of the terminals so that the total baud rate is not greater than 172,032.

The output of the **rtrv-trm** command is displayed in two parts. The first part displays the communication security attributes of the terminal. The communication attributes of the terminal, **BAUD**, **PRTY** (parity), **SB** (stop bits), and **DBTS** (data bits), are displayed in the **COMM** field of the **rtrv-trm** output and are displayed in this format: BAUD–DBTS–PRTY–SB. The second part of the **rtrv-trm** command output displays the types of unsolicited messages the terminal may receive. An example of the **rtrv-trm** command output is shown in this example.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
3    VT320    9600-7-E-1 SW    30    5     99:59:59

                                LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
3    NO   YES  NO  YES NO  YES YES YES  YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
```

This example shows an **rtrv-trm** command output when the LNP feature is enabled for a quantity of 2 to 12 million numbers. If the LNP feature is not enabled, or the ELAP Configuration feature is enabled and activated, the fields **LNPDB**, and **LNPSUB** are not shown in the **rtrv-trm** command output.

In this example, terminal 3 is running at 9600 baud with 7 data bits, even parity, and 1 stop bit.

The examples in this procedure are used to configure terminal 1 as the measurements terminal.

Procedure

1. Display the values of all terminals using the **rtrv-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    30    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    PRINTER  4800-7-E-1 HW    30    0     00:00:00
4    VT320    2400-7-E-1 BOTH  30    5     00:30:00
5    VT320    9600-7-O-1 NONE  30    5     00:00:30
6    VT320    9600-7-E-2 SW    30    9     INDEF
7    PRINTER  9600-7-N-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    VT320    9600-7-E-1 SW    30    7     00:30:00
10   VT320    9600-7-E-1 HW    30    5     00:30:00
11   VT320    4800-7-E-1 HW    30    5     00:30:00
12   PRINTER  9600-7-E-1 HW    30    4     00:30:00
13   VT320    9600-7-O-1 NONE  30    5     00:30:00
14   VT320    9600-7-E-2 SW    30    8     00:30:00
15   VT320    9600-7-N-2 HW    30    5     00:30:00
16   VT320    9600-7-E-2 BOTH  30    3     00:30:00

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  NO  NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    NO   NO   YES NO  NO  NO  NO
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    NO   YES  NO  NO  NO  YES NO
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
```

```
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

2. Inhibit the terminal you wish to change using the **rmv-trm** command and specify the port you wish to inhibit. If the terminal being changed is the last OAP port that is in service, the **force=yes** parameter must be used with the **rmv-trm** command. The OAP ports are shown by the entry **OAP** in the **TYPE** field in the **rtrv-trm** command output in step 1. For this example, enter this command.

rmv-trm:trm=1

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

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

3. Verify that the terminal that was inhibited in step 4 is in the OOS-MT-DSBLD state by entering the **rept-stat-trm** command. For this command, enter this command.

rept-stat-trm:trm=1

This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST            SST           AST
1     OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

4. Configure the measurements terminal using the **chg-trm** command and making sure that only the **traf** output message group is set to **yes**.

   a. If the output of the **rtrv-trm** command output in step 1 shows that all the output message groups are set to no, then only the **traf=yes** parameter needs to be specified for the output message group assignments as show in this example.

      chg-trm:trm=1:type=ksr:baud=19200:traf=yes

   b. If however, the **rtrv-trm** command output shows that output message groups other than **traf** are set to **yes**, the **chg-trm** command must be entered with the **all=no** and the **traf=yes** parameter as shown in this example.

      chg-trm:trm=1:type=ksr:baud=19200:traf=yes:all=no

   For this example enter the command shown in substep b.

   When the **chg-trm** command has successfully completed, this message should appear.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
CHG-TRM: MASP A - COMPLTD
```

5. Verify the changes made in step 4 by using the **rtrv-trm** command with the port number specified in step 4. For this example, enter this command.

   rtrv-trm:trm=1

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
1    KSR     19200-7-E-1 SW    30    5     00:01:00

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    YES  NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

6. When the changes are complete, and if the terminal was inhibited in step 4, activate the terminal using the **rst-trm** command. For this example, enter this command.

   rst-trm:trm=1

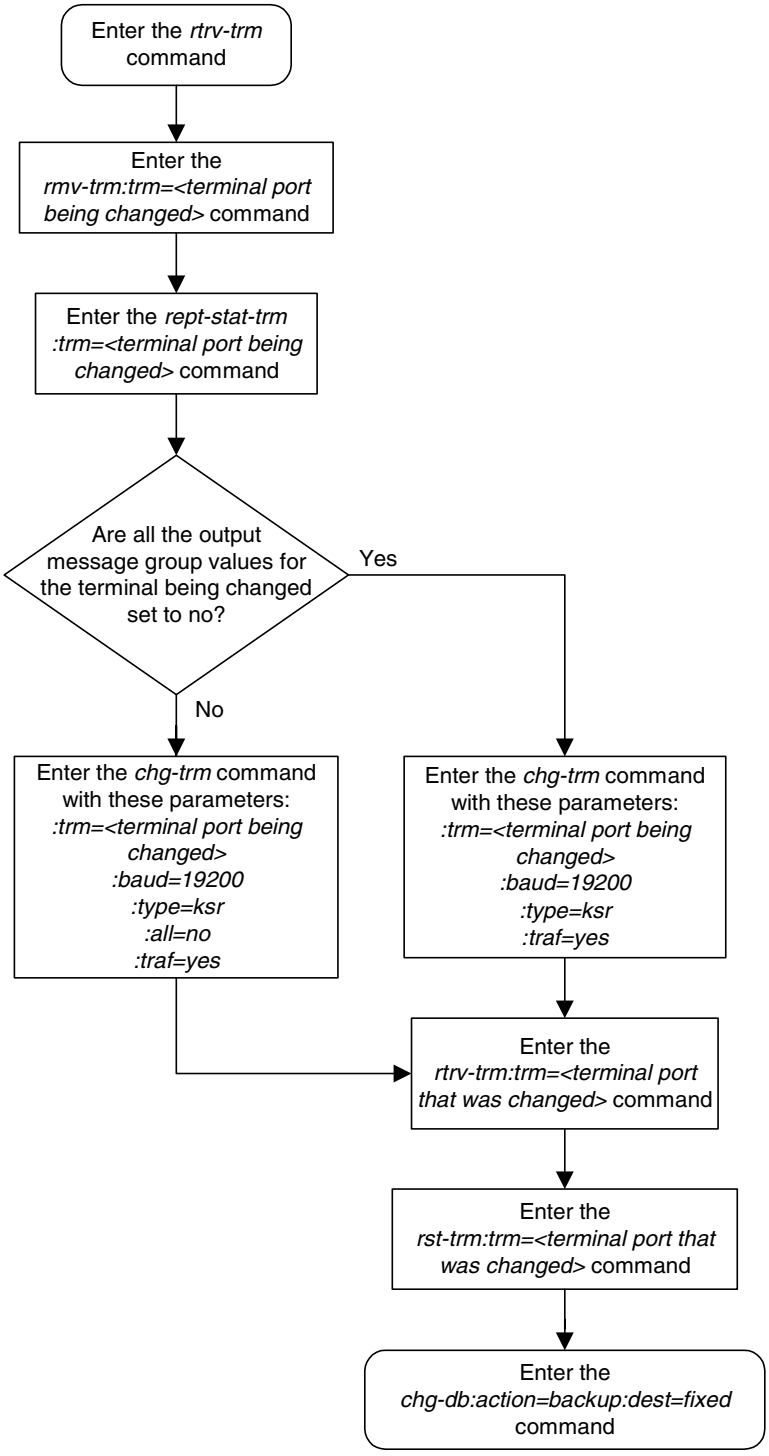
   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Allow message sent to terminal
```

7. 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 4-19. Configuring the Maintenance Terminal for a 700 Signaling Link System



Adding an MCPM

This procedure is used to add an MCPM (Measurement Collection & Polling Module), used for the Measurements Platform feature, to the database using the **ent-card** command. The MCPM provides an interface between the EAGLE 5 SAS and the customer's network. The Measurements Platform provides a dedicated processor for collecting and transferring measurements data to a customer supplied FTP server.

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. For this procedure, the value of this parameter is **mcpm**.

:appl – The application software that is assigned to the card. For this procedure, the value of this parameter is **mcp**.

: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 MCPMs and should not be used.

The Measurements Platform feature requires a minimum of 2 MCPM cards (part number 870-2372-03 or later) with at least 2 GB of memory per card.

The Measurements Platform feature must be on in order to add an MCPM to the database. This can be verified with the **rtrv-feat** command. To enable the Measurements Platform feature, the **measplat=on** parameter must be specified with the **chg-feat** command.

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

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 on page 4-90.

After all required MCPMs have been configured in the database, go to the "Configuring the Measurements Platform Feature" procedure on page 4-136 and configure the IP links for these MCPMs and enable the Measurement Platform feature, if necessary.

The examples in this procedure are used to add an MCPM in card location 2107.

Procedure

1. Verify that the MCPM (part number 870-2372-03 or later) being added to the database has been physically installed into the proper location.

2. Connect the Ethernet cables from the customer's network to Port A of the MCPM.

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

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
```

The 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.

NOTE: If the `rtrv-card` output from step 3 shows an MCPM card, shown by the entries `MCPM` in the `TYPE` column and `MCP` in the `APPL` column, skip steps 4 and 5, and go to step 6.

4. Verify that the Measurements Platform feature is enabled by entering the **`rtrv-feat`** command. If the Measurements Platform feature is on, the **`MEASPLAT`** field should be set to **`on`**. For this example, the Measurements Platform 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 Measurements Platform feature is on, skip step 5 and go to step 6.

5. Turn the Measurements Platform feature on by entering this command.

   `chg-feat:measplat=on`

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

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

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

```
rlghncxa03w 06-03-01 21:18:37 GMT EAGLE5 34.3.0
CHG-FEAT: MASP A - COMPLTD
```

---

6. Add the MCPM using the **`ent-card`** command. For this example, enter this commands.

   `ent-card:loc=2107:type=mcpm:appl=mcp`

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
ENT-CARD: MASP A - COMPLTD
```

---

7. Verify the changes using the **`rtrv-card`** command with the card location specified in step 6. For this example, enter this command.

   `rtrv-card:loc=2107`

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
2107   MCPM      MCP
```

---

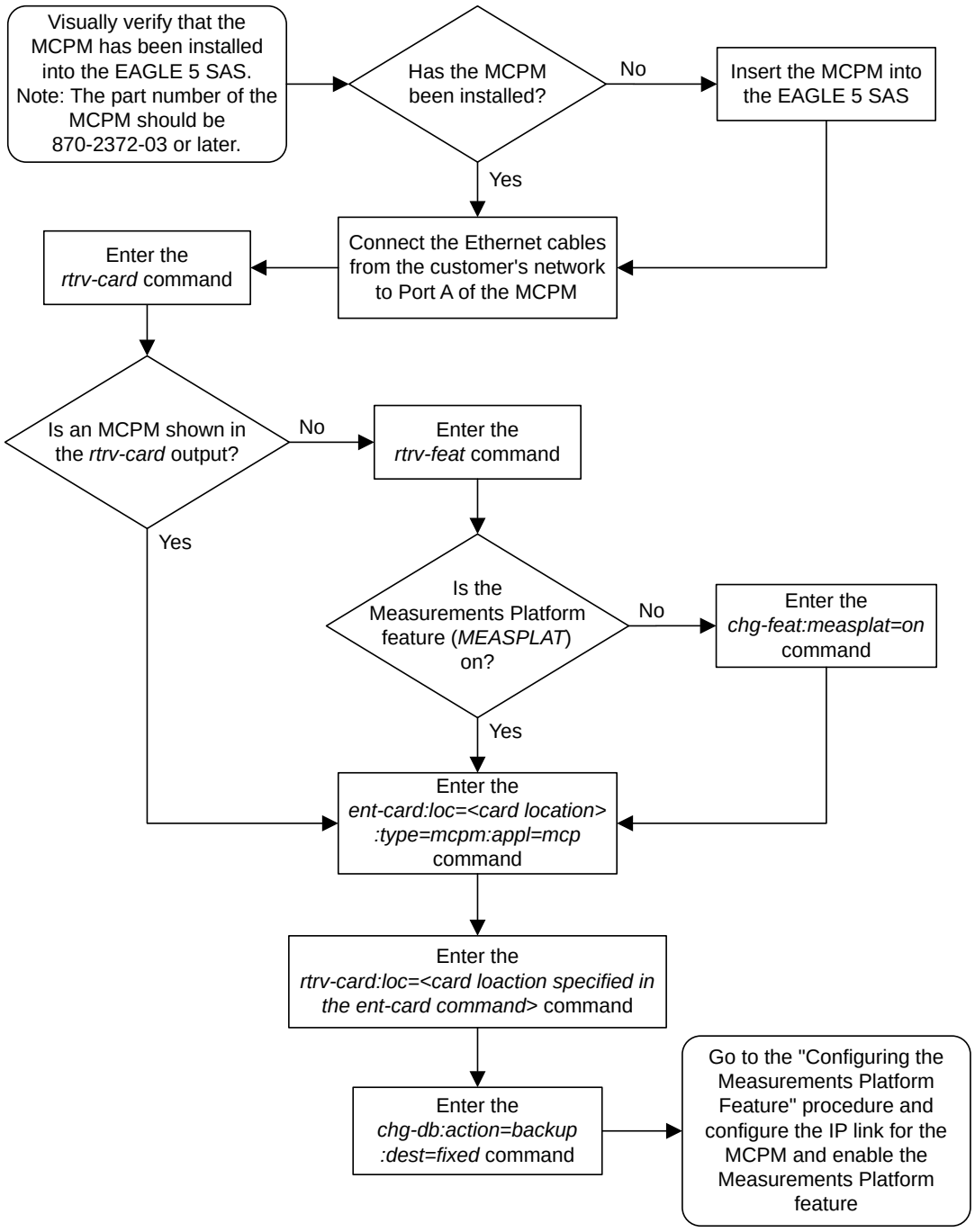
8. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

9. Go to the "Configuring the Measurements Platform Feature" procedure on page 4-136 and configure the IP links for these MCPMs and enable the Measurement Platform feature, if necessary.

Flowchart 4-20. Adding an MCPM

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



Removing an MCPM

This procedure is used to remove an MCPM (Measurement Collection & Polling Module) from the database using the **dlt-card** command.

CAUTION: If the MCPM is the last MCPM in service, removing this card from the database will disable the Measurements Platform feature.

The examples in this procedure are used to remove the MCPM in card location 2107.

Canceling the REPT-STAT-CARD Command

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

- Press the **F9** function key on the keyboard at the terminal where the **rept-stat-card** command was entered.
- Enter the **canc-cmd** without the **trm** parameter at the terminal where the **rept-stat-card** command was entered.
- Enter the **canc-cmd:trm=<xx>**, where **<xx>** is the terminal where the **rept-stat-card** command was entered, from another terminal other that the terminal where the **rept-stat-card** 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 cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
2107   MCPM      MCP
2108   MCPM      MCP
2111   MCPM      MCP
```

An MCPM is identified by the entries **MCPM** in the **TYPE** field and **MCP** in the **APPL** field.

2. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

3. Inhibit the MCPM using the **rmv-card** command, specifying the card location of the MCPM. If the MCPM to be inhibited is the last MCPM that is in service, the **force=yes** parameter must also be specified. For this example, enter this command.

   rmv-card:loc=2107

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

4. Remove the card 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 these commands.

   dlt-card:loc=2107

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
DLT-CARD: MASP A - COMPLTD
```

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

   rtrv-card:loc=2107

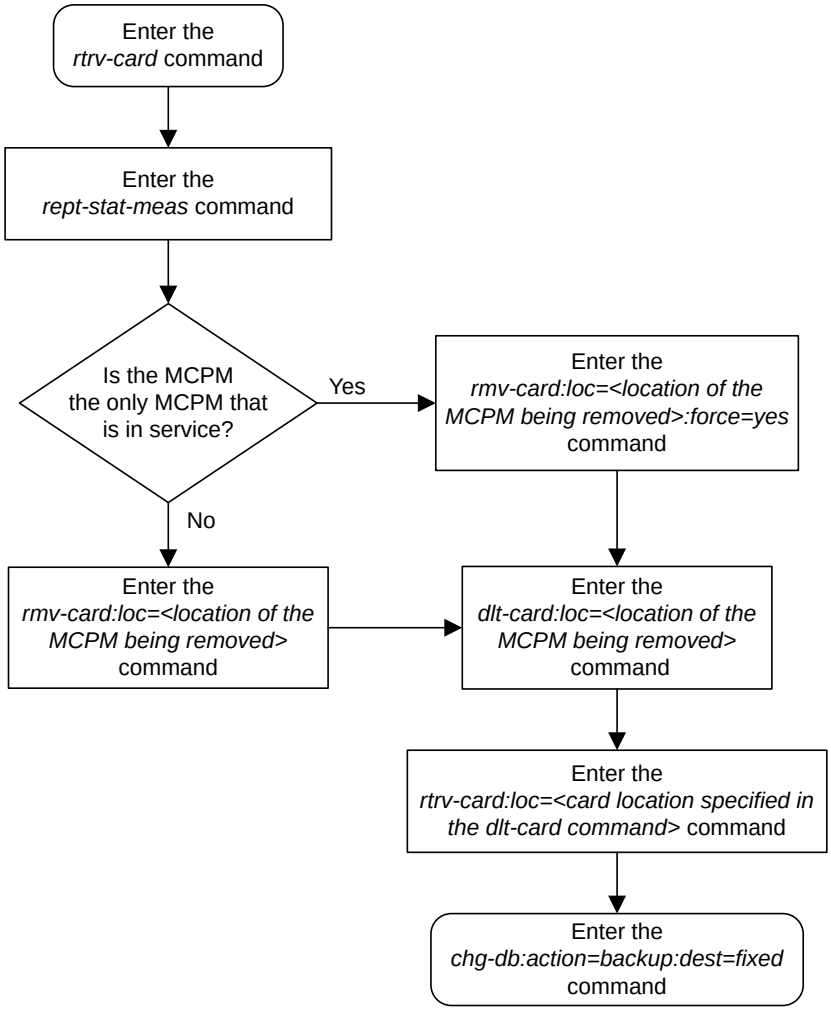
   When this command has successfully completed, this message should appear.

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

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 4-21. Removing an MCPM



Configuring the Measurements Platform Feature

This procedure is used to configure IP communications link between the EAGLE 5 SAS and the customer's network, and to enable the Measurements Platform on the EAGLE 5 SAS using these commands:

- **ent-ip-host** – Configuring the IP host of the MCPM
- **chg-ip-card** – Configuring the IP address of the MCPM
- **chg-ip-lnk** – Configuring the IP link assigned to the MCPM
- **chg-measopts** – Enabling the Measurements Platform option

These commands contain parameters that are not used in this procedure. The *Commands Manual* contains a full description of these commands.

The Measurements Platform also requires 2 FTP servers. The FTP servers are configured in the database with one of these procedures.

- "Adding an FTP Server" procedure on page 4-144
- "Changing an FTP Server" procedure on page 4-150

MCPMs must be configured in the database before this procedure can be performed. This can be verified with the **rtrv-card** command.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
```

```
1311   LIMDS0    SS7ANSI   sp2          A    2   sp1          B    1
                           sp7          A1   1   sp3          B1   2
1315   LIMDS0    SS7ANSI   sp7          A    2   sp5          B    0
1318   LIMATM    ATMANSI   lsnatm1      A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
2107   MCPM      MCP
2108   MCPM      MCP
2111   MCPM      MCP
```

If no MCPMs are configured in the database, identified by the entries **MCPM** in the **TYPE** field and **MCP** in the **APPL** field, go to the "Adding an MCPM" procedure on page 4-127 and configure the required MCPMs.

---

2. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2108 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

NOTE: If the status of the MCPM that the IP link is being assigned to is OOS-MT-DSBLD, skip step 3 and go to step 4.

3. Inhibit the MCPM using the **rmv-card** command, specifying the card location of the MCPM. If the MCPM to be inhibited is the last MCPM that is in service, the **force=yes** parameter must also be specified. For this example, enter this command.

rmv-card:loc=2107

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

---

4. Display the current TCP/IP parameters associated with card in the database by entering the **rtrv-ip-card** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
   LOC 2107
     SRCHORDR  SRVR
     DNSA      ---------------
     DNSB      ---------------
     DEFROUTER ---------------
     DOMAIN    ---------------
   LOC 2108
     SRCHORDR  LOCAL
     DNSA      150.1.1.2
     DNSB      ---------------
     DEFROUTER 150.1.1.25
     DOMAIN    NC.TEKELEC.COM
   LOC 2111
     SRCHORDR  LOCAL
     DNSA      150.1.1.3
     DNSB      ---------------
     DEFROUTER 150.1.1.28
     DOMAIN    NC.TEKELEC.COM
```

5. Assign a default router to the MCPM using the **chg-ip-card** command with these parameters: **loc**, **srchordr**, **domain**, and **defrouter**. For this example, enter this command.

chg-ip-card:loc=2107:srchordr=local:domain=nc.tekelec.com :defrouter=150.1.1.50

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

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
CHG-IP-CARD:   MASP A - COMPLTD
```

6. Display the IP link assignments using the **rtrv-ip-lnk** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
LOC   PORT IPADDR           SUBMASK         DUPLEX SPEED MACTYPE AUTO MCAST
2107  A    --------------- --------------- HALF   10    DIX     NO   NO
2107  B    --------------- --------------- HALF   10    DIX     NO   NO
2108  A    150.123.123.123  255.255.255.0  HALF   100   DIX     NO   YES
2108  B    --------------- --------------- HALF   10    DIX     NO   NO
2111  A    150.123.123.125  255.255.255.0  HALF   100   DIX     NO   YES
2111  B    --------------- --------------- HALF   10    DIX     NO   NO
```

7. Assign an IP link to the MCPM using the **chg-ip-lnk** command with these parameters: **loc**, **port=a**, **ipaddr**, **submask**, **speed=100**, **mcast=yes**. For this example, enter this command.

chg-ip-lnk:loc=2107:port=a:ipaddr=150.1.1.1 :submask=255.255.255.0:speed=100:mcast=yes

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

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
CHG-IP-LNK:   MASP A - COMPLTD
```

8. Display the current IP host information in the database by entering the **rtrv-ip-host** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
LOCAL IPADDR    LOCAL HOST
150.1.1.2       GW102.NC.TEKELEC.COM
150.1.1.3       GW103.NC.TEKELEC.COM

REMOTE IPADDR   REMOTE HOST
150.1.1.5       NCDEPTECONOMIC_DEVELOPMENT.SOUTHEASTERN_COORIDOR_ASHVL.GOV

IP Host table is  (3 of 512) 1% full
```

9. Assign an IP host to the MCPM using the **ent-ip-host** command. For this example, enter this command.

   ent-ip-host:host=gw100.nc.tekelec.com:ipaddr=150.1.1.1

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

```
rlghncxa03w 06-03-01 21:18:37 GMT EAGLE5 34.3.0
ENT-IP-HOST: MASP A - COMPLTD
```

10. Place the MCPM back into service using the **rst-card** specifying the location of the MCPM. For this example, enter this command.

    rst-card:loc=2107

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

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
Card has been allowed.
```

11. Verify the status of the MCPM using the **rept-stat-meas** command, specifying the location of the MCPM. For this example, enter this command.

    rept-stat-meas:loc=2107

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
```

12. Display the FTP Server configuration using the **rtrv-ftp-serv** command.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
FTP Client Security: OFF

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  \tmp\measurements\backup\dat

FTP SERV table is (2 of 10) 20% full
```

The EAGLE 5 SAS allows only two FTP servers for the Measurements Platform. If no FTP servers, or one FTP server is in the database, go to the "Adding an FTP Server" procedure on page 4-144 and add the required FTP server. If there are two FTP servers in the database, and you wish to change one or both of these FTP servers, go to the "Changing an FTP Server" procedure on page 4-150.

---

13. Verify whether or nor the Measurements Platform option is enabled (**PLATFORMENABLE = on**) using the **rtrv-measopts** command.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
----------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

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

NOTE: If the Measurements Platform option in step 13 is enabled, skip this step and go to step 15.

14. Enable the Measurements Platform option using the **chg-measopts** command with the **platformenable** parameter. For this example, enter this command.

chg-measopts:platformenable=on

When the **chg-measopts** command has successfully completed, this message should appear.

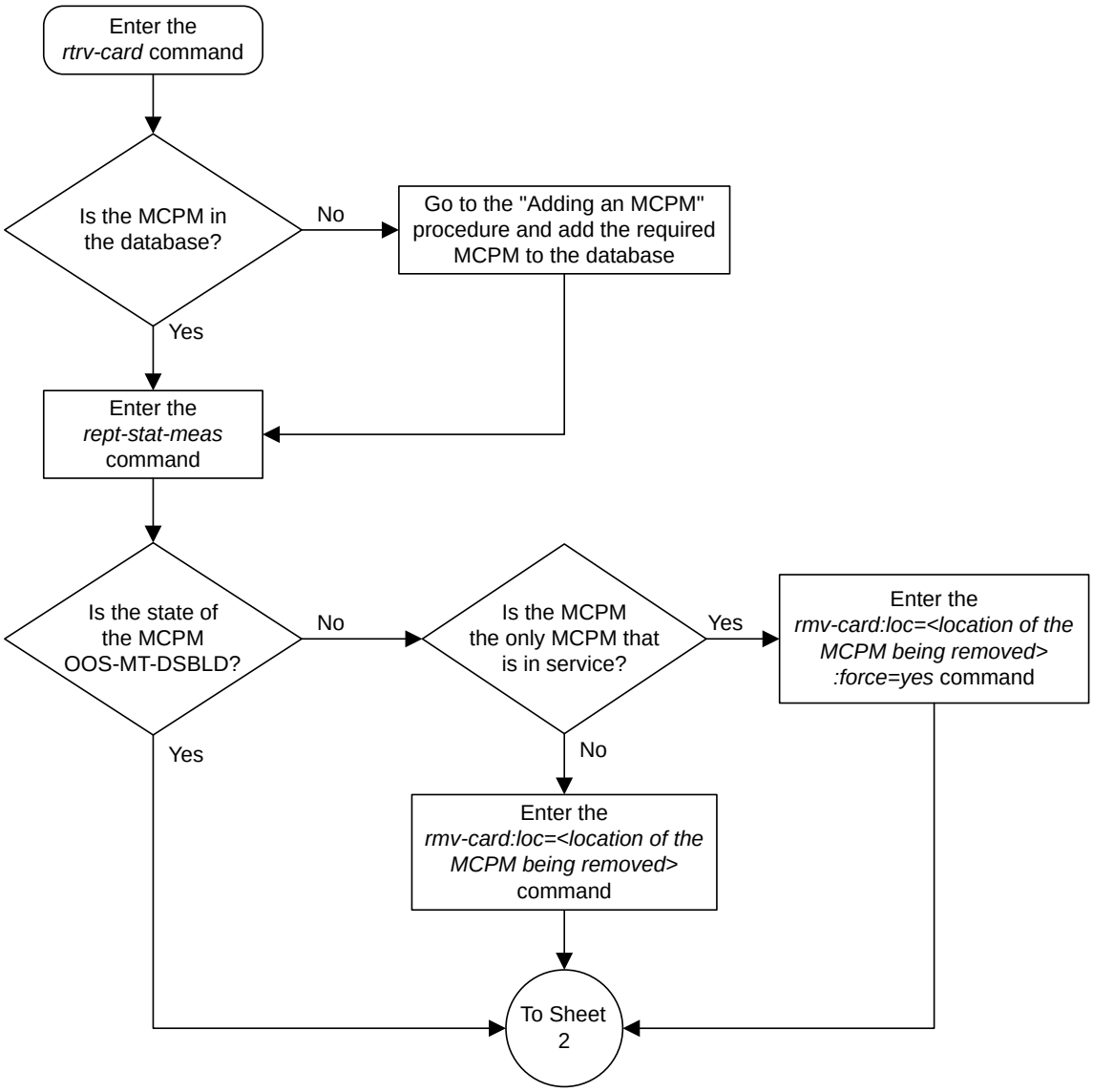
```
rlghncxa03w 06-03-01 00:22:57 GMT  EAGLE5 34.3.0
CHG-MEAS-OPTS: MASP A - COMPLTD
```

---

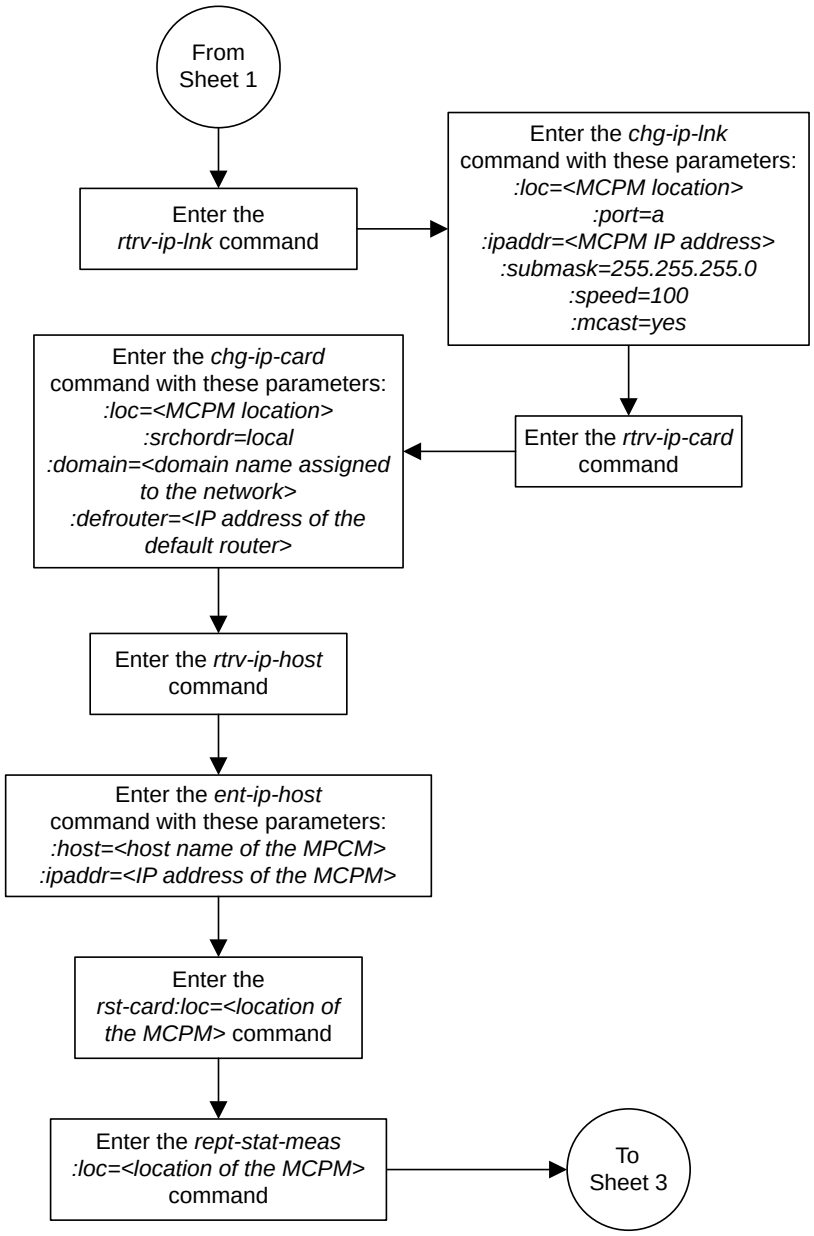
15. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

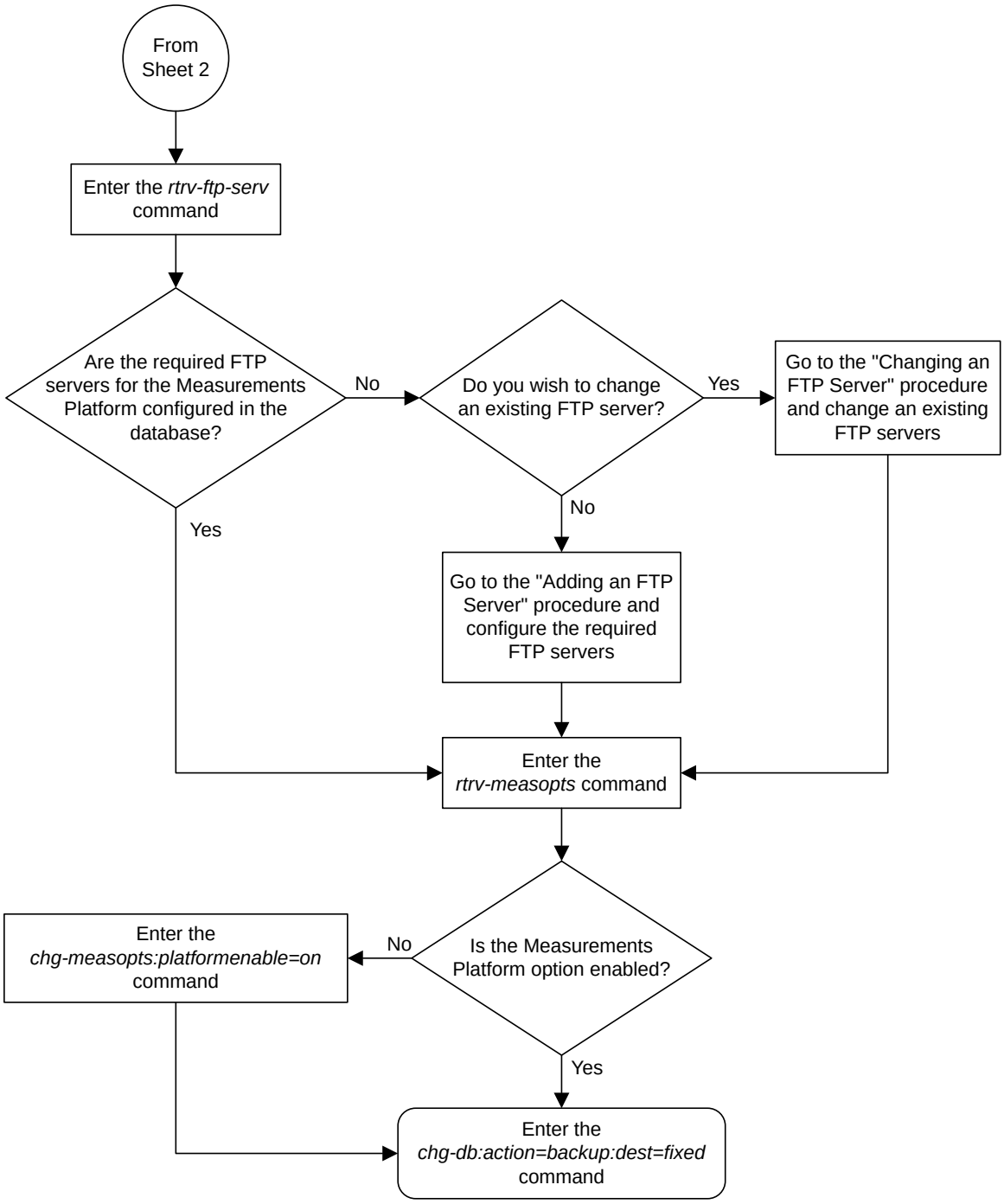
Flowchart 4-22. Configuring the Measurements Platform Feature (Sheet 1 of 3)



Flowchart 4-22. Configuring the Measurements Platform Feature (Sheet 2 of 3)



Flowchart 4-22. Configuring the Measurements Platform Feature (Sheet 3 of 3)



Adding an FTP Server

This procedure is used to add FTP servers using the **ent-ftp-serv** command.

The **ent-ftp-serv** command uses these parameters.

:app – The application of the FTP server. There are two values for the **app** parameter:

- **meas** – The FTP servers for the Measurements Platform
- **user** – The FTP servers for the FTP Retrieve and Replace feature.

CAUTION: While this procedure can be used to add a USER FTP server, any USER FTP servers entered by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 SAS by the FTP-Based Table Retrieve Application (FTRA).

:ipaddr – The IP address of the FTP server.

:login – The name of the FTP server client.

:path – The path to the file on the EAGLE 5 SAS that is to be sent to the FTP server.

:prio – The priority of the FTP server, from 1 to 10.

Only two FTP servers can be configured for the Measurements Platform feature.

Only two FTP servers can be configured for the FTP Retrieve and Replace feature.

The **app/ipaddr** parameter combination must be unique in the database.

The **login** parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

The **path** parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

After the FTP server is added to the database with the **ent-ftp-serv** command, the user is prompted for a password for this FTP server. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters. The password is not shown on the terminal screen as it is being entered and is not shown in the **rtrv-ftp-serv** output.

If the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 SAS. Enter the **rtrv-ctrl-feat** command to verify whether or not the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated.

Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for **meas** FTP servers.

Procedure

1. Display the FTP servers in the database using the **rtrv-ftp-serv** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local

FTP SERV table is (1  of 10)  10% full
```

2. Add the FTP server to the database using the **ent-ftp-serv** command. For this example, enter this command.

```
ent-ftp-serv:app=meas:ipaddr=1.255.0.101:login=ftpmeas2:prio=2
:path="\tmp\measurements\backup\dat"

ent-ftp-serv:app=user:ipaddr=1.255.0.100:login=ftpuser1:prio=3
:path="\tmp\user"

ent-ftp-serv:app=user:ipaddr=1.255.0.102:login=ftpuser5:prio=7
:path="\tmp\backup\user"
```

CAUTION: While this procedure can be used to add a USER FTP server, any USER FTP servers entered by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 SAS by the FTP-Based Table Retrieve Application (FTRA).

When each of these commands has successfully completed, the following message should appear.

```
rlghncxa03w 06-03-01 21:18:37 GMT EAGLE5 34.3.0
FTP SERV table is (4 of 10) 40% full
ENT-FTP-SERV: MASP A - COMPLTD
```

3. Enter a password for the FTP server added in step 2 at the **PASSWORD:** prompt. The password is not shown on the terminal screen as it is entered. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters.

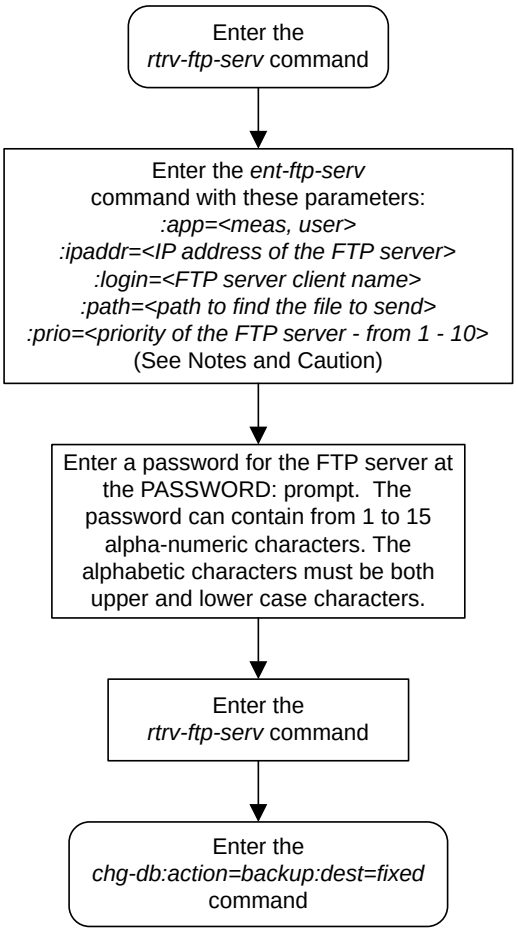
4. Display the changes using the **rtrv-ftp-serv** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  \tmp\measurements\backup\dat
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (4 of 10) 40% full
```

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

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

Flowchart 4-23. Adding an FTP Server



Notes:

1. Only 2 FTP servers for the Measurement Platform (*:app=meas*) can be configured in the database.

2. Only 2 FTP servers for the FTP Retrieve and Replace feature (*:app=user*) can be configured in the database.

3. The *login* parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

4. The *path* parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

5. If the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers and secure shell clients must be available. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 SAS. Enter the *rtrv-ctrl-feat* command to verify whether or not the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated.

6. Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for meas FTP servers.

Caution: This procedure can be used to add a USER FTP server, but any USER FTP servers entered by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 SAS by the FTP-Based Table Retrieve Application (FTRA). It is recommended that USER FTP servers be added at the FTRA. For more information on adding USER FTP servers at the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

Removing an FTP Server

This procedure is used to remove an FTP server from the database using the **dlt-ftp-serv** command.

The **dlt-ftp-serv** command uses these parameters.

:app – The application of the FTP server. There are two values for the **app** parameter:

- **meas** – The FTP servers for the Measurements Platform
- **user** – The FTP servers for the FTP Retrieve and Replace feature.

:ipaddr – The IP address of the FTP server.

CAUTION: Removing all FTP servers for an application will disable the feature supported by the FTP servers.

Procedure

1. Display the FTP servers in the database using the **rtrv-ftp-serv** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  \tmp\measurements\backup\dat
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (4 of 10) 40% full
```

2. Remove an FTP server from the database using the **dlt-ftp-serv** command. For this example, enter this command.

   dlt-ftp-serv:app=meas:ipaddr=1.255.0.101

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

```
rlghncxa03w 06-03-01 21:18:37 GMT EAGLE5 34.3.0
FTP SERV table is (1 of 10) 10% full
DLT-FTP-SERV: MASP A - COMPLTD
```

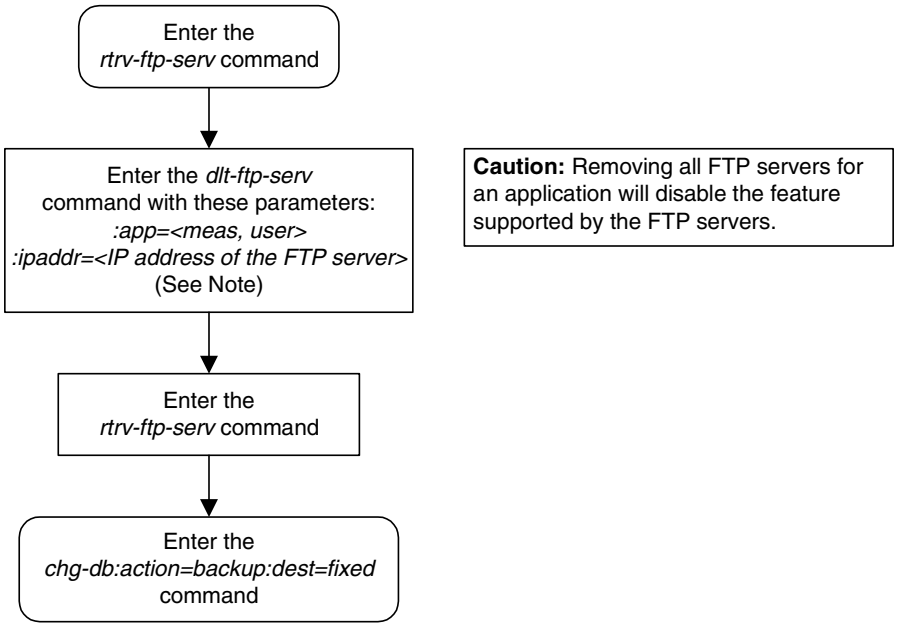
3. Display the changes using the **rtrv-ftp-serv** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (3 of 10) 30% full
```

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 4-24. Removing an FTP Server



Changing an FTP Server

This procedure is used to change the values assigned to an FTP server using the **chg-ftp-serv** command.

The **chg-ftp-serv** command uses these parameters.

:app – The application of the FTP server. There are two values for the **app** parameter:

- **meas** – The FTP servers for the Measurements Platform
- **user** – The FTP servers for the FTP Retrieve and Replace feature.

CAUTION: While this procedure can be used to change a USER FTP server configuration, any USER FTP server configurations changed by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 SAS by the FTP-Based Table Retrieve Application (FTRA).

:ipaddr – The IP address of the FTP server.

:login – The name of the FTP server client.

:path – The path to the file on the EAGLE 5 SAS that is to be sent to the FTP server.

:prio – The priority of the FTP server, from 1 to 10.

The **app** and **ipaddr** parameters must be specified with the **chg-ftp-serv** command. The IP address of the FTP server cannot be changed with the **chg-ftp-serv** command. If you wish to change the IP address of the FTP server, the FTP server must first be removed with the "Removing an FTP Server" procedure on page 4-148, then re-entered with the new IP address using the "Changing an FTP Server" procedure on page 4-150.

The **login** parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

The **path** parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

If the **login** parameter value is changed, the user is prompted for a password for this FTP server. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters. The password is not shown on the terminal screen as it is being entered and is not shown in the **rtrv-ftp-serv** output.

If the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 SAS. Enter the **rtrv-ctrl-feat** command to verify whether or not the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated.

Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for **meas** FTP servers.

Procedure

1. Display the FTP servers in the database using the **rtrv-ftp-serv** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  \tmp\measurements\backup\dat
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (4 of 10) 40% full
```

2. Change the FTP server to the database using the **chg-ftp-serv** command. For this example, enter this command.

   chg-ftp-serv:app=meas:ipaddr=1.255.0.101:login=meas25:prio=1

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

```
rlghncxa03w 06-03-01 21:18:37 GMT EAGLE5 34.3.0
CHG-FTP-SERV: MASP A - COMPLTD
```

   NOTE: If the login parameter was not specified in step 2, skip this step and go to step 4.

3. Enter a password for the FTP server changed in step 2 at the **PASSWORD:** prompt. The password is not shown on the terminal screen as it is entered. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters.

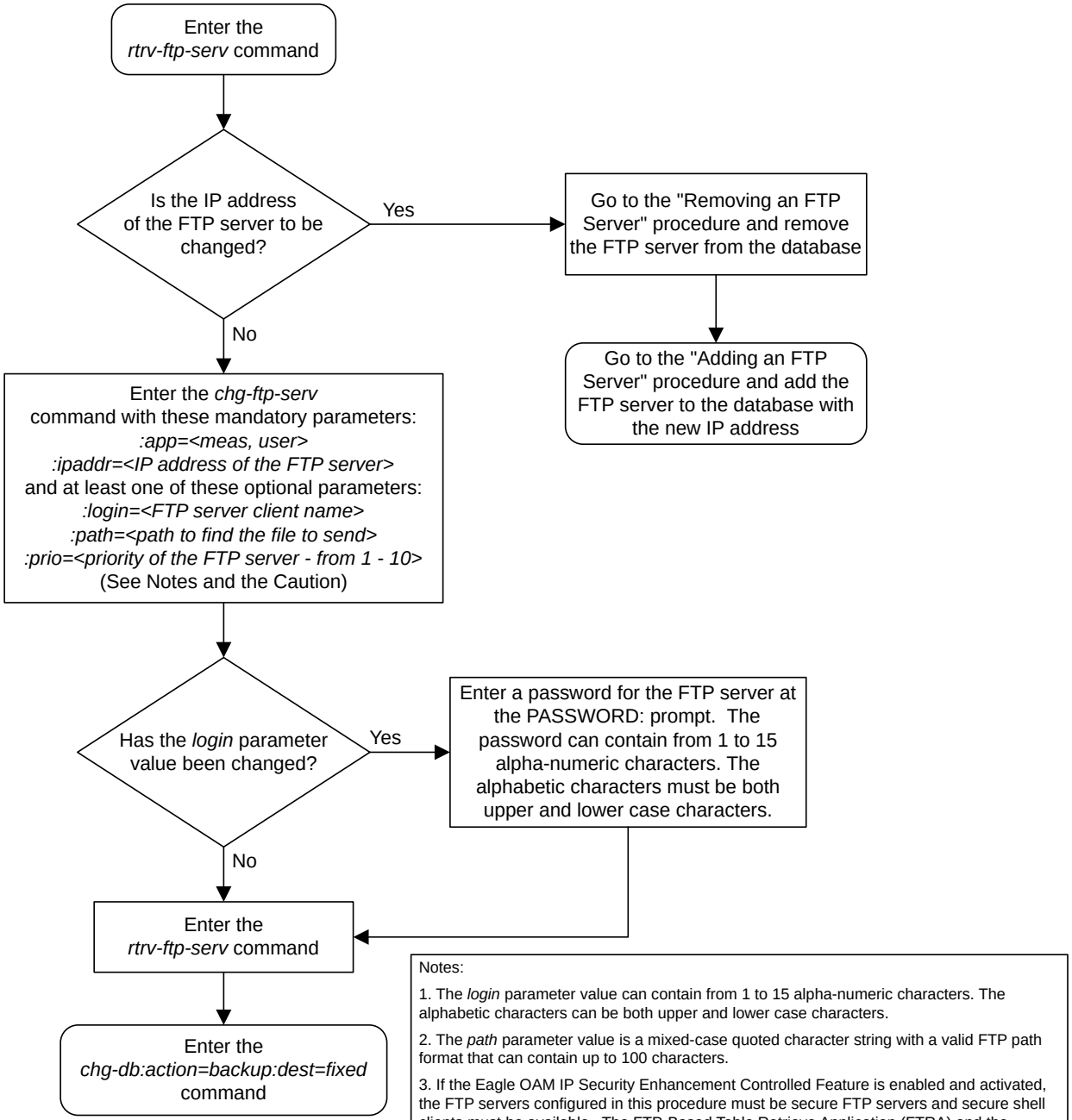
4. Display the changes using the **rtrv-ftp-serv** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      meas25           1
   Path:  \tmp\measurements\backup\dat
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (4 of 10) 40% full
```

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

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

Flowchart 4-25. Changing an FTP Server



Notes:

1. The *login* parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

2. The *path* parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

3. If the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers and secure shell clients must be available. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 SAS. Enter the *rtrv-ctrl-feat* command to verify whether or not the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated.

4. Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for *meas* FTP servers.

Caution: Changes to the USER FTP server configurations in this procedure may interfere with the operation of the FTP-Based Table Retrieve Application (FTRA). It is recommended that any changes to the USER FTP server configurations be made at the FTRA. For more information on making these changes at the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

Adding an IPSM

This procedure is used to add an IPSM (IP Services Module), used for the IP User Interface feature, to the database using the **ent-card** command. The IPSM provides eight IP based connections to the EAGLE 5 SAS's user interface through a telnet client.

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. For this procedure, the value of this parameter is **ipsm**.

:appl – The application software that is assigned to the card. For this procedure, the value of this parameter is **ips**.

: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 IPSMs and should not be used.

The IP User Interface (Telnet) feature is not required to be enabled and activated in order to add an IPSM, but the IP User Interface (Telnet) feature must be enabled and activated so that the user can use a telnet client to establish a connection to the EAGLE 5 SAS. This can be verified with the **rtrv-ctrl-feat** command. To enable and activate the IP User Interface (Telnet) feature, go to the "Activating Controlled Features" procedure on page A-3.

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 on page 4-90.

If the Eagle OA&M IP Security Enhancement feature is enabled and activated, shown in the **rtrv-ctrl-feat** output, when an IPSM is installed into the EAGLE 5 SAS, UIM 1493, SSH Host Keys Regenerated, is displayed. UIM 1493 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1493 must be added to the **hosts.xml** file in the FTRA. Record the public host key fingerprint information displayed in UIM 1493 if a secure connection to the FTRA will be made. For more information about editing the **hosts.xml** file on the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

An IP link must be assigned to the IPSM. The IP links can be verified using the **rtrv-ip-lnk** command. IP links are configured using the **chg-ip-lnk** command.

After an IPSM is configured in the database and placed into service, eight telnet terminals are configured in the database with default values for the security and output group parameters. If you wish to change the security and output group parameter values, go to the "Changing Terminal Characteristics" procedure on page 4-51.

The examples in this procedure are used to add an IPSM in card location 2107.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
```

   The 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.

   NOTE: The EAGLE 5 SAS can contain a maximum of 3 IPSMs. If the rtrv-card output shows that there are three IPSMs in the EAGLE 5 SAS, this procedure cannot be performed.

2. Install the IPSM into the proper card location.

   If the OA&M IP Security Enhancements feature is enabled and activated, UIM 1493, SSH Host Keys Regenerated, is displayed when the IPSM is installed into the card location. UIM 1493 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1493 must be added to the **hosts.xml** file in the FTRA.

Record the public host key fingerprint information displayed in UIM 1493 if a secure connection to the FTRA will be made. For more information about editing the **hosts.xml** file on the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

---

3. Add the IPSM using the **ent-card** command. For this example, enter this commands.

ent-card:loc=2107:type=ipsm:appl=ips

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Telnet auto-provisioning activated, 8 terminals are being added:
Telnet terminal 17 Added at location 2107.
Telnet terminal 18 Added at location 2107.
Telnet terminal 19 Added at location 2107.
Telnet terminal 20 Added at location 2107.
Telnet terminal 21 Added at location 2107.
Telnet terminal 22 Added at location 2107.
Telnet terminal 23 Added at location 2107.
Telnet terminal 24 Added at location 2107.

ENT-CARD: MASP A - COMPLTD
```

---

4. Verify the changes using the **rtrv-card** command with the card location specified in step 3. For this example, enter this command.

rtrv-card:loc=2107

This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
2107   IPSM      IPS
```

---

5. verify that the terminals shown as added in step 3 have been added by entering the **rtrv-trm** command. the following is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    VT320    9600-7-E-2  SW    30    9     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    VT320    9600-7-E-1  SW    30    7     00:30:00
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00
```

```
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    2107             60    5     00:30:00
18   TELNET    2107             60    5     00:30:00
19   TELNET    2107             60    5     00:30:00
20   TELNET    2107             60    5     00:30:00
21   TELNET    2107             60    5     00:30:00
22   TELNET    2107             60    5     00:30:00
24   TELNET    2107             60    5     00:30:00

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    NO   NO   YES NO  NO  NO  NO
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    NO   YES  NO  NO  NO  YES NO
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   YES  YES YES  YES YES YES YES YES  YES YES YES  YES
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
17   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
19   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
20   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
21   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
22   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
23   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
24   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

If you wish to change the output parameter values for the telnet terminals added in this procedure, perform the "Changing Terminal Characteristics" procedure on page 4-51.

---

6. Display the IP link data assigned to the IPSM using the **rtrv-ip-lnk** command with the IPSM's location and the **port=a** parameter. For this example, enter this command.

rtrv-ip-lnk:loc=2107:port=a

The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
LOC   PORT IPADDR          SUBMASK         DUPLEX  SPEED MACTYPE AUTO MCAST
2107  A    --------------- --------------- HALF    10    DIX     NO   NO
```

---

7. Assign an IP link to the IPSM using the **chg-ip-lnk** command with these parameters: **loc**, **port=a**, **ipaddr**, **submask**, **speed=100**. For this example, enter this command.

chg-ip-lnk:loc=2107:port=a:ipaddr=150.1.1.1
:submask=255.255.255.0:speed=100

NOTE: If either the ipaddr or submask parameters are specified, then both parameters must be specified, unless the ipaddr=0.0.0.0 parameter is specified, then the submask parameter is not required. The ipaddr=0.0.0.0 parameter disables the IP link.

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

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
CHG-IP-LNK:   MASP A - COMPLTD
```

---

8. Verify the changes made in step 6 using the **rtrv-ip-lnk** command and specifying the card location and port values used in step 6. For this example, enter this command.

rtrv-ip-lnk:loc=2107:port=a

The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
LOC   PORT IPADDR          SUBMASK        DUPLEX SPEED MACTYPE AUTO MCAST
2107  A    150.1.1.1       255.255.255.0  HALF   100   DIX     NO   NO
```

---

9. Display the current IP host information in the database by entering the **rtrv-ip-host** command with the IP address of the IP link shown in step 8. For this example, enter this command.

rtrv-ip-host:ipaddr=150.1.1.1

No IP address and IP host entry is displayed, as shown in the following example.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
IPADDR          HOST

IP Host table is  (2 of 512) 1% full
```

---

10. Assign an IP host to the IPSM using the **ent-ip-host** command. For this example, enter this command.

ent-ip-host:host=ip.nc.tekelec.com:ipaddr=150.1.1.1

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

```
rlghncxa03w 06-03-01 21:18:37 GMT EAGLE5 34.3.0
ENT-IP-HOST: MASP A - COMPLTD
```

11. Display the IP card attributes of the IPSM using the **rtrv-ip-card** command specifying the IPSM's location. For this example, enter this command.

rtrv-ip-card:loc=2107

The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
LOC 2107
  SRCHORDR  SRVR
  DNSA      ---------------
  DNSB      ---------------
  DEFROUTER ---------------
  DOMAIN    ---------------
```

12. Change the IP card attributes of the IPSM using the **chg-ip-card** command with these values: IPSM card location, local search order, domain, and the default router for the IPSM. For this example, enter this command.

chg-ip-card:loc=2107:srchordr=local:domain=ip.nc.tekelec.com :defrouter=150.1.1.250

The following is an example of the possible output.

NOTE: The network portion of the default router's IP address (defrouter) must be the same as the network portion of the IP address specified in the chg-ip-lnk (step 6) and ent-ip-host (step 10) commands. The value of the last octet of the default router's IP address must be from 1 to 254.

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

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
CHG-IP-CARD:   MASP A - COMPLTD
```

13. Verify the changes made in step 12 using the **rtrv-ip-card** command specifying the IPSM's location. For this example, enter this command.

rtrv-ip-card:loc=2107

The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
LOC 2107
  SRCHORDR  LOCAL
  DNSA      ---------------
  DNSB      ---------------
  DEFROUTER 150.1.1.250
  DOMAIN    ip.nc.tekelec.com
```

14. Verify that the IP User Interface (Telnet) feature is enabled and activated, and if secure connections to the EAGLE 5 SAS are to be used, verify that the OA&M IP Security Enhancements feature is enabled and activated by entering the **rtrv-ctrl-feat** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Telnet                    893005701  off     ----
```

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*.

If the IP User Interface (Telnet) feature is enabled and activated (**status = on**), go to step 15.

If the IP User Interface (Telnet) feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 and enable and activate the IP User Interface (Telnet) feature.

If UIM 1493 was displayed when the IPSM was installed in step 2, the OA&M IP Security Enhancements feature is enabled and activated. If the OA&M IP Security Enhancements feature is enabled and activated (**status = on**), go to step 15.

If the OA&M IP Security Enhancements feature is not enabled or activated, and secure connections are to the EAGLE 5 SAS are to be used, go to the "Activating the Eagle OA&M IP Security Enhancement Controlled Feature" procedure on page A-12 and enable and activate the OA&M IP Security Enhancements feature.

---

15. Place the IPSM into service using the **rst-card** specifying the location of the IPSM. For this example, enter this command.

```
rst-card:loc=2107
```

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

```
rlghncxa03w 06-03-01 21:20:37 GMT EAGLE5 34.3.0
Card has been allowed.
```

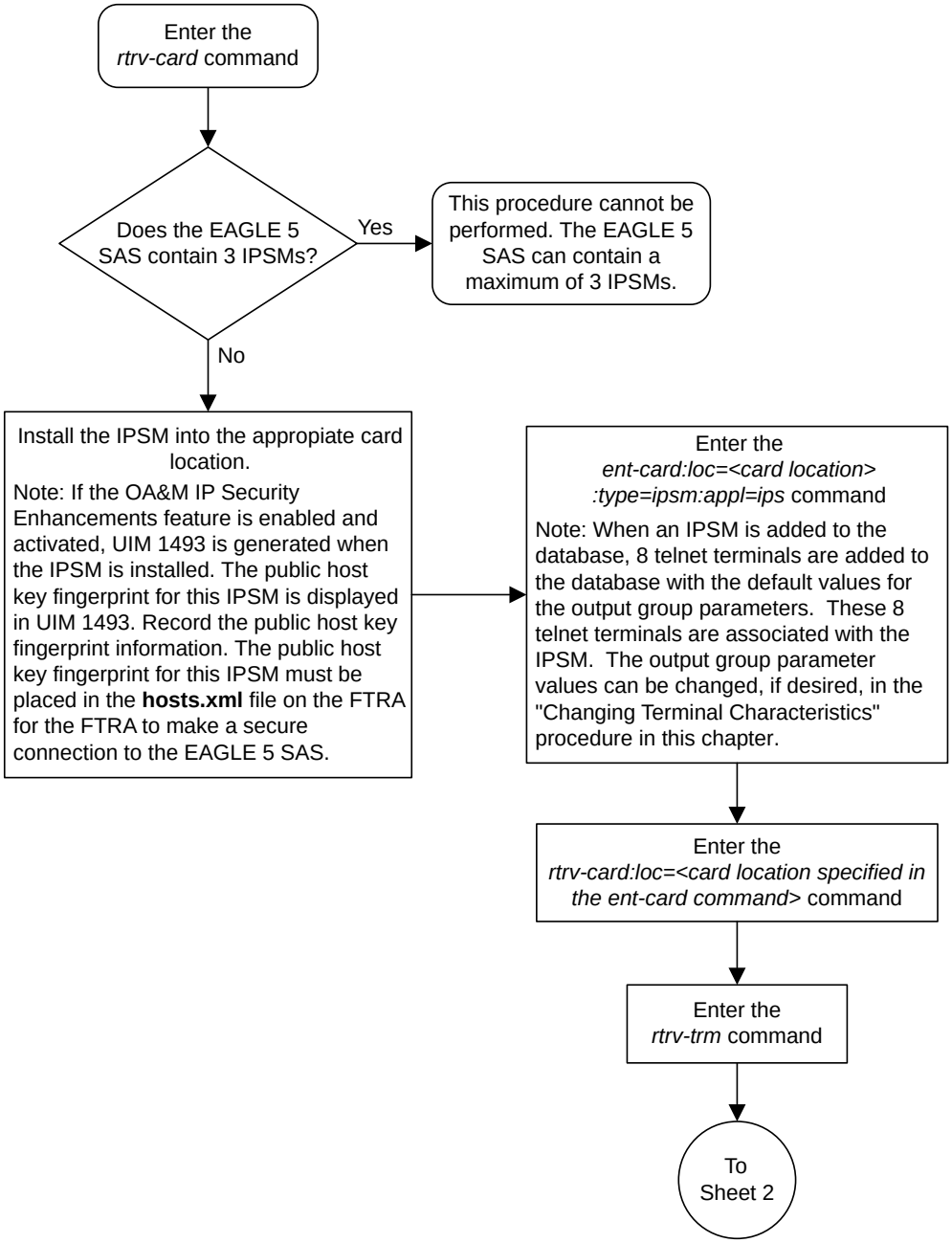
If the OA&M IP Security Enhancements feature is enabled and activated, UIM 1494, SSH Host Keys Loaded, is displayed. UIM 1494 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1494 must be added to the **hosts.xml** file in the FTRA. If the public host key fingerprint was not recorded in step 2, record the public host key fingerprint information displayed in UIM 1494 if a secure connection to the FTRA will be made. For more information about editing the **hosts.xml** file on the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

---

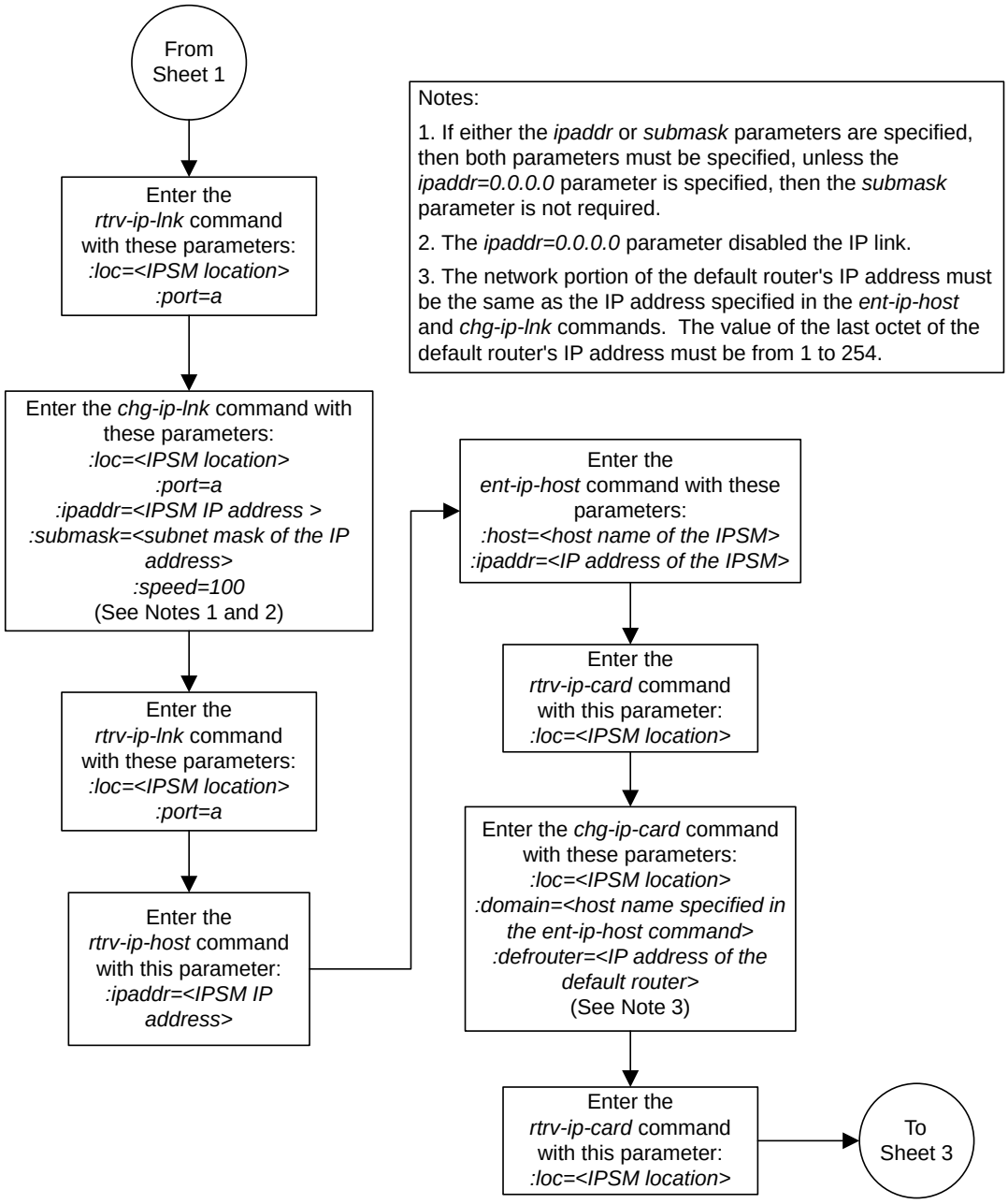
16. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

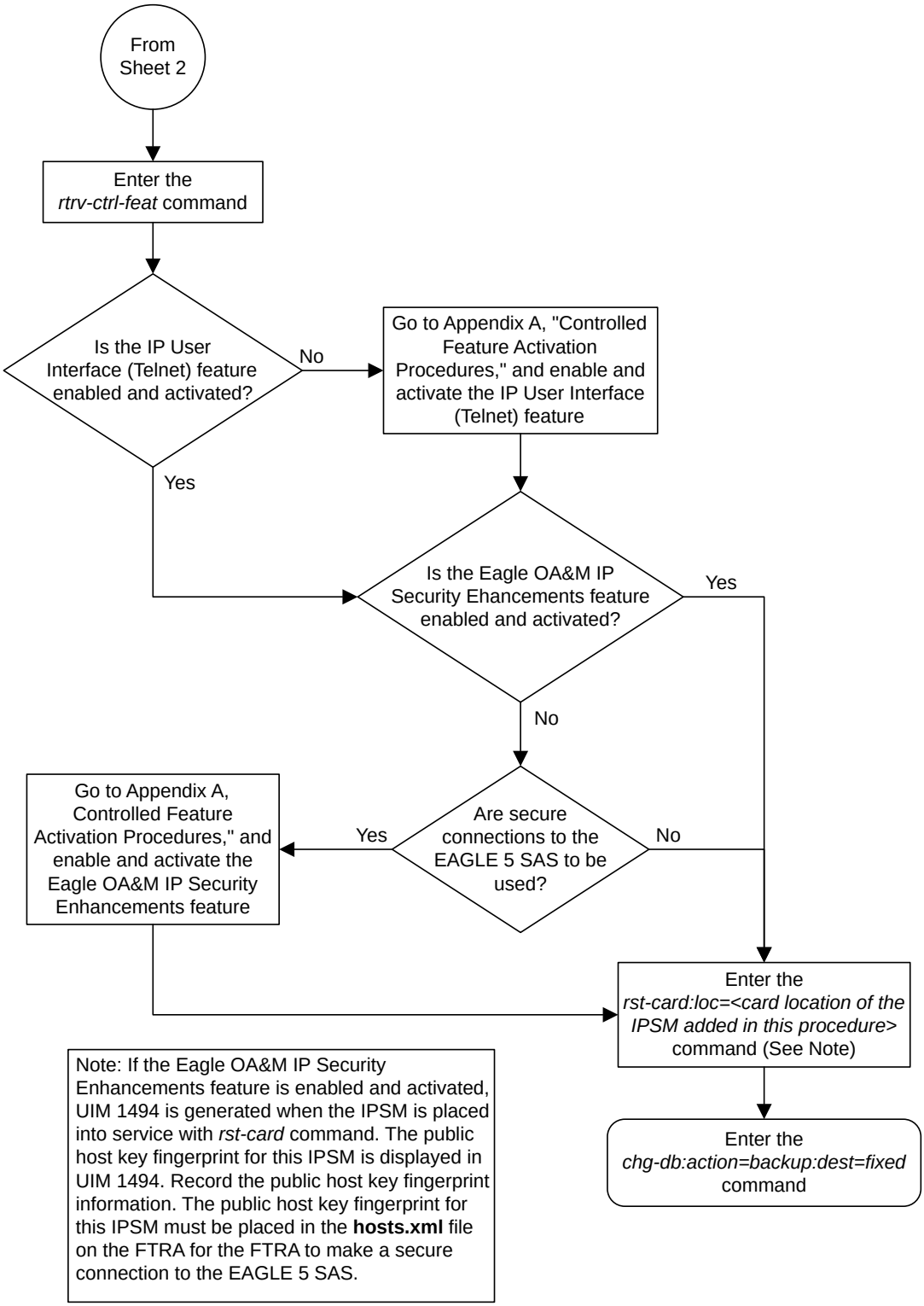
Flowchart 4-26. Adding an IPSM (Sheet 1 of 3)



Flowchart 4-26. Adding an IPSM (Sheet 2 of 3)



Flowchart 4-26. Adding an IPSM (Sheet 3 of 3)



Removing an IPSM

This procedure is used to add an IPSM (IP Services Module) from the database using the **dlt-card** command.

CAUTION: If the IPSM is the last IPSM in service, removing this card from the database will disable the IP User Interface (Telnet) feature.

All terminals associated with the IPSM being removed must be out of service. The terminals are displayed using the **rtrv-trm** command. The state of the terminals is displayed using the **rept-stat-trm** command.

The examples in this procedure are used to remove the IPSM in card location 2107.

Canceling the REPT-STAT-CARD Command

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

- Press the **F9** function key on the keyboard at the terminal where the **rept-stat-card** command was entered.
- Enter the **canc-cmd** without the **trm** parameter at the terminal where the **rept-stat-card** command was entered.
- Enter the **canc-cmd:trm=<xx>**, where **<xx>** is the terminal where the **rept-stat-card** command was entered, from another terminal other that the terminal where the **rept-stat-card** 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 cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 09:12:36 GMT EAGLE5 34.3.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
```

```
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2          A    0   sp1          B    0
1202   LIMDS0    SS7ANSI   sp2          A    1   nsp3         B    0
1203   LIMDS0    SS7ANSI   sp3          A    0
1204   LIMDS0    SS7ANSI   sp3          A    1
1205   LIMOCU    CCS7ITU   itu1         A    0
1206   LIMDS0    SS7ANSI   nsp3         A    1   nsp4         B    0
1207   LIMV35    SS7GX25   nsp1         A    0
1208   LIMV35    SS7GX25   nsp1         A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1      A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6          A    0   sp7          B    0
1311   LIMDS0    SS7ANSI   sp2          A    2   sp1          B    1
                           sp7          A1   1   sp3          B1   2
1315   LIMDS0    SS7ANSI   sp7          A    2   sp5          B    0
1318   LIMATM    ATMANSI   lsnatm1      A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
2107   IPSM      IPS
2108   IPSM      IPS
2111   IPSM      IPS
```

An IPSM is identified by the entries **IPSM** in the **TYPE** field and **IPS** in the **APPL** field.

---

2. Display the status of the IPSM being removed from the database with the **rept-stat-card** command and specifying the card location of the IPSM. For this example, enter this command.

rept-stat-card:loc=2107

This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
2107   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

If the IPSM is out of service, shown by the entry **OOS-MT-DSBLD** in the **PST** column, skip steps 3 through 5, and go to step 6.

---

3. Display the terminals using the **rtrv-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    VT320    9600-7-E-2  SW    30    9     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    VT320    9600-7-E-1  SW    30    7     00:30:00
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC             TMOUT MXINV DURAL      SECURE
17   TELNET    2107            60    5     00:30:00   yes
18   TELNET    2107            60    5     00:30:00   yes
19   TELNET    2107            60    5     00:30:00   yes
20   TELNET    2107            60    5     00:30:00   yes
21   TELNET    2107            60    5     00:30:00   yes
22   TELNET    2107            60    5     00:30:00   yes
23   TELNET    2107            60    5     00:30:00   yes
24   TELNET    2107            60    5     00:30:00   yes
25   TELNET    2108            60    5     00:30:00   yes
26   TELNET    2108            60    5     00:30:00   yes
27   TELNET    2108            60    5     00:30:00   yes
28   TELNET    2108            60    5     00:30:00   yes
29   TELNET    2108            60    5     00:30:00   yes
30   TELNET    2108            60    5     00:30:00   yes
31   TELNET    2108            60    5     00:30:00   yes
32   TELNET    2108            60    5     00:30:00   yes
33   TELNET    2111            60    5     00:30:00   yes
34   TELNET    2111            60    5     00:30:00   yes
35   TELNET    2111            60    5     00:30:00   yes
36   TELNET    2111            60    5     00:30:00   yes
37   TELNET    2111            60    5     00:30:00   yes
38   TELNET    2111            60    5     00:30:00   yes
39   TELNET    2111            60    5     00:30:00   yes
40   TELNET    2111            60    5     00:30:00   yes


TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
```

```
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

4. Display the status of the terminals by entering the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

NOTE: If all the terminals associated with the IPSM being removed from the database are out of service, shown by the entry OOS-MT-DSBLD in the PST column, skip step 5 and go to step 6.

5. Place the terminals associated with the IPSM being removed out of service using the **rmv-trm** command. For this example, enter these commands.

```
rmv-trm:trm=17
rmv-trm:trm=18
rmv-trm:trm=19
rmv-trm:trm=20
rmv-trm:trm=21
rmv-trm:trm=22
rmv-trm:trm=23
rmv-trm:trm=24
```

CAUTION: Placing these terminals out of service will disable any Telnet sessions running on these terminals.

If the status of any terminals associated with the IPSM being removed shown in the **PST** field in step 4 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the **rmv-trm** command does not need to be executed for that terminal.

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

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

6. Place the IPSM out of service using the **rmv-card** command, specifying the card location of the IPSM. For this example, enter this command.

```
rmv-card:loc=2107
```

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

7. Remove the card 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 these commands.

```
dlt-card:loc=2107
```

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
DLT-CARD: MASP A - COMPLTD
```

8. Verify the changes using the **rtrv-card** command specifying the card that was removed in step 7. For this example, enter these commands.

   rtrv-card:loc=2107

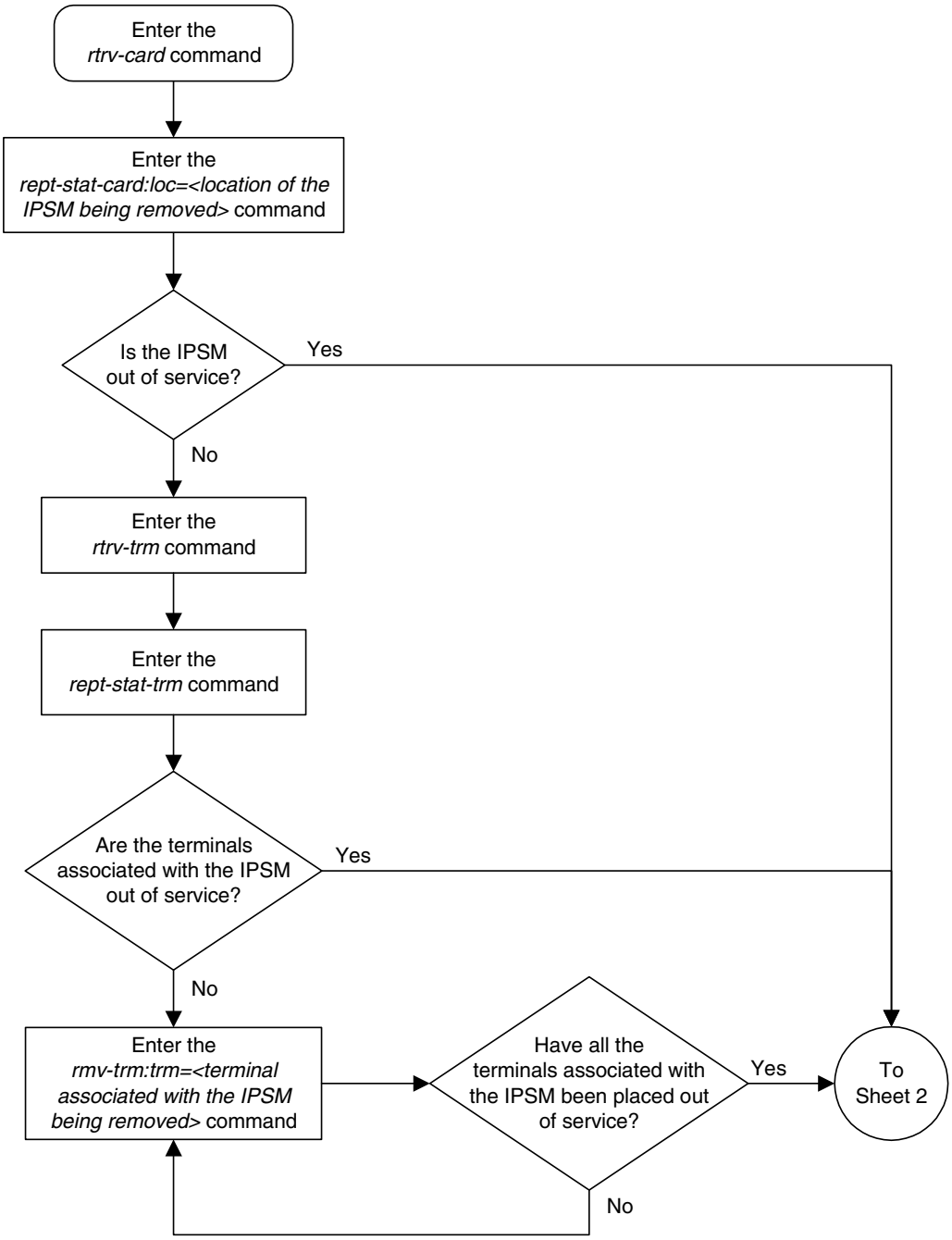
   When this command has successfully completed, this message should appear.

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

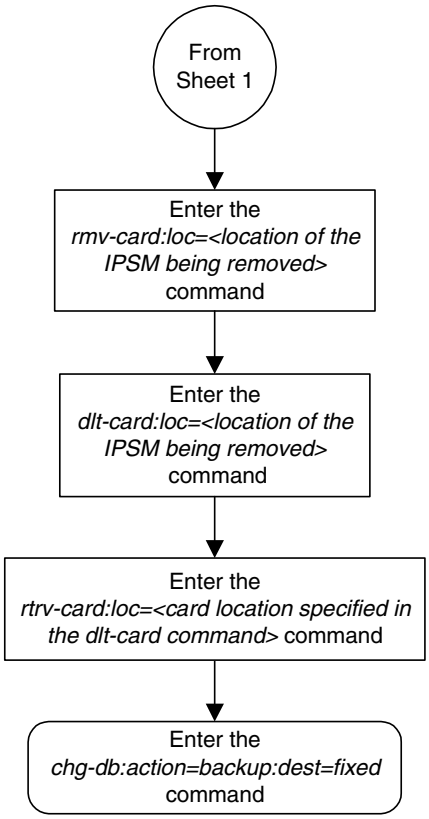
9. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   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 4-27. Removing an IPSM (Sheet 1 of 2)



Flowchart 4-27. Removing an IPSM (Sheet 2 of 2)



Configuring the Options for the Network Security Enhancements Feature

This procedure is used to configure the EAGLE 5 SAS to enhance its network security by discarding messages that should not be received. Four options are set using the **chg-stpopts** command to support this feature.

- SECMTPSID – The EAGLE 5 SAS should not receive a message where the OPC is equal to the EAGLE 5 SAS's own true, secondary or capability point codes.
- SECMTPMATE – The EAGLE 5 SAS should not receive a message with the true, secondary, or capability point code of the mate STP other than across the C link.
- SECMTPSNM – the EAGLE 5 SAS should not receive an MTP network management message unless:
  - The OPC is an adjacent point code
  - The EAGLE 5 SAS has a route to the OPC of the MTP network management message on the linkset which the message was received.
  - The EAGLE 5 SAS has a route to the destination field in the message (if applicable to the concerned message) on the linkset which the message was received.
- SECMTPSCMG – the EAGLE 5 SAS should not receive an SCCP network management message unless:
  - The EAGLE 5 SAS has a route to the OPC of the SCMG message on the linkset, on which the message was received.
  - The EAGLE 5 SAS has a route to the affected point code in the message on the linkset on which the message was received.

  This option will only apply to SSP and SOR messages. This feature will not affect the following messages: SSA, SST, SOG, SBR, SNR and SRT.

Each of these options have four values which determine how the EAGLE 5 SAS handles the messages controlled by the options.

- NOTIFY – The specified option is active and UIMs are generated.
- SILENT – The specified option is active, but no UIMs are generated.
- TEST – The specified option is not active, but UIMS are generated as if the option was active.
- OFF – The specified option is not active.

The system default value for each of these options is OFF.

To set these options, the Network Security Enhancements feature must be enabled and activated. This can be verified with the **rtrv-ctrl-feat** command. To enable and activate the Network Security Enhancements feature, go to the "Activating Controlled Features" procedure on page A-3.

If the Network Security Enhancements feature is not enabled and activated, the Network Security Enhancement options are not displayed in the **rtrv-stpopts** output.

When the Network Security Enhancements feature is enabled and activated for the first time, each option is displayed in the **rtrv-stpopts** output with the system default value (OFF). When the Network Security Enhancements feature is enabled and activated after the feature was disabled, each option is displayed in the **rtrv-stpopts** output with the value that the option was assigned when the feature was disabled.

Procedure

1. Display the Network Security Enhancements options using the **rtrv-stpopts** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
STP OPTIONS
-----------------------
SECMTPSID         notify
SECMTPMATE        test
SECMTPSNM         silent
SECMTPSCMG        off
```

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*.

NOTE: If the Network Security Enhancement options are shown in the rtrv-stpopts output in step 1, skip step 2, and go to step 3.

2. Verify that the Network Security Enhancements feature is enabled and activated, by entering the **rtrv-ctrl-feat** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  off     ----
```

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*.

If the Network Security Enhancements feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page A-3 and enable and activate the Network Security Enhancements feature.

CAUTION: If the Network Security Enhancements feature is temporarily enabled, the Network Security Enhancement options can be set and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

---

3. Change the Network Security Enhancement options. For this example, enter this command.

   `chg-stpopts:secmtpsid=silent:secmtpmate=notify :secmtpsnm=notify:secmtpscmg=notify`

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

```
rlghncxa03w 06-03-01 00:22:57 GMT  EAGLE5 34.3.0
CHG-STPOPTS: MASP A - COMPLTD
```

---

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

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
STP OPTIONS
-----------------------
SECMTPSID           silent
SECMTPMATE          notify
SECMTPSNM           notify
SECMTPSCMG          notify
```

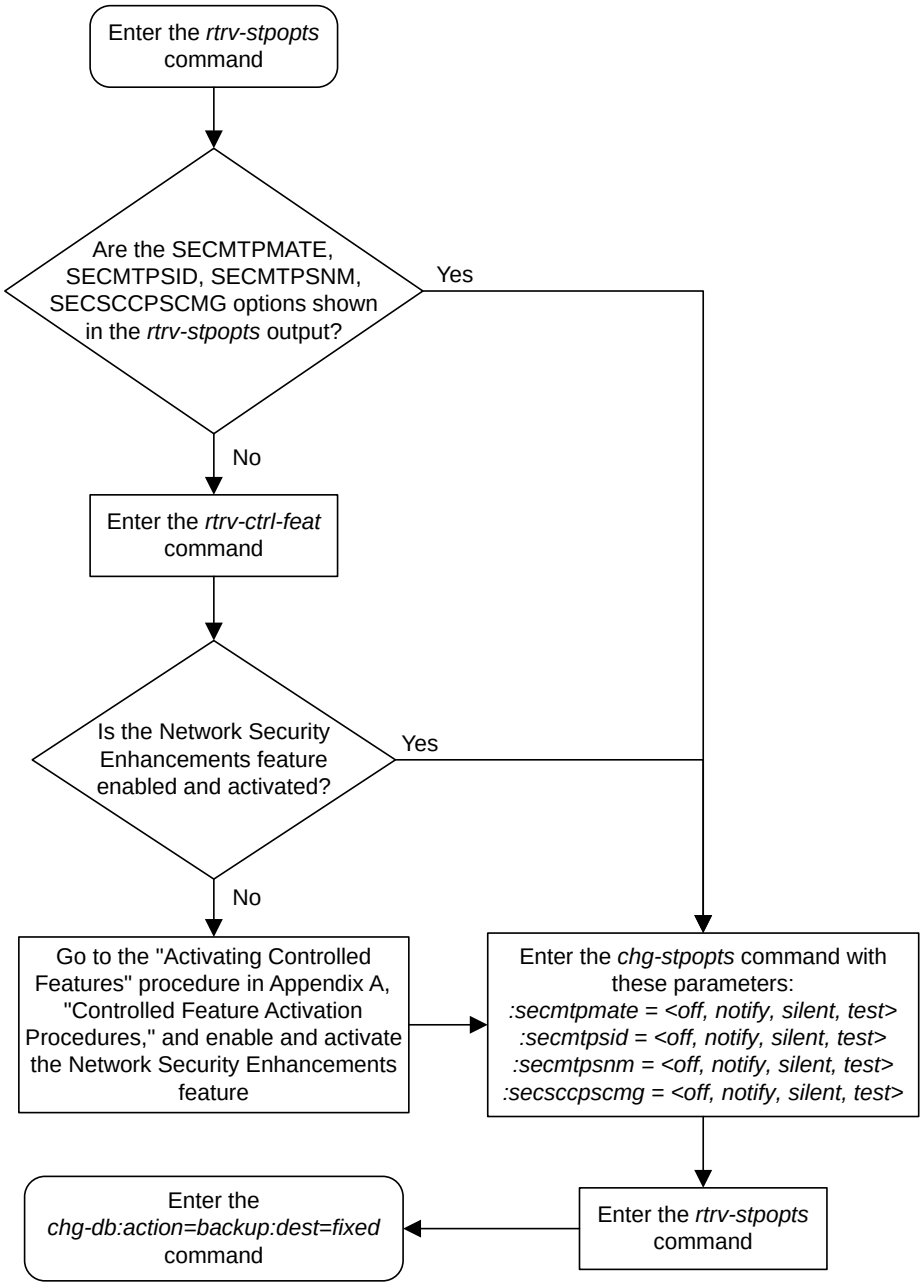
NOTE: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, see the `rtrv-stpopts` command description in the *Commands Manual*.

---

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

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

Flowchart 4-28. Configuring the Options for the Network Security Enhancements Feature



Configuring the Restore Device State Option

This procedure is used to configure the restore device state option using the **chg-stpopts** command and the **rstrdev** parameter. The **rstrdev** parameter has two values, **on** or **off**. The system default value is **off**.

If the value of the restore device state option is off (**rstrdev=off**), the EAGLE 5 SAS does not retain the manually initiated state (for example, OOS-MT-DSBLD) for the signaling links, TCP/IP data links, cards, or the terminals after either the **init-sys** command is executed, or when a MASP role change occurs (the active MASP becomes the standby MASP and the standby MASP becomes the active MASP). After the **init-sys** command executes, the EAGLE 5 SAS attempts to bring all provisioned links, cards, and terminals on line, including those that were previously out of service. You will need to manually put each device back into its previous state after the EAGLE 5 SAS is back on line. If the **init-sys** command is being executed, it is advisable to print or electronically capture the output of the EAGLE 5 SAS's **rept-stat-slk**, **rept-stat-dlk**, **rept-stat-card**, and **rept-stat-trm** commands for reference before issuing the **init-sys** command. During a MASP role change, current processing for the role change occurs and the state of the out-of-service devices may change. To restore a device to its previous state, issue the appropriate inhibit/deactivate command listed in the *Commands Manual* in the Related Commands section for each of the above **rept-stat** commands.

If the value of the restore device state option is on (**rstrdev=on**), the state the signaling links, TCP/IP data links, cards, and terminals is not changed after the **init-sys** command is executed or a MASP role change occurs. No manual intervention is required to put the device back into its previous state after the EAGLE 5 SAS is back on line.

If the restore device state option is on (**rstrdev=on**) and the database is being restored with the **chg-db:action=restore** command, the state of the cards, SS7 signaling links, TCP/IP data links, and terminals before the **chg-db:action=restore** and **init-sys** commands are performed will not be maintained after these commands are performed. The persistent device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 06-03-01 16:07:48 GMT  EAGLE5 34.3.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

Procedure

1. Display the existing values for the restore device state parameter by entering the **rtrv-stpopts** command. The value for the restore device state parameter is shown in the **RSTRDEV** field. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
STP OPTIONS
----------------------
RSTRDEV            off
```

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*.

2. Change the restore device state parameter. For this example, enter this command.

chg-stpopts:rstrdev=on

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

```
rlghncxa03w 06-03-01 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.

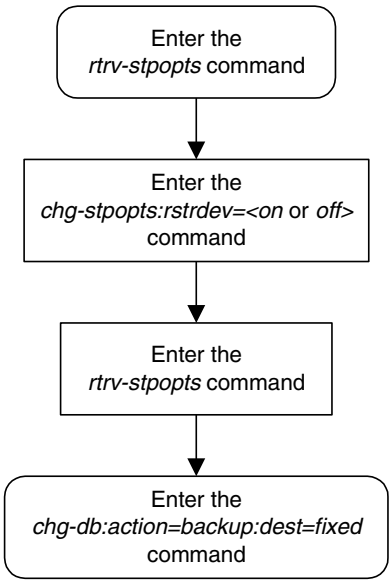
```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
STP OPTIONS
----------------------
RSTRDEV             on
```

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. 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 4-29. Configuring the Restore Device State Option



A

Controlled Feature Activation Procedures

Introduction A–2

Activating Controlled Features A–3

Activating the Eagle OAM IP Security Enhancement Controlled Feature A-12

Activating the 15 Minute Measurements Controlled Feature A–26

Clearing a Temporary FAK Alarm A–36

Deactivating Controlled Features A–38

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 Controlled Features

This procedure is used to enable and activate these controlled features, Command Class Management, IP User Interface, and Network Security Enhancements, using the feature's part number and a feature access key for each 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 controlled feature by inputting the controlled feature's access key and the controlled 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 associated with the controlled feature. The part number is a 9-digit number, not including dashes. The first three digits must be 893 (that is, 893xxxxxx, where x is a numeric value).

If the controlled 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 controlled feature has been enabled, the controlled feature must be activated with the **chg-ctrl-feat** command. The **chg-ctrl-feat** command uses these parameters:

:partnum – The Tekelec-issued part number associated with the controlled feature. The part number is a 9-digit number, not including dashes. The first three digits must be 893 (that is, 893xxxxxx, where x is a numeric value).

:status=on – used to activate the controlled 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 part numbers for the Command Class Management, IP User Interface, and Network Security Enhancements features are:

- Command Class Management – 893005801
- Telnet (IP User Interface) – 893005701
- Network Security Enhancements – 893009101

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 06-03-01 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  off     ----
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

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 controlled feature is permanently enabled, and its status is **on**, no further action is necessary.

If the controlled feature is permanently enabled, and its status is **off**, skip steps 2 through 4, and go to step 5.

If the controlled 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 and 3, and go to step 4.

If the controlled feature is to remain temporarily enabled, and its status is **off**, skip steps 2 through 4, and go to step 5. If the feature's status is on, no further action is necessary.

If the controlled 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 and 3, and go to step 4.

2. Display the serial number in the database with the **`rtrv-serial-num`** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
System serial number = ntxxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-03-01 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 06-03-01 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 06-03-01 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-01 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 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   ENT-SERIAL-NUM:  MASP A - COMPLTD
   ```

6. Enable the controlled feature with either a permanent key or temporary key by entering the **enable-ctrl-feat** command. For this example, enter these commands.

   enable-ctrl-feat:partnum=893005801:fak=xxxxxxxxxxxx

   enable-ctrl-feat:partnum=893005701:fak=xxxxxxxxxxxx

   enable-ctrl-feat:partnum=893009101:fak=xxxxxxxxxxxx

   NOTE: The values for the feature access key (the fak parameter) are provided by Tekelec. The feature access key determines if the controlled feature is permanently or temporarily enabled. If you do not have the controlled feature part number or the feature access key for the feature you wish to enable, contact your Tekelec Sales Representative or Account Representative.

   When the **enable-ctrl-feat** command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-03-01 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 4, and the status of the temporarily enabled feature was on, skip step 5 and go to step 6.

7. The controlled features enabled in step 4 must be activated using the **chg-ctrl-feat** command, specifying the controlled feature part number used in step 4 and the **status=on** parameter. For this example, enter these commands.

   chg-ctrl-feat:partnum=893005801:status=on

   chg-ctrl-feat:partnum=893005701:status=on

   chg-ctrl-feat:partnum=893009101:status=on

   When the **chg-ctrl-feat** command has successfully completed, the following message should appear.

   ```
   rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   CHG-CTRL-FEAT: MASP B - COMPLTD
   ```

8. Verify the changes by entering the **rtrv-ctrl-feat** command with the part number specified in step 5.

   rtrv-ctrl-feat:partnum=893005801

   The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  on      ----
```

   rtrv-ctrl-feat:partnum=893005701

   The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Telnet                    893005701  on      ----
```

   rtrv-ctrl-feat:partnum=893009101

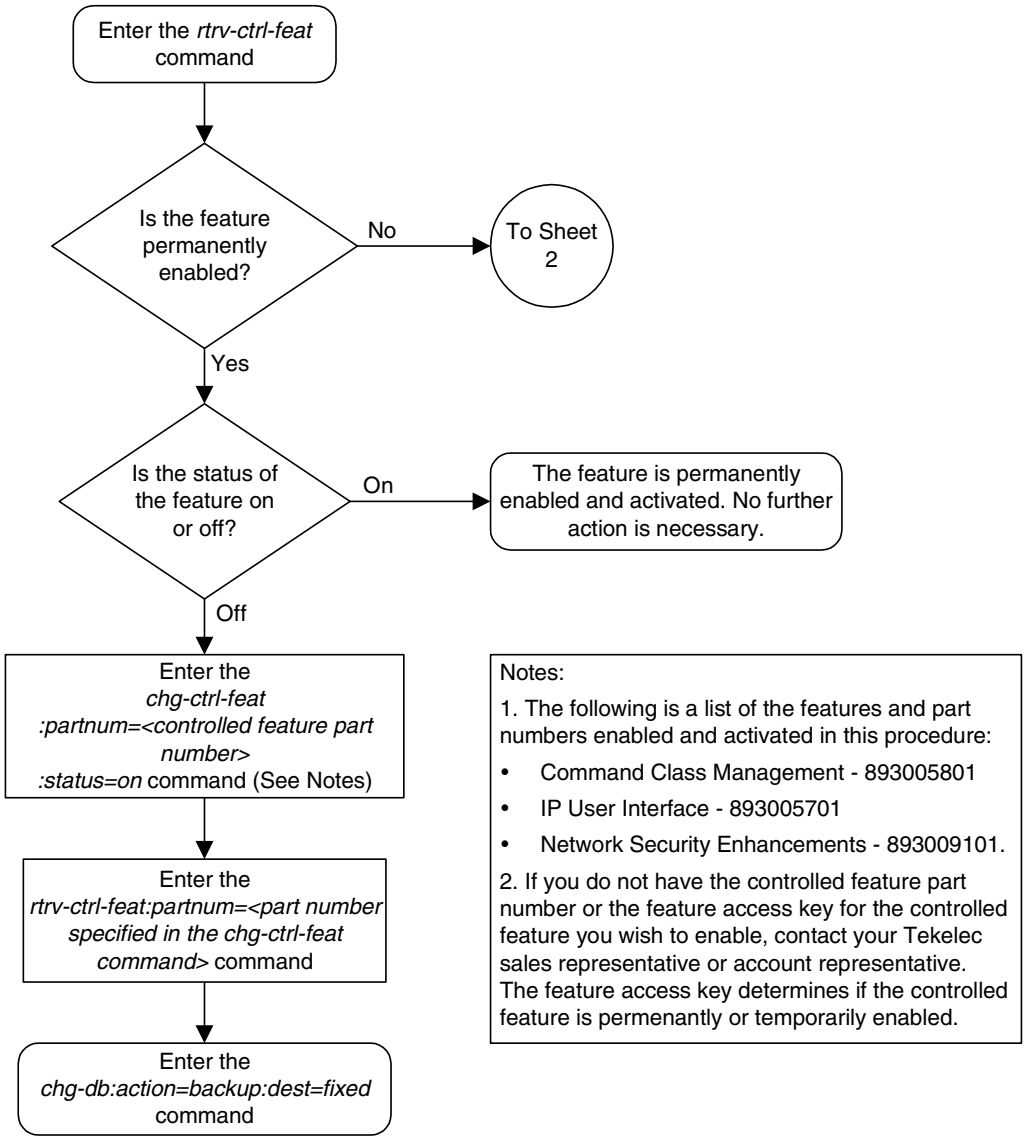
   The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  on      ----
```

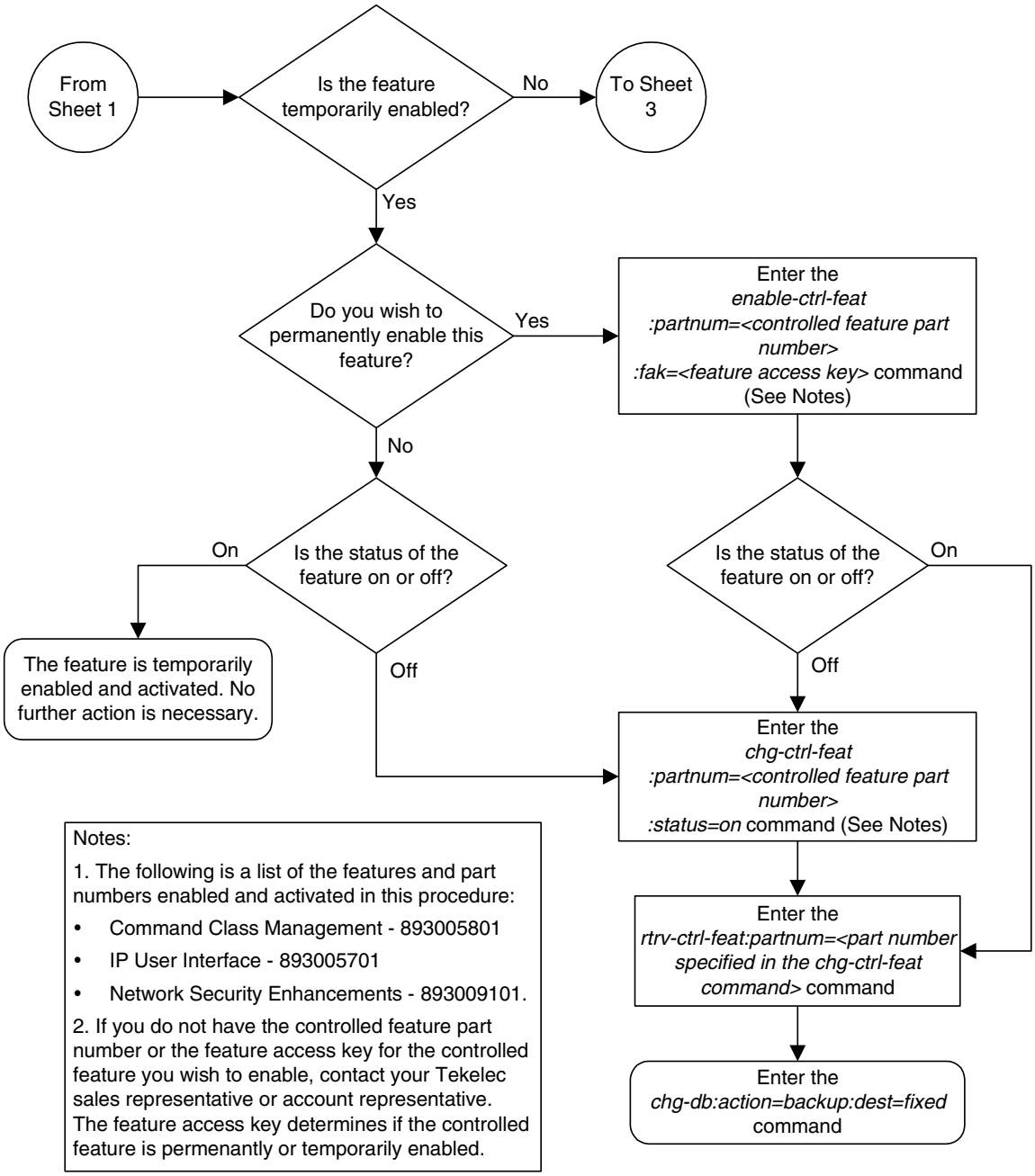
9. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

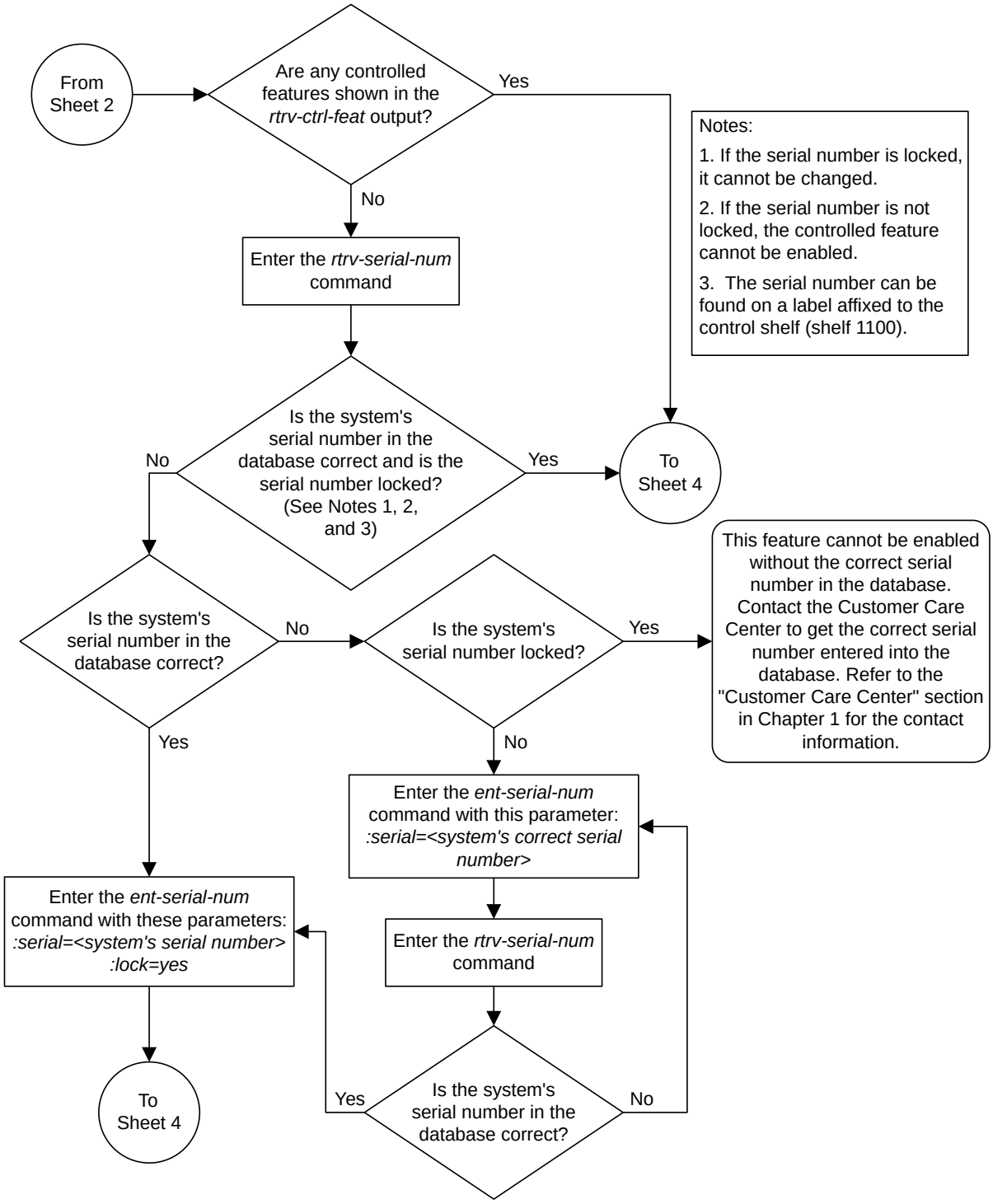
Flowchart A-1. Activating Controlled Features (Sheet 1 of 4)



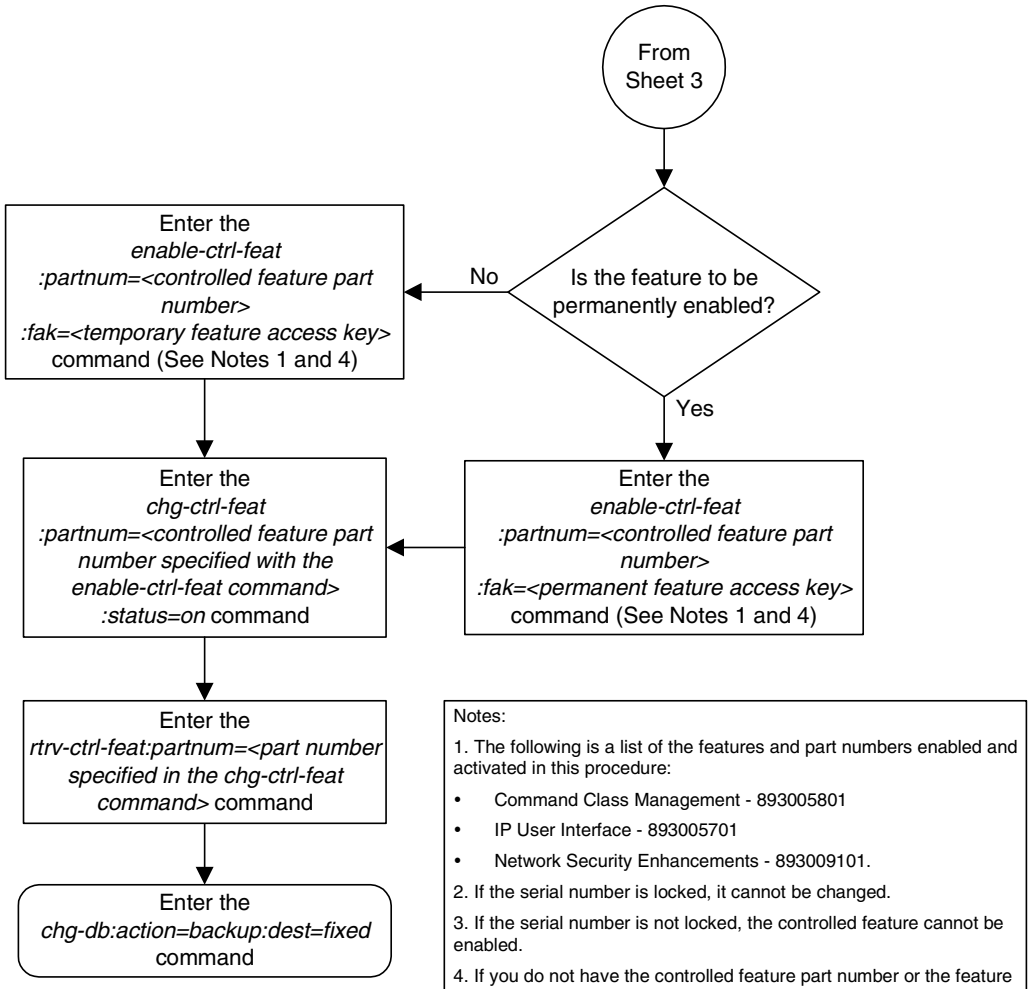
Flowchart A-1. Activating Controlled Features (Sheet 2 of 4)



Flowchart A-1. Activating Controlled Features (Sheet 3 of 4)



Flowchart A-1. Activating Controlled Features (Sheet 4 of 4)



Activating the Eagle OA&M IP Security Enhancement Controlled Feature

This procedure is used to enable and activate the Eagle OAM IP Security Enhancement Controlled Feature, using the feature's part number and a feature access key. This feature provides secure IP connections used by the IP User Interface (Telnet) or FTP Retrieve and Replace features.

With the IP User Interface feature, a secure shell connection is established between the EAGLE 5 SAS and the telnet terminals allowing passwords to be sent over the connection. This allows the EAGLE 5 SAS administrator to add new users to the EAGLE 5 SAS (with the **ent-user** command) and to change the passwords of existing users (with the **pid** parameter of the **chg-user** command) from a telnet terminal.

If the Eagle OA&M IP Security Enhancements is enabled and activated, the FTRA must be configured to support secure connections to the EAGLE 5 SAS. Go to the *FTP-Based Table Retrieve Application (FTRA) User Guide*, for more information on using secure connections with the FTRA.

The Measurements Platform must support secure FTP servers. Go to the "Adding an FTP Server" procedure on page 4-144 for more information on configuring secure FTP servers for the Measurements Platform.

CAUTION: If Eagle OA&M IP Security Enhancements feature is activated with a temporary feature access key and that key expires, secure shell connections will become non-secure. Passwords can be transmitted on a non-secure connection, but cannot be assigned or changed. The ent-user command and pid parameter of the chg-user command cannot be used. File transfers using secure FTP cannot be performed unless non-secure FTP servers are available. It is recommended that the FTRA and the Measurements Platform is configured with secure and non-secure FTP servers.

To enable and activate this feature, the **enable-ctrl-feat**, **ent-serial-num**, and **chg-ctrl-feat** commands are used. For more information on these commands, go to the "Activating Controlled Features" procedure on page A-3, or the *Commands Manual*.

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 06-03-01 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  off     ----
```

```
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

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 controlled feature is permanently enabled, and its status is **on**, no further action is necessary.

If the controlled feature is permanently enabled, and its status is **off**, skip steps 2 through 6, and go to step 7.

If the controlled 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 controlled 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 controlled feature is to remain temporarily enabled, and its status is **on**, no further action is necessary.

NOTE: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 2 through 5, and go to step 6.

2. Display the serial number in the database with the **rtrv-serial-num** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-03-01 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 06-03-01 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 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   System serial number = nt00001231

   System serial number is not locked.

   rlghncxa03w 06-03-01 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 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   ENT-SERIAL-NUM:  MASP A - COMPLTD
   ```

6. Enable the controlled 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=893400001:fak=<feature access key>

   NOTE: The values for the feature access key (the fak parameter) are provided by Tekelec. The feature access key determines if the controlled feature is permanently or temporarily enabled. If you do not have the controlled feature part number or the feature access key for the feature you wish to enable, contact your Tekelec Sales Representative or Account Representative.

   When the **enable-ctrl-feat** command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
   ENABLE-CTRL-FEAT: MASP B - COMPLTD
   ```

NOTE: If the feature was temporarily enabled before being permanently enabled in step 6, and the status of the temporarily enabled feature was `on`, skip steps 7 through 12, and go to step 13.

7. Before the status of the Eagle OAM IP Security Enhancements controlled feature can be changed to **`on`**, all ISPMs, if present, must be taken out of service. Before the ISPMs can be taken out of service, all telnet terminals associated with the IPSMs must be taken out of service. Enter the **`rtrv-trm`** command to display the terminals in the database. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:08 GMT EAGLE5 34.3.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    VT320    9600-7-E-2  SW    30    9     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    VT320    9600-7-E-1  SW    30    7     00:30:00
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    2107             60    5     00:30:00
18   TELNET    2107             60    5     00:30:00
19   TELNET    2107             60    5     00:30:00
20   TELNET    2107             60    5     00:30:00
21   TELNET    2107             60    5     00:30:00
22   TELNET    2107             60    5     00:30:00
23   TELNET    2107             60    5     00:30:00
24   TELNET    2107             60    5     00:30:00
25   TELNET    2108             60    5     00:30:00
26   TELNET    2108             60    5     00:30:00
27   TELNET    2108             60    5     00:30:00
28   TELNET    2108             60    5     00:30:00
29   TELNET    2108             60    5     00:30:00
30   TELNET    2108             60    5     00:30:00
31   TELNET    2108             60    5     00:30:00
32   TELNET    2108             60    5     00:30:00
33   TELNET    2111             60    5     00:30:00
34   TELNET    2111             60    5     00:30:00
35   TELNET    2111             60    5     00:30:00
36   TELNET    2111             60    5     00:30:00
37   TELNET    2111             60    5     00:30:00
38   TELNET    2111             60    5     00:30:00
39   TELNET    2111             60    5     00:30:00
40   TELNET    2111             60    5     00:30:00

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO
```

```
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

NOTE: If the `rtrv-trm` output in step 7 shows no telnet terminals, skip steps 8 through 11, and go to step 12.

8. Display the status of the IPSMs by entering the **`rept-stat-card`** command with the card location of each IPSM shown in the output of step 7.

   `rept-stat-card:loc=2107`

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
2107   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

   `rept-stat-card:loc=2108`

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
2108   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

   `rept-stat-card:loc=2111`

   This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
2111   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

   If all the IPSMs are out of service, shown by the entry **`OOS-MT-DSBLD`** in the **`PST`** column, skip steps 9 and 10, and go to step 11.

9. Display the status of the terminals by entering the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

NOTE: If all the terminals associated with the IPSMs being taken out of service are out of service, shown by the entry `OOS-MT-DSBLD` in the `PST` column, skip step 10 and go to step 11.

10. Place the terminals associated with the IPSMs being taken out of service using the **`rmv-trm`** command with the terminal number shown in step 7. For this example, enter these commands.

```
rmv-trm:trm=17
rmv-trm:trm=18
rmv-trm:trm=19
rmv-trm:trm=20
rmv-trm:trm=21
rmv-trm:trm=22
rmv-trm:trm=23
rmv-trm:trm=24
rmv-trm:trm=25
rmv-trm:trm=26
rmv-trm:trm=27
rmv-trm:trm=28
rmv-trm:trm=29
rmv-trm:trm=30
rmv-trm:trm=31
rmv-trm:trm=32
rmv-trm:trm=33
rmv-trm:trm=34
rmv-trm:trm=35
rmv-trm:trm=36
rmv-trm:trm=37
rmv-trm:trm=38
rmv-trm:trm=39
rmv-trm:trm=40
```

CAUTION: Placing these terminals out of service will disable any Telnet sessions running on these terminals.

If the status of any terminals associated with the IPSM being removed shown in the **`PST`** field in step **9** is **`OOS-MT-DSBLD`** (out-of-service maintenance disabled), the terminal is already out of service and the **`rmv-trm`** command does not need to be executed for that terminal.

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

```
rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Inhibit message sent to terminal

rlghncxa03w 06-03-01 15:08:45 GMT EAGLE5 34.3.0
Command Completed.
```

11. Place the IPSMs out of service using the **rmv-card** command, specifying the card location of the IPSM. For this example, enter this command.

rmv-card:loc=2107

rmv-card:loc=2108

rmv-card:loc=2111

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been inhibited.
```

12. The controlled feature enabled in step 6 must be activated using the **chg-ctrl-feat** command, specifying the controlled feature part number used in step 6 and the **status=on** parameter. For this example, enter this command.

chg-ctrl-feat:partnum=893400001:status=on

When the **chg-ctrl-feat** command has successfully completed, the following message should appear.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

13. Verify the changes by entering the **rtrv-ctrl-feat** command with the part number specified in step 12.

rtrv-ctrl-feat:partnum=893400001

The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
EAGLE OAM IP Security     893400001  on      ----
```

NOTE: If steps 7 through 11 were not performed, skip steps 14 and 15, and go to step 16.

14. Place the terminals that were taken out of service in step 10 back into service by entering the **rst-trm** command with the terminal numbers specified in step 10. For this example, enter these commands.

```
rst-trm:trm=17
rst-trm:trm=18
rst-trm:trm=19
rst-trm:trm=20
rst-trm:trm=21
rst-trm:trm=22
rst-trm:trm=23
rst-trm:trm=24
rst-trm:trm=25
rst-trm:trm=26
rst-trm:trm=27
rst-trm:trm=28
rst-trm:trm=29
rst-trm:trm=30
rst-trm:trm=31
rst-trm:trm=32
rst-trm:trm=33
rst-trm:trm=34
rst-trm:trm=35
rst-trm:trm=36
rst-trm:trm=37
rst-trm:trm=38
rst-trm:trm=39
rst-trm:trm=40
```

15. Place the ISPMs back into service by entering the **rst-card** command with the card locations specified in step 11. For this example, enter this command.

rst-card:loc=2107

rst-card:loc=2108

rst-card:loc=2111

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

```
rlghncxa03w 06-03-01 09:12:36 GMT  EAGLE5 34.3.0
Card has been allowed.
```

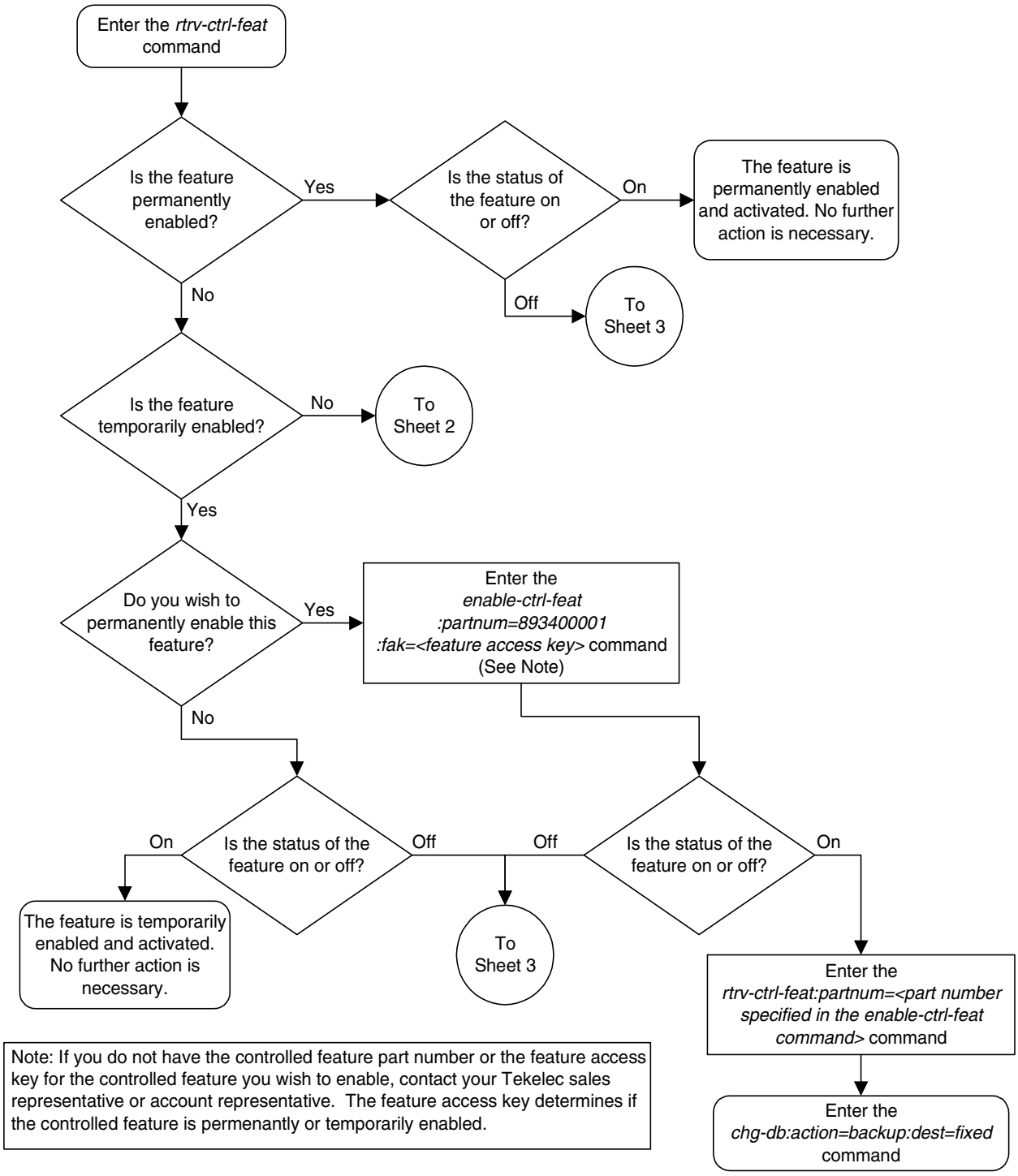
When the IPSMs are placed into service with the **rst-card** command, UIM 1494, SSH Host Keys Loaded, is displayed. UIM 1494 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1494 must be added to the **hosts.xml** file in the FTRA. Record the public host key fingerprint information displayed in UIM 1494 if a secure connection to the FTRA will be made. For more information about editing the **hosts.xml** file on the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

---

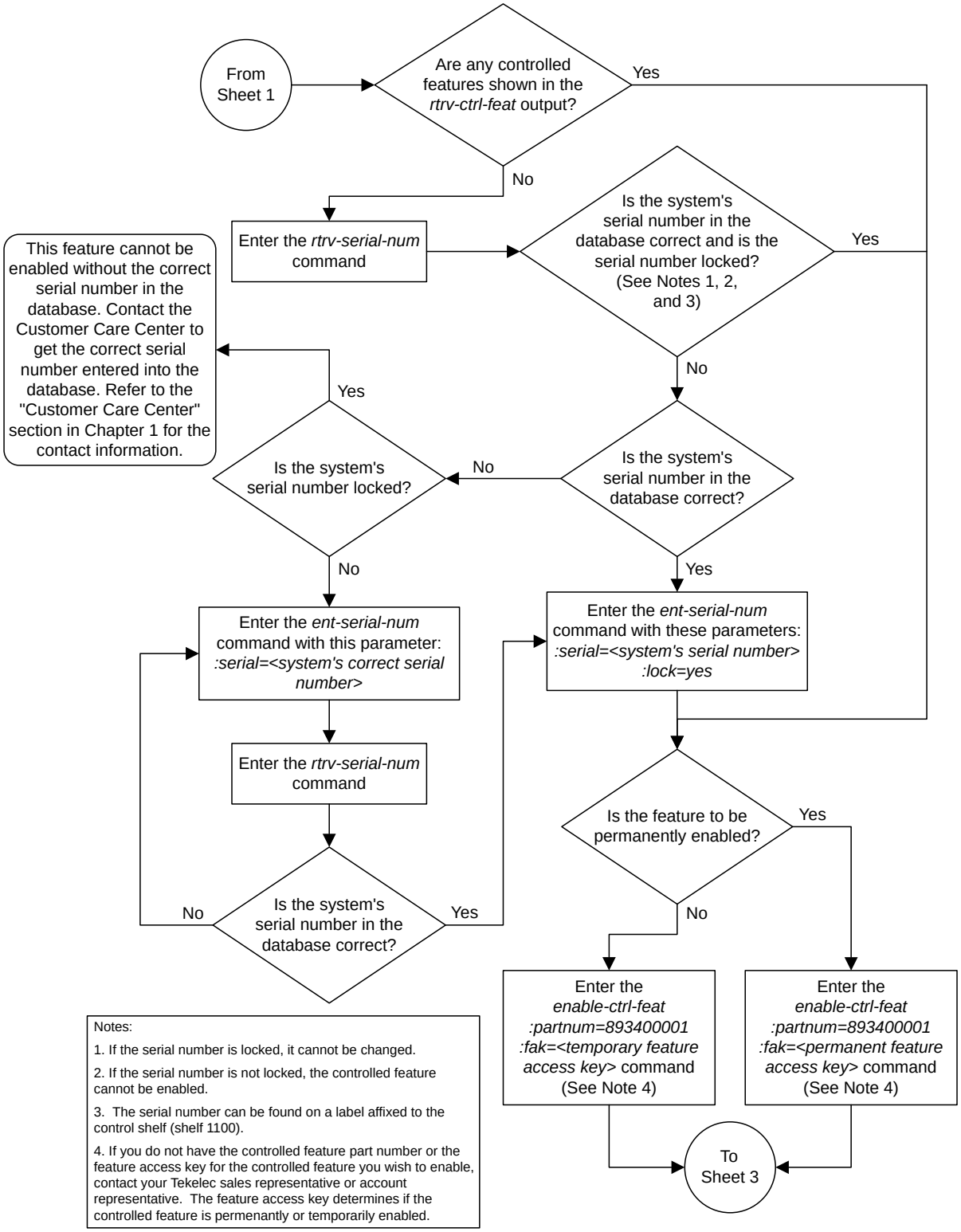
16. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

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

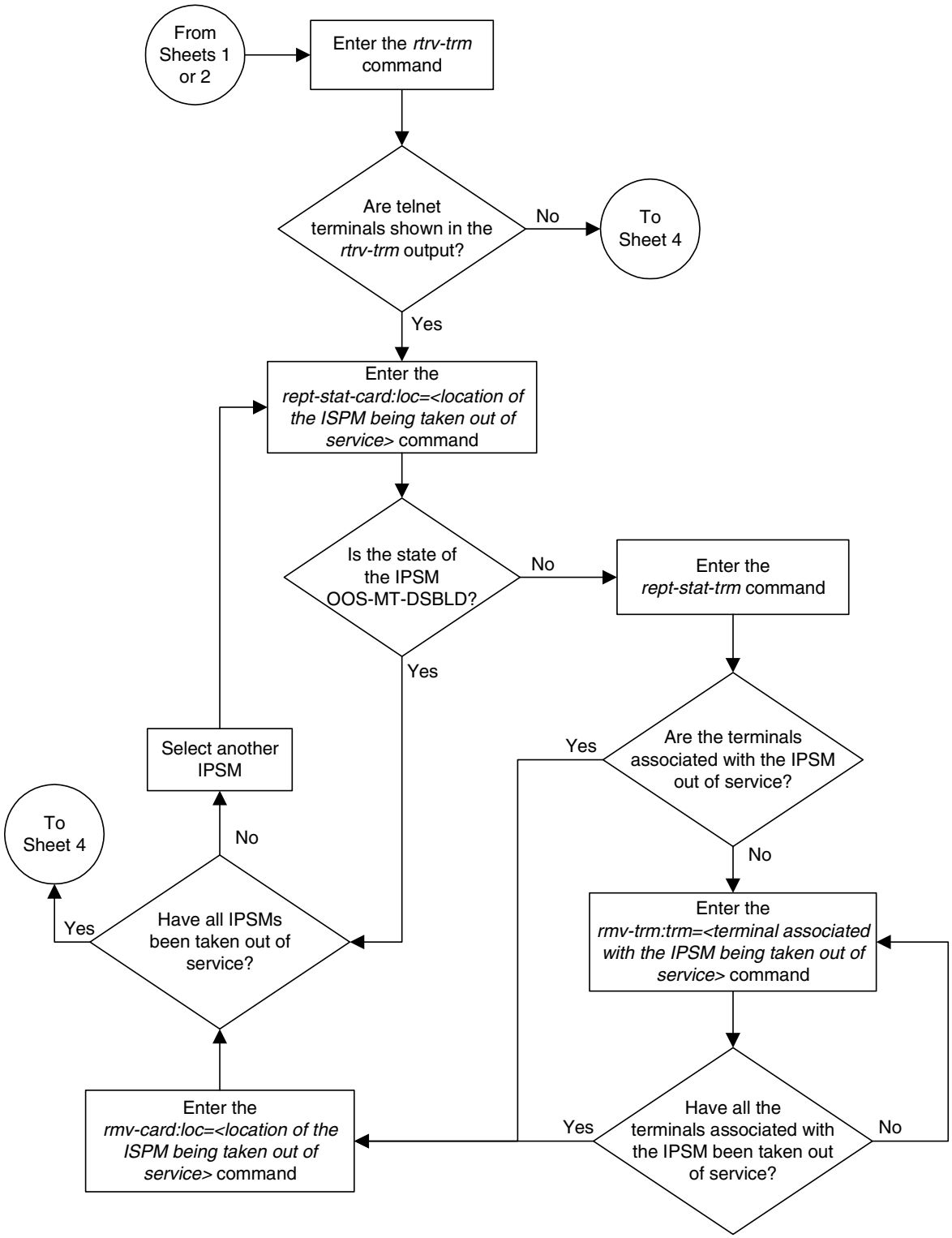
Flowchart A-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 1 of 4)



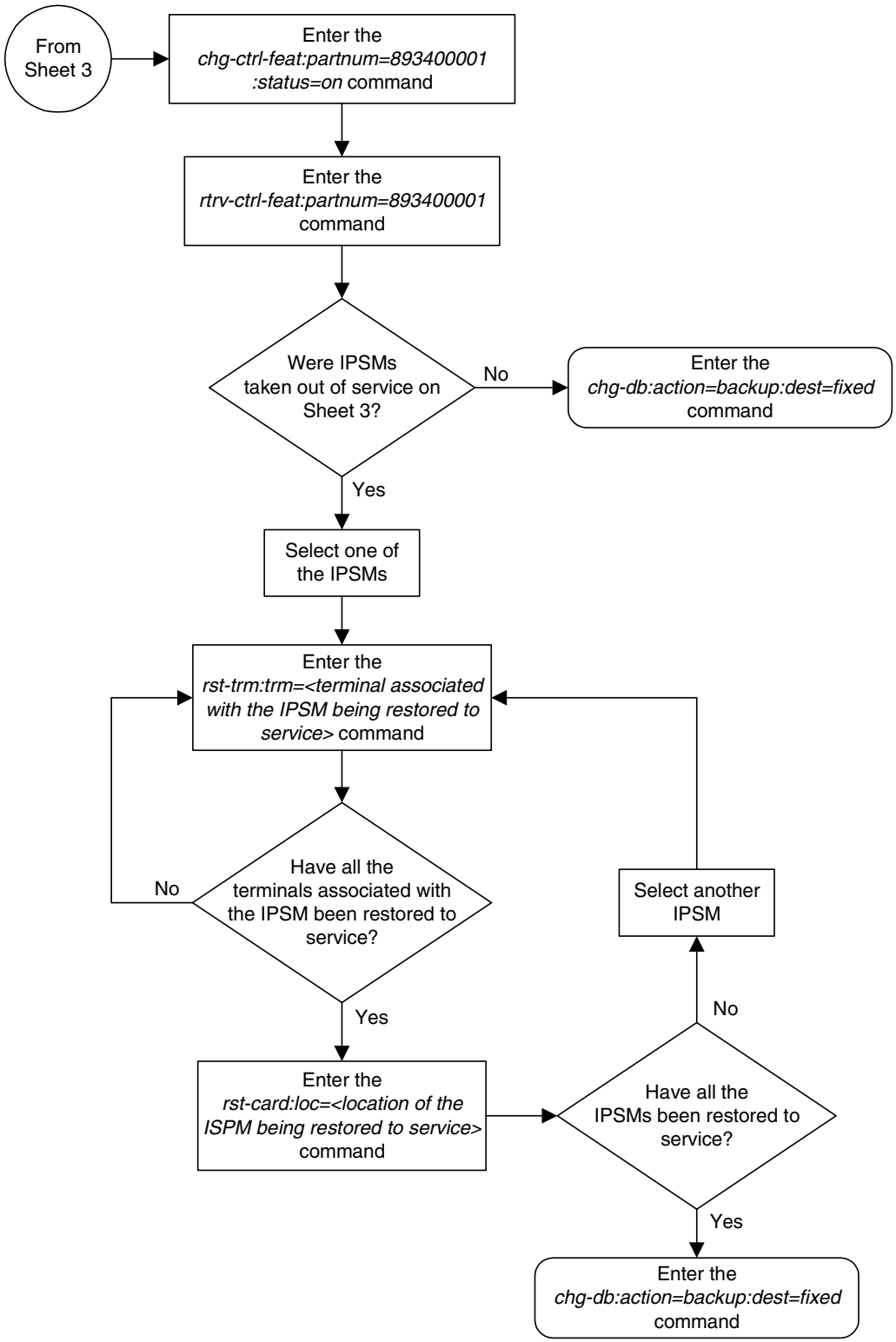
Flowchart A-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 2 of 4)



Flowchart A-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 3 of 4)



Flowchart A-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 4 of 4)



Activating the 15 Minute Measurements Controlled Feature

This procedure is used to enable and activate the 15 Minute Measurements controlled feature, using the feature's part number and a feature access key. This feature allows EAGLE 5 SAS measurements to be collected every 15 minutes.

To enable and activate the 15 Minute Measurements controlled feature, the following requirements must be met:

- The Measurements Platform feature must be on.
- The EAGLE 5 SAS must be configured to use the Measurements Platform.
- MCPMs must be provisioned in the database, and the state of all these MCPMs must be IS-NR.

After the 15 Minute Measurements controlled feature is enabled and activated, the 15 minute measurement collection option in the measurement options table must be turned on.

To enable and activate this feature, the **enable-ctrl-feat**, **ent-serial-num**, and **chg-ctrl-feat** commands are used. For more information on these commands, go to the "Activating Controlled Features" procedure on page A-3, or the *Commands Manual*.

NOTE: This feature can only be permanently enabled with the enable-ctrl-feat command. Once this feature is activated with the chg-ctrl-feat command, it cannot be deactivated with the chg-ctrl-feat:status=off command.

Procedure

1. Display the status of the 15 Minute Measurements controlled features by entering the **rtrv-ctrl-feat** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 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  off     ----
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
15 Minute Measurements    893012101  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.
```

If the **rtrv-ctrl-feat** output shows that the 15 Minute Measurements controlled feature is permanently enabled, and its status is **on**, no further action is necessary.

If the 15 Minute Measurements controlled feature is permanently enabled, and its status is **off**, skip steps 2 through 6, and go to step 7.

NOTE: If the rtrv-ctrl-feat output in step 1 shows any controlled features, skip steps 2 through 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 06-03-01 21:15:37 GMT EAGLE5 34.3.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-03-01 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 06-03-01 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 06-03-01 21:15:37 GMT EAGLE5 34.3.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-03-01 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 06-03-01 21:15:37 GMT EAGLE5 34.3.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

---

6. Enable the 15 Minute Measurements controlled feature by entering the **enable-ctrl-feat** command. For this example, enter this command.

   enable-ctrl-feat:partnum=893012101:fak=<feature access key>

   NOTE: The values for the feature access key (the fak parameter) are provided by Tekelec. If you do not have the controlled feature part number or the feature access key for the feature you wish to enable, contact your Tekelec Sales Representative or Account Representative.

   When the **enable-ctrl-feat** command has successfully completed, this message should appear.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

---

7. Verify whether or not the Measurements Platform feature is on by entering the **rtrv-feat** command. If the Measurements Platform feature is on, the entry **MEASPLAT = on** is shown in the **rtrv-feat** command output:

   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 Measurements Platform feature is not on, perform the "Adding an MCPM" procedure on page 4-127 to add the required MCPMs and to turn the Measurements Platform feature on. After the Measurements Platform is turned on, perform the "Configuring the Measurements Platform Feature" procedure on page 4-136 to configure the Measurements Platform Feature. Skip steps 8 and 9, and go to step 10.

   If the Measurements Platform is on, go to step 8.

---

8. Verify whether or nor the Measurements Platform option is enabled (**PLATFORMENABLE = on**) using the **rtrv-measopts** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
EAGLE MEASUREMENT OPTIONS LIST

PLATFORMENABLE = on
COLLECT15MIN   = off
CLLIBASEDNAME  = on
-------------------------------------
SYSTOTSTP     =on
```

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

   If the Measurements Platform option is not enabled, perform the "Configuring the Measurements Platform Feature" procedure on page 4-136 to verify, and correct if necessary, the configuration of the Measurements Platform feature and to enable the Measurements Platform option. Skip step 9 and go to step 10.

   If the Measurements Platform option is enabled, go to step 9.

---

9. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 06-03-01 16:43:42 GMT  EAGLE5 34.3.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

If the state of all the MCPMs is IS-NR, shown in the PST column, go to step 10.

If the state of any of the MCPMs is not IS-NR, perform the "Configuring the Measurements Platform Feature" procedure on page 4-136 to verify, and correct if necessary, the configuration of the Measurements Platform feature and to bring the MCPMs back into service. Go to step 10.

NOTE: The 15 Minute Measurements feature cannot be activated while the 30-minute measurement collection is in progress. If the 30-minute measurement collection is in progress, wait until 30-minute measurement collection has finished before performing this step.

10. Activate the 15 Minute Measurements controlled feature using the **chg-ctrl-feat** command, specifying the 15 Minute Measurements controlled feature part number and the **status=on** parameter. For this example, enter this command.

chg-ctrl-feat:partnum=893012101:status=on

NOTE: Once the 15 Minute Measurements feature is activated in this step, it cannot be deactivated with the chg-ctrl-feat:status=off command.

When the **chg-ctrl-feat** command has successfully completed, the following message should appear.

```
rlghncxa03w 06-03-01 21:15:37 GMT EAGLE5 34.3.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

---

11. Verify the changes by entering the **rtrv-ctrl-feat** command with the part number specified in step 10.

rtrv-ctrl-feat:partnum=893012101

The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
15 Minute Measurements    893012101  on      ----
```

---

12. Turn the 15 Minute Measurement collection option on by entering this command.

chg-measopts:collect15min=on

When the **chg-measopts** command has successfully completed, the following message should appear.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
CHG-MEAS-OPTS: MASP A - COMPLTD
```

---

13. Verify that the 15 Minute Measurement collection option is on by entering the **rtrv-measopts** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 16:02:05 GMT  EAGLE5 34.3.0
EAGLE MEASUREMENT OPTIONS LIST

PLATFORMENABLE = on
COLLECT15MIN   = on
CLLIBASEDNAME  = on
-------------------------------------
SYSTOTSTP     =on
```

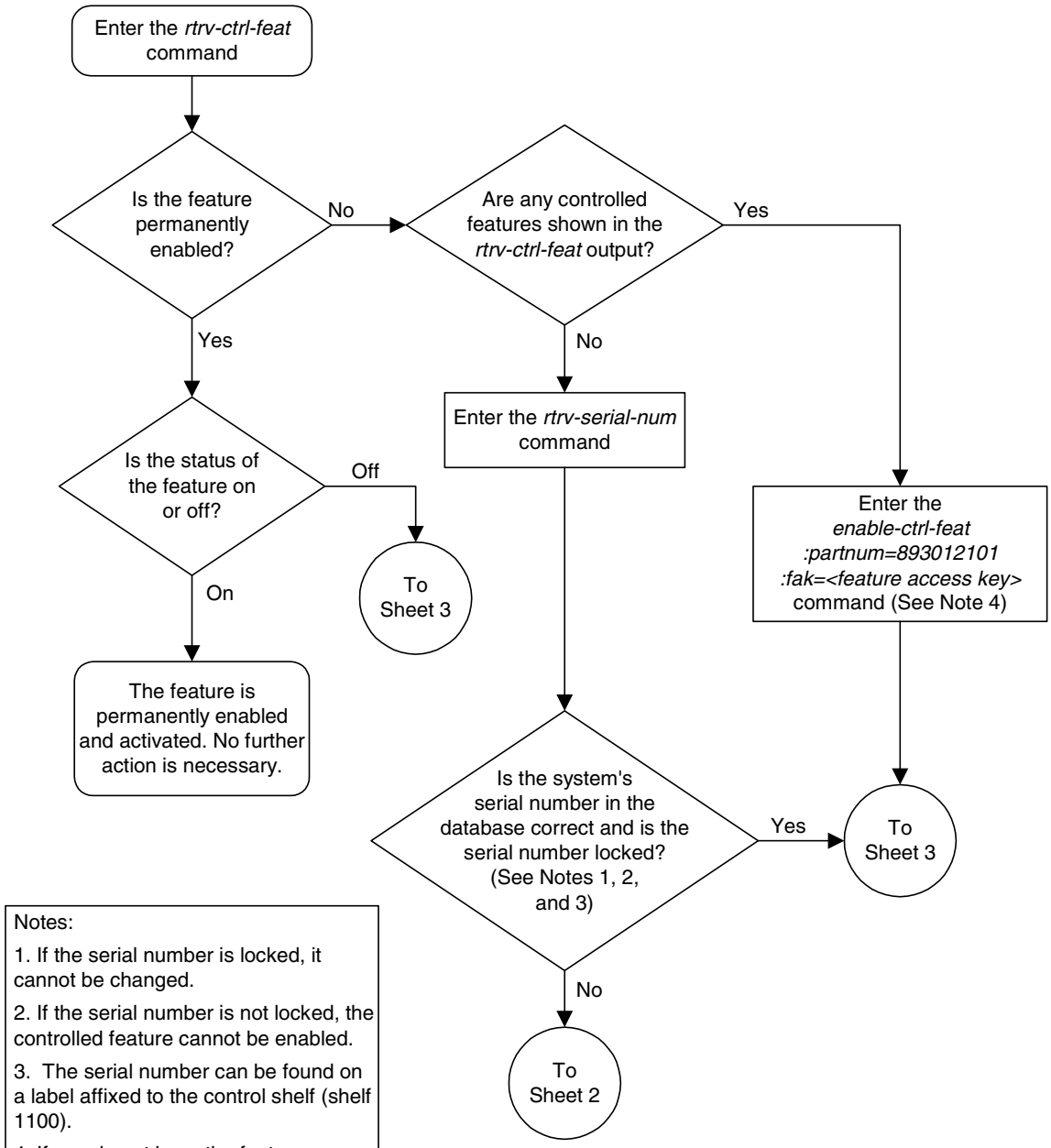
NOTE: The rtrv-measopts command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the rtrv-measopts command, see the rtrv-measopts command description in the *Commands Manual*.

---

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.
```

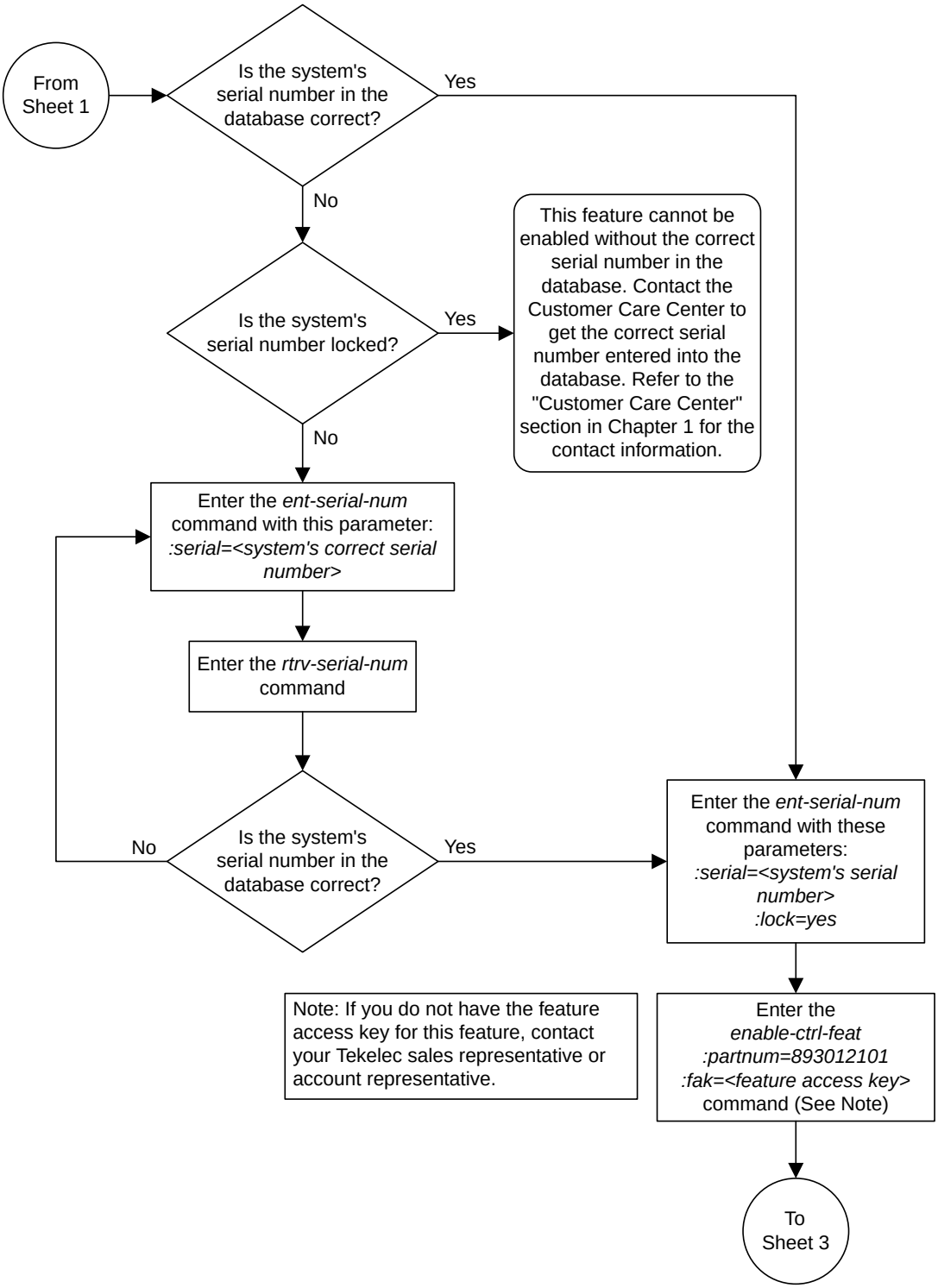
Flowchart A-3. Activating the 15 Minute Measurements Controlled Feature (Sheet 1 of 4)



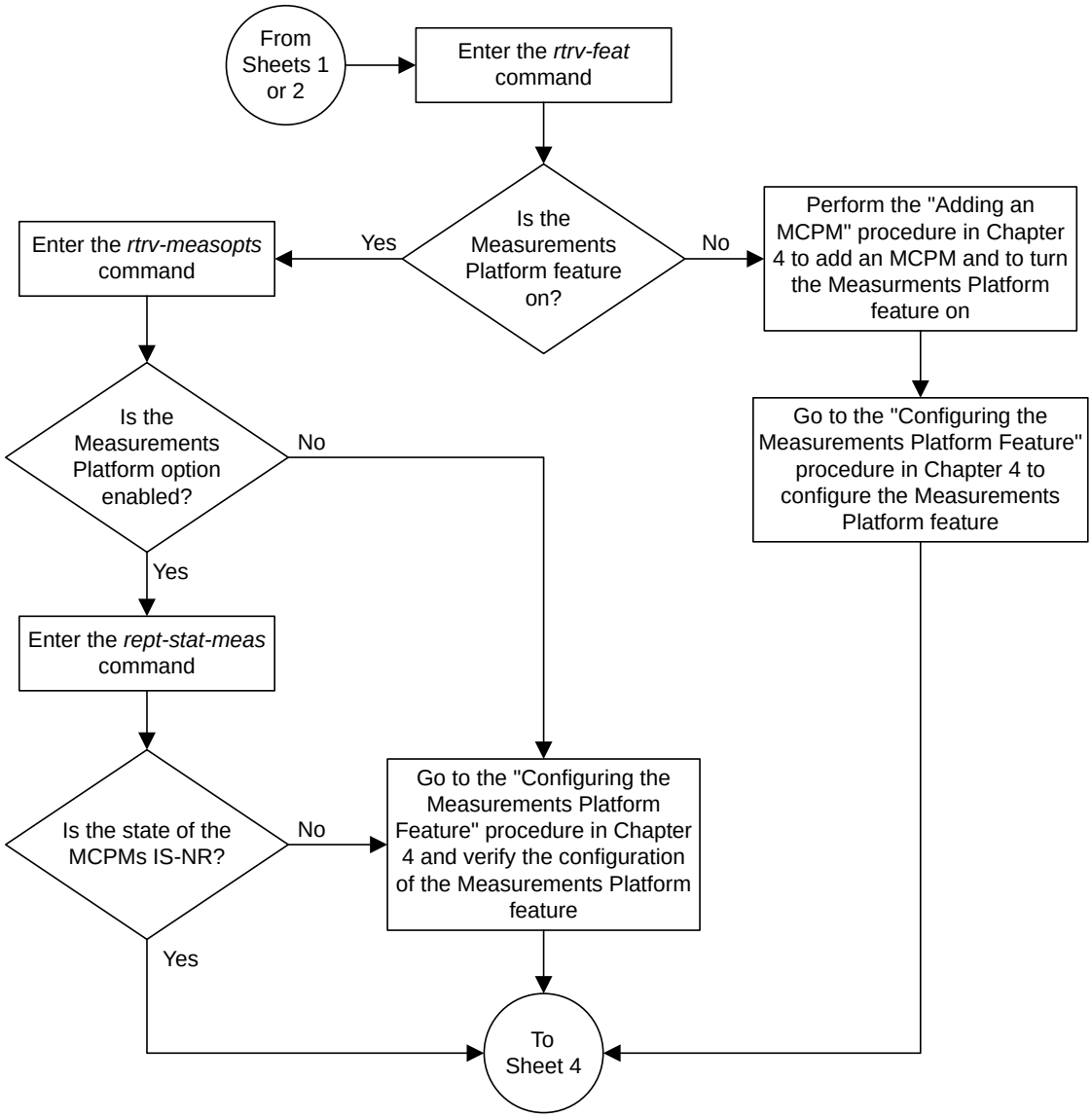
Notes:

1. If the serial number is locked, it cannot be changed.
2. If the serial number is not locked, the controlled feature cannot be enabled.
3. The serial number can be found on a label affixed to the control shelf (shelf 1100).
4. If you do not have the feature access key for this feature, contact your Tekelec sales representative or account representative.

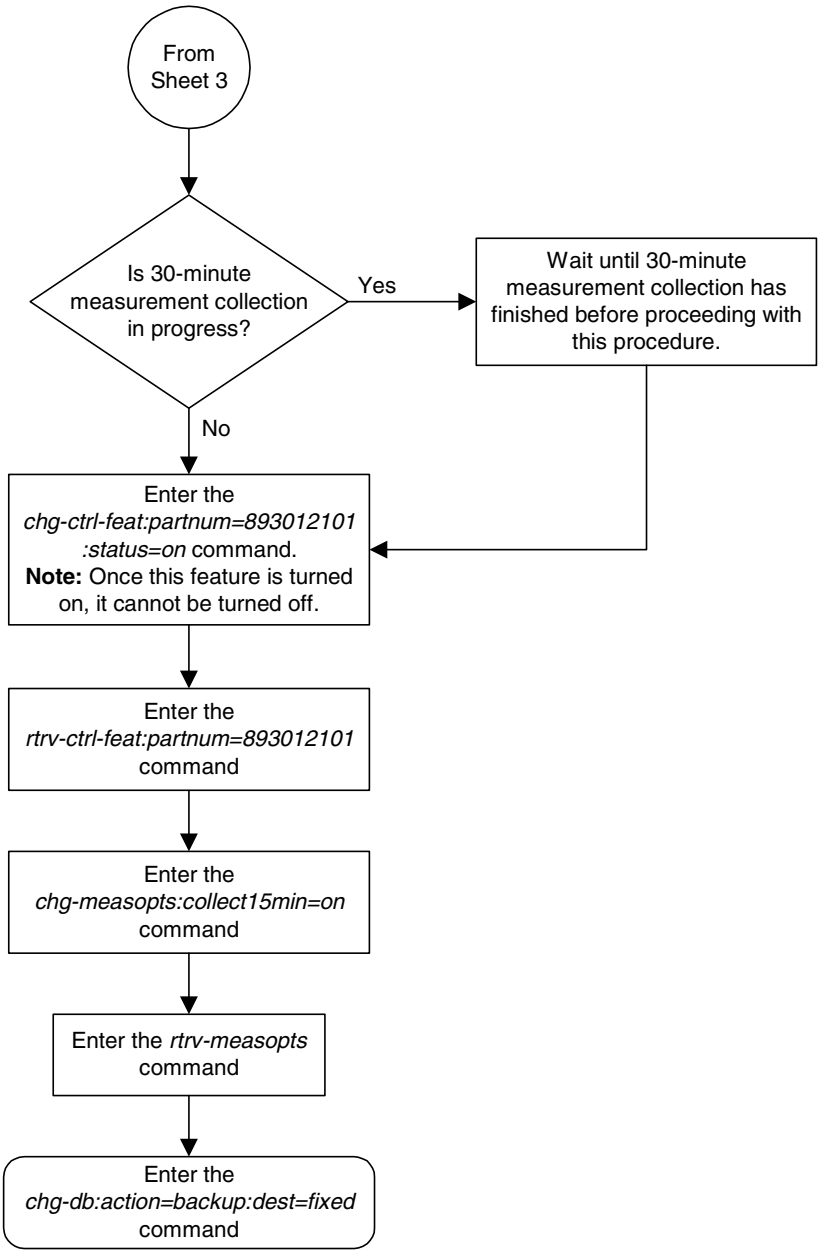
Flowchart A-3. Activating the 15 Minute Measurements Controlled Feature (Sheet 2 of 4)



Flowchart A-3. Activating the 15 Minute Measurements Controlled Feature (Sheet 3 of 4)



Flowchart A-3. Activating the 15 Minute Measurements Controlled 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 06-03-01 21:17:37 GMT EAGLE5 34.3.0
The following features have expired temporary keys:
Feature Name              Part Num
Command Class Management  893005801
```

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=893005801:alarm=clear

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

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

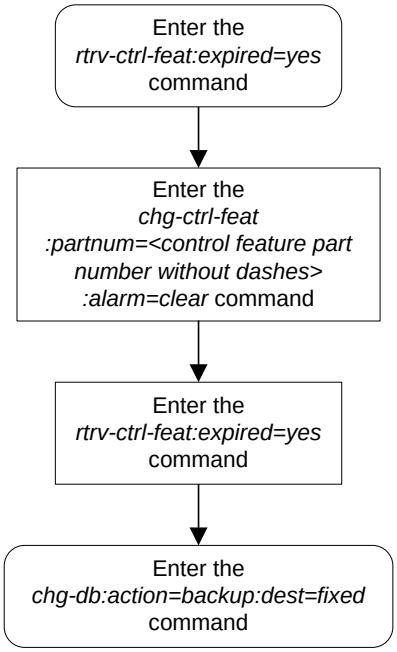
3. Verify that the alarm has cleared in the database by using the **rtrv-ctrl-feat:expired=yes** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 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-4. Clearing a Temporary FAK Alarm



Deactivating Controlled Features

This procedure is used to deactivate these controlled features, Command Class Management, IP User Interface, and Network Security Enhancements using the **chg-ctrl-feat** command.

The **chg-ctrl-feat** command uses the following parameters:

:partnum - The part number of the controlled feature being deactivated.

– Command Class Management – 893005801

– Telnet (IP User Interface) – 893005701

– Network Security Enhancements – 893009101

:status=off – used to deactivate the controlled feature.

The status of the controlled feature being deactivated must be **on** and is shown with the **rtrv-ctrl-feat** command.

CAUTION: If the Command Class Management controlled feature is deactivated, no new user-defined command classes can be created, and the user-defined command classes cannot be assigned to user IDs or terminals.

CAUTION: If the IP User Interface controlled feature is deactivated, all Telnet sessions supported by this feature will be disabled. No changes can be made to the configuration of the Telnet terminals (terminals 17 through 40). Deactivating this feature will also deactivate FTP Retrieve and Replace feature.

Procedure

1. Display the controlled features whose status is **on** by entering the **rtrv-ctrl-feat:status=on** command. The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:17:37 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      ----
XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000
Telnet                    893005701  on      ----
Network Security Enhance  893009101  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.
```

2. Deactivate the controlled feature by entering the **chg-ctrl-feat** command with the **status=off** parameter. For example, enter this command.

   chg-ctrl-feat:partnum=893005801:status=off

   chg-ctrl-feat:partnum=893005701:status=off

   chg-ctrl-feat:partnum=893009101:status=off

   When each of these commands has successfully completed, the following message should appear.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the controlled feature has been deactivated by using the **rtrv-ctrl-feat:partnum=<controlled feature part number>** command. For this example, enter these commands.

   rtrv-ctrl-feat:partnum=893005801

   The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

   rtrv-ctrl-feat:partnum=893005701

   The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Telnet                    893005701  off     ----
```

   rtrv-ctrl-feat:partnum=893009101

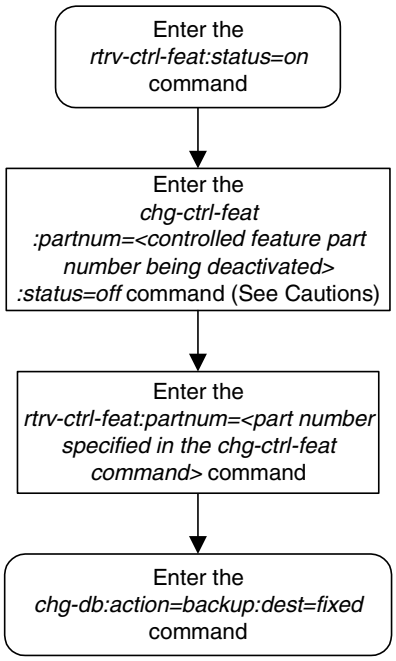
   The following is an example of the possible output.

```
rlghncxa03w 06-03-01 21:16:37 GMT EAGLE5 34.3.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  off     ----
```

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-5. Deactivating Controlled Features



Caution: If the Command Class Management controlled feature is deactivated, no new user-defined command classes can be created, and the user-defined command classes cannot be assigned to user IDs or terminals.

Caution: If the IP User Interface controlled feature is deactivated, all Telnet sessions supported by this feature will be disabled. No changes can be made to the configuration of the Telnet terminals (terminals 17 through 40). Deactivating this feature will also deactivate FTP Retrieve and Replace feature.

Caution: If the Network Security Enhancements controlled feature is deactivated, the network Security Enhancement options will be disabled.

B

Setting Up a Secure Telnet Connection to the EAGLE 5 SAS using PuTTY

This appendix describes the steps to set up a secure telnet connection to to the EAGLE 5 SAS using the PuTTY client program.

The PuTTY client program must be installed on the machine that will be connecting to the EAGLE 5 SAS before this procedure can be performed. The PuTTY client program can be obtained at this website.

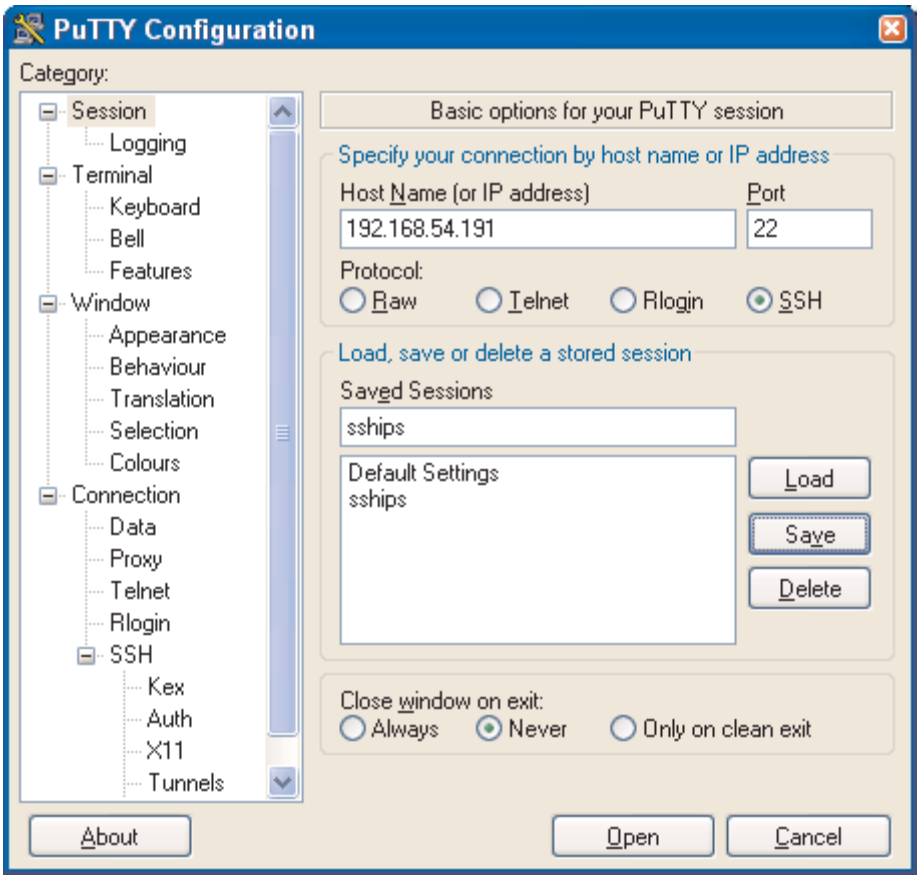
http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

Procedure

NOTE: The examples shown in this procedure are based on version 0.58 of the PuTTY client program.

1. Start the PuTTY client program by double clicking the PuTTY icon on the desktop. The **PuTTY Configuration Window** is displayed. See Figure B-1.

Figure B-1. PuTTY Configuration Window - Initial Session Setup



2. Select **Session** in the **Category** list window in the **PuTTY Configuration** window.

3. Enter the IP address of the IPSM in the EAGLE 5 SAS that is provisioned as a secure SSHD server in the **Host Name (or IP Address)** box. Enter `22` in the **Port** box.

4. Click the **SSH** radio button for the **Protocol** selection.

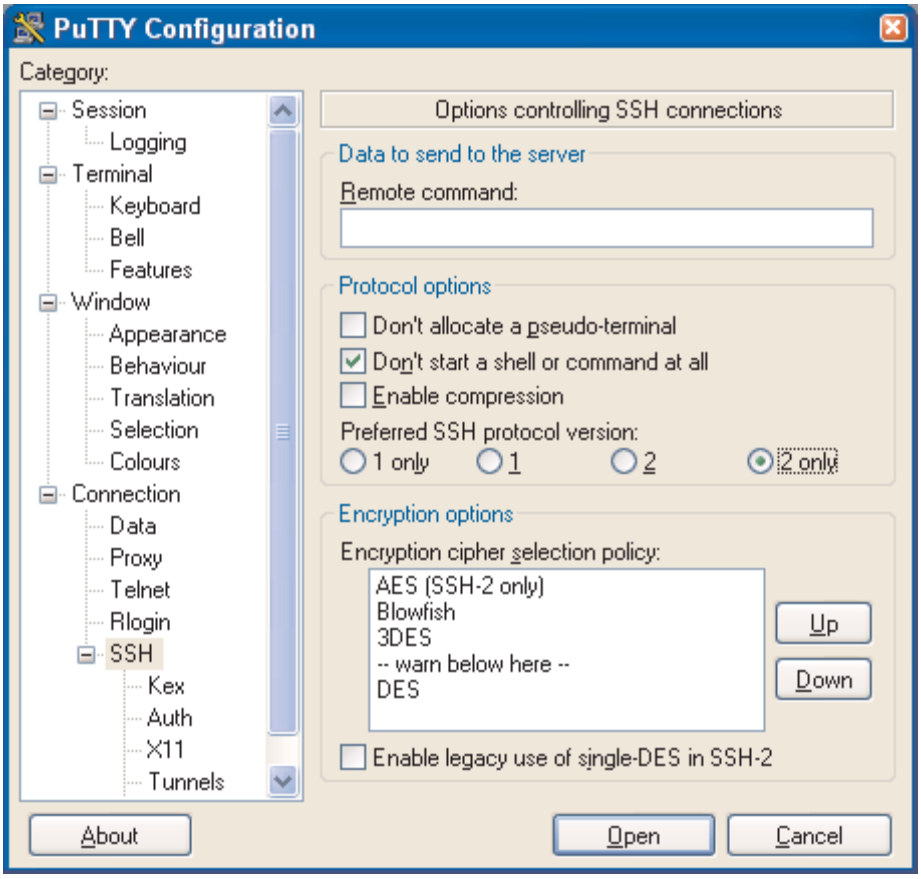
5. Enter a name for this session in the **Saved Sessions** box, for example, **`sships`**.

6. Click the **Never** radio button for the **Close window on exit** option.

7. Click the **Save** button to save this session. For this example, clicking the **Save** button saves the **sships** session.

8. Select **Connection > SSH** in the **Category** list window in the **PuTTY Configuration** window. See Figure B-2.

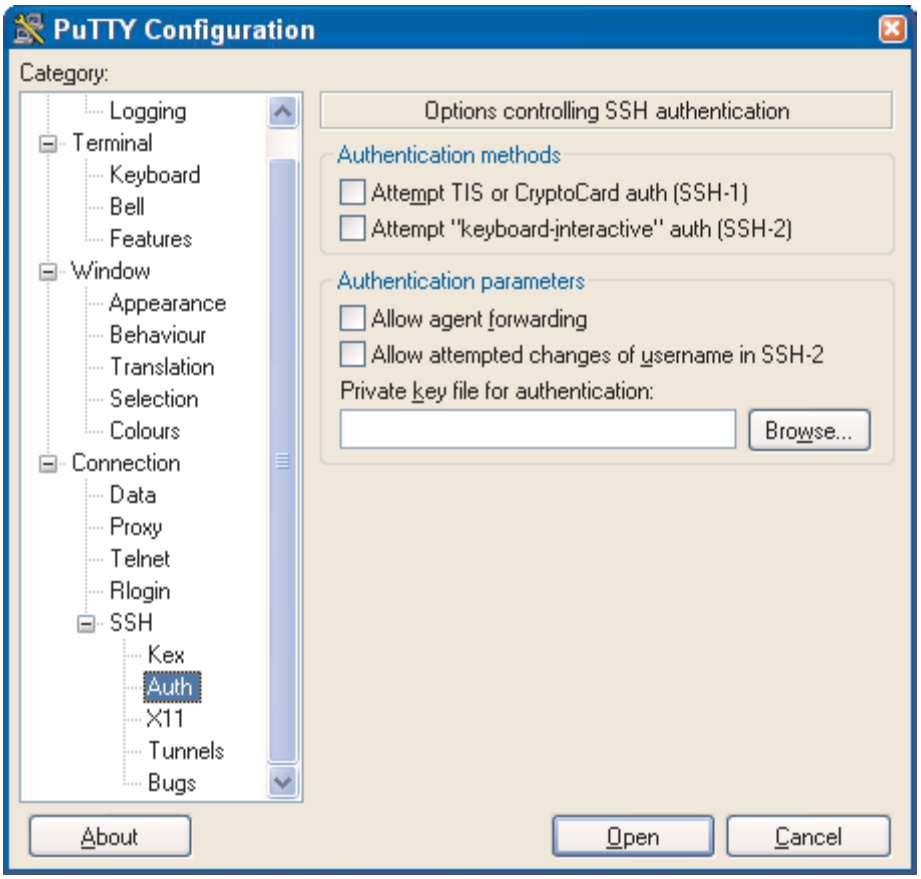
Figure B-2. PuTTY Configuration Window - SSH Connection Setup



9. Click the **2 only** radio button in the **Preferred SSH protocol version:** section of the **PuTYY Configuration** window. Click the **Don't start a shell or command at all** checkbox in the Protocol options section of the **PuTTY Configuration** window. See Figure B-2.

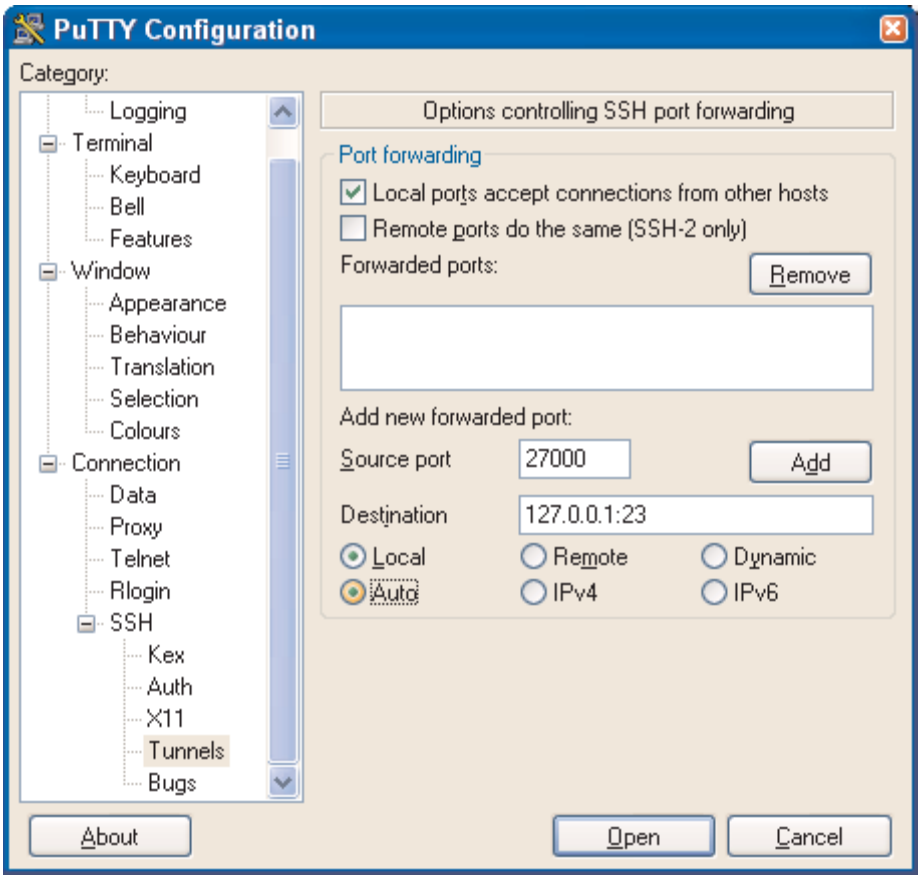
10. Select **Connection > SSH > Auth**. Verify that the checkboxes are not checked. Verify that the **Private key file for authentication** text box is empty. See Figure B-3.

Figure B-3. PuTTY Configuration Window - SSH Auth Setup



11. Select **Connection > SSH > Tunnels**. Click the **Local ports accept connections from other hosts** check box in the **Port Forwarding** section of the **PuTTY Configuration** window (Figure B-4), to accept connections from other hosts.

Figure B-4. PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup



12. In the **Add new forwarded port** section of the **PuTTY Configuration** window (Figure B-4), click the **Local** radio button. Enter the forwarding port on the local machine in the **Source port** box. The **Source port** value must be greater than 1024 and must be available.

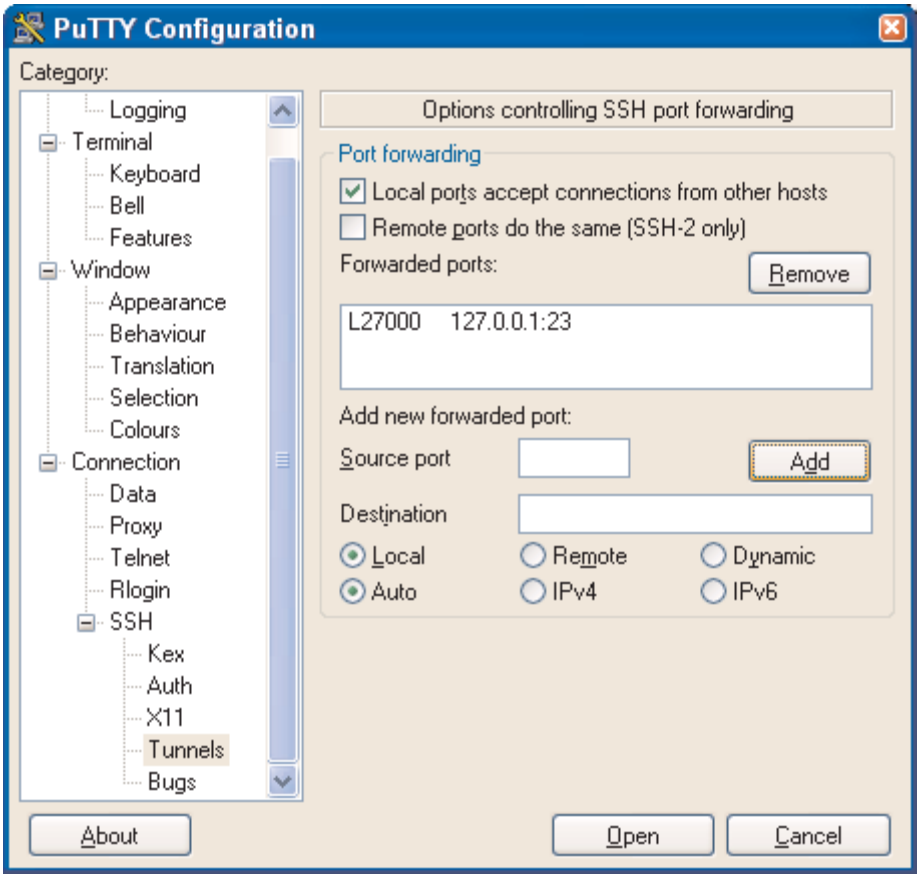
---

13. The **Destination** box in the **Add new forwarded port** section of the **PuTTY Configuration** window (Figure B-4) contains the IP address and port of the remote machine. The forwarding port on the local machine communicates with the IP address and port shown in the **Destination** box. Enter the IP address and port of the remote machine in the **Destination** box.

---

14. Click the **Add** button in the **Add new forwarded port** section of the **PuTTY Configuration** window to complete adding the forwarded port information. The forwarding port (**Source port** value) and the IP address and port of the remote machine (the **Destination** value) appear in the **Forwarded ports:** box and the **Source port** and **Destination** boxes are empty. See Figure B-5.

Figure B-5. PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion



---

15. Select **Session** in the **Category** list window in the **PuTTY Configuration** window. See Figure B-1 on page B-2. Click the **Save** button.

---

16. Click the **Open** button in the **PuTTY Configuration** window. The dialog box shown in Figure B-6 appears. Click the **Yes** button.

Figure B-6. Key Acceptance Dialog Box

The **Login** window is displayed. See Figure B-7.

Figure B-7. PuTTY Login Window

---

17. Press the **Enter** key. Verify that the screen is displayed as shown in Figure B-8.

Figure B-8. Logged in Window for SSH Session

Press the **Enter** key at the prompt to allow an empty login. Minimize this window.

NOTE: This window must not be closed until all the testing is complete and you decide to shutdown the secure shell connection to the EAGLE 5 SAS.

---

18. Initiate a telnet connection to the local host at the forwarded port configured in step 14 (see Figure B-5 on page B-6). At the prompt, enter the **`telnet`** command with the IP address and Source port value shown in Figure B-5 on page B-6. For this example, enter the **`telnet`** command with the IP address 127.0.0.1 and the source port value 27000, as shown in Figure B-9. Press the **Enter** key.

Figure B-9. Telnet Connection to Local Host Forwarded Port

---

19. The connection to the EAGLE 5 SAS is established and functions as any other telnet terminal connected to the EAGLE 5 SAS.

---

20. Verify that all the eight telnet connections assigned to this IPSM can be opened and all EAGLE 5 SAS commands that are allowed to be executed from a telnet terminal can be executed from the telnet terminals assigned to the IPSM.

This procedure is finished.

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