Oracle® Communications EAGLE

Database Administration - System Management User's Guide

Release 46.4

E79810 Revision 1

Decemeber 2016

ORACLE®

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Chapter 1

Introduction

Topics:

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

Overview

Database Administration – System Management User's Guide describes the procedures used to manage and configure these items.

- EAGLE's database and GPLs
- The date and time
- User IDs and passwords
- Terminal configuration
- Shelves
- SS7 LIMs
- 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
- Configuring the Frame Power Alarm Threshold
- SEAS over IP Configuration
- Using PuTTY or OpenSSH to set up a secure telnet connection to the EAGLE.

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 User's Guide*.

Throughout this manual, these terms are used to refer to either the original card or the EPM-B version or other replacement version of the card unless one of the card types is specifically required.

- E5-ENET - the original E5-ENET or the E5-ENET-B card
- E5-ATM - the original E5-ATM or the E5-ATM-B card
- E5-IPSM - the original E5-IPSM or the E5-ENET-B card that is running the IPSHC GPL
- E5-SM4G - the original E5-SM4G or the E5-SM8G-B card (not an EPM-B card)
- MCPM - the original MCPM or the E5-MCPM-B card

Scope and Audience

This manual is intended for database administration personnel or translations personnel responsible for managing the items shown in the *Overview* section.

Documentation Admonishments

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

Table 1: Admonishments

Icon	Description
	Danger: (This icon and text indicate the possibility of *personal injury*.)
	Warning: (This icon and text indicate the possibility of *equipment damage*.)
	Caution: (This icon and text indicate the possibility of *service interruption*.)
	Topple: (This icon and text indicate the possibility of *personal injury* and *equipment damage*.)

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:

Introduction contains general information about the database and the organization of this manual.

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.

GPL Management Procedures describes the procedures used for managing the system data (GPLs) on the EAGLE.

System Administration Procedures describes the procedures used to administer the items shown in the *Introduction*.

SEAS Over IP Configuration Procedures describes the procedures used to configure the EAGLE to support the SEAS over IP feature.

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 guide.

*Setting Up a Secure Telnet Connection to the EAGLE using PuTTY*describes the steps to set up a secure telnet connection to to the EAGLE using the PuTTY client program.

*Setting Up a Secure Telnet Connection to the EAGLE using OpenSSH*describes the steps to set up a secure telnet connection to to the EAGLE using OpenSSH.

Remote Database Backup and Restore Procedures describes the procedures for backing up the database to the DB FTP server and restoring the database from the DB FTP server.

My Oracle Support (MOS)

MOS (*https://support.oracle.com*) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at *http://www.oracle.com/us/support/contact/index.html*. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select **2** for New Service Request
2. Select **3** for Hardware, Networking and Solaris Operating System Support
3. Select one of the following options:
   - For Technical issues such as creating a new Service Request (SR), Select **1**
   - For Non-technical issues such as registration or assistance with MOS, Select **2**

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at *http://www.oracle.com/us/support/contact/index.html*. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability

- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

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

Related Specifications

For information about additional publications that are related to this document, refer to the Oracle Help Center site. See *Locate Product Documentation on the Oracle Help Center Site* for more information on related product publications.

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http://education.oracle.com/communication

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site:

www.oracle.com/education/contacts

Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, *http://docs.oracle.com*. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at *http://www.adobe.com*.

1. Access the Oracle Help Center site at *http://docs.oracle.com*.
2. Click **Industries**.
3. Under the Oracle Communications subheading, click the **Oracle Communications documentation** link.
   The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."
4. Click on your Product and then the Release Number.
   A list of the entire documentation set for the selected product and release appears.
5. To download a file to your location, right-click the **PDF** link, select **Save target as** (or similar command based on your browser), and save to a local folder.

Maintenance and Administration Subsystem

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

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

E5-based Control Cards

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

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

Maintenance Communication Application Processor (E5-MCAP) Card

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

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

Terminal Disk Module (E5-TDM) Card

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

Maintenance Disk and Alarm (E5-MDAL) Card

The E5-MDAL card processes alarm requests and provides fan control. There is only one E5-MDAL card in a control card set. Critical, major, and minor system alarms are provided for up to 6 individual frames. In addition to the 3 system alarms, the E5-MDAL card provides the system audible alarm. The E5-MDAL card provides control of fans on a per-frame basis, and allows for each fan relay to be set individually. The E5-MDAL card is located in slots 1117 and 1118 of the control shelf.

EAGLE Database Partitions

The data that the EAGLE uses to perform its functions are stored in two separate areas: the fixed disk drives, and the removable media. The following sections describe these areas and data that is stored on them. These areas and their partitions are shown in *Figure 1: EAGLE Database Partitions (E5-Based Control Cards)*.

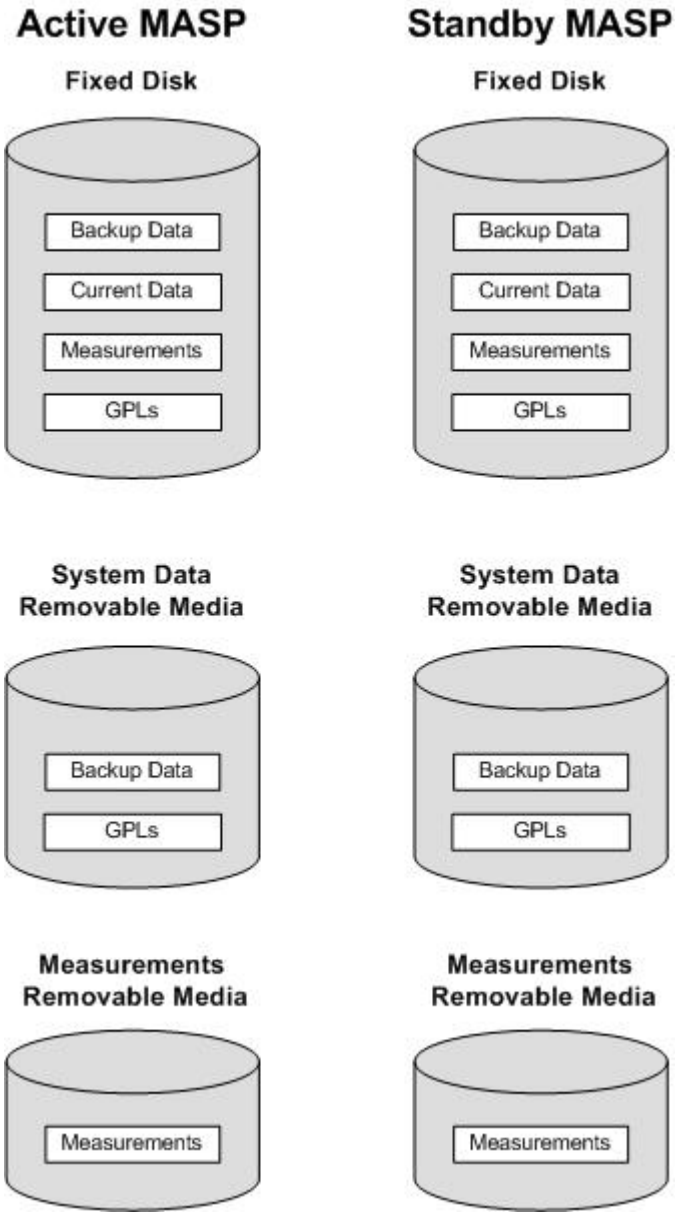


Figure 1: EAGLE Database Partitions (E5-Based Control Cards)

Fixed Disk Drive

There are two fixed disk drives on the EAGLE. The fixed disk drives contain the "master" set of data and programs for the EAGLE. The two fixed disk drives are located on the terminal disk modules (E5-TDMs). Both disks have the same files. The data stored on the fixed disks is partially replicated on the various cards in the EAGLE. 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 affect 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 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 Media

The removable media is used with the E5-MCAP card portion of the E5-MASP in card locations 1113 and 1115.

The removable media is used for two purposes.

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

Because of the size of the data stored on the fixed disk drives on the E5-TDMs, a single removable media cannot store all of the data in the database, GPL and measurements partitions.

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

Additional and preformatted removable media are available from the *My Oracle Support (MOS)*.

Chapter 2

Database Management Procedures

Topics:

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.

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 *Commands User's Guide* 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 media.
  - to the FTP server
- Restoring the database
  - from the backup partition of the fixed disk
  - from the removable media.
  - from the FTP server
- Repairing the database
- Copying the database from the active to the standby fixed disk
- Backing up system data to the removable media
- Restoring system data from a removable media
- Formatting the fixed disk of the standby TDM
- Formatting the removable media.

The procedures for performing database backups to the FTP server and restoring the database from the FTP server are in *Remote Database Backup and Restore Procedures*.

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), and E5-MCAP cards.

The TDM is associated with a specific E5-MCAP card. For example, the TDM in location 1114 is associated with the E5-MCAP card in location 1113 and the combination of these two cards is designated as MASP A. The TDM in location 1116 is associated with the E5-MCAP card in location 1115 and the combination of these two cards designated as MASP B. When MASP A is active, the E5-MCAP card in location 1113 and TDM in location 1114 are active. When MASP A is standby, the E5-MCAP card 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.

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 E5-MCAP card. The entry `STANDBY` in the `SST` field for the E5-MCAP card shows which MASP is standby.

The database commands, such as `rept-stat-db`, refer to the TDM because the TDM contains the fixed disk drive for the MASP.

Refer to *Maintenance and Administration Subsystem* for more information about the Maintenance and Administration Subsystem.

Refer to *Hardware Guide* for more information about the cards that make up the Maintenance and Administration Subsystem.

Removable USB Drive

Purpose:	This section is referenced in this manual by many procedures requiring the use of the removable USB thumb disk in the E5-MASP card. The procedures found in this section are recommended procedures for handling the removable USB drive in the E5-MASP card.
Requirements:	None

Procedure - Remove USB Drive

1. Verify that the removable USB drive is locked in position and in use.

   The removable drive latch (SW1) is in the LOCKED position and the Removable Media Status LED on the E5-MASP is Off. Refer to *Figure 2: Removable USB Drive LOCKED*.

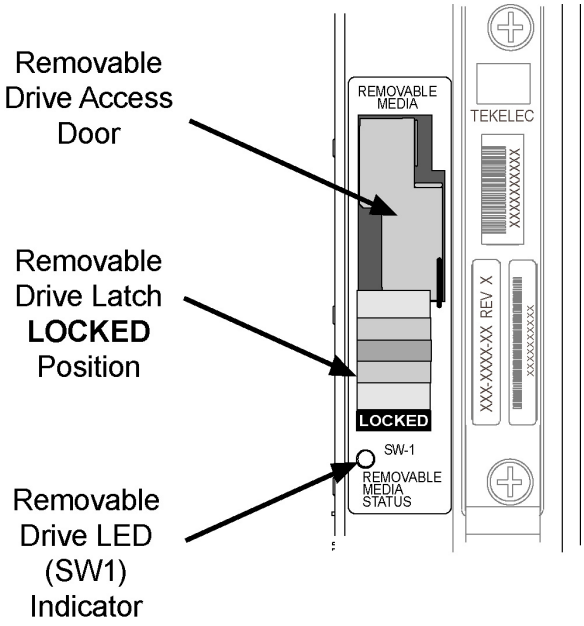


Figure 2: Removable USB Drive LOCKED

2. Move SW1 from the LOCKED to the unlocked position and wait for the LED to indicate a steady blue state. See *Figure 3: Removable USB Drive UNLOCKED*.

   When SW1 is transitioned from locked to unlocked, the LED will flash blue to indicate the drive is unlocked and in process of shutting down.

   CAUTION

   Caution: Removal of the drive prior to the LED indicating steady blue could result in drive corruption.

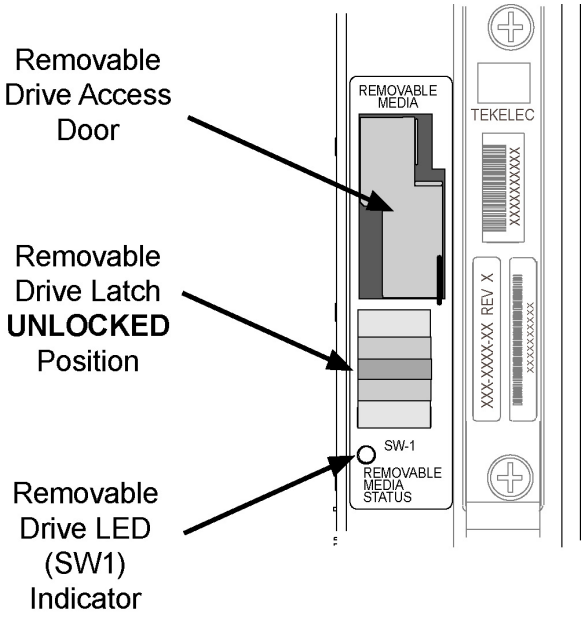


Figure 3: Removable USB Drive UNLOCKED

3. When the LED indicates a steady blue state, the removable USB drive can be safely removed. The LED is off when the USB drive is fully ejected from the drive media.

   The USB drive can now be removed from the drive media.

4. Lift the access door up, swing it past the detent position so that the door remains open on its own.
5. Grasp the pull tab of the slide and pull the slide out slowly until it stops (it travels about a half inch).

Caution: The full travel of the slide is less than an inch, do not try to pull the assembly to expose the full length of the thumb drive as this is beyond the slide's designed travel.

6. The USB drive is disengaged and can be taken from the inject eject assembly.
7. Insert a USB drive into the inject-eject assembly.
8. Grasp the pull tab of the slide and push the slide in slowly until you feel the USB drive is seated in its slot (it travels about a half inch).
9. Close the access door.
10. Move SW1 from the unlocked to the LOCKED position.

    When SW1 is transitioned from unlocked to locked, the LED will flash blue to indicate the drive is locked and in process of coming online.

11. When the LED turns Off, the removable USB drive is ready for use.

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 *Hardware Reference* . The `db` parameter specifies which database to display: `stp` (the EAGLE 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).

For more information about the `rept-stat-db` command, refer to the `rept-stat-db` command description in *Commands User's Guide*.

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'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 *ELAP Administration and LNP Feature Activation Guide* or *EPAP Administration Guide*, 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, refer to *Making a Backup of the Database on the Fixed Disk*.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
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  -    -          -         -
```

If the E5-MASP is being used, this is an example of the `rept-stat-db` output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 DIFF LEVEL             N       45 INCOHERENT
FD CRNT Y      106                        Y      106
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP Y       36 09-02-19 09:27:17 GMT  Y       36 09-02-19 09:27:17 GMT
USB BKP -    -          -         -       Y        3 09-02-07 01:11:22 GMT
```

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, refer to *Making a Backup of the Database to the Removable Media*.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 09-02-01 10:19:18 GMT  Y       35 09-02-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  N      106 INCOHERENT
```

If the E5-MASP is being used, this is an example of the `rept-stat-db` output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       35 09-02-01 10:19:18 GMT  Y       35 09-02-01 10:19:18 GMT
FD CRNT Y      106                        Y      106
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP N      106 INCOHERENT             N      106 INCOHERENT
USB BKP -    -          -         -       Y        3 09-02-01 01:11:22 GMT
```

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, refer to *Restoring the Database from the Backup Partition of the Fixed Disk*. This condition is shown in this example output of the `rept-stat-db` command.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 09-02-01 10:19:18 GMT  Y       35 09-02-01 10:19:18 GMT
FD CRNT  Y       35 DIFF LEVEL             N       68 INCOHERENT
         MDAL 1117
         - --------
RD BKUP  -    -          -         -
```

If the E5-MASP is being used, this is an example of the `rept-stat-db` output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- --------------------- - -------- ---------------------
FD BKUP  Y       35 09-02-01 10:19:18 GMT  Y       35 09-02-01 10:19:18 GMT
FD CRNT  Y       35 DIFF LEVEL             N       68 INCOHERENT
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP Y       36 09-02-01 09:27:17 GMT  Y       36 09-02-01 09:27:17 GMT
USB BKP -    -          -         -       Y        3 09-02-01 01:11:22 GMT
```

- 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, refer to *Restoring the Database from the Removable Media*. This condition is shown in this example output of the `rept-stat-db` command.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 009-02-01 10:19:18 GMT  Y       35 09-02-01 10:19:18 GMT
FD CRNT  Y      106 DIFF LEVEL             N       93 INCOHERENT
         MDAL 1117
         - --------
RD BKUP  Y      106 09-01-31 14:29:03 GMT
```

If the E5-MASP is being used, this is an example of the `rept-stat-db` output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- --------------------- - -------- ---------------------
FD BKUP  Y       35 09-02-01 10:19:18 GMT  Y       35 09-02-01 10:19:18 GMT
FD CRNT  Y      106 DIFF LEVEL             N       93 INCOHERENT
```

```
        MCAP 1113                          MCAP 1115
        - --------                         - --------
RD BKUP Y      106 09-01-31 14:29:03 GMT  Y      106 09-01-31 14:29:03 GMT
USB BKP -    -         -        -         Y        3 09-01-15 01:11:22 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, refer to *Repairing the Database*. This condition is shown in this example output of the `rept-stat-db` command.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
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 the E5-MASP is being used, this is an example of the `rept-stat-db` output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
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
        MCAP 1113                          MCAP 1115
        - --------                         - --------
RD BKUP Y      106 09-01-31 14:29:03 GMT  Y      106 09-01-31 14:29:03 GMT
USB BKP -    -         -        -         Y        3 09-01-15 01:11:22 GMT
```

If, after executing the appropriate change database command, the database is still not coherent, contact the Customer Care Center. Refer to *My Oracle Support (MOS)* for the contact information.

Backing Up the Database Locally

The **backup** procedures should be performed according to the preventive maintenance procedures in Chapter 2, "Preventive Maintenance," of *Maintenance Guide*. The procedures copy the current database to either the inactive (backup) partition on the fixed disk or to the removable media. 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.

- `fixed` – the backup partition of the fixed disk.
- `remove` – the removable media for E5-based control cards installed in the EAGLE.

The database can also be backed up to the FTP server. Perform the procedure *Making a Backup of the Database to the FTP Server* to backup the database to the FTP server.

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, refer to *Verifying the Database*.

1. Verify that the databases in the current partitions of both MASPs (FDCRNT) are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
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 E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY )                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y       106                        Y      106
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y      106 09-02-08 14:29:03 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 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 4: Backup Action on the Fixed Disk*.

   Note: If this command takes more than 60 minutes to execute, contact *My Oracle Support (MOS)*.

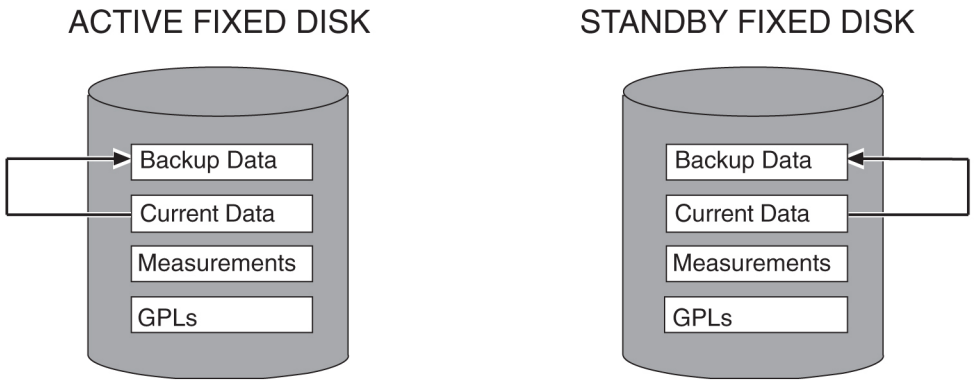


Figure 4: Backup Action on the Fixed Disk

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 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
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
```

   If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY )                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP Y       106 09-03-01 16:09:18 GMT  Y      106 09-03-01 16:09:18 GMT
FD CRNT Y       106                        Y      106
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y      106 09-02-08 14:29:03 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 GMT
```

Making a Backup of the Database to the Removable Media

This procedure is used to make a backup of the database to the or removable media 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, refer to *Verifying the Database*.

Formatting blank removable media for E5-based control cards that are installed in the EAGLE is required. If the removable media is not formatted, perform *Formatting Removable Media* to format the media.

1. Verify that the database in the current partition of the active MASP (FDCRNT) is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-13 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY)                 E5TDM 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
         E5MDAL 1117
         - --------
RD BKUP  -    -         -         -
```

   The following is an example of the possible output.

```
rlghncxa03w 06-03-13 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                  E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y       106                        Y      106
        E5MCAP 1113                         E5MCAP 1115
        - --------                         - --------
RD BKUP -    -         -         -         -    -         -         -
USB BKP -    -         -         -         -    -         -         -
```

   If the database in the current partition of the active MASP is not coherent, refer to *Verifying the Database* to resolve the database problem.

   If the database in the current partition of the active MASP is coherent, or after the database problem has been resolved, continue the procedure by performing one of these steps.

2. The database can be backed up to the removable media in the active MASP or in both MASPs (if the removable media is present in both MASPs).

   Perform one of these substeps.

   a) If the database will be backed up to the removable media in both MASPs, check the removable media drives in both MASPs for removable media.

If removable media is present in both MASPs, continue the procedure by performing one of these steps.

- If the removable media will be used for the backup, continue the procedure with *Step 3*. When the backup is performed, the database in the current partition of each fixed disk is copied to the corresponding removable media on each MASP.
- If the removable media will not be used for the backup, remove the media that will not be used for the backup and insert the media that will be used for the backup. Refer to *Removable USB Drive* for information about removing and inserting the removable media. After the media has been inserted into the removable media drives, continue the procedure with *Step 3*.

If the removable media drives in both MASPs are empty, insert the media that will be used for the backup. Refer to *Removable USB Drive* for information about inserting the removable media. After the media has been inserted into the removable media drives, continue the procedure with *Step 3*.

If the removable media drive in only one MASP contains removable media, continue the procedure by performing one of these steps.

- If the removable media that is present will be used for the backup, insert the media that will be used for the backup into the empty removable media drive. Refer to *Removable USB Drive* for information about inserting the removable media. After the media has been inserted into the removable media drive, continue the procedure with *Step 3*.
- If the removable media that is present will not be used for the backup, remove the media from that removable media drive and insert the media that will be used for the backup into both removable media drives. Refer to *Removable USB Drive* for information about removing and inserting the removable media. After the media has been inserted into the removable media drives, continue the procedure with *Step 3*.

b) If the database will be backed up to the removable media in only one MASP, the removable media must be inserted in the removable media drive on the active MASP. Check the removable media drives in both MASPs for removable media.

If removable media is inserted into the removable media drive on active MASP and no removable media is inserted into the removable media drive on the standby MASP, and this media will be used for the backup, continue the procedure with *Step 3*. When the backup is performed, the database in the current partition of the fixed disk on the active MASP is copied to the removable media on the active MASP.

If removable media is inserted into the removable media drive on active MASP and no removable media is inserted into the removable media drive on the standby MASP, and this media will not be used for the backup, remove the media from the removable media drive and insert the media that will be used for the backup into the removable media drive on the active MASP. After the media has been inserted, continue the procedure with *Step 3*.

If removable media is inserted into the removable media drive on standby MASP and no removable media is inserted into the removable media drive on the active MASP, remove the media from the removable media drive and insert the media that will be used for the backup into the removable media drive on the active MASP. After the media has been inserted, continue the procedure with *Step 3*.

If removable media drives in both MASPs are empty, insert the media that will be used for the backup into the removable media drive on the active MASP. After the media has been inserted, continue the procedure with *Step 3*.

3. Backup the database by entering this command.

   `chg-db:action=backup:dest=remove`

   During command execution, these messages should appear.

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

   Note: 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. If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

4. Verify that the databases on the removable media (RD BKUP on both MASPs or the active MASP if the backup was performed only to the removable media on the active MASP) and the current partition of the active MASP (FD CRNT) are coherent using the `rept-stat-db` command.

   If the database was backed up to the removable media, this is an example of the possible output.

```
rlghncxa03w 06-03-13 16:07:48 GMT  EAGLE5 45.5.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y       106                        Y      106
        E5MCAP 1113                          E5MCAP 1115
        - --------                          - --------
RD BKUP Y       106 09-03-23 16:09:53 GMT  Y      106 09-03-23 16:09:53 GMT
USB BKP -    -         -        -         -    -         -        -
```

   Note: If the database was backed up to only the removable media on the active MASP, then only the RD BKUP entry for the active MASP (in this example, MCAP 1115) is displayed.

5. If the database was backed up to the removable media, remove the removable media from the removable media drives on the MASPs. For more information on removing the removable media from the removable media drives, refer to *Removable USB Drive*.
6. Label the removable media 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 media, see Chapter 2, "Preventive Maintenance," in *Maintenance Guide*.

Restoring the Database Locally

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 media on to 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 that is being restored.

- fixed – the backup partition of the fixed disk.
- remove – the removable media for E5-based control cards installed in the EAGLE.
- sloc – the source location (either 1113 or 1115) of the MASP that contains the removable media from which the database will be restored. The sloc parameter can be specified only with the src=remove parameter.

The database can also be restored from the FTP server. Perform the procedure *Restoring the Database from the FTP Server*, to restore the database from the FTP server.

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 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
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,refer to *Verifying the Database*.

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

1. Verify that the databases in the backup partitions of both MASPs (FD BKUP) are coherent using the rept-stat-db command.

   The following is an example of the possible output:

```
rlghncxa03w 13-07-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY)                 E5TDM 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
         E5MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

The following is an example of the possible output:

```
rlghncxa03w 13-06-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y       106                        Y      106
        E5MCAP 1113                         E5MCAP 1115
        - --------                          - --------
RD BKUP -    -         -        -          -    -         -        -
USB BKP -    -         -        -          -    -         -        -
```

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 *My Oracle Support (MOS)* 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 5: Restore Action on the Fixed Disk*.

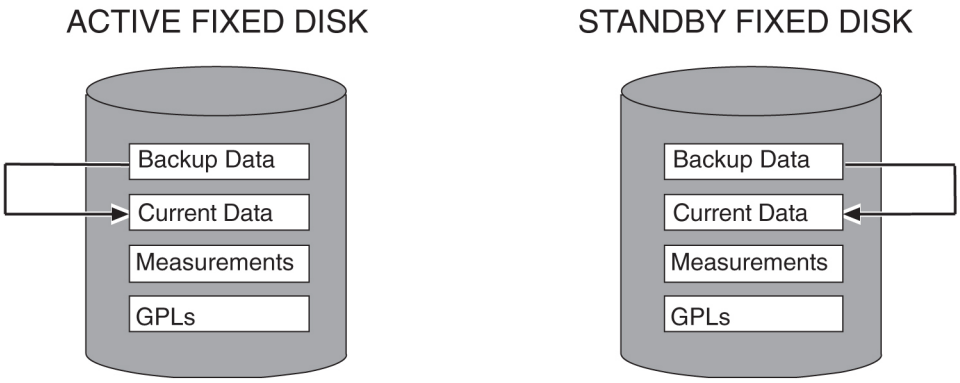


Figure 5: Restore Action on the Fixed Disk

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

Caution: The `init-sys` command causes a complete reload of the EAGLE 5, 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.

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

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

```
rlghncxa03w 06-10-01  07:05:01 GMT  EAGLE5 36.0.0
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 06-10-01  07:05:17 GMT  EAGLE5 36.0.0
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). If the EAGLE 5 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 in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 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 has finished reinitializing.

4. Log into the EAGLE 5 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.

```
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 13-06-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY)                E5TDM 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
```

```
         E5MDAL 1117
         - --------
RD BKUP  -    -         -         -
```

The following is an example of the possible output:

```
rlghncxa03w 13-07-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y        35                        Y       35
        E5MCAP 1113                         E5MCAP 1115
        - --------                          - --------
RD BKUP -    -         -         -          -    -         -         -
USB BKP -    -         -         -          -    -         -         -
```

Restoring the Database from the Removable Media

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

Removable media that contains the database being restored must be inserted into the removable media drive in one or both of the MASPs. When the database is being restored, the database on the removable media in one of the MASPs is copied to the current partition of both fixed disks. The removable media to copy the database from is specified with the `sloc` parameter. The value of the `sloc` parameter is the location of the MASP that contains the removable media, either 1113 or 1115, that the database will be copied from. The `sloc` parameter is optional. If the `sloc` parameter is not specified, the database will be copied from the removable media in the active MASP. If removable media is installed in both MASPs, and the database levels of the removable media are not the same, the `sloc` parameter must be specified with the `chg-db` command. The database on the removable media (RD BKUP) must be coherent. If the database on the removable media is not coherent, contact the Customer Care Center for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

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.

1. Verify the control cards that are installed in the EAGLE.

   Refer to *Maintenance and Administration Subsystem* for information about the control cards.

2. Verify that the database on the removable media (RD BKUP) is coherent using the `rept-stat-db` command.

   a) The following is an example of the possible output.

```
rlghncxa03w 06-10-13 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
```

```
FD BKUP Y        35 09-10-01 10:19:18 GMT  Y       35 09-10-01 10:19:18 GMT
FD CRNT Y        95                        Y       95
        E5MCAP 1113                          E5MCAP 1115
        - --------                         - --------
RD BKUP Y       106 09-09-30 16:09:53 GMT  Y      106 09-09-30 16:09:53 GMT
USB BKP -    -          -        -         -    -          -        -
```

If removable media is installed in the MASP that you wish to use to restore the database, and you wish to use this media to restore the database, continue the procedure by performing one of these actions.

- If the database is coherent, continue the procedure with *Step 3*.
- If the database is not coherent, contact the Customer Care Center for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

If removable media is installed in the MASP that you wish to use to restore the database, but you do not wish to use this media to restore the database, continue the procedure by performing these actions.

- Remove the media from the removable media drive.
- Insert the removable media that does contain the database that you wish to use to restore the database into the removable media drive that you wish to use.
- Enter the `rept-stat-db` command.
- If the database is coherent, continue the procedure with *Step 3*.
- If the database is not coherent, contact the Customer Care Center for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

If removable media is not installed in the MASP that you wish to use to restore the database, continue the procedure by performing these actions.

- Insert the removable media that does contain the database that you wish to use to restore the database into the removable media drive that you wish to use.
- Enter the `rept-stat-db` command.
- If the database is coherent, continue the procedure with *Step 3*.
- If the database is not coherent, contact the Customer Care Center for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

3. Restore the database by performing one of these substeps.
   a) Enter the following command.

   ```
   chg-db:action=restore:src=remove
   ```

   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 drive complete.
```

Note: 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. If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

After this command has completed, continue the procedure with *Step 4*.

b) When the database is being restored from removable media, the database on the removable media in one of the MASPs is copied to the current partition of both fixed disks.

The removable media to copy the database from can be specified with the `sloc` parameter. The value of the `sloc` parameter is the location of the MASP that contains the removable media, either 1113 or 1115, that the database will be copied from. The `sloc` parameter is optional. If the `sloc` parameter is not specified, the database will be copied from the removable media in the active MASP. If removable media is installed in both MASPs, and the database levels of the removable media are not the same, the `sloc` parameter must be specified with the `chg-db` command.

For this example, enter this command.

```
chg-db:action=restore:src=remove:sloc=1113
```

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 drive complete.
```

Note: 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. If this command takes more than 60 minutes to execute, contact My Oracle Support for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

After this command has completed, continue the procedure with *Step 4*.

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

Caution: The `init-sys` command causes a complete reload of the EAGLE, 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.

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

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

```
rlghncxa03w 06-10-01  07:05:01 GMT  EAGLE5 36.0.0
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 06-10-01  07:05:17 GMT  EAGLE5 36.0.0
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 5* (logging into the EAGLE). If the EAGLE 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 in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 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 has finished reinitializing.

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

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

```
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
```

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

   The following is an example of the possible output:

```
rlghncxa03w 06-10-13 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )               E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP Y        35 09-10-01 10:19:18 GMT  Y       35 09-10-01 10:19:18 GMT
FD CRNT Y        95                        Y       95
        E5MCAP 1113                        E5MCAP 1115
        - --------                         - --------
RD BKUP Y       106 09-09-30 16:09:53 GMT  Y      106 09-09-30 16:09:53 GMT
USB BKP -    -         -        -         -    -         -        -
```

   This procedure is finished.

7. Remove the removable media from the removable media drive on the E5-MDAL card.

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 6: Action of the Repair Procedure* 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

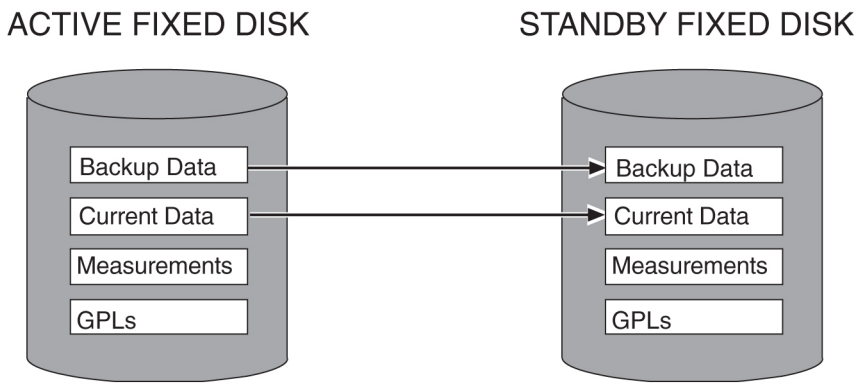


Figure 6: Action of the Repair Procedure

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, refer to *Verifying the Database*.

CAUTION

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

1. Verify that the databases in the current (FDCRNT) and the backup (FDBKUP) partitions of the active MASP are coherent using the `rept-stat-db`command.

   This is an example of the possible output.

```
rlghncxa03w 13-07-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> NOT OK <<
         E5TDM 1114 ( STDBY)               E5TDM 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
         E5MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

   If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 13-07-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
         E5TDM 1114 ( STDBY )              E5TDM 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
        E5MCAP 1113                        E5MCAP 1115
         - --------                       - --------
RD BKUP -    -         -        -         -    -         -        - GMT
USB BKP -    -         -        -         -    -         -        - GMT
```

2. Display the terminal configuration in the database with the `rtrv-trm` command.

The SEAS terminals are shown in the output with the entry SEAS in the TYPE field. This is an example of the possible output. In this example, the SEAS terminals are terminals 18 and 27. If no SEAS terminals are shown in the `rtrv-trm` command output, go to step 5.

```
rlghncxa03w 10-07-01 16:02:08 GMT EAGLE5 42.0.0
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-O-1  NONE  30    5     00:00:30
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-O-1  NONE  30    5     00:00:30
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   SEAS      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
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   SEAS      1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   TELNET    1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
38   TELNET    1205             60    5     00:30:00   yes
39   TELNET    1205             60    5     00:30:00   yes
40   TELNET    1205             60    5     00:30:00   yes
```

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

3. Display the status of the terminals with the `rept-stat-trm` command with the terminal number of the SEAS terminals.

   For this example, enter these commands.

   ```
   rept-stat-trm:trm=18
   ```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
18     IS-NR         Active        -----
Command Completed.
```

`rept-stat-trm:trm=27`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
27     IS-NR         Active        -----
Command Completed.
```

4. Place the SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in step 3 whose state is not OOS-MT-DSBLD.

   The `force=yes` parameter must be used when placing the last SEAS terminal out of service.

   For this example, enter these commands.

   `rmv-trm:trm=18`

   `rmv-trm:trm=27:force=yes`

   If the status of the SEAS 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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 *My Oracle Support (MOS)*.

   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.

The following is an example of the possible output:

```
rlghncxa03w 13-07-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
         E5TDM 1114 ( STDBY )              E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  N       55 09-03-01 13:11:43 GMT  Y       55 09-03-01 13:11:43 GMT
FD CRNT  N       55                        Y       55
        E5MCAP 1113                       E5MCAP 1115
         - --------                       - --------
RD BKUP -    -         -        -         -    -         -        - GMT
USB BKP -    -         -        -         -    -         -        - GMT
```

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

7. Put the SEAS terminals back into service with the `rst-trm` command with the number of the terminals specified in step 4.

   For this example, enter these commands.

   `rst-trm:trm=18`

   `rst-trm:trm=27`

   This message should appear when each command has successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Allow message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

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 7: Action of the Copy Disk Procedure* shows the action of the `copy-disk` command.

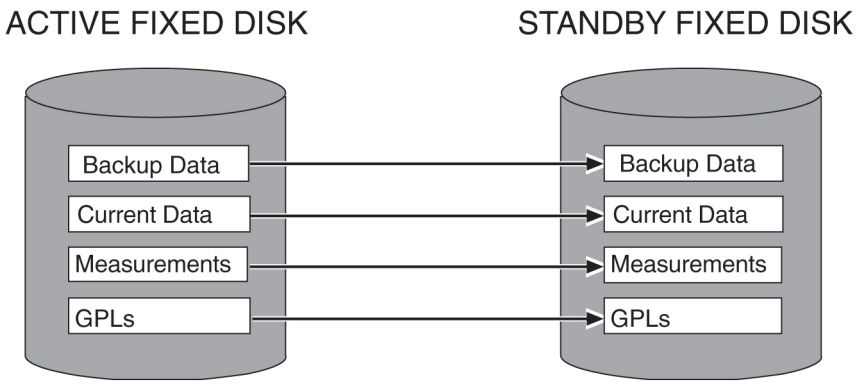


Figure 7: Action of the Copy Disk Procedure

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 My Oracle Support for assistance. Refer to *My Oracle Support (MOS)* for the contact information. If the `copy-disk` operation without the low-level format exceeds 1.5 hours, contact My Oracle Support.

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, refer to the *Verifying the Database* section. 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 SEAS terminals must be placed out of service with the `rmv-trm` command before executing the `copy-disk` command.

1. Verify that the databases in the current (FDCRNT) and the backup (FDBKUP) partitions of the active MASP are coherent using the `rept-stat-db`command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> NOT OK <<
        E5TDM 1114 ( STDBY)                 E5TDM 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
         E5MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

   If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                  E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       75 09-02-19 10:19:18 GMT  Y       95 09-02-19 10:19:18 GMT
FD CRNT  N       55 DIFF LEVEL             Y      105
        E5MCAP 1113                        E5MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         -    -         -        -
USB BKP -    -         -        -         -    -         -        -
```

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

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
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 *Commands User's Guide*.

   - If the Measurements Platform is enabled, continue the procedure with *Step 5*.
   - If the Measurements Platform is not enabled, continue the procedure with *Step 3*.

3. 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 06-10-01 12:22:55 GMT EAGLE5 36.0.0
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
```

- If measurement collection is off, continue the procedure with *Step 5*.
- If measurement collection is on, continue the procedure with *Step 4*.

4. Inhibit all measurements using the `chg-meas:collect=off` command.

Caution: Measurement collection must be turned off 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 turn off measurement collection at midnight since doing so can cause the loss of an entire day of measurements. For the period of time that measurement collection is turned off, those measurements will be lost.

This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

5. 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 06-10-01 15:59:06 GMT EAGLE5 36.0.0
             -- 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, continue the procedure with *Step 7*.

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, continue the procedure with *Step 6*.

6. 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 06-10-01 15:59:06 GMT EAGLE5 36.0.0
Security log on E5TDM 1116 copied to file 961004s.log on E5TDM 1114
```

7. Display the terminal configuration in the database with the `rtrv-trm` command.

   The SEAS terminals are shown in the output with the entry SEAS in the TYPE field. This is an example of the possible output. In this example, the SEAS terminals are terminals 18 and 27. If no SEAS terminals are shown in the `rtrv-trm` command output, continue the procedure with *Step 10*.

```
rlghncxa03w 10-07-01 16:02:08 GMT EAGLE5 42.0.0
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-O-1   NONE  30    5     00:00:30
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-O-1   NONE  30    5     00:00:30
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   SEAS      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
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   SEAS      1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   TELNET    1205             60    5     00:30:00   yes
```

```
37   TELNET    1205            60    5     00:30:00   yes
38   TELNET    1205            60    5     00:30:00   yes
39   TELNET    1205            60    5     00:30:00   yes
40   TELNET    1205            60    5     00:30:00   yes
```

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

If SEAS terminals are not shown in the `rtrv-trm` output, continue the procedure with *Step 10*.

If SEAS terminals are shown in the `rtrv-trm` output, continue the procedure with *Step 8*.

8. Display the status of the SEAS terminals with the `rept-stat-trm` command with the terminal number of the SEAS terminals.

   For this example, enter these commands.

   `rept-stat-trm:trm=18`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
18    IS-NR         Active        -----
Command Completed.
```

   `rept-stat-trm:trm=27`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
27    IS-NR         Active        -----
Command Completed.
```

9. Place the SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in *Step 8* whose state is not OOS-MT-DSBLD.

   The `force=yes` parameter must be used when placing the last SEAS terminal out of service.

   For this example, enter these commands.

   `rmv-trm:trm=18`

   `rmv-trm:trm=27:force=yes`

   If the status of the SEAS terminals shown in the `PST` field in *Step 8* 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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal
```

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

10. Enter the `copy-disk` command along with the card location of the standby E5-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 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 My Oracle Support for assistance. Refer to *My Oracle Support (MOS)* for the contact information. If the `copy-disk` operation without the low-level format exceeds 1.5 hours, contact My Oracle Support.

    Warning: Failure of the `copy-disk` command may result in corrupted E5-TDMs. If you experience a `copy-disk` command failure, contact the My Oracle Support for assistance. Refer to *My Oracle Support (MOS)* for the contact information.

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

```
    rlghncxa03w 06-10-01 10:22:05 GMT EAGLE5 36.0.0
    copy-disk:sloc=1116:dloc=1114:force=yes
    Command entered at terminal #3.
;

    rlghncxa03w 06-10-01 10:22:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-10-01 10:22:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format of standby disk started
;

    rlghncxa03w 06-10-01 10:27:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format in progress
;
    rlghncxa03w 06-10-01 10:32:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format in progress
;

    rlghncxa03w 06-10-01 11:07:05 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format of standby disk completed
;

    rlghncxa03w 06-10-01 11:07:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copying to standby disk started
```

```
;

    rlghncxa03w 06-10-01 11:12:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:27:10 GMT EAGLE5 36.0.0
    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 06-10-01 10:22:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-10-01 11:07:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copying to standby disk started
;

    rlghncxa03w 06-10-01 11:12:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:17:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:22:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:27:08 GMT EAGLE5 36.0.0
    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.

- If measurement collection was turned off in *Step 4*, continue the procedure with *Step 11*.
- If measurement collection was not turned off in *Step 4*, continue the procedure with *Step 12*.

11. Turn measurement collection on using the `chg-meas:collect=on` command.

This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

12. Verify that the databases of both MASPs are coherent using the `rept-stat-db` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY)                 E5TDM 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
         E5MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                  E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP Y        95 09-02-19 10:19:18 GMT  Y       95 09-02-19 10:19:18 GMT
FD CRNT Y       105                        Y      105
        E5MCAP 1113                         E5MCAP 1115
        - --------                         - --------
RD BKUP -    -         -        -         -    -         -        -
USB BKP -    -         -        -         -    -         -        -
```

If SEAS terminals are shown in the `rtrv-trm` command output in *Step 7*, continue the procedure with *Step 13*. Otherwise this procedure is completed.

13. Put the SEAS terminals back into service using the `rst-trm` command with the number of the terminals specified in *Step 9*.

    For this example, enter these commands.

    `rst-trm:trm=18`

    `rst-trm:trm=27`

    This message should appear when each command has successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Allow message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

Backing Up System Data to the Removable Media

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).

1. Perform *Making a Backup of the Database to the Removable Media* to make a backup of the database to the removable cartridge or removable media. Perform this procedure without performing the last two steps (removing the media) and labeling the media. After the backup of the database has been made, continue the procedure with *Step 2*.
2. Make a backup copy of the GPLs on the fixed disk of the active E5-TDM to the removable media using the `copy-gpl` command. Perform the following substep.
   a) If the removable media was used to make the backup of the database, the GPLs are copied from the active E5-TDM to the removable media on the active MASP. For this example, enter this command.

      `copy-gpl:sloc=1116:dloc=1115:ddrv=remove`

      During command execution, these messages should appear.

```
    rlghncxa03w 09-03-01 14:50:46 GMT EAGLE5 40.1.0
    COPY-GPL: MASP B - COPY STARTS ON ACTIVE MASP
;

    rlghncxa03w 09-03-01 14:50:46 GMT EAGLE5 40.1.0
    COPY GPL: MASP B - COPY TO REMOVABLE DRIVE COMPLETE
```

3. Verify the GPLs on the removable media with the `rtrv-gpl` command.

   This is an example of the possible output.

```
rlghncxa03w 8-12-13 07:01:08 GMT EAGLE5 46.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SIPHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
SIPHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
SIPHC     1115  -----------  -----------      -----------  -----------
CDU       1114  163-001-000  163-001-000      163-000-000  163-001-000
CDU       1116  163-001-000  163-001-000      163-000-000  163-001-000
CDU       1115  -----------  -----------      -----------  -----------
IMT       1114  134-003-000  134-003-000      134-002-000  134-003-000
IMT       1116  134-003-000  134-003-000      134-002-000  134-003-000
IMT       1115  -----------  -----------      -----------  -----------
BLMCAP    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLMCAP    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLMCAP    1115  -----------  -----------      -----------  -----------
OAMHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
OAMHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
OAMHC     1115  -----------  -----------      -----------  -----------
HIPR2     1114  134-003-000  134-003-000      134-002-000  134-003-000
HIPR2     1116  134-003-000  134-003-000      134-002-000  134-003-000
HIPR2     1115  -----------  -----------      -----------  -----------
VXWSLAN   1114  134-003-000  134-003-000      134-002-000  134-003-000
VXWSLAN   1116  134-003-000  134-003-000      134-002-000  134-003-000
VXWSLAN   1115  -----------  -----------      -----------  -----------
SS7IPGW   1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7IPGW   1116  134-003-000  134-003-000      134-002-000  134-003-000
```

```
SS7IPGW   1115  -----------  -----------      -----------  -----------
VCDU      1114  163-001-000  163-001-000      163-000-000  163-001-000
VCDU      1116  163-001-000  163-001-000      163-000-000  163-001-000
VCDU      1115  -----------  -----------      -----------  -----------
IPGWI     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPGWI     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPGWI     1115  -----------  -----------      -----------  -----------
SS7HC     1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7HC     1116  134-003-000  134-003-000      134-002-000  134-003-000
SS7HC     1115  -----------  -----------      -----------  -----------
BLBIOS    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBIOS    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLBIOS    1115  -----------  -----------      -----------  -----------
BLCPLD    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLCPLD    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLCPLD    1115  -----------  -----------      -----------  -----------
GLSHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
GLSHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
GLSHC     1115  -----------  -----------      -----------  -----------
IMTPCI    1114  134-003-000  134-003-000      134-002-000  134-003-000
IMTPCI    1116  134-003-000  134-003-000      134-002-000  134-003-000
IMTPCI    1115  -----------  -----------      -----------  -----------
PLDPMC1   1114  134-003-000  134-003-000      134-002-000  134-003-000
PLDPMC1   1116  134-003-000  134-003-000      134-002-000  134-003-000
PLDPMC1   1115  -----------  -----------      -----------  -----------
IPLHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPLHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPLHC     1115  -----------  -----------      -----------  -----------
IPGHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPGHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPGHC     1115  -----------  -----------      -----------  -----------
SS7EPM    1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7EPM    1116  134-003-000  134-003-000      134-002-000  134-003-000
SS7EPM    1115  -----------  -----------      -----------  -----------
BLBEPM    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBEPM    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLBEPM    1115  -----------  -----------      -----------  -----------
BLVXW6    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLVXW6    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLVXW6    1115  -----------  -----------      -----------  -----------
BLDIAG6   1114  134-003-000  134-003-000      134-002-000  134-003-000
BLDIAG6   1116  134-003-000  134-003-000      134-002-000  134-003-000
BLDIAG6   1115  -----------  -----------      -----------  -----------
SCCPHC    1114  134-003-000  134-003-000      134-002-000  134-003-000
SCCPHC    1116  134-003-000  134-003-000      134-002-000  134-003-000
SCCPHC    1115  -----------  -----------      -----------  -----------
BLBSMG    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBSMG    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLBSMG    1115  -----------  -----------      -----------  -----------
SLANHC    1114  134-003-000  134-003-000      134-002-000  134-003-000
SLANHC    1116  134-003-000  134-003-000      134-002-000  134-003-000
SLANHC    1115  -----------  -----------      -----------  -----------
ERTHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
ERTHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
ERTHC     1115  -----------  -----------      -----------  -----------
IPSHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPSHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPSHC     1115  -----------  -----------      -----------  -----------
ATMHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
ATMHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
ATMHC     1115  -----------  -----------      -----------  -----------
IPSG      1114  134-003-000  134-003-000      134-002-000  134-003-000
IPSG      1116  134-003-000  134-003-000      134-002-000  134-003-000
IPSG      1115  -----------  -----------      -----------  -----------
```

```
BLROM1    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLROM1    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLROM1    1115  -----------  -----------      -----------  -----------
BLIXP     1114  163-003-000  163-003-000      163-002-000  163-003-000
BLIXP     1116  163-003-000  163-003-000      163-002-000  163-003-000
BLIXP     1115  -----------  -----------      -----------  -----------
```

This example shows GPLs on an EAGLE that has E5-based control cards installed. The GPLs were copied to the removable media in both MASPs. The USB credit card flash media is not inserted into the USB credit card flash media drive in the E5-MCAP card of the active MASP (card location 1115). If the GPLs were copied only to the removable media on the active MASP, the removable media is not inserted in the standby MASP and the GPL version number for the standby MASP is not displayed.

4. Perform the following action:

   Remove the removable media from the removable media drives on the MASPs. For more information on removing the removable media from the removable media drives, refer to *Removable USB Drive*.

5. Label the removable media, 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 media, see Chapter 2, "Preventive Maintenance," in *Maintenance Guide*.

Restoring System Data from a Removable Media

This section presents the procedure for restoring system data from a system backup removable media that was made by performing *Backing Up System Data to the Removable Media*.

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.

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 09-10-01 16:07:48 GMT  EAGLE5 41.1.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

1. Perform *Restoring the Database from the Removable Media* to restore the database from the removable media. If the database is being restored from a removable media, do not remove the removable media. After the database has been restored, continue the procedure with the next step.
2. Copy the GPLs from the removable media to the standby E5-TDM using the `copy-gpl` command. Perform the following substep.

a) If the removable media was used to restore the database, the GPLs are copied from the removable media on the active MASP to the standby E5-TDM. For this example, enter this command.

`copy-gpl:sloc=1115:dloc=1114:sdrv=remove`

During command execution, these messages should appear.

```
    rlghncxa03w 09-10-01 14:50:46 GMT EAGLE5 41.1.0
    COPY-GPL: MASP A - COPY STARTS ON REMOVABLE DRIVE
;

    rlghncxa03w 09-10-01 14:50:46 GMT EAGLE5 41.1.0
    COPY GPL: MASP A - COPY TO STANDBY MASP COMPLETE
```

3. Verify the GPLs on the standby E5-TDM and removable media with the `rtrv-gpl` command.

This is an example of the possible output:

```
rlghncxa03w 8-12-13 07:01:08 GMT EAGLE5 45.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SIPHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
SIPHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
SIPHC     1115  -----------  -----------      -----------  -----------
GLS       1114  134-003-000  134-003-000      134-002-000  134-003-000
GLS       1116  134-003-000  134-002-000      134-002-000  134-003-000
GLS       1115  -----------  -----------      -----------  -----------
CDU       1114  163-001-000  163-001-000      163-000-000  163-001-000
CDU       1116  163-001-000  163-000-000      163-000-000  163-001-000
CDU       1115  -----------  -----------      -----------  -----------
IMT       1114  134-003-000  134-003-000      134-002-000  134-003-000
IMT       1116  134-003-000  134-002-000      134-002-000  134-003-000
IMT       1115  -----------  -----------      -----------  -----------
ATMANSI   1114  134-003-000  134-003-000      134-002-000  134-003-000
ATMANSI   1116  134-003-000  134-002-000      134-002-000  134-003-000
ATMANSI   1115  -----------  -----------      -----------  -----------
BPHCAP    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPHCAP    1116  134-003-000  134-002-000      134-002-000  134-003-000
BPHCAP    1115  -----------  -----------      -----------  -----------
BPDCM     1114  134-003-000  134-003-000      134-002-000  134-003-000
BPDCM     1116  134-003-000  134-002-000      134-002-000  134-003-000
BPDCM     1115  -----------  -----------      -----------  -----------
BLMCAP    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLMCAP    1116  134-003-000  134-002-000      134-002-000  134-003-000
BLMCAP    1115  -----------  -----------      -----------  -----------
OAMHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
OAMHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
OAMHC     1115  -----------  -----------      -----------  -----------
HIPR2     1114  134-003-000  134-003-000      134-002-000  134-003-000
HIPR2     1116  134-003-000  134-002-000      134-002-000  134-003-000
HIPR2     1115  -----------  -----------      -----------  -----------
VXWSLAN   1114  134-003-000  134-003-000      134-002-000  134-003-000
VXWSLAN   1116  134-003-000  134-002-000      134-002-000  134-003-000
VXWSLAN   1115  -----------  -----------      -----------  -----------
IPLIM     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPLIM     1116  134-003-000  134-002-000      134-002-000  134-003-000
IPLIM     1115  -----------  -----------      -----------  -----------
IPLIMI    1114  134-003-000  134-003-000      134-002-000  134-003-000
IPLIMI    1116  134-003-000  134-002-000      134-002-000  134-003-000
```

```
IPLIMI    1115  -----------  -----------      -----------  -----------
SS7IPGW   1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7IPGW   1116  134-003-000  134-002-000      134-002-000  134-003-000
SS7IPGW   1115  -----------  -----------      -----------  -----------
VSCCP     1114  134-003-000  134-003-000      134-002-000  134-003-000
VSCCP     1116  134-003-000  134-002-000      134-002-000  134-003-000
VSCCP     1115  -----------  -----------      -----------  -----------
ATMITU    1114  134-003-000  134-003-000      134-002-000  134-003-000
ATMITU    1116  134-003-000  134-002-000      134-002-000  134-003-000
ATMITU    1115  -----------  -----------      -----------  -----------
VCDU      1114  163-001-000  163-001-000      163-000-000  163-001-000
VCDU      1116  163-001-000  163-000-000      163-000-000  163-001-000
VCDU      1115  -----------  -----------      -----------  -----------
BPMPL     1114  134-003-000  134-003-000      134-002-000  134-003-000
BPMPL     1116  134-003-000  134-002-000      134-002-000  134-003-000
BPMPL     1115  -----------  -----------      -----------  -----------
SS7ML     1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7ML     1116  134-003-000  134-002-000      134-002-000  134-003-000
SS7ML     1115  -----------  -----------      -----------  -----------
BPHMUX    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPHMUX    1116  134-003-000  134-002-000      134-002-000  134-003-000
BPHMUX    1115  -----------  -----------      -----------  -----------
IPGWI     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPGWI     1116  134-003-000  134-002-000      134-002-000  134-003-000
IPGWI     1115  -----------  -----------      -----------  -----------
IPS       1114  134-003-000  134-003-000      134-002-000  134-003-000
IPS       1116  134-003-000  134-002-000      134-002-000  134-003-000
IPS       1115  -----------  -----------      -----------  -----------
BPDCM2    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPDCM2    1116  134-003-000  134-002-000      134-002-000  134-003-000
BPDCM2    1115  -----------  -----------      -----------  -----------
EROUTE    1114  134-003-000  134-003-000      134-002-000  134-003-000
EROUTE    1116  134-003-000  134-002-000      134-002-000  134-003-000
EROUTE    1115  -----------  ----------      -----------  -----------
BPMPLT    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPMPLT    1116  134-003-000  134-002-000      134-002-000  134-003-000
BPMPLT    1115  -----------  -----------      -----------  -----------
MCP       1114  134-003-000  134-003-000      134-002-000  134-003-000
MCP       1116  134-003-000  134-002-000      134-002-000  134-003-000
MCP       1115  -----------  -----------      -----------  -----------
BPHCAPT   1114  134-003-000  134-003-000      134-002-000  134-003-000
BPHCAPT   1116  134-003-000  134-002-000      134-002-000  134-003-000
BPHCAPT   1115  -----------  -----------      -----------  -----------
SS7HC     1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7HC     1116  134-003-000  134-002-000      134-002-000  134-003-000
SS7HC     1115  -----------  -----------      -----------  -----------
BLBIOS    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBIOS    1116  134-003-000  134-002-000      134-002-000  134-003-000
BLBIOS    1115  -----------  -----------      -----------  -----------
BLCPLD    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLCPLD    1116  134-003-000  134-002-000      134-002-000  134-003-000
BLCPLD    1115  -----------  -----------      -----------  -----------
GLSHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
GLSHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
GLSHC     1115  -----------  -----------      -----------  -----------
IMTPCI    1114  134-003-000  134-003-000      134-002-000  134-003-000
IMTPCI    1116  134-003-000  134-002-000      134-002-000  134-003-000
IMTPCI    1115  -----------  -----------      -----------  -----------
PLDPMC1   1114  134-003-000  134-003-000      134-002-000  134-003-000
PLDPMC1   1116  134-003-000  134-002-000      134-002-000  134-003-000
PLDPMC1   1115  -----------  -----------      -----------  -----------
IPLHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPLHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
IPLHC     1115  -----------  -----------      -----------  -----------
```

```
IPGHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPGHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
IPGHC     1115  -----------  -----------      -----------  -----------
SS7EPM    1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7EPM    1116  134-003-000  134-002-000      134-002-000  134-003-000
SS7EPM    1115  -----------  -----------      -----------  -----------
BLBEPM    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBEPM    1116  134-003-000  134-002-000      134-002-000  134-003-000
BLBEPM    1115  -----------  -----------      -----------  -----------
BLVXW6    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLVXW6    1116  134-003-000  134-002-000      134-002-000  134-003-000
BLVXW6    1115  -----------  -----------      -----------  -----------
BLDIAG6   1114  134-003-000  134-003-000      134-002-000  134-003-000
BLDIAG6   1116  134-003-000  134-002-000      134-002-000  134-003-000
BLDIAG6   1115  -----------  -----------      -----------  -----------
SCCPHC    1114  134-003-000  134-003-000      134-002-000  134-003-000
SCCPHC    1116  134-003-000  134-002-000      134-002-000  134-003-000
SCCPHC    1115  -----------  -----------      -----------  -----------
BLBSMG    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBSMG    1116  134-003-000  134-002-000      134-002-000  134-003-000
BLBSMG    1115  -----------  -----------      -----------  -----------
SLANHC    1114  134-003-000  134-003-000      134-002-000  134-003-000
SLANHC    1116  134-003-000  134-002-000      134-002-000  134-003-000
SLANHC    1115  -----------  -----------      -----------  -----------
ERTHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
ERTHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
ERTHC     1115  -----------  -----------      -----------  -----------
IPSHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPSHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
IPSHC     1115  -----------  -----------      -----------  -----------
ATMHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
ATMHC     1116  134-003-000  134-002-000      134-002-000  134-003-000
ATMHC     1115  -----------  -----------      -----------  -----------
IPSG      1114  134-003-000  134-003-000      134-002-000  134-003-000
IPSG      1116  134-003-000  134-002-000      134-002-000  134-003-000
IPSG      1115  -----------  -----------      -----------  -----------
BLROM1    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLROM1    1116  134-003-000  134-002-000      134-002-000  134-003-000
BLROM1    1115  -----------  -----------      -----------  -----------
BLIXP     1114  163-003-000  163-003-000      163-002-000  163-003-000
BLIXP     1116  163-003-000  163-002-000      163-002-000  163-003-000
BLIXP     1115  -----------  -----------      -----------  -----------
```

This example shows GPLs on an EAGLE that has E5-based control cards installed. The GPLs were copied from the removable media in on the active MASP. The USB credit card flash media is not inserted into the USB credit card flash media drive in the E5-MCAP card of the active MASP (card location 1115).

4. Enter the `init-card` command specifying the location of the E5-MCAP card making up active MASP.

   This step makes the standby MASP the active MASP. The MASP that was active is now the standby MASP.

   For this example, enter this command.

   ```
   init-card:loc=1115
   ```

This message should appear.

```
rlghncxa03w 09-10-01  11:11:28 GMT  EAGLE5 41.1.0
Init Card command issued to card 1115
```

5. Copy the GPLs from the removable media to the standby E5-TDM using the `copy-gpl` command. Perform the following substep:
   a) If the removable media was used to restore the database, the GPLs are copied from the removable media on on the active MASP to the standby E5-TDM. For this example, enter this command.

      `copy-gpl:sloc=1113:dloc=1116:sdrv=remove`

      During command execution, these messages should appear.

```
    rlghncxa03w 09-10-01 14:50:46 GMT EAGLE5 41.1.0
    COPY-GPL: MASP A - COPY STARTS ON REMOVABLE DRIVE
;

    rlghncxa03w 09-10-01 14:50:46 GMT EAGLE5 41.1.0
    COPY GPL: MASP A - COPY TO STANDBY MASP COMPLETE
```

6. Verify the GPLs on the standby E5-TDM and the removable media with the `rtrv-gpl` command.

   This is an example of the possible output.

```
rlghncxa03w 8-12-13 07:01:08 GMT EAGLE5 45.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SIPHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
SIPHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
SIPHC     1115  -----------  -----------      -----------  -----------
GLS       1114  134-003-000  134-003-000      134-002-000  134-003-000
GLS       1116  134-003-000  134-003-000      134-002-000  134-003-000
GLS       1115  -----------  -----------      -----------  -----------
CDU       1114  163-001-000  163-001-000      163-000-000  163-001-000
CDU       1116  163-001-000  163-001-000      163-000-000  163-001-000
CDU       1115  -----------  -----------      -----------  -----------
IMT       1114  134-003-000  134-003-000      134-002-000  134-003-000
IMT       1116  134-003-000  134-003-000      134-002-000  134-003-000
IMT       1115  -----------  -----------      -----------  -----------
ATMANSI   1114  134-003-000  134-003-000      134-002-000  134-003-000
ATMANSI   1116  134-003-000  134-003-000      134-002-000  134-003-000
ATMANSI   1115  -----------  -----------      -----------  -----------
BPHCAP    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPHCAP    1116  134-003-000  134-003-000      134-002-000  134-003-000
BPHCAP    1115  -----------  -----------      -----------  -----------
BPDCM     1114  134-003-000  134-003-000      134-002-000  134-003-000
BPDCM     1116  134-003-000  134-003-000      134-002-000  134-003-000
BPDCM     1115  -----------  -----------      -----------  -----------
BLMCAP    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLMCAP    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLMCAP    1115  -----------  -----------      -----------  -----------
OAMHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
OAMHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
OAMHC     1115  -----------  -----------      -----------  -----------
HIPR2     1114  134-003-000  134-003-000      134-002-000  134-003-000
```

```
HIPR2     1116  134-003-000  134-003-000      134-002-000  134-003-000
HIPR2     1115  -----------  -----------      -----------  -----------
VXWSLAN   1114  134-003-000  134-003-000      134-002-000  134-003-000
VXWSLAN   1116  134-003-000  134-003-000      134-002-000  134-003-000
VXWSLAN   1115  -----------  -----------      -----------  -----------
IPLIM     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPLIM     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPLIM     1115  -----------  -----------      -----------  -----------
IPLIMI    1114  134-003-000  134-003-000      134-002-000  134-003-000
IPLIMI    1116  134-003-000  134-003-000      134-002-000  134-003-000
IPLIMI    1115  -----------  -----------      -----------  -----------
SS7IPGW   1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7IPGW   1116  134-003-000  134-003-000      134-002-000  134-003-000
SS7IPGW   1115  -----------  -----------      -----------  -----------
VSCCP     1114  134-003-000  134-003-000      134-002-000  134-003-000
VSCCP     1116  134-003-000  134-003-000      134-002-000  134-003-000
VSCCP     1115  -----------  -----------      -----------  -----------
ATMITU    1114  134-003-000  134-003-000      134-002-000  134-003-000
ATMITU    1116  134-003-000  134-003-000      134-002-000  134-003-000
ATMITU    1115  -----------  -----------      -----------  -----------
VCDU      1114  163-001-000  163-001-000      163-000-000  163-001-000
VCDU      1116  163-001-000  163-001-000      163-000-000  163-001-000
VCDU      1115  -----------  -----------      -----------  -----------
BPMPL     1114  134-003-000  134-003-000      134-002-000  134-003-000
BPMPL     1116  134-003-000  134-003-000      134-002-000  134-003-000
BPMPL     1115  -----------  -----------      -----------  -----------
SS7ML     1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7ML     1116  134-003-000  134-003-000      134-002-000  134-003-000
SS7ML     1115  -----------  -----------      -----------  -----------
BPHMUX    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPHMUX    1116  134-003-000  134-003-000      134-002-000  134-003-000
BPHMUX    1115  -----------  -----------      -----------  -----------
IPGWI     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPGWI     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPGWI     1115  -----------  -----------      -----------  -----------
IPS       1114  134-003-000  134-003-000      134-002-000  134-003-000
IPS       1116  134-003-000  134-003-000      134-002-000  134-003-000
IPS       1115  -----------  -----------      -----------  -----------
BPDCM2    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPDCM2    1116  134-003-000  134-003-000      134-002-000  134-003-000
BPDCM2    1115  -----------  -----------      -----------  -----------
EROUTE    1114  134-003-000  134-003-000      134-002-000  134-003-000
EROUTE    1116  134-003-000  134-003-000      134-002-000  134-003-000
EROUTE    1115  -----------  ----------      -----------  -----------
BPMPLT    1114  134-003-000  134-003-000      134-002-000  134-003-000
BPMPLT    1116  134-003-000  134-003-000      134-002-000  134-003-000
BPMPLT    1115  -----------  -----------      -----------  -----------
MCP       1114  134-003-000  134-003-000      134-002-000  134-003-000
MCP       1116  134-003-000  134-003-000      134-002-000  134-003-000
MCP       1115  -----------  -----------      -----------  -----------
BPHCAPT   1114  134-003-000  134-003-000      134-002-000  134-003-000
BPHCAPT   1116  134-003-000  134-003-000      134-002-000  134-003-000
BPHCAPT   1115  -----------  -----------      -----------  -----------
SS7HC     1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7HC     1116  134-003-000  134-003-000      134-002-000  134-003-000
SS7HC     1115  -----------  -----------      -----------  -----------
BLBIOS    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBIOS    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLBIOS    1115  -----------  -----------      -----------  -----------
BLCPLD    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLCPLD    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLCPLD    1115  -----------  -----------      -----------  -----------
GLSHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
GLSHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
```

```
GLSHC     1115  -----------  -----------      -----------  -----------
IMTPCI    1114  134-003-000  134-003-000      134-002-000  134-003-000
IMTPCI    1116  134-003-000  134-003-000      134-002-000  134-003-000
IMTPCI    1115  -----------  -----------      -----------  -----------
PLDPMC1   1114  134-003-000  134-003-000      134-002-000  134-003-000
PLDPMC1   1116  134-003-000  134-003-000      134-002-000  134-003-000
PLDPMC1   1115  -----------  -----------      -----------  -----------
IPLHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPLHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPLHC     1115  -----------  -----------      -----------  -----------
IPGHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPGHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPGHC     1115  -----------  -----------      -----------  -----------
SS7EPM    1114  134-003-000  134-003-000      134-002-000  134-003-000
SS7EPM    1116  134-003-000  134-003-000      134-002-000  134-003-000
SS7EPM    1115  -----------  -----------      -----------  -----------
BLBEPM    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBEPM    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLBEPM    1115  -----------  -----------      -----------  -----------
BLVXW6    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLVXW6    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLVXW6    1115  -----------  -----------      -----------  -----------
BLDIAG6   1114  134-003-000  134-003-000      134-002-000  134-003-000
BLDIAG6   1116  134-003-000  134-003-000      134-002-000  134-003-000
BLDIAG6   1115  -----------  -----------      -----------  -----------
SCCPHC    1114  134-003-000  134-003-000      134-002-000  134-003-000
SCCPHC    1116  134-003-000  134-003-000      134-002-000  134-003-000
SCCPHC    1115  -----------  -----------      -----------  -----------
BLBSMG    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLBSMG    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLBSMG    1115  -----------  -----------      -----------  -----------
SLANHC    1114  134-003-000  134-003-000      134-002-000  134-003-000
SLANHC    1116  134-003-000  134-003-000      134-002-000  134-003-000
SLANHC    1115  -----------  -----------      -----------  -----------
ERTHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
ERTHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
ERTHC     1115  -----------  -----------      -----------  -----------
IPSHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
IPSHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
IPSHC     1115  -----------  -----------      -----------  -----------
ATMHC     1114  134-003-000  134-003-000      134-002-000  134-003-000
ATMHC     1116  134-003-000  134-003-000      134-002-000  134-003-000
ATMHC     1115  -----------  -----------      -----------  -----------
IPSG      1114  134-003-000  134-003-000      134-002-000  134-003-000
IPSG      1116  134-003-000  134-003-000      134-002-000  134-003-000
IPSG      1115  -----------  -----------      -----------  -----------
BLROM1    1114  134-003-000  134-003-000      134-002-000  134-003-000
BLROM1    1116  134-003-000  134-003-000      134-002-000  134-003-000
BLROM1    1115  -----------  -----------      -----------  -----------
BLIXP     1114  163-003-000  163-003-000      163-002-000  163-003-000
BLIXP     1116  163-003-000  163-003-000      163-002-000  163-003-000
BLIXP     1115  -----------  -----------      -----------  -----------
```

This example shows GPLs on an EAGLE that has E5-based control cards installed. The GPLs were copied from the removable media in on the active MASP.

This procedure is finished.

Formatting the Fixed Disk of the Standby E5-TDM

Use this procedure to format the fixed disk of the standby E5-TDM using the `format-disk` command.

The `format-disk` command uses these parameters.

`:type` – The type of disk or media being formatted.

- `system` – A removable media containing system data (GPLs and the database). To format removable media, perform *Formatting Removable Media*.
- `fixed` – The fixed disk of the standby E5-TDM.

  Note: If a `format-disk:type=fixed` command failure causes the standby E5-TDM to boot continuously, insert a removable disk that has the same release as the active E5-TDM into the E5-MDAL. The standby E5-TDM can then boot off of the removable disk.

`:loc` – The location of the standby E5-TDM, either 1114 or 1116.

`:low` – Is a check of the disk or media being performed and any problems found on the disk or media being repaired, `yes` or `no`? The `low=yes` parameter performs a check of the disk or media and any problems that are found are repaired. As an E5-TDM, no data is destroyed during this operation. If the `low=no` parameter is specified, the check of the disk or media is not performed. The default value for this parameter is `no`.

`: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 specifying 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 *My Oracle Support (MOS)* before using the `prtngrp=inactive` parameter.

The database in the current (FD CRNT) partition of the active MASP must be coherent. For more information on verifying the database, refer to *Verifying the Database*.

Measurement collection must be turned off 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.

1. Use the `rept-stat-db` command to verify that the database in the current (FDCRNT) partition of the active MASP is coherent .

   The following is an example of the possible output:

```
rlghncxa03w 13-06-01 16:07:48 GMT  EAGLE5 45.0.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
```

```
         - -------- --------------------  - -------- --------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y       106                        Y      106
        E5MCAP 1113                         E5MCAP 1115
        - --------                        - --------
RD BKUP Y      106 09-02-15 16:09:53 GMT  Y      106 09-02-15 16:09:53 GMT
USB BKP -    -         -        -         Y       95 09-02-13 16:09:53 GMT
```

If the current database on the active MASP is not coherent, refer to *Verifying the Database* to resolve the database problem.

2. Verify whether or not the Measurements Platform option is enabled (`PLATFORMENABLE = on`) using the `rtrv-measopts` command. If `platformenable` is ON, no further check is required for the `format-disk` command (as MCP will take care of measurement once `platformenable` is on). If `PLATFORMENABLE` is off, check **COLLECT** using `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 06-10-01 12:22:55 GMT EAGLE5 36.0.0
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 *Step 3* and go to *Step 4*.

3. Turn measurement collection off using the `chg-meas:collect=off` command.

   Caution: Measurement collection must be turned off 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 turn off measurement collection at midnight since doing so can cause the loss of an entire day of measurements. For the period of time that measurement collection is turned off, those measurements will be lost.

   This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

4. Verify whether or not the Measurements Platform option is enabled (`PLATFORMENABLE = on`) using the `rtrv-measopts` command. If `platformenable` is ON, no further check is required for the `format-disk` command (as MCP will take care of measurement once `platformenable` is on). If `PLATFORMENABLE` is off, check to see if COLLECT is on using the `rtrv-meas-sched`

command. If COLLECT is on, turn it off. If COLLECT is off, run the `format-disk` command, and turn it on.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
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. To view all fields displayed by the `rtrv-measopts` command, see the `rtrv-measopts` command description in *Commands User's Guide*.

Note: If *Step 4* shows that the Measurements Platform is not enabled, go to *Step 7*.

5. Use the `rept-stat-meas` command to display the status of MCPMs in the database .

   This is an example of the possible output.

```
rlghncxa03w 09-02-01 16:43:42 GMT  EAGLE5 40.0.0

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-009-000     EDSM    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. Use the `rmv-card` command, specifying the card location of the MCPM, to place all MCPMs out of service .

   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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 15:59:06 GMT EAGLE5 36.0.0
             -- 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 06-10-01 15:59:06 GMT EAGLE5 36.0.0
Security log on E5TDM 1116 copied to file 961004s.log on E5TDM 1114
```

9. Enter the `format-disk` command to format the fixed disk of the standby E5-TDM.

   For this example, the fixed disk of the standby E5-TDM contains system data and a checkof the fixed disk of the standby E5-TDM for problems is not performed.

   `format-disk:type=fixed:force=yes:low=no:loc=1114`

   Note:

   1. The `force=yes` parameter must be specified with the `format-disk` command if the fixed disk of the standby E5-TDM to be formatted contains system data. All data on the fixed disk of the standby E5-TDM will be lost.
   2. The `low=no` parameter specified in this command example does not allow a check of the fixed disk of the standby E5-TDM for problems to be performed. If you wish to perform a check of the fixed disk of the standby E5-TDM for problems, specify the `low=yes` parameter with the `format-disk` command. Because the default value for the `low` parameter is `no`, the `low` parameter can be omitted when entering the `format-disk` command if you do not wish to perform a check of the fixed disk of the standby E5-TDM for problems.
   3. If a `format-disk:type=fixed` command failure causes the standby E5-TDM to boot continuously, insert a removable disk that has the same release as the active E5-TDM into the E5-MDAL. The standby E5-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 *My Oracle Support (MOS)* for the contact information.

Formatting the fixed disk of the standby E5-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 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    format-disk:type=fixed:low=no:force=yes
    Command entered at terminal #3.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of standby fixed disk started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (fixed) format in progress.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (fixed) format is complete.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of standby fixed disk completed.
```

To turn measurement collection on, go to step 10, otherwise, this procedure is finished.

If measurement collection was not turned off in step 3, skip steps 10 and 11, and go to step 12.

10. To turn measurement collection on, enter this command.

    `chg-meas:collect=on`

    This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
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 06-10-01 12:22:55 GMT EAGLE5 36.0.0
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: MCPMs were not placed out of service in step 6, skip steps 12 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`

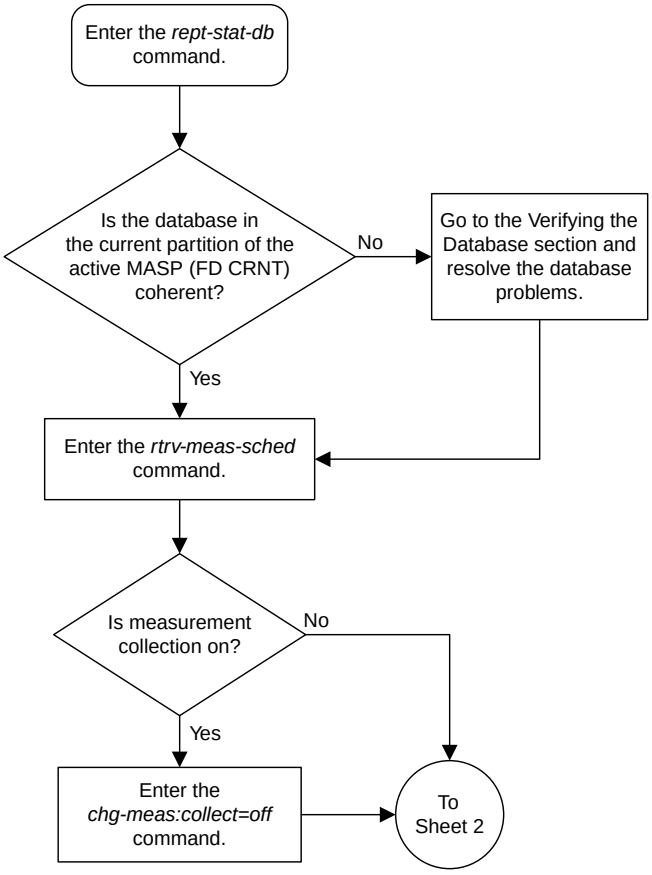
When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
Card has been allowed.
```

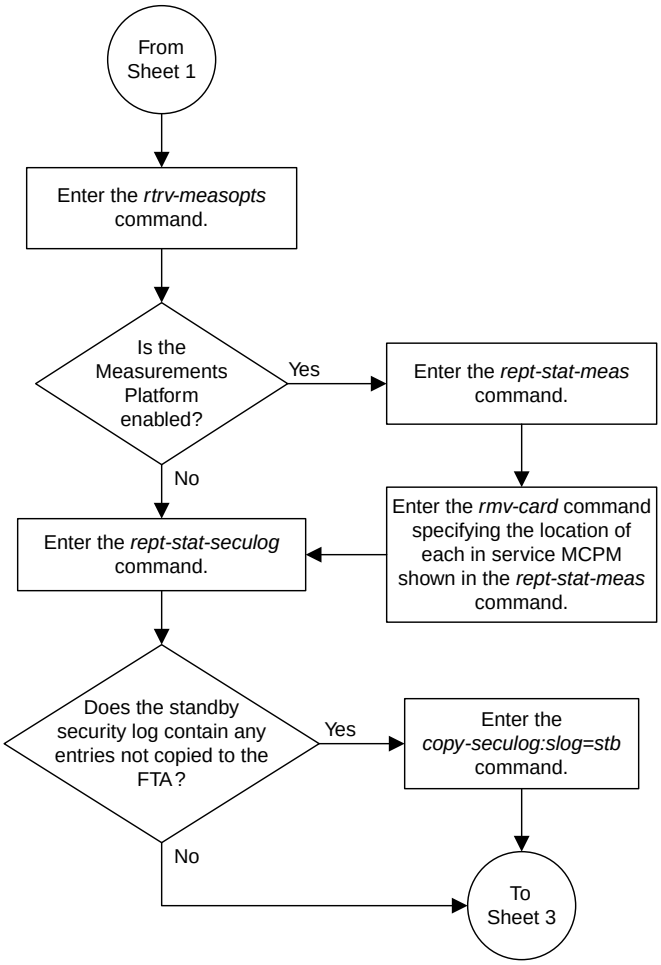
13. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

This is an example of the possible output.

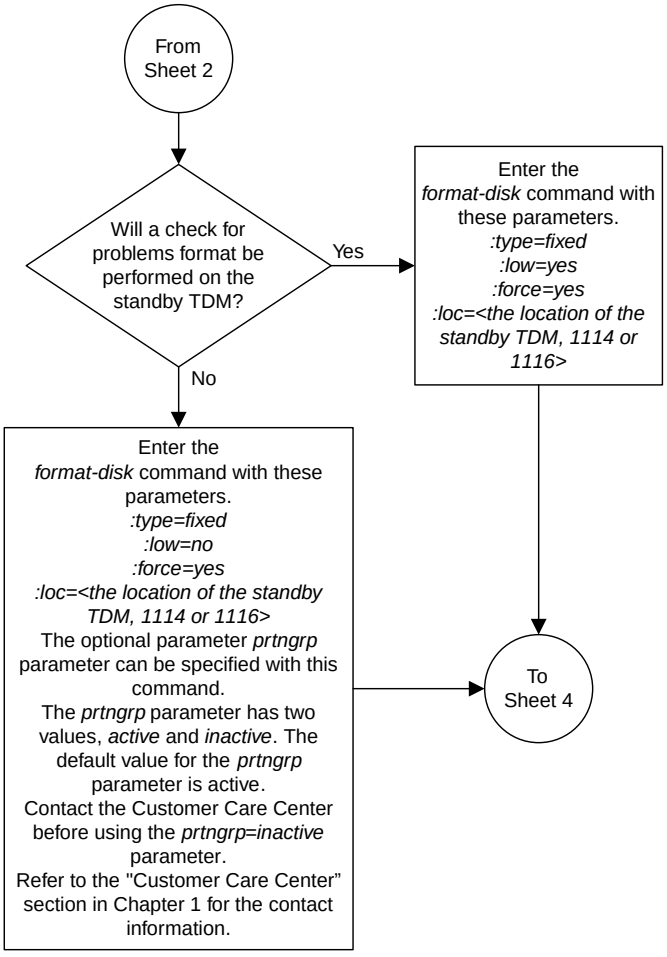
```
rlghncxa03w 09-02-01 16:43:42 GMT  EAGLE5 40.0.0

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-009-000     EDSM    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
```


Enter the *rept-stat-db* command.
Is the database in the current partition of the active MASP (FD CRNT) coherent?
No
Go to the Verifying the Database section and resolve the database problems.
Yes
Enter the *rtrv-meas-sched* command.
Is measurement collection on?
No
Yes
Enter the *chg-meas:collect=off* command.
To Sheet 2

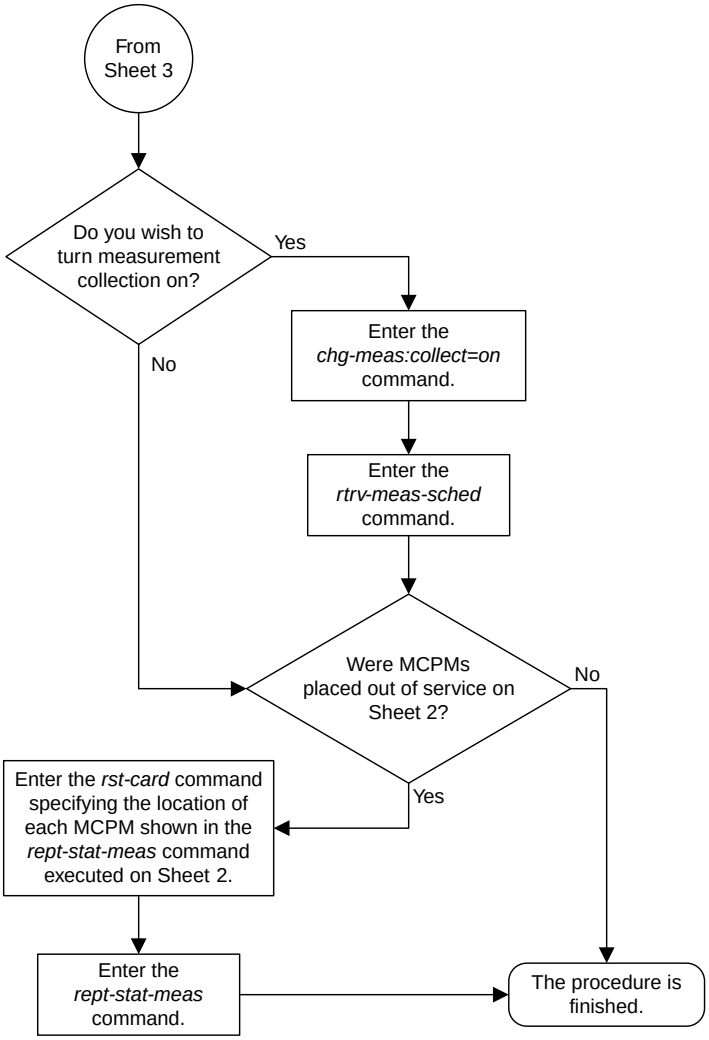
Sheet 1 of 4


From Sheet 1
Enter the *rtrv-measopts* command.
Is the Measurements Platform enabled?
Yes
Enter the *rept-stat-meas* command.
No
Enter the *rmv-card* command specifying the location of each in service MCPM shown in the *rept-stat-meas* command.
Enter the *rept-stat-seculog* command.
Does the standby security log contain any entries not copied to the FTA?
Yes
Enter the *copy-seculog:slog=stb* command.
No
To Sheet 3

Sheet 2 of 4


From Sheet 2
Will a check for problems format be performed on the standby TDM?
Yes
No
Enter the *format-disk* command with these parameters.
:type=fixed
:low=yes
:force=yes
:loc=<the location of the standby TDM, 1114 or 1116>
Enter the *format-disk* command with these parameters.
:type=fixed
:low=no
:force=yes
:loc=<the location of the standby TDM, 1114 or 1116>
The optional parameter *prtngrp* parameter can be specified with this command.
The *prtngrp* parameter has two values, *active* and *inactive*. The default value for the *prtngrp* parameter is active.
Contact the Customer Care Center before using the *prtngrp=inactive* parameter.
Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
To Sheet 4

Sheet 3 of 4


From Sheet 3
Do you wish to turn measurement collection on?
Yes
No
Enter the *chg-meas:collect=on* command.
Enter the *rtrv-meas-sched* command.
Were MCPMs placed out of service on Sheet 2?
No
Yes
Enter the *rst-card* command specifying the location of each MCPM shown in the *rept-stat-meas* command executed on Sheet 2.
Enter the *rept-stat-meas* command.
The procedure is finished.

Sheet 4 of 4

Figure 8: Formatting the Fixed Disk of the Standby E5-TDM

Formatting Removable Media

Use this procedure to prepare removable media for use on the EAGLE for holding system data or measurements data using the `format-disk` command. The `format-disk` command uses these parameters.

Note: This procedure can be performed only if E5-based control cards are installed in the EAGLE. Refer to *Maintenance and Administration Subsystem* for more information about the control cards.

`:type` – The type of media that is being formatted.

- `system` – Removable media containing system data (GPLs and the database)
- `meas` – Removable media containing measurements data
- `fixed` – The fixed disk of the standby E5-TDM. To format the fixed disk of the standby E5-TDM, perform *Formatting the Fixed Disk of the Standby E5-TDM*.

`:loc` – The location of the E5-MCAP card that contains the media that is being formatted, either 1113 or 1115.

`:low` – Is a check of the media being performed and any problems found on the media being repaired, `yes` or `no`? The `low=yes` parameter performs a check of the media and any problems that are found are repaired. No data is destroyed during this operation. If the `low=no` parameter is specified, the check of the media is not performed. The default value for this parameter is `no`.

`:force` – Format the media if the media 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 media does not contain an inactive partition group, so the `prtngrp=inactive` cannot be specified in this procedure.

Note: Reduce extended execution time when specifying 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. If the current partition of the active MASP is not coherent, contact the customer care center. Refer to *My Oracle Support (MOS)* for the contact information.

Measurement collection must be turned off before the `format-disk` command can be executed.

1. Check the removable media drives on each MASP for removable media.

   Perform one of these substeps.

   a) If there is no removable media in both removable media drives, insert the removable media that will be formatted into one of the removable media drives. Continue the procedure with *Step 2*. Refer to *Removable USB Drive* for more information about removing the removable media.

   b) If removable media is in the removable media drives, and the media in these drives will be formatted, continue the procedure with *Step 2*.

c) If removable media is in the removable media drives, and the media in these drives will not be formatted, remove the removable media from the removable media drive that will be used to format the removable media. Insert the removable media that will be formatted into this drive. Continue the procedure with *Step 2*. Refer to *Removable USB Drive* for more information about removing and inserting the removable media.

2. Verify that the database in the current (FDCRNT) partition of the active MASP is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY )                E5TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y       106                        Y      106
        E5MCAP 1113                         E5MCAP 1115
        - --------                         - --------
RD BKUP Y      106 09-02-15 16:09:53 GMT  Y      106 09-02-15 16:09:53 GMT
USB BKP -    -         -        -         Y       95 09-02-13 16:09:53 GMT
```

   If the current partition of the active MASP is not coherent, contact the customer care center. Refer to *My Oracle Support (MOS)* for the contact information.

   If the current partition of the active MASP is coherent and removable media will be formatted, continue the procedure with *Step 4*.

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

```
rlghncxa03w 09-03-01 16:02:05 GMT  EAGLE5 40.1.0
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 *Commands User's Guide*.

   If the Measurements Platform is enabled, continue the procedure with *Step 8*

   If the Measurements Platform is not enabled, go to *Step 4*.

4. 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 09-03-01 12:22:55 GMT EAGLE5 40.1.0
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
```

If measurement collection is off, continue the procedure with *Step 3*.

If measurement collection is on, continue the procedure with *Step 5*.

5. Turn measurement collection off using the `chg-meas:collect=off` command.

Caution: Measurement collection must be turned off 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 turn off measurement collection at midnight since doing so can cause the loss of an entire day of measurements. For the period of time that measurement collection is turned off, those measurements will be lost.

This message should appear.

```
rlghncxa03w 09-03-01 16:12:50 GMT  EAGLE5 40.1.0
CHG-MEAS: MASP A - COMPLTD
```

6. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

This is an example of the possible output.

```
rlghncxa03w 09-03-01 16:43:42 GMT  EAGLE5 40.1.0

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-009-000     EDSM    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
```

7. 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 09-03-01 09:12:36 GMT  EAGLE5 40.1.0
Card has been inhibited.
```

8. Format the removable media by performing one of these substeps.
   a) To format removable media for system data, for this example, enter this command.

      ```
      format-disk:type=system:loc=1113
      ```

      If a check of the media for problems will be performed, specify the `low=yes` parameter with the `format-disk` command. If the `low=yes` parameter is not specified, a check of the media for problems will not be performed.

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

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

```
    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    format-disk:type=system
    Command entered at terminal #3.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk of system removable media started.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk in progress.
;
    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk in progress.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk (removable media) format is complete.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk of system removable media completed.
    Measurements collection may be turned on now if desired.
```

   b) To format removable media for measurements data, for this example, enter this command.

      ```
      format-disk:type=meas:loc=1113
      ```

      If a low level format of the media will be performed, specify the `low=yes` parameter with the `format-disk` command. If the `low=yes` parameter is not specified, a low level format of the media will not be performed.

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

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

```
    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    format-disk:type=meas
    Command entered at terminal #3.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk of measurements removable media started.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk in progress.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk in progress.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk (removable media) format is complete.
;

    rlghncxa03w 09-03-01 09:44:08 GMT  EAGLE5 40.1.0
    Format disk of measurements removable media completed.
    Measurements collection may be turned on now if desired.
```

If *Step 5* was not performed, continue the procedure with .

If *Step 5* was performed, continue the procedure with *Step 9*.

9. Turn measurement collection on using the `chg-meas:collect=on` command.

   This message should appear.

```
rlghncxa03w 09-03-01 16:12:50 GMT  EAGLE5 40.1.0
CHG-MEAS: MASP A - COMPLTD
```

10. 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 09-03-01 12:22:55 GMT EAGLE5 40.1.0
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
```

11. 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 09-03-01 21:20:37 GMT EAGLE5 40.1.0
Card has been allowed.
```

12. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

This is an example of the possible output.

```
rlghncxa03w 09-03-01 16:43:42 GMT  EAGLE5 40.1.0

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-009-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-009-000     EDSM    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
```

Chapter 3

GPL Management Procedures

Topics:

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

Introduction

A GPL is the software that is loaded onto a card that allows the various features in the EAGLE to work. The EAGLE currently uses the following GPLs:

- ATMHC – The application GPL used for high-speed ANSI and E1 ATM signaling links that are assigned to E5-ATM cards.
- BLDC64 - A flash GPL containing a tar image of 64-bit code for the SM8GB card.
- BLIXP – A flash GPL containing a tar image with all the code for the following high-capacity cards: HC MIM, E5-E1T1, E5-ENET, E5-IPSM, E5-ATM, E5-TSM, E5-SM4G.
- BLMCAP – A flash GPL containing a tar image of 32-bit code for the following cards: E5-MCAP, E5-E1T1-B, E5-ENET-B, E5-IPSM-B, E5-ATM-B, E5-MCPMB, and SM8GB.
- BLSLC32 - A flash GPL containing a tar image of 32-bit code for the SLIC card.
- BLSLC64 - A flash GPL containing a tar image of 64-bit code for the SLIC card.
- DEIR64 - The 64-bit application GPL used on the E5-SM8G-B and SLIC cards to support the S13/S13' EIR feature.
- DEIRHC - The 32-bit application GPL used on the E5-SM4G/E5-SM8G-B and SLIC cards to support the S13/S13' EIR feature.
- ENUM64 - The 64-bit application GPL used on the E5-SM8G-B and SLIC cards for the ENUM Mobile Number Portability and Tier One Address Resolution feature.
- ENUMHC - The 32-bit application GPL used on the E5-SM4G/E5-SM8G-B and SLIC cards for the ENUM Mobile Number Portability and Tier One Address Resolution feature .
- ERTHC - The application GPL used on the E5-ENET and E5-ENET-B cards when the cards act like an E5-STC card for the EAGLE 5 Integrated Monitoring Support feature.
- GLSHC– The application GPL used for the gateway screening feature on E5-TSMs.
- HIPR2 – The communication GPL used on the High-Speed IMT Packet Router (HIPR2) card.
- IPGHC – The application GPL used by the E5-ENET and E5-ENET-B cards to support TCP/IP point-to-multipoint connectivity for both ANSI and ITU point codes.
- IPLHC – The application GPL used by the E5-ENET and E5-ENET-B cards for TCP/IP point-to-point connectivity for both ANSI and ITU point codes.
- IPSG – The application GPL used for the IP Signaling Gateway M2PA and M3UA signaling links.
- IPSHC – The application GPL used on the E5-IPSM cards for the IP User Interface and FTP Retrieve and Replace features.
- MCPHC – The application GPL used on the E5-MCPM-B (Measurement Collection & Polling Module) for the Measurements Platform feature.
- OAMHC – The application GPL used by the E5-MCAP card for enhanced OAM functions.
- SCCP64 - The 64-bit application GPL used on E5-SM8G-B and SLIC cards to support EPAP-based features and the LNP ELAP Configuration feature. If no EPAP-based or LNP ELAP Configuration feature is turned on and an E5-SM8G-B card is present, then the GPL processes normal global title translation traffic.
- SCCPHC – The 32-bit application GPL used on E5-SM4G/E5-SM8G-B and SLIC cards to support EPAP-based features and the LNP ELAP Configuration feature. If no EPAP-based or LNP ELAP Configuration feature is turned on and an E5-SM4G or E5-SM8G-B card is present, then the GPL processes normal global title translation traffic.
- SIP64 - The 64-bit application GPL used on the E5-SM8G-B and SLIC cards to support a SIP stack of TCP.

- SIPHC - The 32-bit application GPL used on the E5-SM8G-B and SLIC cards to support a SIP stack of TCP.
- SLANHC – The application GPL used on E5-ENET and E5-ENET-B cards for the STPLAN feature.
- SS7HC – The application GPL used by the HC MIMs, E5-E1T1 and E5-E1T1-B cards to support E1 and T1 signaling links.

Managing GPLs

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

Note: Refer to the *Maintenance and Administration Subsystem* section for more information about the control cards.

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 is not running.

The approved GPL is the GPL that the EAGLE 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 should be running. The system release ID table is contained on the E5-TDMs (Terminal Disk Modules) and on the removable media containing the GPLs that are being loaded onto the EAGLE. The GPLs are loaded onto the EAGLE from a removable media. To get the GPLs from the removable media onto the EAGLE 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 media to the E5-TDMs. The new GPL becomes the trial version on each of the E5-TDMs. This command also copies the system release ID table from the removable media to the E5-TDMs. The `chg-gpl` command uses these parameters.

`gpl` – the GPL being loaded onto the EAGLE

`ver` – the version number of the GPL

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

`src` – Specifies the source drive containing the GPL that is being copied. This parameter has two values.

- `remove` – the removable media flash drive on the E5-MCAP card.
- `usb` – This parameter is to be used by Oracle personnel only and cannot be used with the `chg-gpl` command.

If you are loading a GPL onto the EAGLE, the `gpl` and `ver` parameters must be specified with the `chg-gpl` command and a removable media containing the GPL being loaded must be in the removable media drive on the E5-MCAP card of the active MASP.

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

`ver` – the version number of the GPL

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. 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.

```
rept-stat-gpl:loc=1103
    tklc9010801 16-09-07 00:21:39 EST  EAGLE 46.4.0.0.0-69.10.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1103      139-010-000        139-010-000   139-010-000
           BLIXP         139-010-000        139-010-000   085-009-009

    Command Completed.
```

The example `rept-stat-gpl` output shows that the card in slot 1103 is running the SS7HC GPL, version number 139-010-000, which is also the approved version of the SS7HC GPL. The trial version number of the SS7HC GPL is also 139-010-000.

You can display all the GPLs used by all the cards in the EAGLE except the communication GPLs, a specific GPL, or all application and communication GPLs used by all the cards in the EAGLE. The communication GPLs are the BLIXP, BLMCAP, and HIPR2 GPLs. The application GPLs are the other GPLs in the EAGLE.

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

```
tklc9010801 16-09-07 00:22:18 EST  EAGLE 46.4.0.0.0-69.10.0
    GPL Auditing  ON

    GPL         CARD      RUNNING            APPROVED      TRIAL
    OAMHC       1113      139-010-000        139-010-000   139-010-000
    OAMHC       1115      139-010-000        139-010-000   139-010-000
    SS7HC       1103      139-010-000        139-010-000   139-010-000
    SS7HC       1104      139-010-000        139-010-000   139-010-000
    SS7HC       1107      139-010-000        139-010-000   139-010-000
    SS7HC       1108      139-010-000        139-010-000   139-010-000
    SS7HC       1203      139-010-000        139-010-000   139-010-000
    SS7HC       1207      139-010-000        139-010-000   139-010-000
    SS7HC       1208      139-010-000        139-010-000   139-010-000
    SS7HC       1213      139-010-000        139-010-000   139-010-000
    SS7HC       1303      139-010-000        139-010-000   139-010-000
    SS7HC       1304      139-010-000        139-010-000   139-010-000
    SS7HC       1307      139-010-000        139-010-000   139-010-000
    SS7HC       1308      139-010-000        139-010-000   139-010-000
    SS7HC       1313      139-010-000        139-010-000   139-010-000
    SS7HC       1314      139-010-000        139-010-000   139-010-000
    GLSHC       1102      139-010-000        139-010-000   139-010-000
    IPLHC       1205      139-010-000        139-010-000   139-010-000
    IPLHC       1206      139-010-000        139-010-000   139-010-000
    IPGHC       2311      139-010-000        139-010-000   139-010-000
    IPGHC       5102      139-010-000        139-010-000   139-010-000
    SCCPHC      1215      139-010-000        139-010-000   139-010-000
    SCCPHC      1217      139-010-000        139-010-000   139-010-000
    SLANHC      1202      139-010-000        139-010-000   139-010-000
    SLANHC      2312      139-010-000        139-010-000   139-010-000
    SLANHC      5108      139-010-000        139-010-000   139-010-000
    SLANHC      5202      139-010-000        139-010-000   139-010-000
    SLANHC      5303      139-010-000        139-010-000   139-010-000
    SLANHC      5304      139-010-000        139-010-000   139-010-000
    IPSHC       1302      139-010-000        139-010-000   139-010-000
    ATMHC       2102      139-010-000        139-010-000   139-010-000
    ATMHC       3306      139-010-000        139-010-000   139-010-000
    ATMHC       6101      139-010-000        139-010-000   139-010-000
    ATMHC       6102      139-010-000        139-010-000   139-010-000
    IPSG        1101      139-010-000        139-010-000   139-010-000
    IPSG        1105      139-010-000        139-010-000   139-010-000
    IPSG        1106      139-010-000        139-010-000   139-010-000
    IPSG        1201      139-010-000        139-010-000   139-010-000
    IPSG        1211      139-010-000        139-010-000   139-010-000
    IPSG        1301      139-010-000        139-010-000   139-010-000
    IPSG        1305      139-010-000        139-010-000   139-010-000
    IPSG        1306      139-010-000        139-010-000   139-010-000
    MCPHC       1212      139-010-000        139-010-000   139-010-000
    MCPHC       5302      139-010-000        139-010-000   139-010-000
    ENUMHC      2305      139-010-000        139-010-000   139-010-000
    ENUMHC      3105      139-010-000        139-010-000   139-010-000
    ENUMHC      3115      139-010-000        139-010-000   139-010-000
    ENUMHC      3117      139-010-000        139-010-000   139-010-000
    DEIR64      3215      139-010-000        139-010-000   042-010-003
    DEIR64      3217      139-010-000        139-010-000   042-010-003
    DEIR64      3315      139-010-000        139-010-000   042-010-003

    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=ss7hc` command is entered, then all cards running the SS7HC GPL are displayed as shown in the following example.

```
tklc9010801 16-09-07 00:22:40 EST  EAGLE 46.4.0.0.0-69.10.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1103      139-010-000        139-010-000   139-010-000
    SS7HC      1104      139-010-000        139-010-000   139-010-000
    SS7HC      1107      139-010-000        139-010-000   139-010-000
    SS7HC      1108      139-010-000        139-010-000   139-010-000
    SS7HC      1203      139-010-000        139-010-000   139-010-000
    SS7HC      1207      139-010-000        139-010-000   139-010-000
    SS7HC      1208      139-010-000        139-010-000   139-010-000
    SS7HC      1213      139-010-000        139-010-000   139-010-000
    SS7HC      1303      139-010-000        139-010-000   139-010-000
    SS7HC      1304      139-010-000        139-010-000   139-010-000
    SS7HC      1307      139-010-000        139-010-000   139-010-000
    SS7HC      1308      139-010-000        139-010-000   139-010-000
    SS7HC      1313      139-010-000        139-010-000   139-010-000
    SS7HC      1314      139-010-000        139-010-000   139-010-000

    Command Completed.
```

If a communication GPL (BLIXP) is specified with the `rept-stat-gpl` command, for example, `rept-stat-gpl:gpl=blixp`, then all cards running the communication GPL are displayed. In the following example, all the cards running the BLIXP GPL are displayed as the output for the `rept-stat-gpl:gpl=blixp` command.

```
    eagle1 16-09-09 18:53:40 MST  EAGLE 46.4.0.0.0-69.8.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    BLIXP      1101      138-022-000 ALM    139-002-000   139-002-000
    BLIXP      1102      138-011-000 ALM    139-002-000   139-002-000
    BLIXP      1112      139-001-000 ALM    139-002-000   139-002-000
    BLIXP      1205      138-011-000 ALM    139-002-000   139-002-000
    BLIXP      1206      138-011-000 ALM    139-002-000   139-002-000
    BLIXP      1207      139-010-000 ALM    139-002-000   139-002-000

    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 are displayed as shown in these examples.

Using E5-based control cards, the following is an example of the output:

```
tklc9010801 16-09-07 00:23:25 EST  EAGLE 46.4.0.0.0-69.10.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    OAMHC      1113      139-010-000        139-010-000   139-010-000
           BLMCAP        139-010-000        139-010-000   085-009-012
```

```
OAMHC      1115      139-010-000        139-010-000   139-010-000
       BLMCAP        139-010-000        139-010-000   085-009-012
HIPR2      1109      139-009-000        139-009-000   139-009-000
HIPR2      1110      139-009-000        139-009-000   139-009-000
HIPR2      1209      139-009-000        139-009-000   139-009-000
HIPR2      1210      139-009-000        139-009-000   139-009-000
HIPR2      1309      139-009-000        139-009-000   139-009-000
HIPR2      1310      139-009-000        139-009-000   139-009-000
HIPR2      2109      139-009-000        139-009-000   139-009-000
HIPR2      2110      139-009-000        139-009-000   139-009-000
HIPR2      2209      139-009-000        139-009-000   139-009-000
HIPR2      2210      139-009-000        139-009-000   139-009-000
HIPR2      2309      139-009-000        139-009-000   139-009-000
HIPR2      2310      139-009-000        139-009-000   139-009-000
HIPR2      3109      139-009-000        139-009-000   139-009-000
HIPR2      3110      139-009-000        139-009-000   139-009-000
HIPR2      3209      139-009-000        139-009-000   139-009-000
HIPR2      3210      139-009-000        139-009-000   139-009-000
HIPR2      3309      139-009-000        139-009-000   139-009-000
HIPR2      3310      139-009-000        139-009-000   139-009-000
HIPR2      4109      139-009-000        139-009-000   139-009-000
HIPR2      4110      139-009-000        139-009-000   139-009-000
HIPR2      4209      139-009-000        139-009-000   139-009-000
HIPR2      4210      139-009-000        139-009-000   139-009-000
HIPR2      4309      139-009-000        139-009-000   139-009-000
HIPR2      4310      139-009-000        139-009-000   139-009-000
HIPR2      5109      139-009-000        139-009-000   139-009-000
HIPR2      5110      139-009-000        139-009-000   139-009-000
HIPR2      5209      139-009-000        139-009-000   139-009-000
HIPR2      5210      139-009-000        139-009-000   139-009-000
HIPR2      5309      139-009-000        139-009-000   139-009-000
HIPR2      5310      139-009-000        139-009-000   139-009-000
HIPR2      6109      139-009-000        139-009-000   139-009-000
HIPR2      6110      139-009-000        139-009-000   139-009-000
SS7HC      1103      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1104      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1107      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1108      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1203      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1207      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1208      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1213      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1303      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1304      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1307      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1308      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1313      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
SS7HC      1314      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
GLSHC      1102      139-010-000        139-010-000   139-010-000
       BLIXP         139-010-000        139-010-000   085-009-009
```

```
IPLHC      1205      139-010-000       139-010-000   139-010-000
       BLMCAP        139-010-000       139-010-000   085-009-012
IPLHC      1206      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPGHC      2311      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPGHC      5102      139-010-000       139-010-000   139-010-000
       BLMCAP        139-010-000       139-010-000   085-009-012
SCCPHC     1215      139-010-000       139-010-000   139-010-000
       BLMCAP        139-010-000       139-010-000   085-009-012
SCCPHC     1217      139-010-000       139-010-000   139-010-000
       BLSLC32       139-010-000       139-010-000   085-009-009
SLANHC     1202      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
SLANHC     2312      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
SLANHC     5108      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
SLANHC     5202      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
SLANHC     5303      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
SLANHC     5304      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSHC      1302      139-010-000       139-010-000   139-010-000
       BLMCAP        139-010-000       139-010-000   085-009-012
ATMHC      2102      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
ATMHC      3306      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
ATMHC      6101      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
ATMHC      6102      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSG       1101      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSG       1105      139-010-000       139-010-000   139-010-000
       BLMCAP        139-010-000       139-010-000   085-009-012
IPSG       1106      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSG       1201      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSG       1211      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSG       1301      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSG       1305      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
IPSG       1306      139-010-000       139-010-000   139-010-000
       BLIXP         139-010-000       139-010-000   085-009-009
MCPHC      1212      139-010-000       139-010-000   139-010-000
       BLMCAP        139-010-000       139-010-000   085-009-012
MCPHC      5302      139-010-000       139-010-000   139-010-000
       BLMCAP        139-010-000       139-010-000   085-009-012
ENUMHC     2305      139-010-000       139-010-000   139-010-000
       BLSLC32       139-010-000       139-010-000   085-009-009
ENUMHC     3105      139-010-000       139-010-000   139-010-000
       BLSLC32       139-010-000       139-010-000   085-009-009
ENUMHC     3115      139-010-000       139-010-000   139-010-000
       BLSLC32       139-010-000       139-010-000   085-009-009
ENUMHC     3117      139-010-000       139-010-000   139-010-000
       BLSLC32       139-010-000       139-010-000   085-009-009
DEIR64     3215      139-010-000       139-010-000   042-010-003
       BLSLC64       139-010-000       139-010-000   042-010-003
```

```
    DEIR64     3217      139-010-000        139-010-000   042-010-003
           BLSLC64       139-010-000        139-010-000   042-010-003
    DEIR64     3315      139-010-000        139-010-000   042-010-003
           BLSLC64       139-010-000        139-010-000   042-010-003

    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.

```
eagle1 16-09-09 18:52:13 MST  EAGLE 46.4.0.0.0-69.8.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1102      139-006-000        139-006-000   139-008-000
           BLIXP         138-011-000 ALM    139-002-000   139-002-000

    Command Completed.
```

Notes:

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 media. Entries in the `REMOVE TRIAL` column are shown only if the removable media is inserted into the removable media drive and only for the E5-TDM that is associated with the active MASP on the removable

media inserted into each E5-MCAP card. If the removable media is not inserted in an E5-MCAP card, dashes are shown in the `REMOVE TRIAL` column. Dashes are displayed in the `RELEASE`, `APPROVED`, and `TRIAL` columns.

For E5-based control cards installed in the EAGLE installed in the E5-MCAP card of the active MASP (card location 1113), the following is an example of the `rtrv-gpl` command output. In this example, removable media is installed in the E5-MCAP card of the active MASP (card location 1113), shown by the GPL version number in the `REMOVE TRIAL` column for card location 1114. Removable media is not installed in the E5-MCAP card of the standby MASP (card location 1115), shown by the dashes in the `REMOVE TRIAL` column for card location 1116.

```
tklc9010801 16-09-07 00:26:49 EST  EAGLE 46.4.0.0.0-69.10.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    SS7HC     1116  139-010-000  139-010-000      139-010-000  -----------
    SS7HC     1113  -----------  -----------      -----------  -----------
```

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

If you specify the `rtrv-gpl` command with no parameters, all the GPLs in the EAGLE are displayed as shown in this example. This is an example of the `rtrv-gpl` output when E5-based control cards are installed in the EAGLE.

```
tklc9010801 16-09-07 00:28:42 EST  EAGLE 46.4.0.0.0-69.10.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    BLMCAP    1114  139-010-000  139-010-000      085-009-012  085-009-012
    BLMCAP    1116  139-010-000  139-010-000      085-009-012  085-009-012
    BLMCAP    1113  -----------  -----------      -----------  -----------
    OAMHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    OAMHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    OAMHC     1113  -----------  -----------      -----------  -----------
    HIPR2     1114  139-009-000  139-009-000      139-009-000  139-009-000
    HIPR2     1116  139-009-000  139-009-000      139-009-000  139-009-000
    HIPR2     1113  -----------  -----------      -----------  -----------
    SS7HC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    SS7HC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    SS7HC     1113  -----------  -----------      -----------  -----------
    GLSHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    GLSHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    GLSHC     1113  -----------  -----------      -----------  -----------
    IPLHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    IPLHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    IPLHC     1113  -----------  -----------      -----------  -----------
    IPGHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    IPGHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    IPGHC     1113  -----------  -----------      -----------  -----------
    SCCPHC    1114  139-010-000  139-010-000      139-010-000  139-010-000
    SCCPHC    1116  139-010-000  139-010-000      139-010-000  139-010-000
    SCCPHC    1113  -----------  -----------      -----------  -----------
    SLANHC    1114  139-010-000  139-010-000      139-010-000  139-010-000
    SLANHC    1116  139-010-000  139-010-000      139-010-000  139-010-000
    SLANHC    1113  -----------  -----------      -----------  -----------
    ERTHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    ERTHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    ERTHC     1113  -----------  -----------      -----------  -----------
```

```
    IPSHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    IPSHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    IPSHC     1113  -----------  -----------      -----------  -----------
    ATMHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    ATMHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    ATMHC     1113  -----------  -----------      -----------  -----------
    IPSG      1114  139-010-000  139-010-000      139-010-000  139-010-000
    IPSG      1116  139-010-000  139-010-000      139-010-000  139-010-000
    IPSG      1113  -----------  -----------      -----------  -----------
    PKTGHC    1114  169-010-000  169-010-000      169-010-000  169-010-000
    PKTGHC    1116  169-010-000  169-010-000      169-010-000  169-010-000
    PKTGHC    1113  -----------  -----------      -----------  -----------
    BLIXP     1114  139-010-000  139-010-000      085-009-009  139-010-000
    BLIXP     1116  139-010-000  139-010-000      085-009-009  139-010-000
    BLIXP     1113  -----------  -----------      -----------  -----------
    MCPHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    MCPHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    MCPHC     1113  -----------  -----------      -----------  -----------
    SIPHC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    SIPHC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    SIPHC     1113  -----------  -----------      -----------  -----------
    DEIRHC    1114  139-010-000  139-010-000      139-010-000  139-010-000
    DEIRHC    1116  139-010-000  139-010-000      139-010-000  139-010-000
    DEIRHC    1113  -----------  -----------      -----------  -----------
    ENUMHC    1114  139-010-000  139-010-000      139-010-000  139-010-000
    ENUMHC    1116  139-010-000  139-010-000      139-010-000  139-010-000
    ENUMHC    1113  -----------  -----------      -----------  -----------
    PKTG64    1114  169-010-000  169-010-000      169-010-000  169-010-000
    PKTG64    1116  169-010-000  169-010-000      169-010-000  169-010-000
    PKTG64    1113  -----------  -----------      -----------  -----------
    BLDC64    1114  139-010-000  139-010-000      085-009-006  139-010-000
    BLDC64    1116  139-010-000  139-010-000      085-009-006  139-010-000
    BLDC64    1113  -----------  -----------      -----------  -----------
    SCCP64    1114  139-010-000  139-010-000      139-010-000  139-010-000
    SCCP64    1116  139-010-000  139-010-000      139-010-000  139-010-000
    SCCP64    1113  -----------  -----------      -----------  -----------
    BLSLC32   1114  139-010-000  139-010-000      085-009-009  139-010-000
    BLSLC32   1116  139-010-000  139-010-000      085-009-009  139-010-000
    BLSLC32   1113  -----------  -----------      -----------  -----------
    BLSLC64   1114  139-010-000  139-010-000      042-010-003  139-010-000
    BLSLC64   1116  139-010-000  139-010-000      042-010-003  139-010-000
    BLSLC64   1113  -----------  -----------      -----------  -----------
    SIP64     1114  139-010-000  139-010-000      139-010-000  139-010-000
    SIP64     1116  139-010-000  139-010-000      139-010-000  139-010-000
    SIP64     1113  -----------  -----------      -----------  -----------
    DEIR64    1114  139-010-000  139-010-000      042-010-003  139-010-000
    DEIR64    1116  139-010-000  139-010-000      042-010-003  139-010-000
    DEIR64    1113  -----------  -----------      -----------  -----------
    ENUM64    1114  139-010-000  139-010-000      139-010-000  139-010-000
    ENUM64    1116  139-010-000  139-010-000      139-010-000  139-010-000
    ENUM64    1113  -----------  -----------      -----------  -----------
;
Command Executed
```

In this example, removable media is installed in both MASPs.

If a specific GPL is specified, then only that GPL is displayed. For example, if the `rtrv-gpl:gpl=ss7hc` command is entered, then only the SS7HC GPL is displayed as shown in the following example.

```
eagle1 16-09-12 12:03:53 MST  EAGLE 46.4.0.0.0-69.8.0
```

```
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC     1114  139-010-000  139-010-000      139-010-000  139-010-000
    SS7HC     1116  139-010-000  139-010-000      139-010-000  139-010-000
    SS7HC     1113  -----------  -----------      -----------  -----------
```

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 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. The rtrv-gpl examples shown in this section are examples that are shown when E5-based control cards are installed in the EAGLE.

1. A removable media is inserted into the removable media drive on the E5-MCAP card of the active MASP. If a specific GPL is displayed with the rtrv-gpl command, for example the SS7HC GPL, the following would be displayed.

```
    eagle1 16-09-09 18:30:48 MST  EAGLE 46.4.0.0.0-69.6.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC     1114  139-006-000  139-006-000      139-004-000  -----------
    SS7HC     1116  139-006-000  139-006-000      139-004-000  139-008-000
    SS7HC     1115  -----------  -----------      -----------  -----------
;
Command Executed
```

   Displaying the SS7HC GPL with the rept-stat-gpl command would display all the cards running the SS7HC GPL, as shown in this example.

```
eagle1 16-09-09 18:31:17 MST  EAGLE 46.4.0.0.0-69.6.0
    GPL Auditing  ON

    GPL        CARD      RUNNING           APPROVED      TRIAL
    SS7HC      1102      139-006-000       139-006-000   139-004-000
    SS7HC      1205      139-006-000       139-006-000   139-004-000
    SS7HC      1206      139-006-000       139-006-000   139-004-000
    SS7HC      1207      139-006-000       139-006-000   139-004-000

    Command Completed
```

2. When the chg-gpl command is executed, the specific GPL is copied from the removable media to the fixed disks. The specific GPL and the version number of the GPL on the removable media

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=139-008-000 command would be entered at the EAGLE terminal.

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=ss7hc

```
eagle1 16-09-09 18:33:48 MST  EAGLE 46.4.0.0.0-69.6.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC     1114  139-006-000  139-006-000      139-008-000  -----------
    SS7HC     1116  139-006-000  139-006-000      139-008-000  139-008-000
    SS7HC     1115  -----------  -----------      -----------  -----------
```

   rept-stat-gpl:gpl=ss7hc

```
eagle1 16-09-09 18:34:26 MST  EAGLE 46.4.0.0.0-69.6.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1102      139-006-000        139-006-000   139-008-000
    SS7HC      1205      139-006-000        139-006-000   139-008-000
    SS7HC      1206      139-006-000        139-006-000   139-008-000
    SS7HC      1207      139-006-000        139-006-000   139-008-000

    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 media with the chg-gpl command (steps 1 to 3). 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=ss7hc

```
eagle1 16-09-09 18:35:31 MST  EAGLE 46.4.0.0.0-69.8.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC     1114  139-008-000  139-008-000      139-006-000  -----------
    SS7HC     1116  139-008-000  139-008-000      139-006-000  139-008-000
    SS7HC     1115  -----------  -----------      -----------  -----------
```

   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=ss7hc
```

```
   eagle1 16-09-09 18:35:52 MST  EAGLE 46.4.0.0.0-69.8.0
   GPL Auditing  ON

   GPL        CARD      RUNNING            APPROVED      TRIAL
   SS7HC      1102      139-006-000 ALM    139-008-000   139-006-000
   SS7HC      1205      139-006-000 ALM    139-008-000   139-006-000
   SS7HC      1206      139-006-000 ALM    139-008-000   139-006-000
   SS7HC      1207      139-006-000 ALM    139-008-000   139-006-000

   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 1102 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 1102 in `rept-stat-gpl` output. The ALM indicator is shown for cards 1205, 1206, and 1207 because they are not running the RELEASE version of the GPL.

   RTRV-GPL Output

```
eagle1 16-09-09 18:36:26 MST  EAGLE 46.4.0.0.0-69.8.0
    GPL Auditing  ON

    GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC      1114  139-008-000  139-008-000      139-006-000  -----------
    SS7HC      1116  139-008-000  139-008-000      139-006-000  139-008-000
    SS7HC      1115  -----------  -----------      -----------  -----------
```

   REPT-STAT-GPL Output

```
   eagle1 16-09-09 18:38:34 MST  EAGLE 46.4.0.0.0-69.8.0
   GPL Auditing  ON
```

```
    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1102      139-008-000        139-008-000   139-006-000
    SS7HC      1205      139-006-000 ALM    139-008-000   139-006-000
    SS7HC      1206      139-006-000 ALM    139-008-000   139-006-000
    SS7HC      1207      139-006-000 ALM    139-008-000   139-006-000

    Command Completed.
```

Example 2

The new GPL is the APPROVED version and the card 1102 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

```
    eagle1 16-09-09 18:41:06 MST  EAGLE 46.4.0.0.0-69.8.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC     1114  139-008-000  139-008-000      139-006-000  -----------
    SS7HC     1116  139-008-000  139-008-000      139-006-000  139-008-000
    SS7HC     1115  -----------  -----------      -----------  -----------
```

REPT-STAT-GPL Output

```
eagle1 16-09-09 18:41:59 MST  EAGLE 46.4.0.0.0-69.8.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1102      139-006-000 ALM    139-008-000   139-006-000
    SS7HC      1205      139-006-000 ALM    139-008-000   139-006-000
    SS7HC      1206      139-006-000 ALM    139-008-000   139-006-000
    SS7HC      1207      139-006-000 ALM    139-008-000   139-006-000

    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 1102 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 1102 in the `rept-stat-gpl` output because card 1102 is not running the RELEASE version of the GPL.

RTRV-GPL Output

```
eagle1 16-09-09 18:43:39 MST  EAGLE 46.4.0.0.0-69.6.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    SS7HC     1114  139-006-000  139-006-000      139-008-000  -----------
    SS7HC     1116  139-006-000  139-006-000      139-008-000  139-008-000
    SS7HC     1115  -----------  -----------      -----------  -----------
```

REPT-STAT-GPL Output

```
eagle1 16-09-09 18:44:12 MST  EAGLE 46.4.0.0.0-69.6.0
GPL Auditing  ON

GPL        CARD      RUNNING            APPROVED      TRIAL
SS7HC      1102      139-008-000 ALM    139-006-000   139-008-000
SS7HC      1205      139-006-000        139-006-000   139-008-000
SS7HC      1206      139-006-000        139-006-000   139-008-000
SS7HC      1207      139-006-000        139-006-000   139-008-000

Command Completed.
```

Example 4

The new GPL is the TRIAL version and the card 1102 was reloaded with the APPROVED version of the GPL. Card 1102 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

```
eagle1 16-09-09 18:46:20 MST  EAGLE 46.4.0.0.0-69.6.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL         REMOVE TRIAL
SS7HC     1114  139-006-000  139-006-000      139-008-000   -----------
SS7HC     1116  139-006-000  139-006-000      139-008-000   139-008-000
SS7HC     1115  -----------  -----------      -----------   -----------
```

REPT-STAT-GPL Output

```
eagle1 16-09-09 18:46:41 MST  EAGLE 46.4.0.0.0-69.6.0
GPL Auditing  ON

GPL        CARD      RUNNING            APPROVED      TRIAL
SS7HC      1102      139-006-000        139-006-000   139-008-000
SS7HC      1205      139-006-000        139-006-000   139-008-000
SS7HC      1206      139-006-000        139-006-000   139-008-000
SS7HC      1207      139-006-000        139-006-000   139-008-000

Command Completed
```

Updating the BLMCAP and OAMHC GPLs

This procedure updates the BLMCAP and OAMHC GPLs on the E5-MCAP cards in card locations 1113 and 1115 as a trial version from the removable media, then making the trial version of these GPLs the approved version of these GPLs. The E5-MCAP card in card locations 1113 and 1115 is used in combination with the TDM to form the Maintenance and Administration Subsystem Processor (MASP).

The BLMCAP GPL is updated using the `chg-gpl`, `act-gpl`, and `flash-card` commands.

Caution: The `flash-card` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

The OAMHC GPL is updated using the `chg-gpl` command.

Caution: This procedure can be performed only on EAGLEs that contain E5-based control cards. Refer to *Maintenance and Administration Subsystem* for more information about the control cards.

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.

Removable media containing the BLMCAP and OAMHC GPLs that are being updated is required.

1. Verify the control cards that are installed in the EAGLE.

   Refer to *Maintenance and Administration Subsystem* for information about the control cards.

   If E5-based control cards are installed in the EAGLE, continue the procedure with *Step 2*.

2. Check the E5-MASPs for removable media.

   If removable media is installed in one of the E5-MASPs, continue the procedure with *Step 4*.

   If removable media is not installed in either E5-MASPs, continue the procedure with *Step 3*.

3. Verify the active MASP by entering the `rept-stat-db` command.

   This is an example of the possible output.

```
eagle1 16-09-09 17:51:57 MST  EAGLE 46.4.0.0.0-69.6.0
    DATABASE STATUS: >> OK <<
             TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
             C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
             - -------- ---------------------- - -------- ----------------------

    FD BKUP Y        1     -        -         Y        1     -        -
    FD CRNT Y       93                       Y       93
             MCAP 1113                        MCAP 1115
             - --------                       - --------
    RD BKUP -     -         -        -         Y        1     -        -
    USB BKP -     -         -        -         -     -        -        -
```

   If removable media is installed in the active MASP, continue the procedure with *Step 4*.

   If removable media is not installed in the active MASP, insert the removable media in the removable media drive in the active MASP. For more information about inserting removable media in the removable media drive, refer to *Removable USB Drive*. After the removable media has been inserted in the removable media drive in the active MASP, continue the procedure with *Step 4*.

4. Display the BLMCAP and OAM HC GPLs on the fixed disk and on the removable media using the `rtrv-gpl` command with the `gpl` parameter value equal to the GPL being updated. Perform these substeps.

   a) Display the BLMCAP GPL by entering this command.

```
rtrv-gpl:gpl=blmcap
```

This is an example of the possible output.

```
eagle1 16-09-09 18:28:48 MST  EAGLE 46.4.0.0.0-69.6.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    BLMCAP    1114  139-005-000  139-005-000      139-005-000  -----------
    BLMCAP    1116  139-005-000  139-005-000      139-005-000  139-008-000
    BLMCAP    1115  -----------  -----------      -----------  -----------
```

b) Display the OAMHC GPL by entering this command.

```
rtrv-gpl:gpl=oamhc
```

This is an example of the possible output.

```
eagle1 16-09-09 18:30:03 MST  EAGLE 46.4.0.0.0-69.6.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    OAMHC     1114  139-006-000  139-006-000      -----------  -----------
    OAMHC     1116  139-006-000  139-006-000      139-008-000  139-008-000
    OAMHC     1115  -----------  -----------      -----------  -----------
```

If the version of either 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 removable media from the active MASP.

Insert the removable media that contains the GPLs that are being updated into the removable media drive in the active MASP. If *Step 3* was performed, repeat this step. If *Step 3* was not performed, repeat this procedure from *Step 3*.

For more information about inserting removable media in the removable media drive, or removing removable media from the removable media drive, refer to *Removable USB Drive*.

If the versions of the GPLs shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output are the versions that are to be loaded onto the cards, continue the procedure with *Step 5*.

5. Change the BLMCAP and OAMHC GPLs using the `chg-gpl` command and specifying the value for the trial BLMCAP and OAMHC GPLs shown in the `REMOVE TRIAL` column in the output of the `rtrv-gpl` command (in *Step 4*). Perform these substeps.

a) For the BLMCAP GPL in this example, enter this command.

```
chg-gpl:gpl=blmcap:ver=139-008-000
```

These messages should appear.

```
    eagle1 16-09-09 18:47:55 MST  EAGLE 46.4.0.0.0-69.6.0
    BLMCAP upload to 1116 completed
    BLMCAP upload to 1114 completed
    System Release ID table upload to 1116 completed
    System Release ID table upload to 1114 completed
```

b) For the OAMHC GPL in this example, enter this command.

`chg-gpl:gpl=oamhc:ver=139-008-000`

These messages should appear.

```
eagle1 16-09-09 18:48:30 MST  EAGLE 46.4.0.0.0-69.6.0
OAMHC upload to 1116 completed
OAMHC upload to 1114 completed
System Release ID table upload to 1116 completed
System Release ID table upload to 1114 completed
```

6. Activate the trial BLMCAP GPL, using the `act-gpl` command and specifying the name and version of the trial BLMCAP GPL specified in Substep a in *Step 5*. Enter this command.

   `act-gpl:gpl=blmcap:ver=139-008-000`

   These messages should appear.

```
eagle1 16-09-09 18:48:53 MST  EAGLE 46.4.0.0.0-69.8.0
BLMCAP activate on 1116 completed
BLMCAP activate on 1114 completed
```

7. Verify that the trial BLMCAP and OAM HC GPLs have been made the approved GPLs using the `rtrv-gpl` command. Perform these substeps.
   a) For the BLMCAP GPL, enter the `rtrv-gpl:gpl=blmcap` command.

      This is an example of the possible output.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLMCAP    1114  139-008-000  139-008-000      139-005-000  -----------
BLMCAP    1116  139-008-000  139-008-000      139-005-000  139-008-000
BLMCAP    1115  -----------  -----------      -----------  -----------
```

   b) For the OAMHC GPL, enter the `rtrv-gpl:gpl=oamhc` command.

      This is an example of the possible output.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
OAMHC     1114  139-008-000  139-008-000      139-005-000  139-008-000
OAMHC     1116  139-008-000  139-008-000      139-005-000  139-008-000
OAMHC     1115  -----------  -----------      -----------  -----------
```

8. Verify the GPLs that are running on the E5-MCAP cards by performing these substeps.
   a) For the BLMCAP GPL, enter the `rept-stat-gpl:gpl=blmcap` command.

This is an example of the possible output.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
BLMCAP  1113   139-005-000 ALM   139-008-000   139-005-000
BLMCAP  1115   139-005-000 ALM   139-008-000   139-005-000

Command Completed
```

The `flash-card` command will load only the BLMCAP GPLs whose approved versions are different from the versions that the card is running. The version of the BLMCAP GPL that the card is running is shown in the `RUNNING` column in the `rept-stat-gpl` output. The approved version of the BLMCAP GPL is shown in the `APPROVED` column of the `rept-stat-gpl` output. If the running and approved versions of a BLMCAP GPL are the same, the `flash-card` command will not load that BLMCAP GPL.

b) For the OAMHC GPL, enter the `rept-stat-gpl:gpl=oamhc` command.

This is an example of the possible output.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
GPL      CARD   RUNNING           APPROVED      TRIAL
OAMHC    1113   139-005-000 ALM   139-008-000   139-005-000
OAMHC    1115   139-005-000 ALM   139-008-000   139-005-000
Command Completed
```

9. Display the terminal configuration in the database with the `rtrv-trm` command.

All the SEAS terminals must be placed out of service in order to load the BLMCAP and OAMHC GPLs onto the E5-MCAP cards. The SEAS terminals are shown in the output with the entry `SEAS` in the `TYPE` field. This is an example of the possible output. In this example, the SEAS terminals are terminals 18 and 27.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
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-O-1 NONE  30    5     00:00:30
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-O-1 NONE  30    5     00:00:30
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    1303            60    5     00:30:00
18   SEAS      1201            60    5     00:30:00
```

```
19   TELNET    1303             60    5     00:30:00
20   TELNET    1303             60    5     00:30:00
21   TELNET    1303             60    5     00:30:00
22   TELNET    1303             60    5     00:30:00
23   TELNET    1303             60    5     00:30:00
24   TELNET    1303             60    5     00:30:00
25   TELNET    1203             60    5     00:30:00
26   TELNET    1203             60    5     00:30:00
27   SEAS      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
```

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

If SEAS terminals are shown in the `rtrv-trm` command output, continue the procedure with *Step 10*.

If no SEAS terminals are shown in the `rtrv-trm` command output, perform one of these steps to continue the procedure.

- If the `rept-stat-db` command in *Step 3* was not performed, continue the procedure with *Step 13*.
- If the `rept-stat-db` command in *Step 3* was performed, continue the procedure with *Step 14*.

10. Display the status of the terminals with the `rept-stat-trm` command with the terminal number of the SEAS terminals.

    For this example, enter these commands.

    ```
    rept-stat-trm:trm=18
    ```

    This is an example of the possible output.

    ```
    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    TRM   PST           SST           AST
    18     IS-NR         Active        -----
    Command Completed.
    ```

    ```
    rept-stat-trm:trm=27
    ```

    This is an example of the possible output.

    ```
    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    TRM   PST           SST           AST
    ```

```
27     IS-NR         Active        -----
Command Completed.
```

11. Place the SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in *Step 10* whose state is not OOS-MT-DSBLD.

    The `force=yes` parameter must be used when placing the last SEAS terminal out of service. For this example, enter these commands.

    For this example, enter these commands.

    `rmv-trm:trm=18`

    `rmv-trm:trm=27:force=yes`

    If the status of the SEAS 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.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
Inhibit message sent to terminal

eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
Command Completed.
```

12. Change the terminal type of the SEAS terminals to NONE with the `chg-trm` command, the `type=none` parameter, and with the values of the SEAS terminals used in *Step 11*.

    For this example, enter these commands.

    `chg-trm:trm=18:type=none`

    `chg-trm:trm=27:type=none`

    This message should appear when these commands have successfully completed.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
CHG-TRM: MASP B - COMPLTD
```

    Continue the procedure with by performing one of these steps.

    - If the `rept-stat-db` command in *Step 3* was not performed, continue the procedure with *Step 13*.
    - If the `rept-stat-db` command in *Step 3* was performed, continue the procedure with *Step 14*.

13. To load the BLMCAP and OAMHC GPLs, they must be loaded on the standby MASP (E5-MCAP) first.

    To determine which MASP is active, enter the `rept-stat-db` command. This is an example of the possible output.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY)                E5TDM 1116 ( ACTV )
```

```
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 09-02-19 09:38:25 GMT  Y       36 09-02-19 09:38:25 GMT
FD CRNT Y       39                        Y       39
        E5MCAP 1113                         E5MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       36 09-02-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 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.

14. Using the outputs of *Step 8* and either *Step 3* or *Step 13* as a guide, place the E5-MCAP card making up the standby MASP card 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.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
Card has been inhibited.
```

15. Load the approved version of the BLMCAP GPLs onto the card inhibited in *Step 14* using the `flash-card` command with the `code=appr` parameter.

Caution: The `flash-card` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

The `flash-card` command will load only those BLMCAP GPLs whose approved versions are different from the versions that the card is running. The version of the BLMCAP GPL that the card is running is shown in the `RUNNING` column in the `rept-stat-gpl` output. The approved version of the BLMCAP GPL is shown in the `APPROVED` column of the `rept-stat-gpl` output. If the running and approved versions of an BLMCAP GPL are the same, the `flash-card` command will not load that BLMCAP GPL.

For this example, enter this command.

```
flash-card:code=appr:loc=1113
```

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

```
    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    Flash Card: FLASH GPL(s) required to be downloaded on card 1113
      BLMCAP   : Running version 134-015-000  Expected version 134-016-000

;

    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    Flash Card: Downloading BLMCAP on card 1113
```

```
    Flash Card: Card(s) will reset after the flash GPL download.

;

    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    Flash Card: Card 1113 download BLMCAP complete.

;

    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    Flash Card: FLASH GPL(s) required to be activated on card 1113
      BLMCAP   : Running inactive version 134-016-000

;

    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    Flash Card: Activating BLMCAP on card 1113

;

    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    Flash Card: Card 1113 activation BLMCAP complete.

;

    eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
    Command Completed.
;
```

The E5-MCAP card specified in the `flash-card` command will be re-initialized when the BLMCAP GPL download is complete.

16. Put the card that was taken out of service in *Step 14* back into service using the `rst-card` command.

The `rst-card` command also loads the approved version of the BLMCAP and OAMHC GPLs onto the card.

For this example, enter this command.

`rst-card:loc=1113`

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

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
Card has been allowed.
```

17. Verify that the BLMCAP and OAMHC GPLs from *Step 15* have been 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=1113`

This is an example of the possible output.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0

CARD   VERSION      TYPE      GPL        PST           SST        AST
1113   139-008-000  E5MCAP    OAMHC      IS-NR         Active     -----
```

```
  ALARM STATUS       = No Alarms.
  BLMCAP  GPL version = 139-008-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  30C ( 86F)
  PEAK TEMPERATURE:     =  33C ( 92F)     [02-01-05 07:18]
Command Completed.
```

Note: If the versions of the BLMCAP or OAMHC GPLs shown in the `rept-stat-card` command output are not the versions specified in *Step 6*, contact the Customer Care Center. Refer to *My Oracle Support (MOS)* for the contact information. The reminder of this procedure should not be performed.

18. To load the new BLMCAP and OAMHC GPLs onto the E5-MCAP card making up the active MASP, enter the `init-card` command specifying the location of the E5-MCAP card making up active MASP. For this example, enter the `init-card:loc=1115` command. This message should appear.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
Init Card command issued to card 1115
```

After this step has been performed, repeat steps *Step 14*, *Step 15*, *Step 16*, and *Step 17* using the card location specified in this step as the `loc` parameter value in these steps. After these steps have been performed, continue the procedure with either *Step 19* or *Step 21* based on the following conditions:

- If SEAS terminals were not shown in the `rtrv-trm` command output in *Step 9*, continue the procedure with *Step 21*.
- If SEAS terminals were shown in the `rtrv-trm` command output in *Step 9*, continue the procedure with *Step 19*.

19. Change the terminal type of the terminals that were changed to `NONE` in *Step 12* to the terminal type `SEAS` with the `chg-trm` command and the `type=seas` parameter.

The terminal type is shown in the `TYPE` field in the `rtrv-trm` command output in *Step 9*.

For this example, enter these commands.

`chg-trm:trm=18:type=seas`

`chg-trm:trm=27:type=seas`

This message should appear when these commands have successfully completed.

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
CHG-TRM: MASP B - COMPLTD
```

20. Put the SEAS terminals back into service using the `rst-trm` command with the number of the terminals specified in *Step 19*.

`rst-trm:trm=18`

`rst-trm:trm=27`

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

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
Allow message sent to terminal
```

```
eagle1 16-09-09 18:49:10 MST  EAGLE 46.4.0.0.0-69.8.0
Command Completed.
```

21. This procedure is finished.

Updating the Signaling Link and Data Link GPLs

This procedure is used to update the following GPLs: SS7IPGW, IPGWI, SLANHC, SS7HC, IPLHC, IPGHC, ATMHC, and IPSG. 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 the following GPLs: SS7IPGW, IPGWI, SS7HC, IPLHC, IPGHC, ATMHC, and IPSG. The signaling link GPLs are assigned to the card types shown in *Table 2: SS7 LIM Card Types*.

Table 2: SS7 LIM Card Types

GPL	Card Type
atmansi, atmhc	limatm (cards running the atmhc GPL must be E5-ATM cards)
atmitu, atmhc	lime1atm (cards running the atmhc GPL must be E5-ATM cards)
ss7ipgw, ipgwi, iplhc, ipghc, ipsg	dcm (cards running the iplhc, ipghc, or ipsg GPLs must be E5-ENET cards)
ss7hc	lime1, limt1 (these cards can be HC MIMs or E5-E1T1 cards)

Data links are assigned to cards running the SLANHC GPLs. The data link GPLs are assigned to the card types shown in *Table 3: Data Link Card Types*.

Table 3: Data Link Card Types

GPL	Card Type
slanhc	dcm (these cards must be E5-ENET, E5-ENET-B, or SLIC cards)

The card types shown in *Table 2: SS7 LIM Card Types* and *Table 3: Data Link Card Types* are the values used for the `type` parameter of the `ent-card` command.

The cards running the SS7HC GPL are E5-E1T1-B cards. E5-E1T1-B cards are single-slot cards that can support up to 32 signaling links. These cards 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` output shows that these cards are actually running the SS7HC GPL.

The cards running the IPLHC and IPGHC GPLs are E5-ENET cards supporting IP signaling links. The IPLHC GPL allows the E5-ENET card to support. The `rtrv-card` output shows this card running either the IPLIM or IPLIMI applications, but the `rept-stat-card` and `rept-stat-gpl` output

shows that these cards are actually running the IPLHC GPL. The IPGHC GPL allows the E5-ENET card to support SS7IPGW (ANSI IP Gateway) or IPGWI (ITU IP Gateway) signaling links. The `rtrv-card` output shows this card running either the SS7IPGW or IPGWI applications, but the `rept-stat-card` and `rept-stat-gpl` output shows that these cards are actually running the IPGHC GPL.

The cards running the ATMHC GPL are cards that can contain the ATM high-speed signaling links on E5-ATM cards. The `rtrv-card` output shows these cards running either the ATMANSI or ATMITU applications, but the `rept-stat-card` and `rept-stat-gpl` output shows that these cards are actually running the ATMHC GPL.

The cards running the SLANHC GPLs are the STPLAN cards supporting the STPLAN feature. E5-SLAN cards run the SLANHC GPL. The `rtrv-card` output shows these cards running the STPLAN application, but the `rept-stat-card` and `rept-stat-gpl` output shows that these cards are actually running the SLANHC GPLs.

If the GPL is being updated to a new version, a removable media 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 *Commands User's Guide*.

1. Verify the control cards that are installed in the EAGLE.

   Refer to *Maintenance and Administration Subsystem* for information about the control cards.

2. Check the E5-MASPs for removable media.

   If removable media is installed in both E5-MASPs, continue the procedure with *Step 4*.

   If removable media is not installed in both E5-MASPs, continue the procedure with *Step 3*.

3. Verify the active MASP by entering the `rept-stat-db` command.

This is an example of the possible output.

```
rlghncxa03w 09-03-16 15:25:40 GMT  EAGLE 46.3.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY)                E5TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 09-02-19 09:38:25 GMT  Y       36 09-02-19 09:38:25 GMT
FD CRNT Y       39                        Y       39
        E5MCAP 1113                       E5MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       36 09-02-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 GMT
```

If removable media is installed in the active MASP, continue the procedure with *Step 4*.

If removable media is not installed in the active MASP, insert the removable media in the removable media drive in the active MASP. For more information about inserting removable media in the removable media drive, refer to *Removable USB Drive*. After the removable media has been inserted in the removable media drive in the active MASP, continue the procedure with *Step 4*.

4. Display the GPLs on the fixed disk 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=ss7hc`

```
rlghncxa03w 09-03-16 11:34:04 GMT  EAGLE 46.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7HC     1114  132-002-000  132-002-000      132-001-000  132-003-000
SS7HC     1116  132-002-000  132-002-000      132-001-000  132-003-000
SS7HC     1115  -----------  -----------      -----------  -----------
```

   `rtrv-gpl:gpl=slanhc`

```
rlghncxa03w 09-03-16 11:34:04 GMT  EAGLE 46.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SLANHC    1114  132-002-000  132-002-000      132-001-000  132-003-000
SLANHC    1116  132-002-000  132-002-000      132-001-000  132-003-000
SLANHC    1115  -----------  -----------      -----------  -----------
```

   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 removable media from the active MASP.

   Insert the removable media that contains the GPL that is being updated into the removable media drive in the active MASP and repeat this step.

   For more information about inserting removable media in the removable media drive, or removing removable media from the removable media drive, refer to *Removable USB Drive*.

   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, continue the procedure with *Step 5*.

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 these commands.

   ```
   chg-gpl:gpl=ss7hc:ver=123-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 09-03-16  11:43:04  GMT  EAGLE 46.3.0
   GPL Auditing  ON

   SS7HC upload on 1114 completed
   SS7HC upload on 1116 completed
   System Release ID table upload 1114 completed
   System Release ID table upload 1116 completed
   ```

   ```
   chg-gpl:gpl=slanhc:ver=123-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 09-03-16  11:43:04  GMT  EAGLE5 46.3.0
   GPL Auditing  ON

   SLANHC upload on 1114 completed
   SLANHC 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=ss7hc:ver=123-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 09-03-16 06:54:39 GMT EAGLE 46.3.0
   SS7HC activate on 1114 completed
   SS7HC activate on 1116 completed
   ```

   ```
   act-gpl:gpl=slanhc:ver=123-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 09-03-16 06:54:39 GMT EAGLE 46.3.0
   SLANHC activate on 1114 completed
   SLANHC 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 *Step 5* and *Step 6*.

   For this example, enter these commands.

   ```
   rtrv-gpl:gpl=ss7hc
   ```

This is an example of the possible output.

```
rlghncxa03w 09-03-16 11:34:04 GMT EAGLE 46.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7HC     1114  132-003-000  132-003-000      132-002-000  132-003-000
SS7HC     1116  132-003-000  132-003-000      132-002-000  -----------
```

If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-03-16 11:34:04 GMT  EAGLE 46.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7HC     1114  132-003-000  132-003-000      132-002-000  132-003-000
SS7HC     1116  132-003-000  132-003-000      132-002-000  132-003-000
SS7HC     1115  -----------  -----------      -----------  -----------
```

`rtrv-gpl:gpl=slanhc`

This is an example of the possible output.

```
rlghncxa03w 09-03-16 11:34:04 GMT EAGLE 46.3.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SLANHC    1114  132-003-000  132-003-000      132-002-000  132-003-000
SLANHC    1116  132-003-000  132-003-000      132-002-000  -----------
```

If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-03-16 11:34:04 GMT  EAGLE 40.1.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SLANHC    1114  132-003-000  132-003-000      132-002-000  132-003-000
SLANHC    1116  132-003-000  132-003-000      132-002-000  132-003-000
SLANHC    1115  -----------  -----------      -----------  -----------
```

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=ss7hc`

   This is an example of the possible output.

```
rlghncxa03w 09-03-16 11:40:26 GMT  EAGLE 46.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7HC    1201   132-002-000 ALM   132-003-000   132-002-000
SS7HC    1204   132-002-000 ALM   132-003-000   132-002-000
SS7HC    1211   132-002-000 ALM   132-003-000   132-002-000
SS7HC    1215   132-002-000 ALM   132-003-000   132-002-000
```

```
SS7HC    1307   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2111   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2112   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2115   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2116   132-002-000 ALM   132-003-000   132-002-000
Command Completed
```

Continue the procedure by performing one of these steps.

- If one of these GPLs is being updated: SS7IPGW, IPGWI, SS7HC, IPLHC, IPGHC, ATMHC, or IPSG, continue the procedure with *Step 9*.
- If one of these GPLs is being updated: SLANHC, continue the procedure with *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 09-07-16 21:16:37 GMT EAGLE 41.1.0

                                  L2T                PCR  PCR
LOC  LINK LSN         SLC TYPE    SET  BPS    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

                                  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 *Step 8* and *Step 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 at the same time. Doing so will take all the SS7 signaling links out of service and isolate the EAGLE from the network.

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

```
rlghncxa03w 09-03-16 11:45:18 GMT  EAGLE 46.3.0
Deactivate SLK message sent to card
```

    Continue the procedure with *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 09-03-16 17:00:36 GMT  EAGLE 46.3.0
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 at the same time. Doing so will take all the TCP/IP data links out of service and cause the STPLAN feature to be disabled.

If there is only one TCP/IP data link in the EAGLE, placing the card out of service will cause the STPLAN feature to be disabled.

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

```
rlghncxa03w 09-03-16 11:45:18 GMT  EAGLE 46.3.0
Deactivate Link message sent to card.
Command Completed.
```

13. Place the card specified in either *Step 10* or *Step 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 09-03-16  11:11:28 GMT  EAGLE 46.3.0
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 09-03-16  11:11:28 GMT  EAGLE 46.3.0
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=ss7hc`

This is an example of the possible output.

```
rlghncxa03w 09-03-16 11:40:26 GMT  EAGLE 46.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7HC    1201   132-003-000       132-003-000   132-002-000
SS7HC    1204   132-002-000 ALM   132-003-000   132-002-000
SS7HC    1211   132-002-000 ALM   132-003-000   132-002-000
SS7HC    1215   132-002-000 ALM   132-003-000   132-002-000
SS7HC    1307   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2111   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2112   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2115   132-002-000 ALM   132-003-000   132-002-000
SS7HC    2116   132-002-000 ALM   132-003-000   132-002-000
Command Completed
```

`rept-stat-gpl:gpl=slanhc`

This is an example of the possible output.

```
rlghncxa03w 09-03-16 11:40:26 GMT  EAGLE 46.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SLANHC   2105   132-003-000       132-003-000   132-002-000
SLANHC   2113   132-002-000 ALM   132-003-000   132-002-000
SLANHC   2301   132-002-000 ALM   132-003-000   132-002-000
Command Completed
```

Continue the procedure by performing one of these steps.

- If one of these GPLs is being updated: SS7IPGW, IPGWI, SS7HC, IPLHC, IPGHC, ATMHC, or IPSG, continue the procedure with *Step 16*.
- If one of these GPLs is being updated: SLANHC, continue the procedure with *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 09-03-16 11:55:49 GMT  EAGLE 46.3.0
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 09-03-16 13:06:25 GMT EAGLE 46.3.0
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 09-03-16 13:06:25 GMT EAGLE 46.3.0
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 09-03-16 13:06:25 GMT EAGLE 46.3.0
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 09-03-16 13:06:25 GMT EAGLE 46.3.0
SLK      LSN       CLLI        PST          SST       AST
1201,B1  lsnmpl4   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

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 09-03-16 11:55:49 GMT  EAGLE 46.3.0
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 09-03-16 12:57:50 GMT EAGLE 46.3.0
DLK    PST           SST        AST
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

20. Continue the procedure by performing these actions.

    When the E5-based control cards are installed in the EAGLE, continue the procedure by performing one of these actions:

    - If you wish to load the new GPL onto the other cards shown in *Step 8*, repeat this procedure from either *Step 10* or *Step 12* for each card shown in *Step 8*.
    - If the new GPL will not be loaded onto other cards but other GPLs will be updated, repeat this procedure from *Step 1*.
    - If the new GPL will not be loaded onto other cards and no other GPLs are being updated, then this procedure is finished.

Updating the Service GPLs

This procedure is used to update these GPLs: GLS, SCCPHC, and IPSHC. 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 4: Service GPL Card Types*.

Table 4: Service GPL Card Types

GPL	Card Type
sccphc	dsm (these cards must be E5-SM4G/E5-SM8G cards)
iphsc	ipsm (these cards must be E5-IPSM cards)
glshc	tsm (these cards must be E5-TSM cards)

The card types shown in *Table 4: Service GPL Card Types* 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.

1. Verify the control cards that are installed in the EAGLE.

Refer to *Maintenance and Administration Subsystem* for information about the control cards.

2. Check the E5-MASPs for removable media.

   If removable media is installed in both E5-MASPs, continue the procedure with *Step 4*.

   If removable media is not installed in both E5-MASPs, continue the procedure with *Step 3*.

3. Verify the active MASP by entering the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-01 15:25:40 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        E5TDM 1114 ( STDBY)                E5TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 09-02-19 09:38:25 GMT  Y       36 09-02-19 09:38:25 GMT
FD CRNT Y       39                        Y       39
        E5MCAP 1113                        E5MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       36 09-02-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 GMT
```

   If removable media is installed in the active MASP, continue the procedure with *Step 4*.

   If removable media is not installed in the active MASP, insert the removable media in the removable media drive in the active MASP. For more information about inserting removable media in the removable media drive, refer to *Removable USB Drive*. After the removable media has been inserted in the removable media drive in the active MASP, continue the procedure with *Step 4*.

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=vsccp`

```
rlghncxa03w 09-03-01 11:34:04 GMT  EAGLE5 40.1.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP     1114  132-002-000  132-002-000      132-001-000  132-003-000
VSCCP     1116  132-002-000  132-002-000      132-001-000  132-003-000
VSCCP     1115  -----------  -----------      -----------  -----------
```

   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 removable media from the active MASP.

   Insert the removable media that contains the GPL that is being updated into the removable media drive in the active MASP and repeat this step.

   For more information about inserting removable media in the removable media drive, or removing removable media from the removable media drive, refer to *Removable USB Drive*.

   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, continue the procedure with *Step 5*.

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.

   For this example, enter this command.

   ```
   chg-gpl:gpl=vsccp:ver=132-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 09-03-01  11:43:04  GMT  EAGLE5 40.1.0
   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=132-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 09-03-01 06:54:39 GMT EAGLE5 40.1.0
   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 *Step 5* and *Step 6*.

   For this example, enter this command.

   ```
   rtrv-gpl:gpl=vsccp
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 09-03-01 11:34:04 GMT EAGLE5 40.1.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   VSCCP     1114  132-003-000  132-003-000      132-002-000  132-003-000
   VSCCP     1116  132-003-000  132-003-000      132-002-000  -----------
   ```

   If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

   ```
   rlghncxa03w 09-03-01 11:34:04 GMT  EAGLE5 40.1.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   VSCCP     1114  132-003-000  132-003-000      132-002-000  132-003-000
   VSCCP     1116  132-003-000  132-003-000      132-002-000  132-003-000
   VSCCP     1115  -----------  -----------      -----------  -----------
   ```

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 09-03-01 11:40:26 GMT  EAGLE5 40.1.0
   GPL      CARD   RUNNING           APPROVED      TRIAL
   VSCCP    1101   132-002-000 ALM   132-003-000   132-002-000
   VSCCP    1102   132-002-000 ALM   132-003-000   132-002-000
   VSCCP    1103   132-002-000 ALM   132-003-000   132-002-000
   Command Completed
   ```

   If the GLSHC GPL is being loaded onto the cards, continue the procedure with *Step 16*.

   If the GPL that is being loaded onto the card is not GLSHC, continue the procedure with *Step 9*.

9. *Step 10* through *Step 15* 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.

   - SCCPHC – Perform *Step 10*, then continue the procedure with *Step 16*.
   - MCP – Perform *Step 11*, then continue the procedure with *Step 16*.
   - IPSHC – Continue the procedure with *Step 12*.

10. Display the status of the service modules by entering the `rept-stat-sccp` command.

    This is an example of the possible output.

    ```
    rlghncxa03w 09-03-01 09:57:31 GMT  EAGLE5 40.1.0

    CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
    ------------------------------------------------------------------------------
    1101  132-002-001  IS-NR           Active     -----       47%         81%
    1102  132-002-001  IS-NR           Active     -----       34%         50%
    1103  132-002-001  IS-NR           Active     -----       21%         29%
    ------------------------------------------------------------------------------
    SCCP Service Average MSU Capacity = 36%       Average CPU Capacity = 56%
    Command Completed.
    ```

    Continue the procedure with *Step 16*.

    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 *Commands User's Guide*.

11. Display the status of the MCPMs in the database by entering the `rept-stat-meas` command.

    This is an example of the possible output.

    ```
    rlghncxa03w 09-03-01 16:43:42 GMT  EAGLE5 40.1.0

                         PST            SST       AST
    ```

```
MEAS SS               IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 132-002-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   132-200-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   132-002-000     EDSM    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
```

Continue the procedure with *Step 16*.

12. Display the status of the IPSMs (if the IPSHCGPL is being updated) 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 09-03-01 09:12:36 GMT  EAGLE5 40.1.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
2301   132-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 132-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

13. 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 10-07-01 16:02:08 GMT EAGLE5 42.0.0
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-O-1 NONE   30    5     00:00:30
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-O-1 NONE   30    5     00:00:30
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
```

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

14. Display the status of the terminals with the `rept-stat-trm` command.

This is an example of the possible output.

```
rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
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. Place the terminals associated with the IPSM that will be updated with the new IPSHCGPL out of service using the `rmv-trm` command.

    If the last in service SEAS terminal is assigned to the card containing the terminals that are being inhibited in this step, the `force=yes` parameter must be specified for that terminal.

    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 sessions running on these terminals.

    If the status of any of the terminals shown in the PST field in *Step 14* is OOS-MT-DSBLD (out-of-service maintenance disabled), that 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 09-03-01 15:08:45 GMT EAGLE5 40.1.0
    Inhibit message sent to terminal

    rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
    Command Completed.
    ```

16. 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 *Step 8*, *Step 10*, *Step 11*, or *Step 12*, out of service using the `rmv-card` command. If there is only one of these cards running these GPLs in service (GLSHC), 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 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.

    Caution: If there is only one in service card running the GPL being updated in the EAGLE, 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 09-03-01  11:11:28 GMT  EAGLE5 40.1.0
    Card has been inhibited.
    ```

17. Put the card that was inhibited in *Step 16* 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 09-03-01  11:11:28 GMT  EAGLE5 40.1.0
    Card has been allowed.
    ```

18. 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 09-03-01 11:40:26 GMT  EAGLE5 40.1.0
    GPL      CARD   RUNNING           APPROVED      TRIAL
    VSCCP    1101   132-003-000       132-003-000   132-002-000
    VSCCP    1102   132-002-000 ALM   132-003-000   132-002-000
    VSCCP    1103   132-002-000 ALM   132-003-000   132-002-000
    Command Completed
    ```

Note: If the IPSHC GPL is not being updated in this procedure, continue the procedure with *Step 21*.

19. Put the terminals that were placed out of service in *Step 15* 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 09-03-01 15:08:45 GMT EAGLE5 40.1.0
Allow message sent to terminal

rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
Command Completed.
```

20. Verify that the terminals are in service with the `rept-stat-trm` command.

    This is an example of the possible output.

```
rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
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.
```

21. Continue the procedure by performing these actions.

When the E5-based control cards are installed in the EAGLE, continue the procedure by performing one of these actions.

- 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*.
- If the new GPL will not be loaded onto other cards but other GPLs will be updated, repeat this procedure from *Step 1*.
- If the new GPL will not be loaded onto other cards and no other GPLs are being updated, then this procedure is finished.

Updating the Flash GPLs

This procedure is used to update GPLs: The GPLs are used as the value of the `gpl` parameter of the `chg-gpl`, `act-gpl`, `rept-stat-gpl`, and `rtrv-gpl` commands.

High-capacity cards run the BLIXP GPL. The BLIXP GPL is not covered in this procedure. To update the BLIXP GPL, perform the *Updating the BLIXP GPL* procedure.

Updating the BLMCAP GPL for the E5-MASPs is not covered in this procedure. To update the OAMHC GPLs, perform *Updating the BLMCAP and OAMHC GPLs* .

The flash GPLs are used in place of the IMT GPL on these cards:

- SS7IPGW, IPGWI, IPLIM, or IPLIMI – Used to support IP signaling links

If the GPL is being updated to a new version, removable media 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 User's Guide*.

1. Verify the control cards that are installed in the EAGLE.

   Refer to *Maintenance and Administration Subsystem* for information about the control cards.

   If E5-based control cards are installed in the EAGLE, continue the procedure with *Step 2*.

2. Check the E5-MASPs for removable media.

   If removable media is installed in both E5-MASPs, continue the procedure with *Step 4*.

   If removable media is not installed in both E5-MASPs, continue the procedure with *Step 3*.

3. Verify the active MASP by entering the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-01 15:25:40 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        E5-MASP 1114 ( STDBY)                E5-MASP 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 09-02-19 09:38:25 GMT  Y       36 09-02-19 09:38:25 GMT
FD CRNT Y       39                        Y       39
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       36 09-02-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 GMT
```

   If removable media is installed in the active MASP, continue the procedure with *Step 4*.

   If removable media is not installed in the active MASP, insert the removable media in the removable media drive in the active MASP. For more information about inserting removable media in the removable media drive, refer to *Removable USB Drive*. After the removable media has been inserted in the removable media drive in the active MASP, continue the procedure with *Step 4*.

4. Display the flash GPLs on the fixed disk and on the removable media using the `rtrv-gpl` command with the `gpl` parameter value equal to the flash GPL being updated. For this example, enter this command.

   `rtrv-gpl:gpl=bpdcm`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  132-010-000  132-010-000      132-010-008  132-010-008
BPDCM     1116  132-010-000  132-010-000      132-010-008  132-010-008
BPDCM     1115  -----------  -----------      -----------  -----------
```

If the version of the flash 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 removable media from the active MASP.

Insert the removable media that contains the flash GPL that is being updated into the removable media drive in the active MASP and repeat this step.

For more information about inserting removable media in the removable media drive, or removing removable media from the removable media drive, refer to *Removable USB Drive*.

If the version of the flash GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is the version that is to be loaded onto the cards, continue the procedure with *Step 5*.

5. Change the flash GPLs, using the `chg-gpl` command and specifying the value for the flash GPL shown in the `REMOVE TRIAL` column in the output of the `rtrv-gpl` command.

   For this example, enter this command.

   ```
   chg-gpl:gpl=bpdcm:ver=002-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
   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 flash GPL, using the `act-gpl` command and specifying the name and version of the trial flash GPL specified in *Step 5*.

   For this example, enter this command.

   ```
   act-gpl:gpl=bpdcm:ver=002-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
   BPDCM activate on 1114 completed
   BPDCM activate on 1116 completed
   ```

7. Verify that the flash GPL on the or removable media is the approved flash 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
```

If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  132-003-000  132-003-000      132-002-000  132-003-000
BPDCM     1116  132-003-000  132-003-000      132-002-000  132-003-000
BPDCM     1115  -----------  -----------      -----------  -----------
```

8. Verify the flash GPLs on the fixed disk and the cards that are running the flash 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 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPDCM    1113   132-002-000 ALM   132-003-000   132-002-000
BPDCM    1115   132-002-000 ALM   132-003-000   132-002-000
BPDCM    1303   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2101   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2103   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2105   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2107   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2111   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2113   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2115   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2205   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2207   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2213   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2301   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2303   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2305   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2307   132-002-000 ALM   132-003-000   132-002-000
BPDCM    2311   132-002-000 ALM   132-003-000   132-002-000
BPDCM    3103   132-002-000 ALM   132-003-000   132-002-000
BPDCM    3105   132-002-000 ALM   132-003-000   132-002-000
BPDCM    3107   132-002-000 ALM   132-003-000   132-002-000
Command Completed
```

   Note: If the flash GPL being displayed by the `rept-stat-gpl` command is the BPDCM or BPDCM2 GPL, the output of the `rept-stat-gpl` command will show any DSM or E5-MASP cards that are inserted in the EAGLE, 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 flash 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 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD  VERSION      TYPE    GPL       PST           SST       AST
2105  132-003-000  DCM     VXWSLAN   IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  BPDCM GPL         = 132-002-000
  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. *Step 11* through *Step 21* are performed based on the application GPL running on the card shown in the `GPL` column in the `rept-stat-card` output in *Step 9*.

    The following list shows the steps that are performed for the application GPL running on the card that is being updated with the new flash GPL.

    - SS7IPGW – Perform *Step 11* and *Step 12*. After *Step 11* and *Step 12* have been performed, continue the procedure with *Step 22*.
    - EOAM – Perform *Step 17* through *Step 21*. After *Step 17* through *Step 21* have been performed, continue the procedure with *Step 22*.

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 09-07-01 21:16:37 GMT  EAGLE5 41.1.0

                                   L2T              PCR  PCR
LOC  LINK LSN         SLC TYPE     SET  BPS    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 flash GPL to be loaded on to card 1201.

Caution: Do not deactivate all the SS7 signaling links in the EAGLE at the same time. Doing so will take all the SS7signaling links out of service and isolate the EAGLE from the network.

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

```
rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
Deactivate SLK message sent to card
```

Continue the procedure with *Step 22*.

13. Display the TCP/IP data links, and their status, associated with the cards shown in *Step 8* and *Step 9*.

    Enter the `rept-stat-dlk` command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 17:00:36 GMT  EAGLE5 36.0.0
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 on the card that you wish to load the flash 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 flash GPL to be loaded on to card 2105.

Caution: Do not deactivate all the TCP/IP data links in the EAGLE at the same time. Doing so will take all the TCP/IP data links out of service and cause theSTPLAN feature to be disabled.

Caution: If there is only one TCP/IP data link in the EAGLE, placing the card out of service will cause the STPLAN feature to be disabled.

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

```
rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
Deactivate Link message sent to card.
Command Completed.
```

Continue the procedure with *Step 22*.

15. Display the status of the service modules by entering the `rept-stat-sccp` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:57:31 GMT  EAGLE5 36.0.0

CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
2311  132-002-001  IS-NR           Active     -----       47%         81%
3101  132-002-001  IS-NR           Active     -----       34%         50%
3103  132-002-001  IS-NR           Active     -----       21%         29%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 34%       Average CPU Capacity = 54%
Command Completed.
```

Continue the procedure with *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 *Commands User's Guide*.

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 09-02-01 16:43:42 GMT  EAGLE5 40.0.0

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 132-002-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   132-002-000     EDSM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   132-002-000     EDSM    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
```

Continue the procedure with *Step 22*.

17. To load the BPDCM or BPDCM2 GPL on the E5-MASP, it must be loaded on the standby MASP (E5-MASP) first.

To determine which MASP is active, enter the `rept-stat-db` command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
E5-MASP 1114 ( STDBY) E5-MASP 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
E5-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 E5-MASP card location. The indicator (STDBY) following the E5-MASP card location shows which MASP is standby.

For this example, the MASP associated with E5-MASP 1116 is active and the MASP associated with E5-MASP 1114 is standby.

18. Display the terminal configuration in the database with the `rtrv-trm` command.

If the application GPL 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 SEAS terminals are terminals 27 and 36. The Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 10-07-01 16:02:08 GMT EAGLE5 42.0.0
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-O-1   NONE  30    5     00:00:30
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-O-1   NONE  30    5     00:00:30
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
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   SEAS      1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   SEAS      1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
```

```
38   TELNET    1205            60    5     00:30:00   yes
39   TELNET    1205            60    5     00:30:00   yes
40   TELNET    1205            60    5     00:30:00   yes
```

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

19. Display the status of the terminals with the `rept-stat-trm` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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.

To place the SEAS terminals out of service in this example, enter these commands.

```
rmv-trm:trm=27
rmv-trm:trm=36:force=yes
```

Caution: Placing the SEAS terminals out of service will disable the SEAS feature on the EAGLE.

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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

- *Step 21* is performed only if the SEAS terminals were placed out of service in this step. If the SEAS terminals were not placed out of service in this step, continue the procedure with *Step 22*.
- If the SEAS terminals were placed out of service in this step, continue the procedure with *Step 21*.

21. Change the terminal type of the SEAS terminals to NONE with the `chg-trm` command, the `type=none` parameter, and with the values of the SEAS terminals used in *Step 20*.

For this example, enter these commands.

```
chg-trm:trm=27:type=none
chg-trm:trm=36:type=none
```

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
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 one of these application GPLs (OAMHC or BLMCAP) can be placed out of service. However, it is recommended that only some of the cards running a specific application GPL are placed out of service. Placing all the cards running a specific application GPL 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 GPL is being updated, the card being placed out of service must be the E5-MASP associated with the standby MASP. Both cards running the EOAM GPL cannot be placed out of service at the same time.

Caution: If there is only one card running these application GPLs (OAMHC or BLMCAP), shown in the `GPL` column in the `rept-stat-card` output in *Step 9*, in the EAGLE, 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 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

If the card is running the OAMHC or BLMCAP application GPLs, and the card contains the last signaling link in a linkset, the `force=yes` parameter must be specified.

Note: If you do not wish to reload the TDM clock LCA bitfile, continue the procedure with *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 08-06-01 11:34:04 GMT  EAGLE5 39.0.0
COMPOSITE                           PST          SST       AST
    SYSTEM CLOCK                    IS-NR        Active    -----
ALARM STATUS = No Alarms.
    Primary Comp Clk 1114   (CLK A)    IS-NR        Active    -----
    Primary Comp Clk 1116   (CLK B)    IS-NR        Active    -----
```

```
    Secondary Comp Clk 1114 (CLK A)    IS-NR         Idle      -----
    Secondary Comp Clk 1116 (CLK B)    IS-NR         Idle      -----

Clock      Using         Bad
CLK A        9            0
CLK B        0            0
CLK I        0            --

HIGH SPEED                              PST           SST       AST
    SYSTEM CLOCK                        IS-NR         Idle      -----
ALARM STATUS = No Alarms.
    Primary HS Clk 1114    (HS CLK A)  IS-NR         Active    -----
    Primary HS Clk 1116    (HS CLK B)  IS-NR         Active    -----
    Secondary HS Clk 1114  (HS CLK A)  IS-NR         Idle      -----
    Secondary HS Clk 1116  (HS CLK B)  IS-NR         Idle      -----

HS CLK TYPE 1114     = RS422
HS CLK LINELEN 1114  = LONGHAUL
HS CLK TYPE 1116     = RS422
HS CLK LINELEN 1116  = LONGHAUL

Clock      Using         Bad
HS CLK A     2            0
HS CLK B     0            0
HS CLK I     0            --

Command Completed
```

If the `rept-stat-clk` output does not show any high-speed clocks (`HIGH SPEED SYSTEM CLOCK`, `Primary HS Clk`, `Secondary HS Clk`, `HS CLK TYPE`, and `HS CLK LINELEN` fields), the EAGLE 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 are set to the system default values (`HS CLK TYPE = RS422` and `HS CLK LINELEN = LONGHAUL`), continue the procedure with *Step 25*.

24. Visually verify the part numbers of both E5-OAMs in the EAGLE.

To load the E5-OAM clock LCA bitfile, the part numbers of both E5-OAMs must be either an E5-MDAL or E5-MASP.

Proceed to *Step 26*.

25. Load the flash 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 flash GPL onto the card.

Caution: The `init-flash` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

For this example, enter this command.

```
init-flash:code=appr:loc=2105
```

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

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Downloading for card 2105 Started.
;
```

```
    rlghncxa03w 06-10-01  11:11:28 GMT EAGLE5 36.0.0
    BPHCAP Downloading for card 2105 Complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

Caution: If reloading the 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 having only one E5-OAM (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 flash GPL onto the E5-OAM card and reloads the clock LCA bitfile.

```
init-flash:initclk=yes:loc=1113:code=appr
```

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

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for card 1113 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    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 flash 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 OAMHC flash GPL with the approved version of the OAMHC GPL.

```
init-flash:code=appr:sloc=1101:eloc=2115:gpl=bpdcm
```

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

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for cards 1101 - 2115 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    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 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    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 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Card has been allowed.
```

27. Verify that the flash 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 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CARD  VERSION      TYPE    GPL       PST           SST       AST
2105  132-003-000  DCM     VXWSLAN   IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  BPDCM GPL         = 132-003-000 +
  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 flash GPL has not been activated.

Note: If the version number of the OAMHC GPL shown in the `rept-stat-card` command output is different than the version specified in *Step 9*, contact the Customer Care Center. Refer to *My Oracle Support (MOS)* for the contact information.

28. Activate the approved flash GPL loaded onto the cards in *Step 25* using the `act-flash` command.

Caution: The `act-flash` command cannot be entered if the Extended Bit Error Rate Test (BERT) is being performed.

For this example, enter this command.

```
act-flash:loc=2105
```

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

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for card 2105 Completed.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    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 flash 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 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for cards 1101 - 2115 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    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 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

29. Verify the flash 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 flash GPL, shown in the `RELEASE` column of the `rtrv-gpl` output in *Step 7*, the indicator `ALM` is displayed next to the flash GPL version in the `RUNNING` column of the `rept-stat-gpl` output. For this example, enter this command.

`rept-stat-gpl:gpl=oamhc`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 46.3.0
GPL      CARD   RUNNING           APPROVED      TRIAL
OAMHC    1113   132-002-000 ALM   132-003-000   132-002-000
OAMHC    1115   132-002-000 ALM   132-003-000   132-002-000
OAMHC    1303   132-002-000 ALM   132-003-000   132-002-000
OAMHC    1307   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2101   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2103   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2105   132-003-000       132-003-000   132-002-000
OAMHC    2113   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2205   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2207   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2213   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2301   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2303   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2305   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2307   132-002-000 ALM   132-003-000   132-002-000
OAMHC    2311   132-002-000 ALM   132-003-000   132-002-000
OAMHC    3101   132-002-000 ALM   132-003-000   132-002-000
OAMHC    3103   132-002-000 ALM   132-003-000   132-002-000
OAMHC    3105   132-002-000 ALM   132-003-000   132-002-000
OAMHC    3107   132-002-000 ALM   132-003-000   132-002-000
Command Completed
```

Note: If the flash GPL being displayed by the `rept-stat-gpl` command is the OAMHC GPL, the output of the `rept-stat-gpl` command will show any E5-OAM cards that are inserted in the EAGLE, whether they are configured in the database or not.

Note: If the card's application GPL, shown in the `rept-stat-card` output in *Step 9*, is OAMHC or BLMCAP perform *Step 30* and *Step 31*, then go to *Step 38*. Skip *Step 32* through *Step 37*.

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 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
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 06-10-01 13:06:25 GMT EAGLE5 36.0.0
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 06-10-01 13:06:25 GMT EAGLE5 36.0.0
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 06-10-01 13:06:25 GMT EAGLE5 36.0.0
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 06-10-01 13:06:25 GMT EAGLE5 36.0.0
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 GPL, shown in the `rept-stat-card` output in *Step 9*, is `vxwslan`, perform *Step 32* and *Step 33*, then go to *Step 38*. Skip *Step 34* through *Step 37*.

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 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
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 06-10-01 17:00:36 GMT  EAGLE5 36.0.0
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 GPL running on the card is not EOAM, continue the procedure with *Step 38*.

    Note: If the application GPL running on the card is IPS, perform *Step 36* and *Step 37*, then go to *Step 38*. Skip *Step 34* and *Step 35*.

34. If you wish to load the new GPL onto the E5-OAM card making up the active MASP, enter the `init-card` command specifying the location of the E5-OAM card making up active MASP.

    For this example, enter the `init-card:loc=1115` command. This message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
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.

    If you did not wish to load the new version of the OAMHC GPL onto the other E5-OAM card running the EOAM application, continue this procedure with either *Step 35* or *Step 38* based on the following conditions:

    - If SEAS terminals were not shown in the `rtrv-trm` command output in *Step 18*, continue the procedure with *Step 38*.
    - If SEAS terminals were shown in the `rtrv-trm` command output in *Step 18*, continue the procedure with *Step 35*.

35. Change the terminal type of the terminals that were changed to `NONE` in *Step 21* to the terminal type `SEAS` with the `chg-trm` command and the `type=seas` 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=27:type=seas`

    `chg-trm:trm=36:type=seas`

    This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CHG-TRM: MASP B - COMPLTD
```

36. Put the required terminals back into service with the `rst-trm` command.

For this example, enter these commands.

```
rst-trm:trm=27
```

```
rst-trm:trm=36
```

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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Allow message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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. Continue the procedure by performing these actions.

If E5-based control cards are installed in the EAGLE, continue the procedure by performing one of these actions.

- If the GPL will be loaded onto other cards, repeat this procedure from *Step 7*.
- If the GPL will not be loaded onto other cards, but other flash GPLs will be updated, repeat this procedure from *Step 1*.
- If the GPL will not be loaded onto other cards, and other flash GPLs will not be updated, this procedure is finished.

Updating the HIPR2 GPL

This section presents the procedure for updating the HIPR2 generic program load (GPL). The HIPR2 GPL is used by the High-Speed IMT Packet Router 2 (HIPR2) card to control the IMT bus and resides on the fixed disk. The HIPR2 card resides only in slots 9 and 10 in each shelf in the EAGLE.

This section presents the procedure for loading the HIPR2 GPL onto the EAGLE as a trial version from a removable media, then making the trial version of the HIPR2 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 media that contains the HIPR2 GPL to be loaded on to the EAGLE is required.

1. Verify the control cards that are installed in the EAGLE.

Refer to *Maintenance and Administration Subsystem* for information about the control cards.

If E5-based control cards are installed in the EAGLE, continue the procedure with *Step 2*.

2. Check the E5-MASPs for removable media.

If removable media is installed in both E5-MASPs, continue the procedure with *Step 4*.

If removable media is not installed in both E5-MASPs, continue the procedure with *Step 3*.

3. Verify the active MASP by entering the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 09-07-01 15:25:40 GMT  EAGLE5 41.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 09-06-19 09:38:25 GMT  Y       36 09-06-19 09:38:25 GMT
FD CRNT Y       39                        Y       39
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -          -         -       Y       36 09-06-19 09:27:17 GMT
USB BKP -    -          -         -       Y        3 09-06-07 01:11:22 GMT
```

   If removable media is installed in the active MASP, continue the procedure with *Step 4*.

   If removable media is not installed in the active MASP, insert the removable media in the removable media drive in the active MASP. For more information about inserting removable media in the removable media drive, refer to *Removable USB Drive*. After the removable media has been inserted in the removable media drive in the active MASP, continue the procedure with *Step 4*.

4. Display the HIPR2 GPLs on the fixed disk and on the removable media using the `rtrv-gpl:gpl=hipr2` command.

   This is an example of the possible output.

```
rlghncxa03w 09-07-01 11:34:04 GMT  EAGLE5 41.1.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
HIPR2     1114  132-002-000  132-002-000      132-001-000  132-003-000
HIPR2     1116  132-002-000  132-002-000      132-001-000  132-003-000
HIPR2     1115  -----------  -----------      -----------  -----------
```

   If the version of the HIPR2 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 removable media from the active MASP.

   Insert the removable media that contains the HIPR2 GPL that is being updated into the removable media drive in the active MASP and repeat this step.

   For more information about inserting removable media in the removable media drive, or removing removable media from the removable media drive, refer to *Removable USB Drive*.

   If the version of the HIPR2 GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is the version that is to be loaded onto the cards, continue the procedure with *Step 5*.

5. Change the GPLs, using the `chg-gpl` command and specifying the value for the trial HIPR2 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=hipr2:ver=132-003-000`

These messages should appear.

```
rlghncxa03w 09-07-01  11:43:04  GMT  EAGLE5 41.1.0
GPL Auditing  ON

HIPR2 upload on 1114 completed
HIPR2 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 HIPR2 cards running the trial version of the HIPR2 GPL, continue the procedure with *Step 8*.

6. Activate the trial GPL, using the `act-gpl` command and specifying the value for the trial HIPR2 GPL shown in *Step 5*.

   For this example, enter this command.

   `act-gpl:gpl=hipr2:ver=132-003-000`

   These messages should appear.

```
rlghncxa03w 09-07-01 06:54:39 GMT EAGLE5 41.1.0
HIPR2 activate on 1114 completed
HIPR2 activate on 1116 completed
```

7. Verify that the HIPR2 GPL on the removable media is the approved GPL on the fixed disk using the `rtrv-gpl:gpl=hipr2` command.

   This is an example of the possible output.

```
rlghncxa03w 09-07-01 11:34:04 GMT  EAGLE5 41.1.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
HIPR2     1114  132-003-000  132-003-000      132-002-000  132-003-000
HIPR2     1116  132-003-000  132-003-000      132-002-000  -----------
```

   If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-07-01 11:34:04 GMT  EAGLE5 41.1.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
HIPR2     1114  132-003-000  132-003-000      132-002-000  132-003-000
HIPR2     1116  132-003-000  132-003-000      132-002-000  132-003-000
HIPR2     1115  -----------  -----------      -----------  -----------
```

8. Verify the HIPR2 GPLs on the fixed disk and the cards that are running the HIPR2 GPLs using the `rept-stat-gpl:gpl=hipr2` command.

This is an example of the possible output.

```
rlghncxa03w 09-07-01 11:40:26 GMT  EAGLE5 41.1.0
GPL      CARD   RUNNING           APPROVED      TRIAL
HIPR2    1109   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1110   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1209   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1210   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1309   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1310   132-002-000 ALM   132-003-000   132-002-000
HIPR2    2109   132-002-000 ALM   132-003-000   132-002-000
HIPR2    2110   132-002-000 ALM   132-003-000   132-002-000
Command Completed
```

9. Load the approved HIPR2 GPL onto a card selected from the cards shown in *Step 8* using the `init-flash:code=appr` command.

Caution: The `init-flash` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

For this example, enter this command.

```
init-flash:code=appr:loc=1109
```

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

```
    rlghncxa03w 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    FLASH Memory Downloading for card 1109 Started.
;
    rlghncxa03w 09-07-01  11:11:28 GMT EAGLE5 41.1.0
    HIPR2 Downloading for card 1109 Complete.
;

    rlghncxa03w 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    Command Completed.
```

Updating more than One HIPR2 Card at the Same Time

Multiple HIPR2 cards can be updated at the same time with the `init-flash` command. The multiple HIPR2 cards being updated must be on the same IMT bus. Specifying card locations XX09 for the `sloc` and `eloc` parameters specifies the HIPR2 cards on IMT bus A. Specifying card locations XX10 for the `sloc` and `eloc` parameters specifies the HIPR2 cards on IMT bus B.

To update more than one HIPR2 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` – hipr2

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter.

For example, to update the HIPR2 cards on IMT Bus B shown in *Step 8* with the approved version of the HIPR2 GPL, enter this command.

```
init-flash:code=appr:sloc=1110:eloc=2110:gpl=hipr2
```

To update the HIPR2 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 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    FLASH Memory Download for cards 1110 - 2110 Started.
;
    rlghncxa03w 09-07-01 13:07:15 GMT EAGLE5 41.1.0
    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 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    Command Completed.
```

10. Re-initialize the HIPR2 cards specified in *Step 9* using the `init-mux` command with the `loc` parameter.

Caution: The `init-mux` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

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 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
Command Completed.
```

Note: Executing this command produces two alarms: 0002 - Card is not running approved GPL, indicating that the version of the HIPR2 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 HIPR2 GPL running on the card has not been activated.

11. Verify that the approved HIPR2 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 *Step 9* and *Step 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 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1109   132-003-000  HIPR2     HIPR2      IS-NR          Active     -----
  ALARM STATUS       = No Alarms
  TRIAL  VERSION     = 132-003-000
  FPGA VERSION       = 022-005
Command Completed.
```

Note: If the version number of the HIPR2 GPL shown in the `rept-stat-card` command output is different than the version specified*Step 5* in, contact the Customer Care Center. Refer to *My Oracle Support (MOS)* for the contact information.

12. Activate the approved HIPR2 GPL loaded onto the card in *Step 9* using the `act-flash` command.

Caution: The `act-flash` command cannot be entered if the Extended Bit Error Rate Test (BERT) is being performed.

For this example, enter this command.

`act-flash:loc=1109`

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

```
    rlghncxa03w 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    FLASH Memory Activation for card 1109 Completed.
;
    rlghncxa03w 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    Command Completed.
```

Activating the HIPR2 GPL on more than One HIPR2 card at the Same Time

If more than one HIPR2 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` – hipr2

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter.

For example, to activate the HIPR2 GPL on the HIPR2 cards on IMT Bus B shown in *Step 8* with the trial version of the HIPR2 GPL, enter this command.

`act-flash:sloc=1110:eloc=2110:gpl=hipr2`

To activate the HIPR2 GPL on the HIPR2 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 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    FLASH Memory Activation for cards 1110 - 2110 Started.
;
    rlghncxa03w 09-07-01 13:07:15 GMT EAGLE5 41.1.0
    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 09-07-01  11:11:28 GMT  EAGLE5 41.1.0
    Command Completed.
```

13. Verify the HIPR2 GPLs on the fixed disk and the cards that are running the HIPR2 GPLs using the `rept-stat-gpl:gpl=hipr2` command.

    This is an example of the possible output.

```
rlghncxa03w 09-07-01 11:40:26 GMT  EAGLE5 41.1.0
GPL      CARD   RUNNING           APPROVED      TRIAL
HIPR2    1109   132-003-000       132-003-000   132-002-000
HIPR2    1110   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1209   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1210   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1309   132-002-000 ALM   132-003-000   132-002-000
HIPR2    1310   132-002-000 ALM   132-003-000   132-002-000
HIPR2    2109   132-002-000 ALM   132-003-000   132-002-000
HIPR2    2110   132-002-000 ALM   132-003-000   132-002-000
Command Completed
```

14. Continue the procedure by performing these actions.

    - If you wish to load the new HIPR2 GPL onto the other cards shown in *Step 8*, repeat this procedure from *Step 9* for each card shown in *Step 8*.
    - If the new HIPR2 GPL has been loaded onto all the cards shown in *Step 8*, or if the new HIPR2 GPL will not be loaded onto the other cards shown in *Step 8*, then this procedure is finished.

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 or removable media. 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 or removable media that contains the UTILITY GPL to be loaded on to the EAGLE is required.

When the UTILITY GPL is displayed with the `rtrv-gpl` command, the entry `CDU` appears in the `GPL` column of the `rtrv-gpl` output.

1. Verify the control cards that are installed in the EAGLE.

   Refer to *Maintenance and Administration Subsystem* for information about the control cards.

2. Check the E5-MASPs for removable media.

   If removable media is installed in both E5-MASPs, continue the procedure with *Step 4*.

   If removable media is not installed in both E5-MASPs, continue the procedure with *Step 3*.

3. Verify the active MASP by entering the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-01 15:25:40 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 09-02-19 09:38:25 GMT  Y       36 09-02-19 09:38:25 GMT
FD CRNT Y       39                        Y       39
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       36 09-02-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 GMT
```

   If removable media is installed in the active MASP, continue the procedure with *Step 4*.

   If removable media is not installed in the active MASP, insert the removable media in the removable media drive in the active MASP. For more information about inserting removable media in the removable media drive, refer to *Removable USB Drive*. After the removable media has been inserted in the removable media drive in the active MASP, continue the procedure with *Step 4*.

4. Display the UTILITY GPLs on the fixed disk and on the removable media using the `rtrv-gpl:gpl=utility` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-01 07:01:08 GMT EAGLE5 40.1.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
CDU       1114  162-000-000  162-000-000      162-001-000  162-001-000
CDU       1116  162-000-000  162-000-000      162-001-000  162-001-000
CDU       1115  -----------  -----------      -----------  -----------
```

   If the version of the UTILITY 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 removable media from the active MASP.

   Insert the removable media that contains the UTILITY GPL that is being updated into the removable media drive in the active MASP and repeat this step.

   For more information about inserting or removing removable media in the media drive, refer to *Removable USB Drive*.

If the version of the UTILITY GPL shown in the REMOVE TRIAL column of the rtrv-gpl output is the version that is to be loaded onto the cards, continue the procedure with *Step 5*.

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=162-001-000
   ```

   This message should appear.

   ```
   rlghncxa03w 09-03-01 06:52:20 GMT EAGLE5 40.1.0
   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 09-03-01 07:01:08 GMT EAGLE5 40.1.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   CDU       1114  162-001-000  162-001-000      162-001-000  162-001-000
   CDU       1116  162-001-000  162-001-000      -----------  -----------
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 09-03-01 07:01:08 GMT EAGLE5 40.1.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   CDU       1114  162-001-000  162-001-000      162-001-000  162-001-000
   CDU       1116  162-001-000  162-001-000      162-001-000  162-001-000
   CDU       1115  -----------  -----------      -----------  -----------
   ```

7. This procedure is finished.

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 E5-MCAP 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 or E5-MCAP card in the standby MASP. The `rept-stat-db` output in *Step 7* shows which TDM is the standby TDM with the indicator `( STDBY)` 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 contains older TDMs, these TDMs must be replaced with TDMs 870-0774-15 or later to perform this procedure.

Note: Contact *My Oracle Support (MOS)* before replacing the TDMs.

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 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.

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 09-03-01 11:34:04 GMT  EAGLE5 40.1.0
COMPOSITE                           PST          SST       AST
    SYSTEM CLOCK                    IS-NR        Active    -----
ALARM STATUS = No Alarms.
    Primary Comp Clk 1114   (CLK A) IS-NR        Active    -----
    Primary Comp Clk 1116   (CLK B) IS-NR        Active    -----
    Secondary Comp Clk 1114 (CLK A) IS-NR        Idle      -----
    Secondary Comp Clk 1116 (CLK B) IS-NR        Idle      -----

Clock      Using         Bad
CLK A        9            0
CLK B        0            0
CLK I        0            --

HIGH SPEED                          PST          SST       AST
    SYSTEM CLOCK                    IS-NR        Idle      -----
ALARM STATUS = No Alarms.
    Primary HS Clk 1114    (HS CLK A)  IS-NR     Active    -----
    Primary HS Clk 1116    (HS CLK B)  IS-NR     Active    -----
    Secondary HS Clk 1114  (HS CLK A)  IS-NR     Idle      -----
    Secondary HS Clk 1116  (HS CLK B)  IS-NR     Idle      -----

HS CLK TYPE 1114     = RS422
HS CLK LINELEN 1114  = LONGHAUL
HS CLK TYPE 1116     = RS422
HS CLK LINELEN 1116  = LONGHAUL

Clock      Using         Bad
HS CLK A     2            0
HS CLK B     0            0
HS CLK I     0            --

Command Completed
```

If the `rept-stat-clk` output does not show any high-speed clocks `HIGH SPEED SYSTEM CLOCK`, `Primary HS Clk`, `Secondary HS Clk`, `HS CLK TYPE`, and `HS CLK LINELEN` fields), the EAGLE does not contain any cards that are capable of using high-speed master timing.

- 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`), continue the procedure with *Step 3*.
- If the `HS CLK TYPE` and `HS CLK LINELEN` values shown in *Step 1* are not set to the system default values (`HS CLK TYPE = RS422` and `HS CLK LINELEN = LONGHAUL`), continue the procedure with *Step 2*.

2. Visually verify the part numbers of both TDMs in the EAGLE. 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, continue the procedure with *Step 3*.

   If the TDM part numbers are not 870-0774-15 or later, the TDMs must be replaced with TDM part numbers 870-0774-15 or later. Contact the Customer Care Center before replacing the TDMs. Refer to *My Oracle Support (MOS)* 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 SEAS terminals are present, they must be taken out of service. The SEAS terminals are shown in the output with the entry `SEAS` in the `TYPE` field. If no SEAS terminals are shown in the `rtrv-trm` command output, continue the procedure with *Step 7*.

   This is an example of the possible output. In this example, the SEAS terminals are terminals 18 and 27.

```
rlghncxa03w 10-07-01 16:02:08 GMT EAGLE5 42.0.0
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-O-1   NONE  30    5     00:00:30
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-O-1   NONE  30    5     00:00:30
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   SEAS      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
25   TELNET    1203             60    5     00:30:00   yes
```

```
26   TELNET    1203             60    5     00:30:00   yes
27   SEAS      1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   TELNET    1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
38   TELNET    1205             60    5     00:30:00   yes
39   TELNET    1205             60    5     00:30:00   yes
40   TELNET    1205             60    5     00:30:00   yes
```

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

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

```
rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
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 SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in *Step 4* whose state is not OOS-MT-DSBLD.

   The `force=yes` parameter must be used when placing the last SEAS terminal out of service.

   If SEAS terminals are shown in the `rtrv-trm` output in *Step 3*, for this example, enter these commands.

   `rmv-trm:trm=18`

   `rmv-trm:trm=27:force=yes`

   Caution: Placing the SEAS terminals out of service will disable the SEAS feature on the EAGLE.

   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 09-03-01 15:08:45 GMT EAGLE5 40.1.0
Inhibit message sent to terminal

rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
Command Completed.
```

   - *Step 6* is performed only if the SEAS terminals were placed out of service in this step. If the SEAS terminals were not placed out of service in this step, continue the procedure with *Step 7*.
   - If the SEAS terminals were placed out of service in this step, continue the procedure with *Step 6*.

6. Change the terminal type of the SEAS terminals to NONE with the `chg-trm` command, the `type=none` parameter, and with the values of the SEAS terminals used in *Step 5*.

   If SEAS terminals are shown in the `rtrv-trm` output in *Step 3*, for this example, enter these commands.

   `chg-trm:trm=18:type=none`

   `chg-trm:trm=27:type=none`

   This message should appear when these commands have successfully completed.

```
rlghncxa03w 09-03-01  11:11:28 GMT  EAGLE5 40.1.0
CHG-TRM: MASP B - COMPLTD
```

7. Enter the `rept-stat-db` command, to determine which MASP is active, This is an example of the possible output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  -    -         -         -
```

If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP Y        35 09-02-19 10:19:18 GMT  Y       35 09-02-19 10:19:18 GMT
FD CRNT Y       106                        Y      106
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -         -        -    -         -         -
USB BKP -    -         -         -        Y        3 09-02-07 01:11:22 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 1114 is active and the MASP associated with TDM 1116 is standby.

8. Place the E5-MCAP card in the standby MASP out of service using the `rmv-card` command.

The `rept-stat-db` output in *Step 7* shows which TDM is the standby TDM with the entry `(Standby )` after the TDMs 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 09-03-01  11:11:28 GMT  EAGLE5 40.1.0
Card has been inhibited.
```

9. Load the TDM clock LCA bitfile onto the TDM associated with the E5-MCAP card inhibited in *Step 8* using the `init-card` command with the `initclk=yes` parameter and the card location of the standby E5-MCAP 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 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 09-03-01 13:01:59 GMT  EAGLE5 40.1.0
    Init Card command issued to card 1115
;

    rlghncxa03w 09-03-01 13:01:59 GMT  EAGLE5 40.1.0
*   3021.0013  * CARD 1115 EOAM        Card is isolated from the system
;

    rlghncxa03w 09-03-01 13:03:10 GMT  EAGLE5 40.1.0
    3022.0014    CARD 1115 EOAM        Card is present
                 ASSY SN:  1216115
```

If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
    rlghncxa03w 09-03-01 13:01:59 GMT  EAGLE5 40.1.0
    Init Card command issued to card 1115
;

    rlghncxa03w 09-03-01 13:01:59 GMT  EAGLE5 40.1.0
*   3021.0013  * CARD 1115 OAMHC         Card is isolated from the system
;

    rlghncxa03w 09-03-01 13:03:10 GMT  EAGLE5 40.1.0
    3022.0014    CARD 1115 OAMHC         Card is present
                 ASSY SN:  1216115
```

10. Put the E5-MCAP card that was inhibited in *Step 9* back into service using the `rst-card` command with the card location specified in *Step 9*. For this example, enter this command.

    ```
    rst-card:loc=1115
    ```

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

    ```
    rlghncxa03w 09-03-01  11:11:28 GMT  EAGLE5 40.1.0
    Card has been allowed.
    ```

    - If the TDM clock LCA bitfile will not be loaded on the other TDM in the EAGLE, continue the procedure with *Step 12*.
    - If the TDM clock LCA bitfile will be loaded on the other TDM in the EAGLE, continue the procedure with *Step 11*.

11. 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 E5-MCAP card making up active MASP. Initializing the E5-MCAP card of the active MASP makes the MASPs switch roles. The active MASP becomes the standby MASP, and the standby (text is missing from this point).

For this example, enter the `init-card:loc=1113` command. This message should appear.

```
rlghncxa03w 09-03-01  11:11:28 GMT  EAGLE5 40.1.0
Init Card command issued to card 1113
```

After the `init-card` command has completed, repeat the procedure from *Step 8*, specifying the card location used in the `init-card` command.

12. Verify the status of the high-speed clocks by entering the `rept-stat-clk` command. This is an example of the possible output.

```
rlghncxa03w 09-03-01 11:34:04 GMT  EAGLE5 40.1.0
COMPOSITE                           PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Active    -----
ALARM STATUS = No Alarms.
    Primary Comp Clk 1114   (CLK A)    IS-NR         Active    -----
    Primary Comp Clk 1116   (CLK B)    IS-NR         Active    -----
    Secondary Comp Clk 1114 (CLK A)    IS-NR         Idle      -----
    Secondary Comp Clk 1116 (CLK B)    IS-NR         Idle      -----

Clock      Using         Bad
CLK A        9            0
CLK B        0            0
CLK I        0            --

HIGH SPEED                          PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Idle      -----
ALARM STATUS = No Alarms.
    Primary HS Clk 1114    (HS CLK A)  IS-NR         Active    -----
    Primary HS Clk 1116    (HS CLK B)  IS-NR         Active    -----
    Secondary HS Clk 1114  (HS CLK A)  IS-NR         Idle      -----
    Secondary HS Clk 1116  (HS CLK B)  IS-NR         Idle      -----

HS CLK TYPE 1114     = RS422
HS CLK LINELEN 1114  = LONGHAUL
HS CLK TYPE 1116     = RS422
HS CLK LINELEN 1116  = LONGHAUL

Clock      Using         Bad
HS CLK A     2            0
HS CLK B     0            0
HS CLK I     0            --

Command Completed
```

- If *Step 6* was not performed, continue the procedure with *Step 16*.
- If *Step 6* was performed, continue the procedure with *Step 13*.

13. If SEAS terminals were changed in *Step 6*, for this example, enter these commands.

`chg-trm:trm=18:type=seas`

`chg-trm:trm=27:type=seas`

This message should appear when these commands have successfully completed.

```
rlghncxa03w 09-03-01  11:11:28 GMT  EAGLE5 40.1.0
CHG-TRM: MASP B - COMPLTD
```

14. Put the SEAS terminals back into service using the `rst-trm` command with the number of the terminals specified in *Step 13*. For this example, enter these commands.

    `rst-trm:trm=18`

    `rst-trm:trm=27`

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

```
rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
Allow message sent to terminal

rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
Command Completed.
```

15. Verify that the terminals are in service with the `rept-stat-trm` command. This is an example of the possible output.

```
rlghncxa03w 09-03-01 15:08:45 GMT EAGLE5 40.1.0
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. 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.
```

Updating the BLIXP GPL

The BLIXP GPL is a tar image of all the flash GPLs that are necessary to operate the cards shown in *Table 5: High-Capacity Cards*. When the BLIXP GPL is downloaded to the card, the tar image is un-archived and the flash GPLs are loaded onto the card.

Table 5: High-Capacity Cards

HC MIM	E5-E1T1	E5-ENET
E5-STC	E5-SLAN	E5-IPSM
E5-ATM	E5-TSM	E5-SM4G

This procedure updates the BLIXP GPL using the `init-flash` and `act-flash` commands.

Caution: The `init-flash` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed. The `act-flash` command cannot be entered if the Extended Bit Error Rate Test (BERT) is being performed.

The applications and entities supported by the high-capacity cards are shown in *Table 6: High-Capacity Card Applications*.

Table 6: High-Capacity Card Applications

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
HC MIM	HC MIM	SS7ANSI, CCS71TU	SS7HC	E1 or T1 signaling links
E5-E1T1	E5-E1T1	SS7ANSI, CCS71TU	SS7HC	E1 or T1 signaling links
E5-ENET	E5-ENET	SS7IPGW, IPLIM, IPLIMI, IPGWI, IPSG	IPLHC, IPGHC, IPSG	IP signaling links
E5-STC	E5-ENET	EROUTE	ERTHC	EAGLE 5 Integrated

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
				Monitoring Support
E5-SM4G	E5-SM4G	VSCCP	SCCPHC	GTT-related features
E5-SLAN	E5-ENET	STPLAN	SLANHC	TCP/IP data links for the STPLAN feature
E5-IPSM	E5-IPSM	IPS	IPSHC	Telnet sessions for remote connections to the EAGLE and SEAS terminals for the SEAS over IP feature
E5-ATM	E5-ATM	ATMANSI, ATMITU	ATMHC	ANSI and ITU ATM high-speed signaling links
E5-TSM	E5-TSM	GLS	GLSHC	Gateway Screening related features

A removable cartridge or removable media containing the BLIXP GPL that is being updated is required.

Caution: Before any high-capacity card can be updated with the BLIXP GPL, all the traffic hosted by the high-capacity card must be stopped, and the high-capacity card 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 Commands User's Guide.

1. Verify the control cards that are installed in the EAGLE.

   Refer to *Maintenance and Administration Subsystem* for information about the control cards.

   If E5-based control cards are installed in the EAGLE, continue the procedure with *Step 2*.

2. Check the E5-MASPs for removable media.

   If removable media is installed in both E5-MASPs, continue the procedure with *Step 4*.

   If removable media is not installed in both E5-MASPs, continue the procedure with *Step 3*.

3. Verify the active MASP by entering the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 10-12-01 15:25:40 GMT  EAGLE5 43.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------- - -------- ----------------------
FD BKUP Y       36 10-11-19 09:38:25 GMT  Y       36 10-11-19 09:38:25 GMT
FD CRNT Y       39                        Y       39
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       36 10-11-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 10-11-07 01:11:22 GMT
```

   If removable media is installed in the active MASP, continue the procedure with *Step 4*.

   If removable media is not installed in the active MASP, insert the removable media in the removable media drive in the active MASP. For more information about inserting removable media in the removable media drive, refer to *Removable USB Drive*. After the removable media has been inserted in the removable media drive in the active MASP, continue the procedure with *Step 4*.

4. Display the BLIXP GPL on the fixed disk and on the removable media by entering this command.

   `rtrv-gpl:gpl=blixp`

   This is an example of the possible output.

```
rlghncxa03w 10-12-01 11:34:04 GMT  EAGLE5 43.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLIXP      1114  133-002-000  133-002-000      133-001-000  133-003-000
BLIXP      1116  133-002-000  133-002-000      133-001-000  133-003-000
BLIXP      1115  -----------  -----------      -----------  -----------
```

   If the version of the BLIXP 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 removable media from the active MASP. Insert the removable media that contains the BLIXP GPL that is being updated into the removable media drive in the active MASP and repeat this step. For more information about inserting removable media in the removable media drive, or removing removable media from the removable media drive, refer to *Removable USB Drive*.

   If the version of the BLIXP GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is the version that is to be loaded onto the cards, continue the procedure with *Step 5*.

5. Change the BLIXP GPL by entering the `chg-gpl` command with the `gpl=blixp` parameter and the version of the BLIXP 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=blixp:ver=133-003-000`

   These messages should appear.

```
rlghncxa03w 10-12-01  11:43:04  GMT  EAGLE5 43.0.0
GPL Auditing  ON

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

6. Activate the trial GPL by entering the `act-gpl` command with the `gpl=blixp` parameter and the version of the trial GPL specified in *Step 5*.

   For this example, enter this command.

   `act-gpl:gpl=blixp:ver=133-003-000`

   These messages should appear.

```
rlghncxa03w 10-12-01 06:54:39 GMT EAGLE5 43.0.0
BLIXP activate on 1114 completed
BLIXP activate on 1116 completed
```

7. Verify that the trial GPL has been made the approved GPL by entering this command.

   `rtrv-gpl:gpl=blixp`

   This is an example of the possible output.

```
rlghncxa03w 10-12-01 11:34:04 GMT EAGLE5 43.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLIXP     1114  133-003-000  133-003-000      133-002-000  133-003-000
BLIXP     1116  133-003-000  133-003-000      133-002-000  -----------
```

   If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 10-12-01 11:34:04 GMT  EAGLE5 43.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLIXP     1114  133-003-000  133-003-000      133-002-000  133-003-000
BLIXP     1116  133-003-000  133-003-000      133-002-000  133-003-000
BLIXP     1115  -----------  -----------      -----------  -----------
```

8. Verify the cards that are running the BLIXP GPL by entering this command

`rept-stat-gpl:gpl=blixp`

This is an example of the possible output.

```
rlghncxa03w 10-12-01 11:40:26 GMT  EAGLE5 43.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BLIXP    1303   133-002-000 ALM   133-003-000   133-002-000
BLIXP    2101   133-002-000 ALM   133-003-000   133-002-000
BLIXP    2103   133-002-000 ALM   133-003-000   133-002-000
BLIXP    2205   133-002-000 ALM   133-003-000   133-002-000
BLIXP    2207   133-002-000 ALM   133-003-000   133-002-000
BLIXP    2211   133-002-000 ALM   133-003-000   133-002-000
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`

   For an HC MIM or E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-002-000
  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.
```

   For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  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.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [06-05-02 13:40]
  NTP broadcast = VALID
  STC IP PORT A:                         OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
  STC IP PORT B:                         OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%
Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP        = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
```

```
  BLIXP   GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLIXP   GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             ls1           -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLIXP   GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

Continue the procedure by performing one of these actions:

- If card is running one of these application GPLs: SS7HC, IPLHC, IPGHC, ATMHC, IPSG (shown in the `GPL` column in the `rept-stat-card` output in *Step 9*), continue the procedure with *Step 12*.
- If card is running the ERTHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 9*), continue the procedure with *Step 19*.
- If the card is running the SLANHC application GPL (shown in the `GPL` column in the `rept-stat-card` output in *Step 9*), continue the procedure with *Step 14*.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 9*), continue the procedure with *Step 16*.
- If card is running the GLSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 9*), continue the procedure with *Step 10*.
- If card is running the SCCPHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 9*), continue the procedure with *Step 11*.

10. Display the GLS cards by entering this command.

```
rept-stat-card:appl=gls
```

The output from this command will display the TSMs that are running the GLS GPL and the E5-TSMs that are running the GLSHC GPL.

This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1207   133-003-000  TSM       GLSHC      IS-NR          Active     -----
1211   133-003-000  TSM       GLSHC      IS-NR          Active     -----
1303   133-003-000  TSM       GLSHC      IS-NR          Active     -----

Command Completed.
```

Continue the procedure with *Step 19*.

11. Display the service modules by entering the `rept-stat-sccp` command.

The output from this command will display the DSMs that are running the VSCCP GPL and the E5-SM4G cards that are running the SCCPHC GPL.

This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0

CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
1303  133-003-000  IS-NR           Active     -----       47%         81%
2103  133-003-000  IS-NR           Active     -----       34%         50%
2111  133-003-000  IS-NR           Active     -----       21%         29%
2115  133-003-000  IS-NR           Active     -----       35%         52%
2117  133-003-000  IS-NR           Active     -----       40%         71%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 36%       Average CPU Capacity = 56%
Command Completed.
```

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

Continue the procedure with *Step 19*.

12. 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 for an HC MIM or E5-E1T1 card.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
```

```
                                  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
```

This is an example of the possible output for an E5-ENET card.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0

LOC  LINK LSN          SLC TYPE     IPLIML2
1303 A    e11303a       0  IPLIM    M2PA
1303 B    e11303b       0  IPLIM    M2PA
1303 A1   e11303a       1  IPLIM    M2PA
1303 B3   e11303b       1  IPLIM    M2PA
```

This is an example of the possible output for an E5-ATM card.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0

                                  LP             ATM
LOC  LINK LSN          SLC TYPE   SET  BPS       TSEL       VCI    VPI   LL
1303 A    ls2           2  LIMATM 1    1544000   LINE       5      0     0
1303 B    ls1           3  LIMATM 1    1544000   LINE       5      0     0
```

13. 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 signaling links on card 1303 out of service. This will interrupt service on the signaling links on card 1303 and allow the BLIXP GPL to be loaded on to card 1303.

Caution: Do not deactivate all the signaling links assigned to these cards: HC MIMs, E5-E1T1, E5-ENET, E5-ATM, at the same time. Doing so will take all the E1, T1, IP, and ATM signaling links out of service, and the traffic on these signaling links could be lost.

Caution: If the EAGLE contains only signaling links assigned to the card that is specified in this step, deactivating all of the signaling links that are assigned to the card will take all of these signaling links out of service and will isolate the EAGLE from the network.

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Deactivate SLK message sent to card
```

Continue the procedure with *Step 19*.

14. Display the data link, and its status, associated with the card shown in *Step 9*. Enter the `rept-stat-dlk` command with the card location specified in *Step 9*.

    For this example, enter this command.

    `rept-stat-dlk:loc=1303`

    This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
DLK             PST          SST       AST
1303            IS-NR        Active    ----
  Alarm Status      = No Alarms.
Command Completed.
```

15. Deactivate the TCP/IP data link on the card that you wish to load the GPL onto using the `canc-dlk` command. For this example, enter this command.

    `canc-dlk:loc=1303`

Caution: This command example places the TCP/IP data link on card 1303 out of service. This will interrupt service on the TCP//IP data link on card 1303 and allow the flash GPL to be loaded onto card 1303.

Caution: If there is only one TCP/IP data link in the EAGLE, placing the card out of service will cause the STPLAN feature to be disabled.

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Deactivate Link message sent to card.
Command Completed.
```

Continue the procedure with *Step 19*.

16. Display the terminal configuration in the database with the `rtrv-trm` command.

    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 Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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-O-1 NONE  30    5     00:00:30
7    PRINTER  9600-7-E-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    VT320    9600-7-O-1 NONE  30    5     00:00:30
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-E-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    1303             60    5     00:30:00
18   TELNET    1303             60    5     00:30:00
19   TELNET    1303             60    5     00:30:00
20   TELNET    1303             60    5     00:30:00
21   TELNET    1303             60    5     00:30:00
22   TELNET    1303             60    5     00:30:00
23   TELNET    1303             60    5     00:30:00
24   TELNET    1303             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
```

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

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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.
```

18. Place the required terminals out of service using the `rmv-trm` or `inh-trm` command. The function of the `rmv-trm` and the `inh-trm` commands are the same. 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
    ```

    Note: If the terminal that is being taken out of service is the last in service SEAS terminal, the`force=yes` parameter must be specified with the`rmv-trm` command for that terminal.

    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 17* 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Inhibit message sent to terminal

rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Command Completed.
```

19. Place the card shown in *Step 9* out of service using the `rmv-card` or `inh-card` command. The function of the `rmv-card` and the `inh-card` commands are the same.

Caution: Multiple cards running the BLIXP GPL can be updated at the same time with the `init-flash` command (*Step 20*). This requires that the cards in the locations specified with the `init-flash` command in *Step 20* are out of service. All the high-capacity cards running the BLIXP GPL being updated can be placed out of service. However it is recommended that only some of these high-capacity cards are placed out of service. Placing all these high-capacity cards out of service will case all traffic hosted by high-capacity cards to be lost.

Caution: If there is only one high-capacity card running the BLIXP GPL being updated, placing this card out of service will cause all the traffic hosted by this high-capacity card to be lost.

For this example, enter this command.

```
rmv-card:loc=1303
```

If more than one card running the same flash GPL is to be updated in *Step 20*, repeat this step for those cards.

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

```
rlghncxa03w 10-12-01  11:11:28 GMT  EAGLE5 43.0.0
Card has been inhibited.
```

The `force=yes` parameter must be specified in this step if any of these conditions exist.

- The HC MIM, E5-E1T1, E5-ATM, or E5-ENET card contains the last signaling link in a linkset.
- The E5-TSM is the last GLS card that is in service.
- The service module is the last service module that is in service.

20. Load the approved version of the BLIXP GPL onto the card inhibited in *Step 19* using the `init-flash` command with the `code=appr` parameter.

Caution: The `flash-card` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

For this example, enter this command.

```
init-flash:code=appr:loc=1303:gpl=blixp
```

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

```
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    FLASH Memory Downloading for card 1303 Started.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    BLIXP Downloading for card 1303 Complete.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Command Completed.
```

Updating more than One Card at the Same Time

If more than one card running the BLIXP 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` - blixp

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 BLIXP GPL 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 the example command will update the cards in the locations 1303 to 2103 running the BLIXP GPL with the approved version of the BLIXP GPL.

```
init-flash:code=appr:sloc=1303:eloc=2103:gpl=blixp
```

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

```
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    FLASH Memory Download for cards 1303 - 2103 Started.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    FLASH Memory Download for cards 1303 - 2103 Completed.
    LOC 1303 : PASSED
    LOC 2101 : PASSED
    LOC 2103 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Command Completed.
```

21. Put the cards that were inhibited in *Step 19* back into service using the `rst-card` or `alw-card` command. The function of the `rst-card` and the `alw-card` commands are the same.

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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Card has been allowed.
```

22. Verify that the BLIXP GPL from *Step 21* 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`

    For an E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000 +
  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.
```

    For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000 +
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  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.
```

    For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000 +
  IMT BUS A          = Conn
  IMT BUS B          = Conn
```

```
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [06-05-02 13:40]
  NTP broadcast = VALID
  STC IP PORT A:                          OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
  STC IP PORT B:                          OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000 +
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%
Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000 +
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP       = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000 +
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLIXP   GPL version = 133-003-000 +
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             ls1           -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   134-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLIXP   GPL version = 133-003-000 +
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

The '+' symbol indicates that the BLIXP GPL has not been activated.

Note: If the version number of the BLIXP GPL that is shown in this step is not the version specified in *Step 1*, contact the Customer Care Center. Refer to the *My Oracle Support (MOS)* section for the contact information.

23. Activate the BLIXP GPL loaded onto the cards specified in *Step 20* by entering the `act-flash` command with the card location and the `gpl=blixp` parameter.

Caution: The `act-flash` command cannot be entered if the Extended Bit Error Rate Test (BERT) is being performed.

For this example, enter this command.

```
act-flash:loc=1303:gpl=blixp
```

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

```
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    FLASH Memory Activation for card 1303 Completed.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Command Completed.
```

Activating more than One Card at the Same Time

If more than one card running the BLIXP GPL was updated in *Step 20*, 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` – blixp

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 BLIXP GPL 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 BLIXP GPL on the cards in the locations 1303 to 2103.

```
act-flash:sloc=1303:eloc=2103:gpl=blixp
```

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

```
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    FLASH Memory Activation for cards 1303 - 2103 Started.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    FLASH Memory Activation for cards 1303 - 2103 Completed.
    LOC 1303 : PASSED
    LOC 2101 : PASSED
    LOC 2103 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Command Completed.
```

24. Verify the flash GPLs on the cards by entering this command.

If any card is not running the release version of the BLIXP GPL, shown in the `RELEASE` column of the `rtrv-gpl` output in *Step 7*, the indicator `ALM` is displayed next to the BLIXP GPL version in the `RUNNING` column of the `rept-stat-gpl` output. For this example, enter this command.

```
rept-stat-gpl:gpl=blixp
```

This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BLIXP    1303   133-003-000       133-003-000   133-002-000
BLIXP    2101   133-002-000       133-003-000   133-002-000
BLIXP    2103   133-002-000       133-003-000   133-002-000
BLIXP    2205   133-002-000 ALM   133-003-000   133-002-000
BLIXP    2207   133-002-000 ALM   133-003-000   133-002-000
BLIXP    2211   133-002-000 ALM   133-003-000   133-002-000
Command Completed
```

Continue the procedure by performing one of these actions.

- If card is running one of these application GPLs: SS7HC, IPLHC, IPGHC, ATMHC, IPSG (shown in the `GPL` column in the `rept-stat-card` output in *Step 22*), continue the procedure with *Step 25*.
- If card is running one of these application GPLs: ERTHC, GLSHC, or SCCPHC, (shown in the `GPL` column in the `rept-stat-card` output in *Step 22*), continue the procedure with *Step 31*.
- If the card is running the SLANHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 22*), continue the procedure with *Step 27*.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 22*), continue the procedure with *Step 29*.

25. Place the signaling links that were deactivated in *Step 13* 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Activate SLK message sent to card
```

26. Verify that the signaling links activated in *Step 25* 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
SLK      LSN       CLLI        PST          SST       AST
1303,B3  e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

Continue the procedure with *Step 31*.

27. Place the TCP/IP data link that was deactivated in *Step 15* back into using the `act-dlk` command. For this example, enter this command.

`act-dlk:loc=1303`

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Activate Link message sent to card.
```

28. Verify that the TCP/IP data link activated in *Step 27* is back in service with the `rept-stat-dlk` command. For this example, enter this command.

`rept-stat-dlk:loc=1303`

This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
DLK             PST          SST       AST
1303            IS-NR        Active    ----
  Alarm Status      = No Alarms.
Command Completed.
```

Continue the procedure with *Step 31*.

29. Put the required terminals back into service with the `rst-trm` or `alw-trm` command. The function of the `rst-trm` and the `alw-trm` commands are the same. 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Allow message sent to terminal

rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Command Completed.
```

30. Verify that the terminals are in service with the `rept-stat-trm` command. This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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.
```

31. Continue the procedure by performing one of these actions.

If you wish to load the new BLIXP GPL onto the other cards shown in *Step 8*, repeat this procedure from *Step 9* for each card shown in *Step 8*.

If the new BLIXP GPL will not be loaded onto other cards, then this procedure is finished.

Updating a High-Capacity Card to Run the BLIXP GPL

High-capacity cards that were issued before EAGLE Release 43.0 may not be loaded with the BLIXP GPL. This procedure updates the high-capacity card with the BLIXP GPL using the `flash-card` command. The BLIXP GPL is a tar image of all the flash GPLs that are necessary to operate the high-capacity cards. The high-capacity cards are shown in *Table 7: High-Capacity Cards*. When the BLIXP GPL is downloaded to the card, the tar image is un-archived and the flash GPLs are loaded onto the card.

Table 7: High-Capacity Cards

HC MIM	E5-E1T1	E5-ENET
E5-STC	E5-SLAN	E5-IPSM
E5-ATM	E5-TSM	E5-SM4G

Caution: The `flash-card` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

The applications and entities supported by the high-capacity cards are shown in *Table 8: High-Capacity Card Applications*.

Table 8: High-Capacity Card Applications

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
HC MIM	HC MIM	SS7ANSI, CCS71TU	SS7HC	E1 or T1 signaling links
E5-E1T1	E5-E1T1	SS7ANSI, CCS71TU	SS7HC	E1 or T1 signaling links
E5-ENET	E5-ENET	SS7IPGW, IPLIM, IPLIMI, IPGWI, IPSG	IPLHC, IPGHC, IPSG	IP signaling links
E5-STC	E5-ENET	EROUTE	ERTHC	EAGLE 5 Integrated Monitoring Support

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
E5-SM4G	E5-SM4G	VSCCP	SCCPHC	GTT-related features
E5-SLAN	E5-ENET	STPLAN	SLANHC	TCP/IP data links for the STPLAN feature
E5-IPSM	E5-IPSM	IPS	IPSHC	Telnet sessions for remote connections to the EAGLE and SEAS terminals for the SEAS over IP feature
E5-ATM	E5-ATM	ATMANSI, ATMITU	ATMHC	ANSI and ITU ATM high-speed signaling links
E5-TSM	E5-TSM	GLS	GLSHC	Gateway Screening related features

CAUTION

Caution: Before any high-capacity card can be updated with the BLIXP GPL, all the traffic hosted by the high-capacity card must be stopped, and the high-capacity card 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 *Commands User's Guide*.

1. Display the BLIXP GPL on the fixed disk by entering this command.

   ```
   rtrv-gpl:gpl=blixp
   ```

If E5-based control cards are installed in the EAGLE, this is an example of the possible output.

```
rlghncxa03w 10-12-01 11:34:04 GMT  EAGLE5 43.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLIXP     1114  133-003-000  133-003-000      133-002-000  133-003-000
BLIXP     1116  133-003-000  133-003-000      133-002-000  133-003-000
BLIXP     1115  -----------  -----------      -----------  -----------
```

2. Display the status of the card that is being updated using the `rept-stat-card` command and specifying the location of the card.

   For this example, enter this command.

   `rept-stat-card:loc=1303`

   For an HC MIM or E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBIOS  GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  BLROM1  GPL version = 133-002-000
  PLDPMC1 GPL version = 133-002-000
  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.
```

   For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBEPM  GPL version = 133-002-000
  PLDPMC1 GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  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.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBEPM  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [00-02-14 10:33]
  EROUTE % OCCUP     = 0%
  NTP broadcast = VALID
  STC IP PORT A:                        OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
  STC IP PORT B:                        OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.

Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBEPM  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%

Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
```

```
  IMTPCI  GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBSMG  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP        = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBEPM  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBEPM  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             ls1           -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
```

```
  IMTPCI  GPL version = 133-002-000
  BLVXW6  GPL version = 133-002-000
  BLDIAG6 GPL version = 133-002-000
  BLBEPM  GPL version = 133-002-000
  BLCPLD  GPL version = 133-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

Continue the procedure by performing one of these actions:

- If the card is running one of these application GPLs: SS7HC, IPLHC, IPGHC, ATMHC, IPSG (shown in the `GPL` column in the `rept-stat-card` output in *Step 2*), continue the procedure with *Step 5*.
- If the card is running the ERTHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 2*), continue the procedure with *Step 12*.
- If the card is running the SLANHC application GPL(shown in the `GPL` column in the `rept-stat-card` output in *Step 2*), continue the procedure with *Step 7*.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 2*), continue the procedure with *Step 9*.
- If the card is running the SCCPHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 2*), continue the procedure with *Step 4*.
- If the card is running the GLSHC application GPL (shown in the `GPL` column in the `rept-stat-card` output in *Step 2*), continue the procedure with *Step 3*.

3. Display the GLS cards by entering this command.

   `rept-stat-card:appl=gls`

   The output from this command will display the TSMs that are running the GLS GPL and the E5-TSMs that are running the GLSHC GPL.

   This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1207   133-003-000  TSM       GLSHC      IS-NR          Active     -----
1211   133-003-000  TSM       GLSHC      IS-NR          Active     -----
1303   133-003-000  TSM       GLSHC      IS-NR          Active     -----

Command Completed.
```

   Continue the procedure with *Step 12*.

4. Display the service modules by entering the `rept-stat-sccp` command.

   The output from this command will display the DSMs that are running the VSCCP GPL and the E5-SM4G cards that are running the SCCPHC GPL.

This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0

CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
1303  133-003-000  IS-NR           Active     -----       47%         81%
2103  133-003-000  IS-NR           Active     -----       34%         50%
2111  133-003-000  IS-NR           Active     -----       21%         29%
2115  133-003-000  IS-NR           Active     -----       35%         52%
2117  133-003-000  IS-NR           Active     -----       40%         71%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 36%       Average CPU Capacity = 56%
Command Completed.
```

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

Continue the procedure with *Step 12*.

5. Display the signaling links associated with the card shown in *Step 2*.

   Enter the `rtrv-slk` command with the card location specified in *Step 2*. For this example, enter this command.

   `rtrv-slk:loc=1303`

   This is an example of the possible output for an HC MIM or E5-E1T1 card.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0

                                  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
```

This is an example of the possible output for an E5-ENET card.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0

LOC  LINK LSN          SLC TYPE     IPLIML2
1303 A    e11303a       0  IPLIM    M2PA
1303 B    e11303b       0  IPLIM    M2PA
1303 A1   e11303a       1  IPLIM    M2PA
1303 B3   e11303b       1  IPLIM    M2PA
```

This is an example of the possible output for an E5-ATM card.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0

                                  LP            ATM
```

```
LOC  LINK LSN         SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL
1303 A    ls2          2  LIMATM   1    1544000  LINE      5      0     0
1303 B    ls1          3  LIMATM   1    1544000  LINE      5      0     0
```

6. 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 signaling links on card 1303 out of service. This will interrupt service on the signaling links on card 1303 and allow the BLIXP GPL to be loaded on to card 1303.

   Caution: If the EAGLE contains only signaling links assigned to the card that is specified in this step, deactivating all of the signaling links that are assigned to the card will take all of these signaling links out of service and will isolate the EAGLE from the network.

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Deactivate SLK message sent to card
```

   Continue the procedure with *Step 12*.

7. Display the data link, and its status, associated with the card shown in *Step 2*. Enter the `rept-stat-dlk` command with the card location specified in *Step 2*.

   For this example, enter this command.

   `rept-stat-dlk:loc=1303`

   This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
DLK             PST          SST       AST
1303            IS-NR        Active    ----
  Alarm Status      = No Alarms.
Command Completed.
```

8. Deactivate the TCP/IP data link on the card that you wish to load the GPL onto using the `canc-dlk` command. For this example, enter this command.

   `canc-dlk:loc=1303`

   Caution: This command example places the TCP/IP data link on card 1303 out of service. This will interrupt service on the TCP//IP data link on card 1303 and allow the flash GPL to be loaded onto card 1303.

Caution: If there is only one TCP/IP data link in the EAGLE, placing the card out of service will cause the STPLAN feature to be disabled.

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Deactivate Link message sent to card.
Command Completed.
```

Continue the procedure with *Step 12*.

9. Display the terminal configuration in the database with the `rtrv-trm` command.

   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 Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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-O-1 NONE   30    5     00:00:30
7    PRINTER   9600-7-E-2 HW     30    5     00:30:00
8    KSR      19200-7-E-2 BOTH   30    5     00:30:00
9    VT320     9600-7-O-1 NONE   30    5     00:00:30
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-E-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     1303             60    5     00:30:00
18   TELNET     1303             60    5     00:30:00
19   TELNET     1303             60    5     00:30:00
20   TELNET     1303             60    5     00:30:00
21   TELNET     1303             60    5     00:30:00
22   TELNET     1303             60    5     00:30:00
23   TELNET     1303             60    5     00:30:00
24   TELNET     1303             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
```

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

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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.
```

11. Place the required terminals out of service using the `rmv-trm` or the `inh-trm` command. The function of the `rmv-trm` and the `inh-trm` commands are the same. 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`

    Note: If the terminal that is being taken out of service is the last in service SEAS terminal, the`force=yes` parameter must be specified with the`rmv-trm` command for that terminal.

    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 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Inhibit message sent to terminal

rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Command Completed.
```

12. Place the card shown in *Step 2* out of service using the `rmv-card` or `inh-card` command. The function of the `rmv-card` and the `inh-card` commands are the same.

    For this example, enter this command.

    `rmv-card:loc=1303`

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

```
rlghncxa03w 10-12-01  11:11:28 GMT  EAGLE5 43.0.0
Card has been inhibited.
```

    The `force=yes` parameter must be specified in this step if any of these conditions exist.

    - The HC MIM, E5-E1T1, E5-ATM, or E5-ENET card contains the last signaling link in a linkset.
    - The E5-TSM is the last GLS card that is in service.
    - The service module is the last service module that is in service.

13. Load the approved version of the BLIXP GPL onto the card that was inhibited in *Step 12* using the `flash-card` command with the `code=appr` and the card location parameters.

Caution: The `flash-card` command cannot be entered if the IMT Rate Change sequence or the Extended Bit Error Rate Test (BERT) is being performed.

For this example, enter this command.

```
flash-card:code=appr:loc=1303
```

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

```
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Flash Card: Downloading BLIXP on card 1303.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Flash Card: Card 1303 download BLIXP complete.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Flash Card: Activating BLIXP on card 1113.
;
    rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Flash Card: Card 1303 activation BLIXP complete.
;
    rrlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    Command Completed.
```

14. Put the card that was inhibited in *Step 12* back into service using the `rst-card` or `alw-card` command. The function of the `rst-card` and the `alw-card` commands are the same.

The `rst-card` or `alw-card` command also loads the approved version of the BLIXP 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Card has been allowed.
```

15. Verify that the BLIXP GPL 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
```

For an HC MIM or E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  LIME1     SS7HC      IS-NR          Active     -----
```

```
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000
  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.
```

For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  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.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [06-05-02 13:40]
  NTP broadcast = VALID
  STC IP PORT A:                         OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
  STC IP PORT B:                         OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000
```

```
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%
Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP        = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  BLIXP   GPL version = 133-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLIXP   GPL version = 133-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
  SIGNALING LINK STATUS
      SLK    PST               LS           CLLI
      A      IS-NR             ls1          -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   133-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLIXP   GPL version = 133-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

Note: If the version number of the BLIXP GPL that is shown in this step is not the version specified in *Step 1*, contact the Customer Care Center. Refer to the *My Oracle Support (MOS)* section for the contact information.

Continue the procedure by performing one of these actions.

- If card is running one of these application GPLs: SS7HC, IPLHC, IPGHC, ATMHC, IPSG (shown in the `GPL` column in the `rept-stat-card` output in *Step 15*), continue the procedure with *Step 16*.
- If card is running one of these application GPLs: ERTHC, GLSHC, or SCCPHC, (shown in the `GPL` column in the `rept-stat-card` output in *Step 15*), continue the procedure with *Step 22*.
- If the card is running the SLANHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 15*), continue the procedure with *Step 18*.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in *Step 15*), continue the procedure with *Step 20*.

16. Place the signaling links that were deactivated in *Step 6* 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
    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=1303:link=a
    ```

This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
SLK      LSN       CLLI        PST          SST       AST
1303,B3  e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

Continue the procedure with *Step 22*.

18. Place the TCP/IP data link that was deactivated in *Step 8* back into using the `act-dlk` command. For this example, enter this command.

`act-dlk:loc=1303`

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

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Activate Link message sent to card.
```

19. Verify that the TCP/IP data link activated in *Step 18* is back in service with the `rept-stat-dlk` command. For this example, enter this command.

`rept-stat-dlk:loc=1303`

This is an example of the possible output.

```
rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
DLK             PST          SST       AST
1303            IS-NR        Active    ----
  Alarm Status      = No Alarms.
Command Completed.
```

Continue the procedure with *Step 22*.

20. Put the required terminals back into service with the `rst-trm` or `alw-trm` command. The function of the `rst-trm` and the `alw-trm` commands are the save. 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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
Allow message sent to terminal

rlghncxa03w 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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 10-12-01 09:12:36 GMT EAGLE5 43.0.0
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. This procedure is finished.

Conversion of SM8G-B Cards

There are two types of cards that can operate in 32-bit or 64-bit mode: SM8G-B and SLIC cards. SM8G-B cards are equipped with 8G bytes of RAM. The operator must convert the cards to operate on 64-bit mode in order to enable access to memory ranges beyond the 4G byte, the memory range limit for 32-bit mode cards.

Because the GPL image contains either 32-bit or 64-bit mode code, the card must be flashed with the correct version before being able to run on the desired mode. Follow the steps in *SM8G-B 32-bit to 64-bit Conversion* or *SM8G-B 64-bit to 32-bit Conversion* in order to convert an SM8G-B card to operate from one mode to the other.

SM8G-B Bootloader Swap

An SM8G-B card running on a BLMCAP version from a release prior to EAGLE 46.3 may contain the 32-bit mode only bootloader. This bootloader must be updated before converting to 64-bit mode. The following procedure is used to update the 32-bit mode bootloader to 64-bit. Skip this procedure if the card is already running the BLDC64 GPL.

1. Inhibit the target card with the `inh-card:loc=<card_loc>:force=yes`.
   The card will boot and return to state OOS-MT-DSBLD within 60 seconds.
2. Flash the card with the `init-flash:loc=<card_loc>:code=appr:gpl=blmcap` command.
   After the flashing operations complete, the card will boot and return to state OOS-MT-DSBLD.
3. Activate the new BLMCAP GPL with the `act-flash:loc=<card_loc>` command.
4. Replace the card's bootloader with the `init-flash:loc=xxxx:mode=rplcebl:bits=64` command.

If the card was already running with the desired bootloader, the command does nothing.

SM8G-B 32-bit to 64-bit Conversion

The following procedure is used to convert the 32-bit mode to 64-bit. The target card must already be running on the BLMCAP GPL and had its bootloader swapped, as completed in *SM8G-B Bootloader Swap*. Skip this procedure if the card is already running the BLDC64 GPL.

1. Inhibit the target card with the `inh-card:loc=<card_loc>:force=yes`.
   The card will boot and return to state OOS-MT-DSBLD within 60 seconds.
2. Flash the card with the `init-flash:loc=<card_loc>:code=appr:mode=cnvrtbit:bits=64` command.
   After the flashing operations complete, the card will boot and return to state OOS-MT-DSBLD.
3. Activate the new BLDC64 GPL with the `act-flash:loc=<card_loc>` command.
   The card will now run on 64-bit mode and will accept 64-bit mode applications from the OAM.

SM8G-B 64-bit to 32-bit Conversion

The following procedure is used to convert the 64-bit mode to 32-bit. The target card must already be running on the BLDC64 GPL and contain the correct bootloader, as completed in *SM8G-B Bootloader Swap*. Skip this procedure if the card is already running the BLMCAP GPL.

1. Inhibit the target card with the `inh-card:loc=<card_loc>:force=yes`.
   The card will boot and return to state OOS-MT-DSBLD within 60 seconds.
2. Flash the card with the `init-flash:loc=<card_loc>:code=appr:mode=cnvrtbit:bits=32` command.
   After the flashing operations complete, the card will boot and return to state OOS-MT-DSBLD.
3. Activate the new BLMCAP GPL with the `act-flash:loc=<card_loc>` command.
   The card will now run on 32-bit mode and will accept 32-bit mode applications from the OAM.

Conversion of SLIC Cards

SLIC cards are equipped with 16G bytes of RAM. They can run on either the 32-bit mode BLSLC32 flash GPL or on the 64-bit mode BLSLC64 flash GPL. All SLIC cards contain the correct bootloader; only the GPL swap needs to be performed.

Follow the steps in *SLIC 32-bit to 64-bit Conversion* or *SLIC 64-bit to 32-bit Conversion* in order to convert a SLIC card to operate from one mode to the other.

SLIC 32-bit to 64-bit Conversion

The following procedure is used to convert the 32-bit mode to 64-bit. The target card should already be running on the BLSLC32 GPL. Skip this procedure if the card is already running the BLSLC64 GPL.

1. Inhibit the target card with the `inh-card:loc=<card_loc>:force=yes`.
   The card will boot and return to state OOS-MT-DSBLD within 60 seconds.

2. Flash the card with the `init-flash:loc=<card_loc>:code=appr:mode=cnvrtbit:bits=64` command.
   After the flashing operations complete, the card will boot and return to state OOS-MT-DSBLD.
3. Activate the new BLSLC64 GPL with the `act-flash:loc=<card_loc>` command.
   The card will now run on 64-bit mode and will accept 64-bit mode applications from the OAM.

SLIC 64-bit to 32-bit Conversion

The following procedure is used to convert the 64-bit mode to 32-bit. The target card should already be running on the BLSLC64 GPL. Skip this procedure if the card is already running the BLSLC32 GPL.

1. Inhibit the target card with the `inh-card:loc=<card_loc>:force=yes`.
   The card will boot and return to state OOS-MT-DSBLD within 60 seconds.
2. Flash the card with the `init-flash:loc=<card_loc>:code=appr:mode=cnvrtbit:bits=32` command.
   After the flashing operations complete, the card will boot and return to state OOS-MT-DSBLD.
3. Activate the new BLSLC32 GPL with the `act-flash:loc=<card_loc>` command.
   The card will now run on 32-bit mode and will accept 32-bit mode applications from the OAM.

Chapter 4

System Administration Procedures

Topics:

Chapter 4, System Administration Procedures, describes the procedures used to administer the items shown in the *Introduction*.

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
- Configuring the Frame Power Alarm Threshold

The procedures shown in this chapter use a variety of commands. If more information on these commands is needed, go to *Commands User's Guide* to find the required information.

Setting the Clock and Date on the EAGLE

This procedure is used to set the EAGLE's clock and date.

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 06-10-01 09:33:19 GMT  EAGLE5 36.0.0
   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 uses the time zone that was entered with the previous `set-time` command. The values for the time zone parameter are shown in *Table 9: Time Zones* . The entry in the Abbreviation column of *Table 9: Time Zones* is the value to be specified for the time zone parameter.

Table 9: 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
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

Time Zone	Abbreviation	Offset from GMT (hours)
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 06-10-01 14:20:00 GMT  EAGLE5 36.0.0
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.
```

Changing the Security Defaults

This procedure is used to change the user ID and password requirements for the EAGLE 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 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 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 rejects any attempt to log into the EAGLE with that user ID. The value of this parameter applies to all user IDs in the EAGLE 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)

`:minintrvl` – the minimum number of days before a password can be changed again.

`:pchreuse` – the number of characters that cannot be reused from the current password when setting the new password. For example, if the `pchreuse` parameter value is 5, no more than five characters of the current password can be reused in the new password.

`:pgrace` – the number of days after password expiration during which the user can login without changing their password.

`:pnotify` – the number of days before password expiration that the user is notified about the expiration.

`:preuse` – the number of previous passwords that cannot be used. If the `preuse` parameter value is 6, the previous six passwords cannot be used.

The `chg-secu-dflt` command also contains the `wrnln`,`wrntx`, and `clrwrntx` parameters. These parameters are used to configure the unauthorized use warning message that is displayed when a user logs into the EAGLE. To configure the unauthorized use warning message, go to the *Configuring the Unauthorized Use Warning Message* procedure.

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 to log onto more than one terminal at any given time.

minlen = 12 characters

alpha = 2 characters

num = 2 characters

punc = 2 characters

minintrvl = 5 days

pnotify = 14 days

pgrace = 2 days

preuse = 6 passwords

pchreuse = 5 characters

Note: When the EAGLE 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

:minintrvl = 1 day

:pnotify = 7 days

:pgrace = 3 days

:preuse = 5 passwords

:pchreuse = 4 characters

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.

1. Display the current security defaults by entering the `rtrv-secu-dflt` command.

   This is an example of the possible output.

```
rlghncxa03w 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
MININTRVL       1
PNOTIFY         7
PGRACE          3
PREUSE          5
PCHREUSE        4
```

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:minintrvl=5:pchreuse=5:pgrace=2:pnotify=14:preuse=6`

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

```
rlghncxa03w 06-10-01 11:43:04 GMT EAGLE5 36.0.0
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 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
SECURITY DEFAULTS
-----------------
PAGE          100
UOUT           50
MULTLOG       YES
MINLEN         12
ALPHA           2
NUM             2
PUNC            2
MININTRVL       5
PNOTIFY        14
PGRACE          2
PREUSE          6
PCHREUSE        5
```

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.
```

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.

These parameters are used in this procedure.

`: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 blank line is specified with this text string, “ “, the blank space character enclosed in double quotes.

`:clrwrntx` - This parameter specifies whether or not the text of the warning message is removed and will not be displayed. This parameter has three values.

- `no` - the text of a specific line in the warning message is not removed.
- `yes` - the text of a specific line in the warning message is removed and will not be displayed.
- `all` - the text in all the lines of the warning message are removed and no warning message will be displayed.

The `clrwrntx=yes` parameter can be specified only with the `wrnln` parameter.

The `chg-secu-dflt` command contains other parameters that are not used in this procedure. These parameters are used to change the user ID and password security defaults on the EAGLE. To change the user ID and password security defaults, perform the *Changing the Security Defaults* procedure.

Note: When the EAGLE 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             *
*                                                           *
*                                                           *
* 03/17/08 Notice!!! System will be upgraded between        *
* the hours of 2am-3am on 04/01/08                          *
*                                                           *
```

```
*                                                             *
*************************************************************
```

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.

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 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
MININTRVL       1
PNOTIFY         7
PGRACE          3
PREUSE          5
PCHREUSE        4

rlghncxa03w 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
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`, `wrntx`, and `clrwrntx` parameters.

   For this example, to configure a new warning message, 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=6:wrntx="* 03/17/08 Notice!!! System will be upgraded
   between*"
   chg-secu-dflt:wrnln=7:wrntx="* the hours of 2am-3am on 04/01/08 *"
   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:clrwrntx=yes
   chg-secu-dflt:wrnln=13:clrwrntx=yes
   chg-secu-dflt:wrnln=14:clrwrntx=yes
   chg-secu-dflt:wrnln=15:clrwrntx=yes
   chg-secu-dflt:wrnln=16:clrwrntx=yes
   chg-secu-dflt:wrnln=17:clrwrntx=yes
   chg-secu-dflt:wrnln=18:clrwrntx=yes
   chg-secu-dflt:wrnln=19:clrwrntx=yes
   chg-secu-dflt:wrnln=20:clrwrntx=yes
   ```

   If you wish to remove the current warning message, enter this command.

   ```
   chg-secu-dflt:clrwrntx=all
   ```

   If you wish to configure a new warning message after removing the current warning message, repeat this step with the `wrnln`, `wrntx`, and `clrwrntx=yes` parameters as needed.

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

   ```
   rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
   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 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
MININTRVL       1
PNOTIFY         7
PGRACE          3
PREUSE          5
PCHREUSE        4

rlghncxa03w 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
WARNING MESSAGE
---------------
1:"**************************************************"
2:"*  NOTICE: This is a private computer system.       *"
3:"*  UNAUTHORIZED ACCESS OR USE WILL BE PROSECUTED    *"
4:"*                                                   *"
5:"*                                                   *"
6:"* 03/17/08 Notice!!! System will be upgraded between *"
7:"*                 the hours of 2am-3am on 04/01/08  *"
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.
```

Changing the Security Log Characteristics

This procedure is used to change the characteristics of the EAGLE'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 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 is delivered to the user, the security log characteristics will be set to these values:

`:upldalm = yes`

`:upslg = 90`

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 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
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 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
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 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
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.
```

Copying the Security Log to the File Transfer Area

This procedure is used to copy the EAGLE'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.

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 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` if the security log on the active fixed disk is copied (`slog=act`) or `s` if the security log on the standby fixed disk is copied (`slog=stb`).

`:slog` – the security log that is copied to the file transfer area, the security log on the active fixed disk (slog=act) or the standby fixed disk (slog=stb). The default value for this parameter is `act`.

`:dloc` – the file transfer area that is receiving the copy of the security log, the file transfer area on the active fixed disk (dloc=act) or the file transfer area on the standby fixed disk dloc=stb). The default value for this parameter is `act`.

If a filename is not specified, the EAGLE 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.

The `copy-seculog` command can be specified with no parameters. If the `copy-seculog` command is specified with no parameters, the security log on the active fixed disk is copied to the file transfer area on the active fixed disk and is given a default name. The default name is in this format,

`yymmdda.log`, where `yymmdd` are the current year/month/day that the security log file was created, and `a` for the copy of the security log on the active fixed disk.

1. Verify the card that is card location 1113 by entering this command.

   `rept-stat-card:loc=1113`

   This is an example of the possible output.

```
rlghncxa03w 09-03-28 21:15:37 GMT EAGLE5 40.1.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1113   132-013-000  E5MCAP    OAMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLMCAP  GPL version = 132-005-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  30C ( 86F)
  PEAK TEMPERATURE:     =  33C ( 92F)     [02-01-05 07:18]

Command Completed.
```

2. Verify the card that is in card location 1115 by entering this command.

   `rept-stat-card:loc=1115`

   This is an example of the possible output.

```
rlghncxa03w 09-03-28 21:15:37 GMT EAGLE5 40.1.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1113   132-013-000  E5MCAP    OAMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  BLMCAP  GPL version = 132-005-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  30C ( 86F)
  PEAK TEMPERATURE:     =  33C ( 92F)     [02-01-05 07:18]

Command Completed.
```

   Ensure that both card locations contain the same type of card (E5-OAM).

3. Display the current characteristics of the security log by entering the `rept-stat-seculog` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-04 16:02:05 GMT  EAGLE5 40.1.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    09-01-25 09-03-04 09-02-15
                                      08:25:21 09:02:44 02:47:17

1116 Standby 693     7     No   No    09-01-25 09-03-04 09-02-15
                                      08:25:21 09:02:44 02:47:17
```

4. 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 09-03-04 16:02:37 GMT  EAGLE5 40.1.0
Security log on TDM 1114 copied to file security1.log on TDM 1114
```

5. Verify the changes with the `rept-stat-seculog` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-04 16:04:43 GMT  EAGLE5 40.1.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  1       1     No   No    09-03-04 09-03-04 09-03-04
                                      09:02:44 09:02:44 16:02:37

1116 Standby 0       0     No   No    09-01-25 09-03-04 09-02-15
                                      08:25:21 09:02:44 02:47:17
```

Adding a User to the System

This procedure is used to add a user to the EAGLE 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, perform*Activating the Eagle OA&M IP Security Enhancement Controlled Feature* to enable and turn on 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`).

`: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."

`: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 turned on. 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 turned on, perform *Activating Controlled Features* to enable and turn on 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 turned on, 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 *Configuring Command Classes*.

The `ent-user` command allows up to eight configurable command classes to be assigned to the user. Perform *Changing User Information* 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 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 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 rejects any attempt to log into the EAGLE with that user ID.

If the `uout` parameter is not specified with the `ent-user` command, the EAGLE 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 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. 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 on either of the SEAS terminals.

This example shows an `rtrv-secu-user` command output when the Command Class Management feature is enabled and turned on. If the Command Class Management feature is not enabled and turned on, 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 09-03-01 08:33:48 GMT EAGLE5 40.1.0

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
frodo                750 0    0    NO  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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
manny                36  60   60   NO  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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
moe                  100 30   60   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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
jack                 10  30 * 30 * NO  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 *Commands User's Guide*.

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*.

   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
   ```

   Continue the procedure by performing one of these steps.

   - If the `cc1` through `cc8` parameters are not being specified in this procedure, continue the procedure with *Step 4*.
   - If the `cc1` through `cc8` parameters will be specified in this procedure, continue the procedure by performing one of these steps.
     - If configurable command classes are shown in the `rtrv-secu-user` output, continue the procedure with *Step 3*.
     - If configurable command classes are not shown in the `rtrv-secu-user` output, continue the procedure with *Step 2*.

2. Verify that the Command Class Management feature is enabled and turned on, by entering the `rtrv-ctrl-feat` command with the `partnum=893005801` parameter.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   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 *Commands User's Guide*.

   If the Command Class Management feature is enabled and turned on (`status = on`), continue the procedure with *Step 3*.

   If the Command Class Management feature is not enabled or turned on, perform *Activating Controlled Features*to enable and turn on 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 09-05-01 21:15:37 GMT EAGLE5 41.0.0
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
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, perform *Configuring Command Classes* to configure the desired command classes.

4. 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. 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 10-07-01 16:02:05 GMT  EAGLE5 42.0.0
SECURITY DEFAULTS
-----------------
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
```

The `rtrv-secu-dflt` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-secu-dflt` command, refer to the `rtrv-secu-dflt` command description in *Commands User's Guide*.

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.

5. 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 *Commands User's Guide* 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 06-10-01  09:12:36 GMT  EAGLE5 36.0.0
   ENT-USER: MASP A - COMPLTD
   ```

6. 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 4* .

7. At the prompt `verify password`, re-enter the password that was entered in *Step 6* again.
8. 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.
9. Verify the changes using the `rtrv-secu-user` command with the user ID specified in *Step 5* .

   For this example, enter this command.

   ```
   rtrv-secu-user:uid=frodo
   ```

This is an example of the possible output.

```
rlghncxa03w 09-03-01 08:33:48 GMT EAGLE5 40.1.0

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES

            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
```

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.
```

Removing a User from the System

This procedure is used to remove a user from the EAGLE 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.

1. Display the user IDs in the database using the `rtrv-secu-user` command.

This is an example of the possible output.

```
rlghncxa03w 09-03-01 08:33:48 GMT EAGLE5 40.1.0

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES

            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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
manny                36  60   60   NO  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
```

```
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
fred                 750 0    0    NO  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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   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.
   ```

Changing User Information

This procedure is used to change the characteristics of a user on the EAGLE 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, perform *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* 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."

`: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 turned on. 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 turned on, perform *Activating Controlled Features* to enable and turn on 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 turned on, 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*.

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 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 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 rejects any attempt to log into the EAGLE with that user ID.

If the uout parameter is not specified with the ent-user command, the EAGLE 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 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. 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.

This example shows an rtrv-secu-user command output when the Command Class Management feature is enabled and turned on. 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 09-03-01 08:33:48 GMT EAGLE5 40.1.0

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
frodo                750 0    0    NO  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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
manny                36  60   60   NO  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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
moe                  100 30   60   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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
jack                 10  30 * 30 * NO  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
```

1. Display the user IDs in the database using the `rtrv-secu-user` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-01 08:33:48 GMT EAGLE5 40.1.0

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES

            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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
manny                36  60   60   NO  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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
fred                 750 0    0    NO  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

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  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
```

   Continue the procedure by performing one of these steps.

   - If the `cc1` through `cc8` parameters are not being specified in this procedure, continue the procedure with *Step 4*.
   - If the `cc1` through `cc8` parameters will be specified in this procedure, continue the procedure by performing one of these steps.

- If configurable command classes are shown in the `rtrv-secu-user` output, continue the procedure with *Step 3*.
- If configurable command classes are not shown in the `rtrv-secu-user` output, continue the procedure with *Step 2*.

2. Verify that the Command Class Management feature is enabled and activated, by entering the `rtrv-ctrl-feat` command with the partnum=89005801 parameter.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 *Commands User's Guide*.

   If the Command Class Management feature is enabled and turned on (status = on), *Step 3* .

   If the Command Class Management feature is not enabled or turned on, perform *Activating Controlled Features*to enable and turn on 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 09-05-01 21:15:37 GMT EAGLE5 41.0.0
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
```

```
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, perform *Configuring Command Classes*to 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 is being revoked, the intent is to immediately deny the user access to the EAGLE. In this case, the user will be logged off when the database is updated.

4. Verify that the user is not logged on the EAGLE using the `rept-stat-user` command.

   If the user is logged on to the EAGLE, the `chg-user` command will log the user off the EAGLE when the command is executed. Notify the user to log off the EAGLE. This is an example of the possible output.

```
rlghncxa03w 09-05-01 09:12:15 GMT  EAGLE5 41.0.0
REPT-STAT-USER COMPLTD
USER ID          TERM #  IDLE SINCE         COMMAND             STATE
fred                3    09-04-19 05:06:43  rept-stat-user      PROCESSING
frodo              13    09-04-20 08:12:23  chg-db              IDLE
manny               1    09-04-27 04:37:56  ent-dlk             IDLE
travist             7    09-04-30 10:06:22  rtrv-meas           IDLE
```

5. 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 10-07-01 16:02:05 GMT  EAGLE5 42.0.0
SECURITY DEFAULTS
-----------------
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
```

The `rtrv-secu-dflt` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-secu-dflt` command, refer to the `rtrv-secu-dflt` command description in *Commands User's Guide*.

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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
CHG-USER: MASP A - COMPLTD
```

6. Verify the changes using the `rtrv-secu-user` command and specifying the user ID used in *Step 5* with the `uid` parameter.

   If the user ID was changed in *Step 5* , 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 09-03-01 08:33:48 GMT EAGLE5 40.1.0

USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG
bilbo                36  60   60   NO  YES  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  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
```

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.
```

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 administrator to change the password of any user (see the *Changing User Information* procedure).

Rules for Changing a Password

The rules for the format of the password are determined by the `chg-secu-dflt` command (see the *Changing the Security Defaults* procedure 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 `minintrvl` parameter of the `chg-secu-dflt` command defines the minimum number of days between attempts to change a password. If this attempt occurs during this interval, the password cannot be changed.

The `pchreuse` parameter of the `chg-secu-dflt` command defines the number of characters that cannot be reused from the current password when setting the new password. For example, if the `pchreuse` parameter value is 5, no more than five characters of the current password can be reused in the new password. If the new password contains more the five characters from the current password, the new password will be rejected.

The `preuse` parameter defines the number of previous passwords that cannot be used. If the `preuse` parameter value is 6, the previous six passwords cannot be used. If the new password is one of the number of previous passwords defined by the `preuse` parameter, the new password will be rejected.

When the password is being changed with the `chg-pid` command, the minimum requirements for passwords are displayed after the current password is entered at the `Enter Old Password:` prompt.

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 to enable and activate this feature.

1. Log into the EAGLE using the `login` or `act-user` command.

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

```
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 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 10-07-01 09:12:36 GMT  EAGLE5 42.0.0
New password must contain:
  - between 8 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. $%@#)
New password must:
  - be unique from the old password
  - be unique from the last 6 historical passwords
  - not reuse more than 4 characters from the old password
```

   Enter your new password making sure that the password meets the minimum requirements for passwords on your EAGLE.

   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 database.

   This message should also appear.

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.
```

Changing Terminal Characteristics

This procedure is used to change the characteristics of a terminal, except for the SEAS terminal and a measurements terminal for an EAGLE containing a maximum of 700 signaling links, using the `chg-trm` command.

To configure a measurements terminal for an EAGLE containing a maximum of 700 signaling links, go to the *Configuring the Measurements Terminal for an EAGLE Containing 700 Signaling Links* procedure.

To configure a SEAS terminal, refer to the *Configuring SEAS Terminals* procedure.

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, 38400, 57600, 115200). Values 38400, 57600, and 115200 are only valid when the OAMHC is used.

`: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).

`:fc` – The type of flow control used between the EAGLE and the output devices. (sw - software, hw - hardware, both - hardware and software, none).

Note: Hardware flow control (`fc=hw`) and both hardware and software flow control (`fc=both`) are not supported for the terminal if the EAGLE contains E5-TDMs. Part of the terminal output may be lost if hardware flow control or both hardware and software flow control are specified for the terminal when the EAGLE contains E5-TDMs.

`: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).

:`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).

`:dural` – The length of time that the terminal is disabled after the login failure threshold has been exceeded. (See the "Security Parameters" section).

`: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).

`: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).

`:logintmr` – the login timer. This parameter specifies the maximum time for logging on to the telnet terminal after selecting the terminal. This timer makes sure the user logs in with in the configured time and terminal does not remain idle. The value for this timer can be from 3 seconds to 600 seconds. An additional value `none` indicates that the user has an indefinite amount of time to login on the telnet terminal. The system default value for this parameter is `none`. This parameter can be specified only for telnet terminals (`type=telnet`).

`:logouttmr` – the logout timer. This parameter specifies the maximum time the telnet session remains open after the user manually or automatically logs out. The value for this timer can be from 0 to 1200 seconds. An additional value `none` indicates that the telnet session is never closed when the user logs out. The system default value for this parameter is `none`. This parameter can be specified only for telnet terminals (`type=telnet`).

`:pngtimeint` – the ping timer interval. This parameter specifies the amount of time that must pass before the IPSM initiates a new ping cycle. The value for this timer can be from 100 to 1200000 milliseconds. An additional value `none` indicates that pinging does not occur. The system default value for this parameter is `none`. This parameter can be specified only for telnet terminals (`type=telnet`) and EMSALM terminals (`type=emsalm`).

`:pngfailcnt` – This parameter specifies the number of consecutive ping fails that must occur before the telnet connection is dropped. The value for this timer can be from 1 to 10. The system default value for this parameter is 1. This parameter can be specified only for telnet terminals (`type=telnet`) and EMSALM terminals (`type=emsalm`).

The messages assigned to the output message groups defined by the `traf`, `db`, `link`, `sa`, `sys`, `pu`, `uimrd`, `appserv`, `appss`, `card`, `clk`, `dbg`, `gtt`, `gws`, `meas`, `mon`, `mps`, `seas`, and `slan` parameters are listed in *Unsolicited Alarm and Information Messages Reference* .

Certain UIMs (unsolicited information messages) can be assigned to the UIM Redirect output group or remain in their original output message group. The `uimrd` parameter of the `chg-trm` command and the `on=uimrd` and `off=uimrd` parameters of the `chg-stpopts` command determine which output groups these UIMs are assigned to and how the EAGLE handles them.

The `on=uimrd` parameter of the `chg-stpopts` command tells the EAGLE to put these UIMs in the unsolicited UIM Redirect output message group. If the `off=uimrd` parameter is specified with the `chg-stpopts` command, the messages remain in their original output message group. The `on=uimrd` parameter value of the `chg-stpopts` command is shown in the `UIMRD` row of the `rtrv-stpopts` output as the value `yes`. The `off=uimrd` parameter value of the `chg-stpopts` command is shown in the `UIMRD` row of the `rtrv-stpopts` output as the value `no`. The `uimrd=yes` parameter of the `chg-trm` command allows the specified terminals to receive unsolicited UIM redirect output messages.

Table 10: UIMRD Parameter Combinations shows the combination of the values of both `uimrd` values and how the EAGLE handles the messages. The unsolicited output group message assignments are listed in *Unsolicited Alarm and Information Messages Reference*.

Table 10: UIMRD Parameter Combinations

UIMRD value of the terminal	UIMRD STP option value	Action
No	No (See Note 1)	The UIMs remain in their original output message group and are output to terminals receiving messages from the original output message group.
No	Yes (See Note 2)	The UIMs are in the UIM Redirect output group but are not output to any terminal.
Yes	No (See Note 1)	The UIMs remain in their original output message group and are output to terminals receiving messages from the original output message group.

UIMRD value of the terminal	UIMRD STP option value	Action
		Even though the UIMRD value for the terminal is yes, there are no messages in the UIM redirect output group because the UIMRD value in the rtrv-stpopts output is no. No UIM redirect messages are output to any terminal.
Yes	Yes (See Note 2)	The UIMs are in the UIM Redirect output group and are output to terminals receiving unsolicited UIM redirect messages.
Notes: 1. This value is set with the off=uimrd parameter of the chg-stpopts command. 2. This value is set with the on=uimrd parameter of the chg-stpopts command.		

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 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) or none (:type=none) if the change would leave the EAGLE 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 printer or none, go to the *Changing Terminal Command Class Assignments* procedure 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, 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).

If the all=no parameter is specified for a SEAS terminal (type=seas), all the output group values are changed to NO except for the SEAS output group. The SEAS output group value remains set to YES and this message is displayed.

```
SEAS Output Group is SET for SEAS terminal <terminal number>
```

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 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.

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 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 and the customer's network to provide network surveillance.

The TELNET terminal type provides up to 24 IP based connections to the EAGLE'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 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, 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. 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 Containing 700 Signaling Links* procedure), 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`, `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`, `uimrd`, `appserv`, `appss`, `card`, `clk`, `dbg`, `gtt`, `gws`, `meas`, `mon`, `mps`, `seas`, `slan`) parameters values can be changed.

The `SEAS` terminal type is used to provide a path between the EAGLE and the CCS MR to support the SEAS over IP feature. The SEAS terminal type is not used in this procedure. To configure a terminal as a SEAS terminal, refer to the *Configuring SEAS Terminals* procedure.

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 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 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 and 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 type of flow control used by the terminal is shown in the FC field. The security attributes of the terminal are shown in the TMOUT, MXINV, and DURAL fields. 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 06-10-01 16:02:08 GMT EAGLE5 36.0.0
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
```

In this example, terminal 3 is running at 9600 baud with 7 data bits, even parity, and 1 stop bit.

For terminals 17 to 40, the COMM and FC fields are not displayed in the rtrv-trm output. The following items are displayed for these terminals in addition to the security attributes and the types of unsolicited messages the terminal may receive. An example rtrv-trm output example follows the list.

- The card location of the IPSM associated with the terminals.
- The security status of the terminal is displayed in the SECURE field. If the Eagle OA&M IP Security Enhancements feature is on, the terminal is secure. The entry yes is shown in the SECURE field. If the Eagle OA&M IP Security Enhancements feature is off, the terminal is not secure. The entry no is shown in the SECURE field. *Controlled Feature Activation Procedures* contains the procedures to enable and turn on, or turn off the Eagle OA&M IP Security Enhancements feature.
- The login timer (LOGINTMR), logout timer (LOGOUTTMR), ping time out timer (PNGTIMEINT), and the ping fail count (PNGFAILCNT) values.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE    LOC          TMOUT MXINV DURAL     SECURE
30   TELNET  1204         60    0     00:00:00  no

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
30   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
30   YES  YES  YES YES YES YES YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
30   YES  YES YES  YES YES YES YES YES  YES YES NO   NO
```

Using Telnet Terminals in Place of Serial Terminals

If the Eagle OA&M IP Security feature is disabled and turned off , serial terminals must be connected to the EAGLE and provisioned in the database because Security Administration commands cannot be executed from a telnet terminal.

If the Eagle OA&M IP Security feature is enabled and on, 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 commands from a telnet terminal, it is recommended that at least two serial terminals remain connected to the EAGLE. 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, the user would still have access to the EAGLE in the event of a telnet terminal connection failure.

Upgrades of the EAGLE from a telnet terminal are not supported. When the EAGLE is upgraded, the MASPs are upgraded first, followed by the various cards in the EAGLE. 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. The Expanded Terminal Output Groups feature 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 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'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 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.

1. Display the values of all terminals using the `rtrv-trm` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
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-E–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-E–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  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1

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
```

If a telnet terminal is being changed, continue the procedure with *Step 2*.

If telnet terminals are not being added in this procedure, continue the procedure by performing one of these steps.

- If the terminal type or the communication attributes of the terminal are being changed, or the `pngtimeint`, `pngfailcnt` parameters of an EMSALM terminal are being changed, continue the procedure with *Step 3*.
- If only the output message group or security parameters for the terminal are being changed, continue the procedure with *Step 7*.

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 E5-IPSM* procedure.

   Adding an IPSM adds eight telnet terminals to the EAGLE.

   When an IPSM is added to the database, the eight telnet terminals associated with the IPSM are added to the database with the telnet terminal type and the default values for these parameters.

   - The security (`tmout`, `mxinv`, `dural`) parameters.
   - The output message group (`traf`, `db`, `link`, `sa`, `sys`, `pu`, `uimrd`, `appserv`, `appss`, `card`, `clk`, `dbg`, `gtt`, `gws`, `meas`, `mon`, `mps`, `seas`, `slan`) parameters
   - The `logintmr`, `logouttmr`, `pngtimeint`, `pngfailcnt` parameters.

   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`), changing the output message group (`traf`, `db`, `link`, `sa`, `sys`, `pu`, `uimrd`, `appserv`, `appss`, `card`, `clk`, `dbg`, `gtt`, `gws`, `meas`, `mon`, `mps`, `seas`, `slan`) parameters, or changing the `logintmr`, `logouttmr`, `pngtimeint`, `pngfailcnt` parameters.

   If no changes are being made to the telnet terminals, either to the existing telnet terminals, or to the telnet terminals that were added in this step with "*Adding an E5-IPSM*" procedure, this procedure is finished.

   If changes are being made to the telnet terminals, continue the procedure by performing one of these steps.

   - If only the output message group or security parameters are being changed, continue the procedure with *Step 7* .
   - If the terminal type or the `logintmr`, `logouttmr`, `pngtimeint`, `pngfailcnt` parameters are being changed, continue the procedure with *Step 3*.

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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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.
```

If the status of the terminal that is being changed is OOS-MT-DSBLD, and the terminal type is being changed to `printer` or `none`, continue the procedure with *Step 6*.

If the status of the terminal that is being changed is OOS-MT-DSBLD, and the terminal type is not being changed to `printer` or `none`, continue the procedure with *Step 7*.

If the status of the terminal that is being changed is not OOS-MT-DSBLD, continue the procedure with *Step 4*.

4. Inhibit the terminal you wish to change using the `rmv-trm` command and specify the port you wish to inhibit.

`rmv-trm:trm=4`

`rmv-trm:trm=8`

`rmv-trm:trm=19`

`rmv-trm:trm=23`

`rmv-trm:trm=21`

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST            SST           AST
23    OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

   `rept-stat-trm:trm=21`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 39.0.0
TRM   PST            SST           AST
21    OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

   If the terminal type is not being changed to either `printer` or `none`, continue the procedure with *Step 7*.

   If the terminal type is being changed to either `printer` or `none`, continue the procedure with *Step 6*.

6. Display the command class values of all terminals using the `rtrv-secu-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 12:31:04 GMT EAGLE5 36.0.0

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 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 with only one terminal assigned to the Security Administration command class, go to the *Changing Terminal Command Class Assignments* procedure and change the command class assignment of another terminal to include the Security Administration command class.

7. Display the UIMRD STP option value by entering the `rtrv-stpopts` command. This is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
STP OPTIONS
----------------------
UIMRD              yes
```

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

The EAGLE sends UIMs to the terminals based on the value of the UIMRD field in the rtrv-stpopts output and the UIMRD value for the terminal. The interaction of these two values is shown in *Table 10: UIMRD Parameter Combinations*.

If you do not wish to change how the EAGLE handles sends UIMs to the terminal, continue the procedure with *Step 10*. When *Step 11* is performed, do not change the UIMRD value for the terminal.

If you wish to change how the EAGLE handles sends UIMs to the terminal, continue the procedure with *Step 8*.

8. Change the UIMRD STP option value.

   To turn the UIMRD STP option on, enter this command.

   `chg-stpopts:on=uimrd`

   To turn the UIMRD STP option off, enter this command.

   `chg-stpopts:off=uimrd`

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

```
rlghncxa03w 10-07-01 15:08:45 GMT EAGLE5 42.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

9. Verify the changes using the `rtrv-stpopts` command.

   If the `on=uimrd` parameter was specified in *Step 8*, this is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
STP OPTIONS
-----------------------
UIMRD              yes
```

   If the `off=uimrd` parameter was specified in *Step 8*, this is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
STP OPTIONS
-----------------------
UIMRD               no
```

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

   Continue the procedure with *Step 10*.

   If you do not wish to change the UIMRD value for the terminal, when *Step 11* is performed do not specify the `uimrd` parameter.

   If you wish to change the UIMRD value for the terminal, when *Step 11* is performed specify the `uimrd` parameter with a value, `yes` or `no`.

10. Verify the TDMs that are in the EAGLE by entering these commands.

`rept-stat-card:loc=1114`

This is an example of the possible output.

```
rlghncxa03w 10-12-17 16:02:05 GMT  EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1114   -----------  E5TDM                IS-NR          Active     -----

Command Completed.
```

`rept-stat-card:loc=1116`

This is an example of the possible output.

```
rlghncxa03w 10-12-17 16:02:05 GMT  EAGLE5 43.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1116   -----------  E5TDM                IS-NR          Active     -----

Command Completed.
```

E5-TDMs are shown by the entry `E5TDM` in the `TYPE` column. TDMs are shown by the entry `TDM` in the `TYPE` column. Hardware flow control (`fc=hw`) and both hardware and software flow control (`fc=both`) are not supported for the terminal if the EAGLE contains E5-TDMs. Part of the terminal output may be lost if hardware flow control is specified for the terminal when the EAGLE contains E5-TDMs.

11. Change the terminal characteristics using the `chg-trm` command.

For this example enter these commands.

`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:logintmr=30:logouttmr=60:pngtimeint=1000:pngfailcnt=3`

`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`).
- the `logintmr`, `logouttmr`, `pngtimeint`, `pngfailcnt` parameters

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 Containing 700 Signaling Links* procedure), it is recommended that this terminal is not changed to an EMSALM terminal.

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-TRM: MASP A - COMPLTD
```

12. Verify the changes made in *Step 11* by using the `rtrv-trm` command with the terminal number specified in *Step 11* .

For this example, enter these commands.

`rtrv-trm:trm=4`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
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 06-10-01 16:02:08 GMT EAGLE5 39.0.0
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 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
21   TELNET    1201             30    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
21   30        60       1000       3

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 06-10-01 16:02:08 GMT EAGLE5 36.0.0
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 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
23   EMSALM    1201             60    5     00:30:00   yes

TRM  PNGTIMEINT PNGFAILCNT
     (msec)
23   none       1

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 there terminal was not inhibited in *Step 4*, continue the procedure with *Step 13*.

13. 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`

```
rst-trm:trm=21
```

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Allow message sent to terminal
```

14. 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.
```

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 terminal. This procedure can only be performed if you and the terminal have been assigned the command class "Security Administration." The EAGLE commands are grouped into these command classes.

- Basic
- Database Administration
- Debug
- Link Maintenance
- Program Update
- Security Administration
- System Maintenance
- 32 Configurable Command Classes

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 1-16.

`: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 turned on. 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 turned on, perform *Activating Controlled Features* to enable and turn on 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 turned on, 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 *Configuring Command Classes*.

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`, `sys` 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 must always be assigned to the security administration command class to prevent the EAGLE from becoming unadministerable.

It is possible that a terminal with the terminal type of `printer` 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 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.

1. Display the command class values of all terminals using the `rtrv-secu-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 12:31:04 GMT EAGLE5 36.0.0

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
```

   Continue the procedure by performing one of these steps.

   - If the `cc1` through `cc8` parameters are not being specified in this procedure, continue the procedure with *Step 4*.
   - If the `cc1` through `cc8` parameters will be specified in this procedure, continue the procedure by performing one of these steps.
     - If configurable command classes are shown in the `rtrv-secu-user` output, continue the procedure with *Step 3*.
     - If configurable command classes are not shown in the `rtrv-secu-user` output, continue the procedure with *Step 2*.

2. Verify that the Command Class Management feature is enabled and turned on, by entering the `rtrv-ctrl-feat` command with the `partnum=89005801` parameter.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 *Commands User's Guide*.

   If the Command Class Management feature is enabled and turned on (status = on), continue the procedure with *Step 3*. If the Command Class Management feature is not enabled or turned on,

perform the *Activating Controlled Features* to enable and turn on 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 09-05-01 21:15:37 GMT EAGLE5 41.0.0
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
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, perform *Configuring Command Classes*to 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 09-05-01 09:12:15 GMT  EAGLE5 41.0.0
REPT-STAT-USER COMPLTD
USER ID          TERM #  IDLE SINCE         COMMAND             STATE
fred                3    09-04-19 05:06:43  rept-stat-user      PROCESSING
frodo              13    09-04-20 08:12:23  chg-db              IDLE
```

```
manny                1    09-04-27 04:37:56  ent-dlk             IDLE
travist              7    09-04-30 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 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 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 06-10-01 12:31:04 GMT EAGLE5 36.0.0
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 06-10-01 12:31:04 GMT EAGLE5 36.0.0

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.
```

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 still has the non-configurable command classes: Basic, Database Administration, Debug, Link Maintenance, Program Update, Security Administration, System Maintenance.

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 turned on. 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 turned on, perform *Activating Controlled Features*to enable andturn on the Command Class Management feature.

1. Verify that the Command Class Management feature is enabled and turned on, by entering the `rtrv-ctrl-feat` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 *Commands User's Guide*.

   If the Command Class Management feature is enabled and turned on (`status = on`),.

   If the Command Class Management feature is not enabled or turned on, perform *Activating Controlled Features* to enable and turn on the Command Class Management feature. After the Command Class Management feature is turned on, continue the procedure with *Step 2*.

   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 09-05-01 21:15:37 GMT EAGLE5 41.0.0
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
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, continue the procedure with *Step 6*.

3. Display the configurable command class descriptions by entering the `rtrv-cmdclass` command.

   This is an example of the possible output.

```
rlghncxa03w 09-03-01 21:15:37 GMT EAGLE5 40.1.0
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
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
```

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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CLASS               DESCR
db1                 retrieve database commands
```

   `rtrv-cmdclass:class=s15`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CLASS               DESCR
s15                 your command class description
```

   `rtrv-cmdclass:class=u03`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CLASS               DESCR
u03                 user commands 3
```

6. 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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 assignments have been made.

7. 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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                CLASS
rtrv-card          db, db1
```

`rtrv-cmd:cmd=tst-dlk`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                CLASS
tst-dlk            link
```

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.
```

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.

1. Display the current shelf information using the `rtrv-shlf` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
ENT-SHLF: MASP A - COMPLTD
```

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

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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.
```

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 11: Card Removal Procedures* shows the location of these procedures.

Table 11: Card Removal Procedures

Card Application	Procedure
SS7ANSI, ATMANSI, CCS7ITU, ATMITU	*Removing an SS7 LIM* "Removing an E1 Card" in the *Database Administration - SS7 User's Guide*

Card Application	Procedure
	"Removing a T1 Card" in the *Database Administration - SS7 User's Guide*
VSCCP	"Removing a Service Module" in the *Database Administration - GTT User's Guide*
GLS	"Removing a GLS Card" in the *Database Administration - GWS User's Guide*
STPLAN	"Removing an STP LAN Card" in the *Database Administration - Features User's Guide*
IPLIM, IPLIMI, SS7IPGW, IPGWI	"Removing an IPLIMx Card" or "Removing an IPGWx Card" in the *Database Administration - IP7 User's Guide*
IPSG	"Removing an IPSG Card" in the *Database Administration - IP7 User's Guide*
EROUTE	"Removing an STC Card" in the *Database Administration - Features User's Guide*
MCP	*Removing an MCPM*
IPS	*Removing an E5-IPSM*

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 12: Effect of Removing the Last In-Service Card Type from the Database* for a description of the effect that removing the last card type that is in service has on the EAGLE.

Table 12: Effect of Removing the Last In-Service Card Type from the Database

Card type	Application assigned to card	Effect on the EAGLE
LIMDS0, LIME1, LIMT1, LIMCH	SS7ANSI	ANSI traffic is lost.
LIMATM	ATMANSI	
LIME1, LIMT1, LIMCH	CCS7ITU	ITU traffic is lost.
LIME1ATM	ATMITU	
DSM	VSCCP	Global title translation traffic is lost. If any of the GTT-related features are enabled, the traffic for those features is also lost. Refer to the "Adding a Service Module" procedure in the *Database Administration - GTT User's Guide* for a list of the GTT-related features.
TSM	GLS	Gateway screening feature is disabled.

Card type	Application assigned to card	Effect on the EAGLE
DCM	STPLAN	STPLAN feature is disabled.
DCM	IPLIM	Point-to-point connectivity for IP7 Secure Gateway functions in ANSI networks is disabled.
	IPLIMI	Point-to-point connectivity for IP7 Secure Gateway functions in ITU networks is disabled.
	SS7IPGW	Point-to-multipoint connectivity for IP7 Secure Gateway functions in ANSI networks is disabled.
	IPGWI	Point-to-multipoint connectivity for IP7 Secure Gateway functions in ITU networks is disabled.
ENET	IPSG	Traffic carried by the IPSG card is lost.
STC	EROUTE	Monitoring of the EAGLE by the EAGLE 5 Integrated Monitoring Support feature 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 shelf being removed in this procedure cannot be removed if the shelf is the only provisioned shelf in the frame and the frame is in the Frame Power Alarm Threshold table. The Frame Power Alarm Threshold table is shown in the `rtrv-frm-pwr` command output. If the frame is shown in the `rtrv-frm-pwr` output, and the shelf is the only shelf in the frame, perform the *Removing an Entry from the Frame Power Alarm Threshold Table* procedure to remove the frame from the Frame Power Alarm Threshold table.

The examples in this procedure are used to remove shelf 2100 from the database.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 09-05-01 09:12:36 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1113   GSPM      OAM
1114   TDM-A
1115   GSPM      OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp4           A    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMDS0    SS7ANSI   nsp3          A    0   nsp4          B    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    1
1211   DSM       VSCCP
```

```
1212   TSM       GLS
1215   DCM       STPLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1305   DCM       STPLAN
1307   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    2
1308   LIMATM    ATMANSI   lsnatm1       A    1
1317   DCM       STPLAN
2101   LIMDS0    SS7ANSI   sp5           A    0   sp8           B    0
2102   LIMDS0    SS7ANSI   sp7           A    0
2103   LIMDS0    SS7ANSI   sp6           A    0
2104   LIMDS0    SS7ANSI   sp6           A    1
2105   LIMDS0    SS7ANSI   nsp3          A    0   nsp5          B    0
2106   LIMDS0    SS7ANSI   nsp3          A    1   nsp5          B    1
```

In this example, these cards must be removed from the database: 2101, 2102, 2103, 2104, 2105, 2106.

2. Based on the application assigned to the cards in the shelf to be removed, perform the appropriate procedures shown in *Table 11: Card Removal Procedures* 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.

3. Display the shelves configured in the database by entering the `rtrv-shlf` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SHELF DISPLAY
FRAME SHELF        TYPE
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     1       EXTENSION
```

   If the `rtrv-shlf` output shows the shelf being removed in this procedure is not the only shelf in the frame, skip step 4 and go to step 5.

4. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36
```

   If the frame containing the shelf being removed in this procedure is shown in the `rtrv-frm-pwr` output, the frame must be removed from the frame power alarm threshold table (shown in the `rtrv-frm-pwr` output) before the shelf can be removed. The following list shows the frames and the shelves contained in those frames.

   - Frame CF00 – Shelves 1200 and 1300
   - Frame EF00 – Shelves 2100, 2200, and 2300
   - Frame EF01 – Shelves 3100, 3200, and 3300
   - Frame EF02 – Shelves 4100, 4200, and 4300

- Frame EF03 – Shelves 5100, 5200, and 5300
- Frame EF04 – Shelf 6100

Shelf 1100 is the Control Shelf and is in Frame CF00. Shelf 1100 cannot be removed.

Perform the *Removing an Entry from the Frame Power Alarm Threshold Table* procedure to remove the frame from the frame power alarm threshold table.

If the frame containing the shelf being removed in this procedure is not shown in the `rtrv-frm-pwr` output, go to step 5.

5. Remove the shelf from the database using the `dlt-shlf` command.

   For this example, enter this command.

   `dlt-shlf:loc=2100`

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

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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=2100`

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

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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.
```

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.

The SS7 LIM that is being added in this procedure is the Multiport LIM, part number 870-2061-XX. The Multiport LIM can contain eight signaling links. 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 *Database Administration - SS7 User's Guide* for information on how to determine the quantities of the different types of signaling links the EAGLE can have. The Multiport LIM is added using these parameters.

- `:loc` – The location of the card being added to the database.
- `:type` – The type of card being added to the database - limds0.
- `:appl` – The application software that is assigned to the card - ss7ansi.

The `ent-card` command also contains the `force` parameter. 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.

There are other cards that support signaling links that are provisioned with the `ent-card` command. These cards are provisioned in the following procedures. These cards can also be used to provision ITU signaling links.

- Cards for E1 signaling links are configured in the database using the procedures in Appendix A, "E1 Interface," in *Database Administration - SS7 User's Guide*.
- Cards for T1 signaling links are configured in the database using the procedures in Appendix B, "T1 Interface," in *Database Administration - SS7 User's Guide*.
- 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 - SS7 User's Guide*.
- IP cards (cards used for IP links) are configured in the database using the procedures in *Database Administration - IP7 User's Guide*.

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.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 09-05-01 09:12:36 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1113   GSPM      OAM
1114   TDM-A
1115   GSPM      OAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    1
1216   DCM       STPLAN
1301   DSM       VSCCP
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   DCM       STPLAN
```

The cards should be distributed throughout the EAGLE for proper power distribution. Refer to *Installation Guide* for the shelf power distribution.

2. Add the card using the `ent-card` command.

   For this example, enter these commands.

   ```
   ent-card:loc=1205:type=limds0:appl=ss7ansi
   ```

   ```
   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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   ENT-CARD: MASP A - COMPLTD
   ```

3. 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 09-05-01 09:12:36 GMT EAGLE5 41.0.0
   CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
   1202   LIMDS0    SS7ANSI
   ```

   ```
   rtrv-card:loc=1205
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 09-05-01 09:12:36 GMT EAGLE5 41.0.0
   CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
   1205   LIMDS0    SS7ANSI
   ```

   ```
   rtrv-card:loc=1305
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
   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 06-10-01 09:12:36 GMT EAGLE5 36.0.0
   CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
   1311   LIMDS0    SS7ANSI
   ```

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.
```

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 from the network.

Note:

1. LIM-E1 or LIMCH cards for E1 signaling links are removed from the database using the procedures in Appendix A, "E1 Interface" in *Database Administration - SS7 User's Guide*.

2. LIM-T1 or LIMCH cards for T1 signaling links are removed from the database using the procedures in Appendix B, "T1 Interface" in *Database Administration - SS7 User's Guide*.

3. IP cards (DCMs used for IP links) are removed from the database using the procedures in *Database Administration - IP7 User's Guide*.

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 *Commands User's Guide*.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 09-05-01 09:12:36 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1103   DCM       STPLAN
1113   GSPM      OAM
1114   TDM-A
1115   GSPM      OAM
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   LIMDS0    SS7ANSI   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1212   DSM       VSCCP
1214   TSM       GLS
1215   DCM       STPLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1305   DCM       STPLAN
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 SS7LIM 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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 09-05-01 16:43:42 GMT  EAGLE5 41.0.0
CARD  VERSION      TYPE    GPL       PST           SST       AST
1101  113-003-000  DSM     VSCCP     IS-NR         Active    ---
1102  113-003-000  TSM     GLS       IS-NR         Active    ---
1103  113-002-000  DCM     STPLAN    IS-NR         Active    ---
1104  113-002-000  DCM     STPLAN    IS-NR         Active    ---
1109  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1110  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1113  113-003-000  GPSM    EOAM      IS-NR         Active    ---
1114  -----------  TDM               IS-NR         Active    ---
1115  113-003-000  GPSM    EOAM      IS-NR         Standby   ---
1116  -----------  TDM               IS-NR         Active    ---
1117  -----------  MDAL              IS-NR         Active    ---
1201  113-003-000  LIMDS0  SS7ANSI   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  LIMDS0  SS7ANSI   IS-NR         Active    ---
1206  113-003-000  LIMDS0  SS7ANSI   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  DSM     VSCCP     IS-NR         Active    ---
1214  113-003-000  TSM     GLS       IS-NR         Active    ---
1216  113-002-000  DCM     STPLAN    IS-NR         Active    ---
1301  113-003-000  LIMATM  ATMANSI   IS-NR         Active    ---
1304  113-002-000  DCM     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  DCM     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 09-07-01 16:31:35 GMT EAGLE5 41.1.0

                                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
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                              L2T              PCR  PCR
           LOC  LINK SLC TYPE     SET  BPS    ECM   N1   N2
           1201 B    0   LIMDS0   1    56000  BASIC ---  -----
           1311 B    0   LIMDS0   1    56000  BASIC ---  -----

Link set table is ( 10 of 1024)  1% full
```

   `rtrv-ls:lsn=sp2`

   This is an example of the possible output

```
rlghncxa03w 09-07-01 16:31:35 GMT EAGLE5 41.1.0

                                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
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                              L2T              PCR  PCR
           LOC  LINK SLC TYPE     SET  BPS    ECM   N1   N2
           1201 A    0   LIMDS0   1    56000  BASIC ---  -----
           1202 A    1   LIMDS0   1    56000  BASIC ---  -----
           1311 A    2   LIMDS0   1    56000  BASIC ---  -----

Link set table is ( 10 of 1024)  1% full
```

`rtrv-ls:lsn=lsnatm1`

This is an example of the possible output

```
rlghncxa03w 06-10-01 16:31:35 GMT EAGLE5 36.0.0

                              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
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                               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

Link set table is ( 10 of 1024)  1% full
```

`rtrv-ls:lsn=sp3`

This is an example of the possible output

```
rlghncxa03w 09-07-01 16:31:35 GMT EAGLE5 41.1.0
                             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
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                               L2T               PCR  PCR
           LOC  LINK SLC TYPE     SET  BPS    ECM   N1   N2
           1203 A    0   LIMDS0   1    56000  BASIC ---  -----
           1204 A    1   LIMDS0   1    56000  BASIC ---  -----
           1311 B1   2   LIMDS0   1    56000  BASIC ---  -----

Link set table is ( 10 of 1024)  1% full
```

`rtrv-ls:lsn=sp7`

This is an example of the possible output

```
rlghncxa03w 09-07-01 16:31:35 GMT EAGLE5 41.1.0

                              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
           -----------  2          yes    yes
```

```
            IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
            no      ---------- ---   ---      ---       CdPA

                                L2T                    PCR  PCR
            LOC  LINK SLC TYPE    SET  BPS    ECM    N1   N2
            1308 B    0   LIMDS0  1    56000  BASIC  ---  -----
            1311 A1   1   LIMDS0  1    56000  BASIC  ---  -----
            1315 A    2   LIMDS0  1    56000  BASIC  ---  -----

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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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.
```

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 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. See *Unsolicited Alarm and Information Messages Reference* 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 terminal.

`:force` – The `force=yes` parameter allows the `limit` parameter to be set to 0 should the conditions at the EAGLE 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 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 13: Example UIM Threshold Configuration*.

Table 13: 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

1. Display the UIM thresholds in the database using the `rtrv-uim-acthresh` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
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 06-10-01 08:50:12 GMT EAGLE5 36.0.0
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 06-10-01 08:50:12 GMT EAGLE5 36.0.0
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.
```

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.

1. Display the UIM thresholds in the database using the `rtrv-uim-acthresh` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
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 06-10-01 08:50:12 GMT EAGLE5 36.0.0
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 06-10-01 08:50:12 GMT EAGLE5 36.0.0
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.
```

Configuring the Measurements Terminal for an EAGLE Containing 700 Signaling Links

This procedure is used to configure a terminal to collect measurement reports on an EAGLE 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.

`: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 and the output devices (vt320 terminal, modem, printer, or KSR terminal).

`: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 *Changing Terminal Characteristics* procedure, or to the chg-trm command description in *Commands User's Guide*.

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 *Unsolicited Alarm and Information Messages Reference*.

The tmout, dural, and mxinv parameters can be applied to this terminal. See the "Security Parameters" section in the *Changing Terminal Characteristics* procedure 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 06-10-01 16:02:08 GMT EAGLE5 36.0.0
```

```
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
```

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.

1. Display the values of all terminals using the `rtrv-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
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.

   For this example, enter this command.

   ```
   rmv-trm:trm=1
   ```

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 16:02:08 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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.
```

Adding a Measurement Collection and Polling Module (MCPM)

This procedure is used to add an Measurement Collection and Polling Module (MCPM), used for the Measurements Platform feature, to the database using the `ent-card` command. The MCPM provides

an interface between the EAGLE 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`.

The Measurements Platform feature requires a minimum of two MCPM cards (part number 870-2372-03 or later) with at least 2 GB of memory per card or two E5-MCPM-B cards with at least 4 GB of memory per card. The MCPM and E5-MCPM-B cards can also be used in mixed mode.

The Measurements Platform feature must be on in order to add a 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 Oracle 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.

After all required MCPMs have been configured in the database, go to the*Configuring the Measurements Platform Feature* procedure 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.

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 09-05-01 09:12:36 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1103   DCM       STPLAN
1113   GSPM      OAM
1114   TDM-A
1115   GSPM      OAM
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   LIMDS0    SS7ANSI   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1212   DSM       VSCCP
```

```
1214   TSM       GLS
1215   DCM       STPLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       STPLAN
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 for proper power distribution. Refer to *Installation Guide* 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 *Commands User's Guide*.

   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 Oracle Sales Representative or Account Representative.

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

```
rlghncxa03w 06-10-01 21:18:37 GMT EAGLE5 36.0.0
CHG-FEAT: MASP A - COMPLTD
```

6. Verify that the EAGLE has a fan unit and the fan unit is on. If the fan unit is not on, use the `chg-feat:fan=on` command to turn on the fan.
7. Add the MCPM using the `ent-card` command.

   For this example, enter this command.

   `ent-card:loc=2107:type=mcpm:appl=mcp`

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

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
ENT-CARD: MASP A - COMPLTD
```

8. 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 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
2107   MCPM      MCP
```

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.
```

10. Go to the *Configuring the Measurements Platform Feature* procedure and configure the IP links for these MCPMs and enable the Measurement Platform feature, if necessary.

Removing an MCPM

This procedure is used to remove a Measurement Collection & Polling Module (MCPM) 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 *Commands User's Guide*.

1. Display the cards in the database using the `rtrv-card` command.

This is an example of the possible output.

```
rlghncxa03w 09-05-01 09:12:36 GMT EAGLE5 41.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1103   DCM       STPLAN
1113   GSPM      OAM
1114   TDM-A
1115   GSPM      OAM
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   LIMDS0    SS7ANSI   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1212   DSM       VSCCP
1214   TSM       GLS
1215   DCM       STPLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       STPLAN
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 09-02-01 16:43:42 GMT  EAGLE5 40.0.0
```

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-009-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-009-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-009-000     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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
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.
```

Activating the Fan Feature

This procedure is used to activate the fan using the `chg-feat` command with this parameter.

- `fan=on` - turns the fan on. When the fan is turned on, system cards and functions that generate heat in the EAGLE can function properly.

.

1. Enter the `rtrv-feat` command to check the status of the Fan feature.

   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 *Commands User's Guide*.

2. If the fan feature is not on, use the `chg-feat:fan=on` command to turn on the fan.
3. Verify the changes using the `rtrv-feat` command.

Configuring the Measurements Platform Feature

This procedure is used to configure IP communications links between the EAGLE and the customer's network and enable the Measurements Platform on the EAGLE 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. *Commands User's Guide* contains a full description of these commands.

The Measurements Platform requires measurements FTP servers. A maximum of three measurements FTP servers can be configured with one of these procedures.

- *Adding an FTP Server*
- *Changing an FTP Server*

MCPMs must be configured in the database before this procedure can be performed. This can be verified with the `rtrv-card` command.

If a Class B IP address is specified for the `ipaddr` parameter of the `chg-ip-lnk` command, the subnet address that results from the `ipaddr` and `submask` parameter values cannot be the same as the subnet address that results from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command. The `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values can be verified by entering the `rtrv-netopts` command. Choose `ipaddr` and `submask` parameter values for the IP link to the MCPM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 07-13-13 09:12:36 GMT EAGLE5 45.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1103   DCM       STPLAN
1113   E5MCAP    OAMHC
1114   E5TDM-A
1115   E5MCAP    OAMHC
1116   E5TDM-B
1117   E5MDAL
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
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1212   DSM       VSCCP
1214   TSM       GLS
1215   DCM       STPLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       STPLAN
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
```

   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 a Measurement Collection and Polling Module (MCPM)* procedure 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.

```
e1061001 11-12-05 18:35:58 EST  EAGLE5 44.0.0-64.16.0
                          PST           SST        AST
    MEAS SS               IS-NR         Active     -----
        ALARM STATUS =   No Alarms
```

```
CARD   VERSION         TYPE    PST           SST        AST
1105 P 099-016-000     MCPM    IS-NR         Active     -----
   IP Link A                   OOS-MA        Ueq        -----
1106   099-016-000     MCPM    IS-NR         Active     -----
   IP Link A                   OOS-MA        Ueq        -----

CARD 1105 ALARM STATUS = No Alarms
CARD 1106 ALARM STATUS = No Alarms
```

If the status of the MCPM that the IP Link is being assigned to is OOS-MT DSBLD, continue the procedure by performing one of these steps.

- If a Class A or C IP address will be specified for the `ipaddr` parameter in *Step 6*, continue the procedure with *Step 5*.
- If a Class B IP address will be specified for the `ipaddr` parameter in *Step 6*, continue the procedure with *Step 4*.

If the status of the MCPM that the IP Link is being assigned to is not OOS-MT DSBLD, continue the procedure with *Step 3*.

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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

   Continue the procedure by performing one of these steps.

   - If a Class A or C IP address will be specified for the `ipaddr` parameter in *Step 6*, continue the procedure with *Step 5*.
   - If a Class B IP address will be specified for the `ipaddr` parameter in *Step 6*, continue the procedure with *Step 4*.

4. The subnet address that results from the `ipaddr` and `submask` parameter values of the `chg-ip-lnk` command cannot be the same as the subnet address that results from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command.

   Display the `pvn`, `pvnmask`, `fcna`, `fcnamask`, `fcnb`, and `fcnbmask` parameter values of the `chg-netopts` command by entering the `rtrv-netopts`command.

   If error message `E3967 Cmd Rej: E5IS must be on` is displayed after the `rtrv-netopts` command is executed, the `pvn`, `pvnmask`, `fcna`, `fcnamask`, `fcnb`, and `fcnbmask` parameters are not configured. Continue the procedure with *Step 5*.

   This is an example of the possible output if the E5IS feature is on.

```
rlghncxa03w 09-02-28 21:17:37 GMT EAGLE5 40.1.0
NETWORK OPTIONS
------------------
PVN        = 128.20.30.40
```

```
PVNMASK    = 255.255.192.0
FCNA       = 170.120.50.0
FCNAMASK   = 255.255.240.0
FCNB       = 170.121.50.0
FCNBMASK   = 255.255.254.0
```

Choose `ipaddr` and `submask` parameter values for the IP link to the MCPM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command. Continue the procedure with *Step 5*.

5. Display the IP link assignments using the `rtrv-ip-lnk` command.

   The following is an example of the possible output.

```
rlghncxa03w 08-12-01 21:20:37 GMT EAGLE5 40.0.0
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

IP-LNK   table is (6 of 2048) 1% full.
```

6. 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`, `duplex=full`.

   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:duplex=full`

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

```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
CHG-IP-LNK:   MASP A - COMPLTD
```

7. 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 09-07-28 21:15:37 GMT EAGLE5 41.1.0
CHG-IP-CARD:   MASP A - COMPLTD
```

8. Display the current IP host information in the database by entering the `rtrv-ip-host:display=all` command.

The following is an example of the possible output.

```
rlghncxa03w 07-13-13 09:12:36 GMT EAGLE5 45.0.0
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 4096) <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 06-10-01 21:18:37 GMT EAGLE5 36.0.0
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 06-10-01 21:20:37 GMT EAGLE5 36.0.0
Card has been allowed.
```

11. Display the FTP Server configuration using the `rtrv-ftp-serv` command.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
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:  mp\measurements\backup\dat

FTP SERV table is (2 of 10) 20% full
```

The EAGLE allows three 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, and backup the FTP server. To change any of these configured FTP servers, go to the *Changing an FTP Server* procedure.

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

```
e1061001 11-12-05 18:50:10 EST  EAGLE5 44.0.0-64.16.0
   PLATFORMENABLE   = off
   COLLECT15MIN     = off
   CLLIBASEDNAME    = off
   OAMHCMEAS        = off
   ---------------------
   SYSTOTSTP        = on
   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 *Commands User's Guide*.

Continue the procedure by performing one of these steps.

- If the Measurements Platform option is enabled, continue the procedure with *Step 15*.
- If the Measurements Platform option is not enabled, continue the procedure with *Step 13*.

13. 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 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
CHG-MEASOPTS: MASP A - COMPLTD
```

14. Verify the status of the MCPM using the `rept-stat-meas` command.

For this example, enter this command.

```
rept-stat-meas
```

```
e1061001 11-12-05 18:46:58 EST  EAGLE5 44.0.0-64.16.0
                         PST          SST        AST
    MEAS SS              IS-ANR       Restrict   -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST          SST        AST
    1105 P 099-016-000     MCPM    IS-NR        Active     -----
       IP Link A                   IS-NR        Active     -----
    1106   099-016-000     MCPM    IS-NR        Active     -----
       IP Link A                   IS-NR        Active     -----

    CARD 1105 ALARM STATUS = No Alarms
    CARD 1106 ALARM STATUS = No Alarms
```

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.
```

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 four values for the `app` parameter:

- `meas` – The FTP servers for the Measurements Platform. A maximum of three FTP servers can be configured for this application.
- `db` - The FTP server for the database backup/restore application. Only one FTP server can be configured for this application.
- `dist` - the FTP server for the EAGLE software release distribution application. Only one FTP server can be configured for this application.
- `user` – The FTP servers for the FTP Retrieve and Replace feature.A maximum of two FTP servers can be configured for this application.

Caution: While this procedure can be used to add a USERFTP server, any USERFTP servers entered by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 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 that is to be sent to the FTP server.

`:prio` – The priority of the FTP server, from 1 to 10.

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. 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.

The IP address of the FTP server cannot be shown as the `IPADDR` value in the `rtrv-ip-lnk` or `rtrv-seas-config` outputs, or the `BPIPADDR` value in the `rtrv-ip-card` output.

1. Display the FTP servers in the database using the `rtrv-ftp-serv` commandby entering this command..

   ```
   rtrv-ftp-serv:mode=full
   ```

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
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 these commands.

   ```
   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"
   ```

   ```
   ent-ftp-serv:app=db:ipaddr=10.20.50.102:login=dbuser1:prio=1
   :path="~/eagle"
   ```

   ```
   ent-ftp-serv:app=dist:ipaddr=100.200.50.102:login=dbuser1:prio=1
   :path="~/eagle"
   ```

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 by the EAGLE FTP Table Base Retrieval (FTRA).

   When each of these commands has successfully completed, the following message should appear.

```
    rlghncxa03w 08-09-01 21:18:37 GMT EAGLE5 39.2.0
Enter Password :
```

```
    FTP SERV table is (4 of 10) 40% full
    ENT-FTP-SERV: MASP A - COMPLTD
```

```
rlghncxa03w 06-10-01 21:18:37 GMT EAGLE5 36.0.0
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 by entering this command.

   `rtrv-ftp-serv:mode=full`

   The following is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
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 (6 of 10) 60% 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.
```

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 four values for the `app` parameter:

- `meas` – The FTP servers for the Measurements Platform
- `user` – The FTP servers for the FTP Retrieve and Replace feature.
- `db` - The FTP server for the database backup/restore application.
- `dist` - the FTP server for the EAGLE software release distribution application.

`: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.

1. Display the FTP servers in the database by entering this command.

   `rtrv-ftp-serv:mode=full`

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON


APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
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 (6 of 10) 60% 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 08-09-01 21:18:37 GMT EAGLE5 39.2.0
```

```
FTP SERV table is (5 of 10) 50% full
DLT-FTP-SERV: MASP A - COMPLTD
```

3. Display the changes by entering this command.

   `rtrv-ftp-serv:mode=full`

   The following is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON


APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
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 (5 of 10) 50% 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.
```

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 four values for the `app` parameter:

- `meas` – The FTP servers for the Measurements Platform
- `db` - The FTP server for the database backup/restore application.
- `dist` - the FTP server for the EAGLE software release distribution application.
- `user` – The FTP servers for the FTP Retrieve and Replace feature.

Caution: While this procedure can be used to change a USERFTP server configuration, any USERFTP server configurations changed by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE by the EAGLE FTP Table Base Retrieval (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 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, then re-entered with the new IP address using the *Adding an FTP Server* procedure.

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 EAGLE FTP Table Base Retrieval (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE. 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.

1. Display the FTP servers in the database by entering this command.

   ```
   rtrv-ftp-serv:mode=full
   ```

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
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 (6 of 10) 60% 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 08-09-01 21:18:37 GMT EAGLE5 39.2.0
Enter Password :
    CHG-FTP-SERV: MASP A - COMPLTD
```

   Note: If the `login` parameter was not specified in this step, continue the procedure with *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 by entering this command.

   `rtrv-ftp-serv:mode=full`

   The following is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON


APP        IPADDR           LOGIN            PRIO
--------   --------------   --------------   ----
db         10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist       100.200.50.102   dbuser1          1
   Path:  ~/eagle
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 (6 of 10) 60% 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.
```

Adding an E5-IPSM

This procedure is used to add an E5-IPSM (IP Services Module), used for the IP User Interface feature, to the database using the `ent-card` command. The E5-IPSM provides eight IP based connections to the EAGLE 5's user interface through a telnet client. The card being provisioned in this procedure can be one of the cards shown in *Table 14: E5-IPSM Part Number*.

Table 14: E5-IPSM Part Number

Card Type	Part Number
E5-IPSM	870-2877-01

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`.

The IP User Interface (Telnet) feature is not required to be enabled and activated in order to add an E5-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. 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.

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.

If an E5-IPSM is being provisioned in this procedure, HIPR2 cards must be installed into card locations 9 and 10 in the shelf that the E5-IPSM will occupy. If HIPR2 cards are not installed in the shelf that the E5-IPSM will occupy, the E5-IPSM will not function when the E5-IPSM is inserted into the shelf. Enter the `rept-stat-gpl:gpl=hipr2` command to verify whether or not HIPR2 cards are installed in the same shelf as the E5-IPSM being provisioned in this procedure.

If the Eagle OA&M IP Security Enhancement feature is enabled and activated, shown in the `rtrv-ctrl-feat` output, when an E5-IPSM is installed into the EAGLE, 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 FTP *Table Base Retrieval (*FTRA*) User's Guide*.

An IP link must be assigned to the E5-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 E5-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.

If a Class B IP address is specified for the `ipaddr` parameter of the `chg-ip-lnk` command, the subnet address that results from the `ipaddr` and `submask` parameter values cannot be the same as the subnet address that results from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command. The `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values can be verified by entering the `rtrv-netopts` command. Choose `ipaddr` and `submask` parameter values for the IP link to the E5-IPSM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command.

The IP address of the E5-IPSM cannot be shown as the `IPADDR` value in the `rtrv-ip-lnk`, `rtrv-ftp-serv`, or `rtrv-seas-config` outputs, or the `BPIPADDR` value in the `rtrv-ip-card` output.

The examples in this procedure are used to add an E5-IPSM in card location 2107.

1. Display the cards in the database using the `rtrv-card` command.

This is an example of the possible output.

```
rlghncxa03w 07-13-13 09:12:36 GMT EAGLE5 45.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1103   DCM       STPLAN
1114   E5TDM-A
1116   E5TDM-B
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   LIMDS0    SS7ANSI   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1212   DSM       VSCCP
1214   TSM       GLS
1215   DCM       STPLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       STPLAN
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 for proper power distribution. Refer to *Installation Guide* for the shelf power distribution.

Note: The EAGLE can contain a maximum of 3 E5-IPSMs. If the `rtrv-card` output shows that there are three E5-IPSMs in the EAGLE, this procedure cannot be performed.

Note: If the card being added in this procedure is not an E5-IPSM card, continue the procedure with *Step 3*.

2. Verify that HIPR2 cards are installed in card locations 9 and 10 in the shelf that will contain the E5-IPSM card being added in this procedure. Enter this command.

   `rept-stat-gpl:gpl=hipr2`

   This is an example of the possible output.

```
rlghncxa03w 09-07-01 11:40:26 GMT  EAGLE5 41.1.0
GPL        CARD      RUNNING            APPROVED      TRIAL
HIPR2      1109      126-002-000        126-002-000   126-003-000
HIPR2      1110      126-002-000        126-002-000   126-003-000
HIPR2      1209      126-002-000        126-002-000   126-003-000
HIPR2      1210      126-002-000        126-002-000   126-003-000
HIPR2      1309      126-002-000        126-002-000   126-003-000
HIPR2      1310      126-002-000        126-002-000   126-003-000
HIPR2      2109      126-002-000        126-002-000   126-003-000
HIPR2      2110      126-002-000        126-002-000   126-003-000
Command Completed
```

   If HIPR2 cards are installed in the shelf that will contain the E5-IPSM card, continue the procedure with *Step 3*.

   If HIPR2 cards are not installed on the shelf that will contain the E5-IPSM card, refer to *Installation Guide* to install the HIPR2 cards. Once the HIPR2 cards have been installed, continue the procedure with *Step 3*.

3. Install the E5-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 E5-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 FTRA, see FTP *Table Base Retrieval (*FTRA*) User's Guide*.

4. Verify that the EAGLE has a fan unit and the fan unit is on. If the fan unit is not on, use the `chg-feat:fan=on` command to turn on the fan.
5. Add the E5-IPSM using the `ent-card` command.

   For this example, enter this command.

   `ent-card:loc=2107:type=e5ipsm:appl=ips`

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

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
```

```
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
```

6. Verify the changes using the `rtrv-card` command with the card location specified in *Step 5* .

   For this example, enter this command.

   `rtrv-card:loc=2107`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
2107   E5-IPSM      IPS
```

7. Verify that the terminals shown as added in *Step 5* have been added by entering the `rtrv-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
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  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
```

```
17   none      none       none        1
18   none      none       none        1
19   none      none       none        1
20   none      none       none        1
21   none      none       none        1
22   none      none       none        1
23   none      none       none        1
24   none      none       none        1

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
```

To change the output parameter values or the `logintmr`, `logouttmr`, `pngfailcnt`, or the `pngtimeint` parameter values for the telnet terminals added in this procedure, perform the *Changing Terminal Characteristics* procedure.

After this step has been performed, continue the procedure by performing one of these steps.

- If a Class A or C IP address will be specified for the `ipaddr` parameter in *Step 10*, continue the procedure with *Step 9* .
- If a Class B IP address will be specified for the `ipaddr` parameter in *Step 10*, continue the procedure with *Step 8*.

8. The subnet address that results from the `ipaddr` and `submask` parameter values of the `chg-ip-lnk` command cannot be the same as the subnet address that results from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command.

   Display the `pvn`, `pvnmask`, `fcna`, `fcnamask`, `fcnb`, and `fcnbmask` parameter values of the `chg-netopts` command by entering the `rtrv-netopts` command.

   If error message `E3967 Cmd Rej: E5IS must be on` is displayed after the `rtrv-netopts` command is executed, the `pvn`, `pvnmask`, `fcna`, `fcnamask`, `fcnb`, and `fcnbmaskpvn` and `pvnmask` parameters are not configured.

   This is an example of the possible output if the E5IS feature is on.

```
rlghncxa03w 09-02-28 21:17:37 GMT EAGLE5 40.1.0
NETWORK OPTIONS
------------------
PVN         = 128.20.30.40
PVNMASK     = 255.255.192.0
FCNA        = 170.120.50.0
FCNAMASK    = 255.255.240.0
FCNB        = 170.121.50.0
FCNBMASK    = 255.255.254.0
```

   Choose `ipaddr` and `submask` parameter values for the IP link to the E5-IPSM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command. Continue the procedure with *Step 9*.

9. Display the IP link data assigned to the E5-IPSM using the `rtrv-ip-lnk` command with the E5-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 06-10-01 21:20:37 GMT EAGLE5 36.0.0
LOC   PORT IPADDR          SUBMASK         DUPLEX  SPEED MACTYPE AUTO MCAST
2107  A    --------------- --------------- HALF    10    DIX     NO   NO
```

10. Assign an IP link to the E5-IPSM using the `chg-ip-lnk` command with these parameters: `loc`, `port=a`, `ipaddr`, `submask`, `speed=100`, `duplex=full`.

    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:duplex=full

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 06-10-01 21:20:37 GMT EAGLE5 36.0.0
CHG-IP-LNK:   MASP A - COMPLTD
```

11. Verify the changes made in *Step 10* using the rtrv-ip-lnk command and specifying the card location and port values used in *Step 10* .

For this example, enter this command.

rtrv-ip-lnk:loc=2107:port=a

The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
LOC   PORT IPADDR          SUBMASK        DUPLEX SPEED MACTYPE AUTO MCAST
2107  A    150.1.1.1       255.255.255.0  FULL   100   DIX     NO   NO
```

12. 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 11* .

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 07-13-13 09:12:36 GMT EAGLE5 45.0.0

No matching entries found

IP Host table is  (2 of 4096) <1% full
```

13. Assign an IP host to the E5-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 06-10-01 21:18:37 GMT EAGLE5 36.0.0
ENT-IP-HOST: MASP A - COMPLTD
```

14. Display the IP card attributes of the E5-IPSM using the rtrv-ip-card command specifying the E5-IPSM's location.

For this example, enter this command.

rtrv-ip-card:loc=2107

The following is an example of the possible output.

```
rlghncxa03w 08-06-01 21:20:37 GMT EAGLE5 39.0.0
LOC 2107
  SRCHORDR  SRVR
  DNSA      ---------------
  DNSB      ---------------
  DEFROUTER ---------------
  DOMAIN    ---------------
  SCTPCSUM  crc32c
  BPIPADDR  ---------------
  BPSUBMASK ---------------
```

15. Change the IP card attributes of the E5-IPSM using the `chg-ip-card` command with these values: E5-IPSM card location, local search order, domain, and the default router for the E5-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 7*) and `ent-ip-host` (*Step 11*) 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 06-10-01 21:20:37 GMT EAGLE5 36.0.0
CHG-IP-CARD:   MASP A - COMPLTD
```

16. Verify the changes made in *Step 15* using the `rtrv-ip-card` command specifying the E5-IPSM's location.

    For this example, enter this command.

    `rtrv-ip-card:loc=2107`

    The following is an example of the possible output.

```
rlghncxa03w 08-06-01 21:20:37 GMT EAGLE5 39.0.0
LOC 2107
  SRCHORDR  LOCAL
  DNSA      ---------------
  DNSB      ---------------
  DEFROUTER 150.1.1.250
  DOMAIN    ip.nc.tekelec.com
  SCTPCSUM  crc32c
  BPIPADDR  ---------------
  BPSUBMASK ---------------
```

17. Verify that the IP User Interface (Telnet) feature is enabled and turned on, and if secure connections to the EAGLE 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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 *Commands User's Guide*.

If the IP User Interface (Telnet) feature is enabled and turned on (`status = on`), continue the procedure with *Step 18*.

If the IP User Interface (Telnet) feature is not enabled or turned on, perform the *Activating Controlled Features* procedure to enable and turn on the IP User Interface (Telnet) feature.

If UIM 1493 was displayed when the E5-IPSM was installed in *Step 3* , the OA&M IP Security Enhancements feature is enabled and turned on. If the OA&M IP Security Enhancements feature is enabled and turned on (shown by the entry `EAGLE OA&M IP Security` in the `rtrv-ctrl-feat` output with the `status = on`), continue the procedure with *Step 18*.

If the OA&M IP Security Enhancements feature is not enabled or turned on, and secure connections are to the EAGLE are to be used, perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* procedure to enable and turn on the OA&M IP Security Enhancements feature.

18. Place the E5-IPSM into service using the `rst-card` specifying the location of the E5-IPSM.

For this example, enter this command.

```
rst-card:loc=2107
```

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

```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
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 3* , 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 FTP *Table Base Retrieval (*FTRA*) User's Guide*.

19. Put the terminals that were created when the E5-IPSM was added in *Step 5* into service with 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 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Allow message sent to terminal

rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Command Completed.
```

20. 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.
```

Removing an E5-IPSM

This procedure is used to remove an E5-IPSM (IP Services Module - a card running the `ips` application) from the database using the `dlt-card` command.

Caution: If the E5-IPSM is the last E5-IPSM in service, removing this card from the database will disable the IP User Interface (Telnet) feature.

All terminals associated with the E5-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 E5-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 *Commands User's Guide*.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 13-07-01 09:12:36 GMT EAGLE5 45.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   DSM       VSCCP
1102   TSM       GLS
1103   DCM       STPLAN
1113   E5MCAP    OAMHC
1114   E5TDM-A
1115   E5MCAP    OAMHC
1116   E5TDM-B
1117   E5MDAL
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   LIMDS0    SS7ANSI   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1212   DSM       VSCCP
1214   TSM       GLS
1215   DCM       STPLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       STPLAN
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 E5-IPSM is identified by the entries `E5-IPSM` in the `TYPE` field and `IPS` in the `APPL` field.

2. Display the status of the E5-IPSM being removed from the database with the `rept-stat-card` command and specifying the card location of the E5-IPSM.

   For this example, enter this command.

   `rept-stat-card:loc=2107`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        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 06-10-01 16:02:08 GMT EAGLE5 39.0.0
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   SEAS      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   SEAS      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  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 E5-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 E5-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
   ```

   Note: If the E5-IPSM that will be removed in this procedure contains the last in-service SEAS terminal, the `force=yes` parameter must be specified with the `rmv-trm` command for that SEAS terminal.

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 E5-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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

6. Place the E5-IPSM out of service using the `rmv-card` command, specifying the card location of the E5-IPSM.

   For this example, enter this command.

   ```
   rmv-card:loc=2107
   ```

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

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   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
   ```

   Note: If the E5-IPSM that was removed in this step contains a SEAS terminal, the entry for that SEAS terminal is removed from the SEAS over IP configuration and is not shown in the `rtrv-seas-config` output. This message is displayed after the `dlt-card` command has been entered.

   ```
   Invalidating the Terminal data in SEASCFG Table
   ```

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

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   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.
```

Configuring the Options for the Network Security Enhancements Feature

This procedure is used to configure the EAGLE 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 should not receive a message where the OPC is equal to the EAGLE's own true, secondary or capability point codes.
- SECMTPMATE – The EAGLE 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 should not receive an MTP network management message unless:
  - The OPC is an adjacent point code
  - The EAGLE has a route to the OPC of the MTP network management message on the linkset which the message was received.
  - The EAGLE 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 should not receive an SCCP network management message unless:
  - The EAGLE has a route to the OPC of the SCMG message on the linkset, on which the message was received.
  - The EAGLE 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 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.

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.

1. Display the Network Security Enhancements options using the `rtrv-stpopts` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
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 *Commands User's Guide*.

   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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 *Commands User's Guide*.

   If the Network Security Enhancements feature is not enabled or activated, go to the *Activating Controlled Features* procedure 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 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

4. Verify the changes using the `rtrv-stpopts` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
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 *Commands User's Guide*.

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.
```

Configuring the Restore Device State Option

This procedure is used to configure the restore device state option using the `chg-stpopts` command with the `rstrdev` value for the `on` or `off` parameters of the `chg-stpopts` command. The system default value is `off`.

If the value of the restore device state option is off (`off=rstrdev`), the EAGLE 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 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 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'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 *Commands User's Guide* in the Related Commands section for each of the above `rept-stat` commands.

If the value of the restore device state option is on (`on=rstrdev`), 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 is back on line.

If the restore device state option is 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 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

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 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
   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 *Commands User's Guide*.

2. Change the restore device state parameter.

   To change the `rstrdev` parameter to `on`, enter this command.

   ```
   chg-stpopts:on=rstrdev
   ```

   To change the `rstrdev` parameter to `off`, enter this command.

   ```
   chg-stpopts:off=rstrdev
   ```

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

```
rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

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

   If the `on=rstrdev` parameter was specified in *Step 2*, this is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
STP OPTIONS
----------------------
RSTRDEV             on
```

   If the `off=rstrdev` parameter was specified in *Step 2*, this is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
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 *Commands User's Guide*.

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.
```

Adding an Entry to the Frame Power Alarm Threshold Table

This procedure is used to add an entry to the frame power alarm threshold table. The frame power alarm threshold table defines the power level threshold, in amps, for each frame in the EAGLE. The power level threshold determines when alarms regarding the amount of power used by the frame are generated. Three alarms can be generated for the power levels.

- UAM 0522 - a minor alarm indicating that the power level for the frame has reached 90% of the threshold value.
- UAM 0521 - a major alarm indicating that the power level for the frame has reached 95% of the threshold value.
- UAM 0520 - a critical alarm indicating that the power level for the frame has reached 98% of the threshold value.

More information on these alarms is shown in *Unsolicited Alarm and Information Messages Reference*.

The power alarm threshold table for each frame is configured using the `ent-frm-pwr` command with these parameters:

`:frm` – The name of the frame being added to the power alarm threshold table, cf00, ef00, ef01, ef02, ef03, or ef04.

`:thrshld` – The power threshold value, from 30 to 65 amps.

The frame being added in this procedure must be configured in the database. This can be verified by displaying the shelves in the EAGLE with the `rtrv-shlf` command. The number assigned to each configured frame is shown in the `SHELF FRAME` column of the `rtrv-shlf` output. *Table 15: Frame Power Alarm Threshold Table Frame Designations* shows the name of each frame used in the Frame Power Alarm Threshold table and the corresponding frame number shown in the `SHELF FRAME` column of the `rtrv-shlf` output.

Table 15: Frame Power Alarm Threshold Table Frame Designations

Name of the Frame in the Frame Power Alarm Threshold Table	Frame Numbers shown in the Shelf Frame Column of the RTRV-SHLF Output
CF00	1
EF00	2
EF01	3
EF02	4
EF03	5
EF04	6

The `thrshld` parameter is optional. If the `thrshld` parameter value is not specified, the `thrshld` value is set to 30.

1. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

   This is an example of the possible output

   .

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36

FRAME POWER THRESHOLD table is (2 of 10) 20% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

2. Display the shelves configured in the database by entering the `rtrv-shlf` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SHELF DISPLAY
FRAME SHELF        TYPE
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     1       EXTENSION
  2     2       EXTENSION
  2     3       EXTENSION
  3     1       EXTENSION
```

To add an entry to the Frame Power Alarm Threshold table, the frame must be shown in the `rtrv-shlf` output. *Table 15: Frame Power Alarm Threshold Table Frame Designations* shows the name of the frames used in the Frame Power Alarm Threshold table and the corresponding frame numbers shown in the `SHELF FRAME` column of the `rtrv-shlf` output.

If the frame you wish to add to the Frame Power Alarm Threshold table is shown in the `rtrv-shlf` output, go to step 3.

If all the frames shown in the `rtrv-shlf` output are shown in the `rtrv-frm-pwr` output, the only actions that can be taken is to either remove an entry from the Frame Power Alarm Threshold table, or to change an entry in the Frame Power Alarm Threshold table. To remove an entry from the Frame Power Alarm Threshold table, perform the *Removing an Entry from the Frame Power Alarm Threshold Table* procedure. To change an entry in the Frame Power Alarm Threshold table, perform the *Changing an Entry in the Frame Power Alarm Threshold Table* procedure. If you do not wish to perform either of these actions, this procedure is finished.

3. Display the power consumption of the frame that will be added to the Frame Power Alarm Threshold table by entering the `rtrv-stp` command with these parameters:

   `display=power`

   `frm =<frame to be added>`

   For this example, enter this command.

   `rtrv-stp:display=power:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0

              Power Threshold          Power Consumption
Frame         (Amps)    (Watts)         (Amps)    (Watts)
-----         ----------------          ----------------
EF01            +30       +1440          14.06        675

                                                Power Consumption
Card       Part Number       Revision        (MilliAmps)        (Watts)
----       -----------       --------       -----------------------------
3101       870-1293-13          D               313                15
3102       870-1293-13          D               313                15
3103       870-2671-03          M              1563                75
3104       870-1293-13          D               313                15
3105       870-2061-01          K               542                26
3106       870-1984-13          M               646                31
```

```
3107       870-1984-13          M              646              31
3108       870-2372-14          J              521              25
3109       MUX                                 313              15
3110       MUX                                 313              15
3111       870-2061-01          A              542              26
3112       870-2061-01          A              542              26
3113       850-0549-01          A            +  313           +   15
3114    +  870-2198-07          M            + 1563           +   75
3115       850-0549-01          A              313              15
3116    +  870-2198-07          M             1563              75
3117       870-1293-13          B              521              25

FAN ASSYs Power Consumption                  2604             125
Command Completed.
```

4. Add the entry to the Frame Power Alarm Threshold table by entering the `ent-frm-pwr` command with these parameters.

   `frm =<frame to be added>`

   `thrshld=<frame power threshold level>`

   A minor alarm (UAM 0522) is generated when the power level for the frame reaches 90% of the threshold value. A major alarm (UAM 0521) is generated when the power level for the frame reaches 95% of the threshold value. A critical alarm (UAM 0520) is generated when the power level for the frame reaches 98% of the threshold value.

   The `thrshld` parameter is optional. If the `thrshld` parameter value is not specified, the `thrshld` value is set to 30.

   For this example, enter this command.

   `ent-frm-pwr:frm=ef01:thrshld=35`

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

```
rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
FRAME POWER THRESHOLD table is (3 of 10) 30% full
ENT-FRM-PWR: MASP A - COMPLTD
```

5. Verify the changes by entering the `rtrv-frm-pwr` command with frame entry specified in step 4.

   For this example, enter this command.

   `rtrv-frm-pwr:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
ef01                                 35

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

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

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

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

Removing an Entry from the Frame Power Alarm Threshold Table

This procedure is used to remove an existing entry from the frame power alarm threshold table. The entry in the power alarm threshold table is removed using the `dlt-frm-pwr` command with this parameter:

`:frm` – The name of the frame being removed from the power alarm threshold table, cf00, ef00, ef01, ef02, ef03, or ef04.

The frame being removed from the frame power alarm threshold table must be configured in the frame power alarm threshold table.

When a frame entry is removed, a default threshold setting of 30 amps is assigned to the frame. If the amount of power currently used by the frame is 27 amps or more, an alarm will be generated when this frame entry is removed. The alarm that will be generated will depend of the amount of power the frame is using.

- A minor alarm (UAM 0522) is generated when the power level for the frame reaches 90% of the threshold value.
- A major alarm (UAM 0521) is generated when the power level for the frame reaches 95% of the threshold value.
- A critical alarm (UAM 0520) is generated when the power level for the frame reaches 98% of the threshold value.

More information on these alarms is shown in *Unsolicited Alarm and Information Messages Reference*.

For example, if the frame is using 27 amps, and the frame is removed resulting in the default 30 amp threshold, minor alarm 0522 is generated because 27 amps is the threshold at which minor alarm 0522 is generated (90% of 30 amps is 27 amps).

If the frame is using 30 amps or more, and the frame is removed resulting in the default 30 amp threshold, critical alarm 0520 is generated because that amount of power used by the frame is 100% or more of the threshold value, and a critical alarm is generated at 98% of the threshold value.

The power being used by the frame is displayed in the `Power Consumption (Amps)` column in the `rtrv-stp` output.

1. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
```

```
Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36
ef01                                 35

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

2. Display the power consumption of the frame that will be removed from the Frame Power Alarm Threshold table by entering the `rtrv-stp` command with these parameters:

   `display=power`

   `frm =<frame to be removed from step 1>`

   For this example, enter this command.

   `rtrv-stp:display=power:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0

               Power Threshold          Power Consumption
Frame         (Amps)    (Watts)         (Amps)    (Watts)
-----         ------------------         ------------------
EF01             35        1440          14.06        675

                                                Power Consumption
Card       Part Number       Revision        (MilliAmps)        (Watts)
----       -----------       --------       -----------------------------
3101       870-1293-13          D               313               15
3102       870-1293-13          D               313               15
3103       870-2671-03          M              1563               75
3104       870-1293-13          D               313               15
3105       870-2061-01          K               542               26
3106       870-1984-13          M               646               31
3107       870-1984-13          M               646               31
3108       870-2372-14          J               521               25
3109       MUX                                  313               15
3110       MUX                                  313               15
3111       870-2061-01          A               542               26
3112       870-2061-01          A               542               26
3113       850-0549-01          A             +  313             +   15
3114    +  870-2198-07          M             + 1563             +   75
3115       850-0549-01          A               313               15
3116    +  870-2198-07          M              1563               75
3117       870-1293-13          B               521               25

FAN ASSYs Power Consumption                    2604              125
Command Completed.
```

When a frame entry is removed, a default threshold setting of 30 amps is assigned to the frame. If the amount of power currently used by the frame is 27 amps or more, shown in the `Power Consumption (Amps)` column in the `rtrv-stp` output, an alarm will be generated when this frame entry is removed. The alarm that will be generated will depend of the amount of power the frame is using. See the introduction to this procedure for the alarm information.

If you still wish to remove this frame entry even if an alarm will be generated, go to step 3. If you do not wish to remove this frame entry, repeat this step with another frame entry from step 1.

If you do not wish to repeat this step with another frame entry from step 1, this procedure is finished.

3. Remove the frame entry from the Frame Power Alarm Threshold table by entering the `dlt-frm-pwr` command with this parameter.

   `frm =<frame to be removed>`

   For this example, enter this command.

   `dlt-frm-pwr:frm=ef01`

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

```
rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
FRAME POWER THRESHOLD table is (2 of 10) 20% full
DLT-FRM-PWR: MASP A - COMPLTD
```

4. Verify the changes by entering the `rtrv-frm-pwr` command with frame entry specified in step 3.

   For this example, enter this command.

   `rtrv-frm-pwr:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
ef01                                 35

FRAME POWER THRESHOLD table is (2 of 10) 20% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

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

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

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

Changing an Entry in the Frame Power Alarm Threshold Table

This procedure is used to change an existing entry in the frame power alarm threshold table. The frame entry in the power alarm threshold table is changed using the `chg-frm-pwr` command with these parameters:

`:frm` – The name of the frame being added to the power alarm threshold table, cf00, ef00, ef01, ef02, ef03, or ef04.

`:thrshld` – The power threshold value, from 30 to 65 amps.

The frame power alarm threshold table defines the power level threshold, in amps, for each frame in the EAGLE. The power level threshold determines when alarms regarding the amount power used by the frame are generated. Three alarms can be generated for the power levels.

- UAM 0522 - a minor alarm indicating that the power level for the frame has reached 90% of the threshold value.
- UAM 0521 - a major alarm indicating that the power level for the frame has reached 95% of the threshold value.
- UAM 0520 - a critical alarm indicating that the power level for the frame has reached 98% of the threshold value.

More information on these alarms is shown in *Unsolicited Alarm and Information Messages Reference*.

When setting the threshold value (the `thrshld` parameter value), the threshold value should be greater than the amount of power being used by the frame. The power being used by the frame is displayed in the `Power Consumption (Amps)` column in the `rtrv-stp` output. The threshold value should also be high enough to avoid generating any alarms.

Table 16: Power Level to Generate a Minor Alarm shows selected threshold values and the power levels for a frame that would generate a minor alarm for that threshold value.

Table 16: Power Level to Generate a Minor Alarm

Threshold Value	Power Level to Generate a Minor Alarm
30	27
35	31.5
40	36
45	40.5
50	45
55	49.5
60	54
65	58.5

1. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36
ef01                                 35

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

2. Display the power consumption of the frame that will be changed in the Frame Power Alarm Threshold table by entering the `rtrv-stp` command with these parameters:

   `display=power`

   `frm =<frame being changed>`

   For this example, enter this command.

   `rtrv-stp:display=power:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0

               Power Threshold          Power Consumption
Frame         (Amps)    (Watts)         (Amps)    (Watts)
-----         ----------------         ----------------
EF01             30        1440          14.06        675

                                                Power Consumption
Card       Part Number       Revision        (MilliAmps)        (Watts)
----       -----------       --------       -----------------------------
3101       870-1293-13          D               313                15
3102       870-1293-13          D               313                15
3103       870-2671-03          M              1563                75
3104       870-1293-13          D               313                15
3105       870-2061-01          K               542                26
3106       870-1984-13          M               646                31
3107       870-1984-13          M               646                31
3108       870-2372-14          J               521                25
3109       MUX                                  313                15
3110       MUX                                  313                15
3111       870-2061-01          A               542                26
3112       870-2061-01          A               542                26
3113       850-0549-01          A             +  313              +   15
3114    +  870-2198-07          M             + 1563              +   75
3115       850-0549-01          A               313                15
3116    +  870-2198-07          M              1563                75
3117       870-1293-13          B               521                25

FAN ASSYs Power Consumption                    2604               125
Command Completed.
```

3. Changed the entry in the Frame Power Alarm Threshold table by entering the `chg-frm-pwr` command with these parameters.

`frm =<frame being changed>`

`thrshld=<frame power threshold level>`

A minor alarm (UAM 0522) is generated when the power level for the frame reaches 90% of the threshold value. A major alarm (UAM 0521) is generated when the power level for the frame reaches 95% of the threshold value. A critical alarm (UAM 0520) is generated when the power level for the frame reaches 98% of the threshold value. When setting the threshold value, the threshold value should be greater that the `Power Consumption (Amps)` value shown in the `rtrv-stp` output in step 2, and high enough to avoid generating any alarms. See *Table 16: Power Level to Generate a Minor Alarm* for some examples of threshold values and the power levels for a frame to generate a minor alarm for these threshold values.

For this example, enter this command.

`ent-frm-pwr:frm=ef01:thrshld=45`

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

```
rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
FRAME POWER THRESHOLD table is (3 of 10) 30% full
ENT-FRM-PWR: MASP A - COMPLTD
```

4. Verify the changes by entering the `rtrv-frm-pwr` command with frame entry specified in step 3.

   For this example, enter this command.

   `rtrv-frm-pwr:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
ef01                                 45

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

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

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

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

Configuring the IMT Bus Alarm Thresholds

This procedure is used to change the IMT bus alarm thresholds using the `chg-th-alm` command and these parameters.

`:imtbusutllvl1` – The percentage for the IMT bus combined utilization level 1 threshold alarm (reported on the IMT system). The percentage for the IMT bus combined utilization level 1 threshold alarm, from 35 to 70 and is shown in the `IMT Bus Combined Utilization Alarm Level 1` field of the `rtrv-th-alm` output. The system default value is 70. When this threshold is exceeded, UAM 0027 is generated.

`:imtbusutllvl2` – The percentage for the IMT bus combined utilization level 2 threshold alarm (reported on the IMT system). The percentage for the IMT bus combined utilization level 2 threshold alarm, from 40 to 80 and is shown in the `IMT Bus Combined Utilization Alarm Level 2` field of the `rtrv-th-alm` output. The system default value is 80. When this threshold is exceeded, UAM 0028 is generated.

After the `chg-th-alm` command is performed, the `imtbusutllvl2` parameter value must be greater than the `imtbusutllvl1` parameter value.

`:imtcongestlvl1` – The percentage for the IMT bus congestion level 1 threshold alarm (reported on the HIPR2 card). The percentage for the IMT bus congestion level 1 threshold alarm, from 35 to 70 and is shown in the `IMT Bus Congestion Alarm Level 1` field of the `rtrv-th-alm` output. The system default value is 70. When this threshold is exceeded, UAM 0030 is generated.

`:imtcongestlvl2` – The percentage for the IMT bus congestion level 2 threshold alarm (reported on the HIPR2 card). The percentage for the IMT bus congestion level 2 threshold alarm, from 40 to 80 and is shown in the `IMT Bus Congestion Alarm Level 2` field of the `rtrv-th-alm` output. The system default value is 80. When this threshold is exceeded, UAM 0031 is generated.

After the `chg-th-alm` command is performed, the `imtcongestlvl2` parameter value must be greater than the `imtcongestlvl1` parameter value.

For more information on these alarms, refer to *Unsolicited Alarm and Information Messages Reference*.

The `chg-th-alm` command contains other optional parameters. These parameters are not shown here because they are not necessary to configure the IMT bus alarm thresholds. These parameters are explained in more detail in *Commands User's Guide*.

1. Display the current IMT bus alarm thresholds in the database by entering the`rtrv-th-alm` command. This is an example of the possible output.

```
rlghncxa03w 09-07-28 09:12:36 GMT EAGLE5 41.1.0
IMT Bus Combined Utilization Alarm Level 1: 70%
IMT Bus Combined Utilization Alarm Level 2: 80%
IMT Bus Congestion Alarm Level 1:           70%
IMT Bus Congestion Alarm Level 2:           80%
RTRV-TH-ALM: MASP A - COMPLTD.
```

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

2. Configure the IMT bus alarm thresholds by entering the `chg-th-alm` command with at least one of the IMT bus alarm threshold parameters.

   If an IMT bus alarm threshold parameter is not specified with the `chg-th-alm` command, that parameter value will not be changed. The system default values for the IMT bus alarm threshold parameters are:

   - `imtbusutllvl1` – 70
   - `imtbusutllvl2` – 80
   - `imtcongestlvl1` – 70
   - `imtcongestlvl2` – 80.

   After the `chg-th-alm` command is performed, the `imtbusutllvl2` parameter value must be greater than the `imtbusutllvl1` parameter value, and the `imtcongestlvl2` parameter value must be greater than the `imtcongestlvl1` parameter value.

   For this example, enter this command.

   ```
   chg-th-alm:imtbusutllvl1=50:imtcongestlvl1=50:imtbusutllvl2=70:imtcongestlvl1=70
   ```

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

```
rlghncxa03w 09-07-28 09:12:36 GMT EAGLE5 41.1.0
CHG-TH-ALM: MASP A - COMPLTD
```

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

```
rlghncxa03w 09-07-28 09:12:36 GMT EAGLE5 41.1.0
IMT Bus Combined Utilization Alarm Level 1: 50%
IMT Bus Combined Utilization Alarm Level 2: 60%
IMT Bus Congestion Alarm Level 1:           50%
IMT Bus Congestion Alarm Level 2:           60%
RTRV-TH-ALM: MASP A - COMPLTD.
```

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

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.
```

Configuring the Integrated Measurements Feature

This procedure is used to configure IP communications links between the EAGLE and the customer's network and enable the Integrated Measurements feature on the EAGLE using these commands.

- `ent-ip-host` – Configuring the IP host of the E5-MCAP.
- `chg-ip-card` – Configuring the IP address of the E5-MCAP.
- `chg-ip-lnk` – Configuring the IP link assigned to the E5-MCAP.
- `chg-measopts` – Enabling the measurement collection option for the E5-MCAP card option.
- `enable-ctrl-feat` – Enabling the Integrated Measurements feature.
- `chg-ctrl-feat` – Turning the Integrated Measurements feature on.

Some of these commands contain parameters that are not used in this procedure. *Commands User's Guide* contains a full description of these commands.

The Integrated Measurements feature requires measurements FTP servers. A maximum of three measurements FTP servers can be configured with one of these procedures.

- *Adding an FTP Server*
- *Changing an FTP Server*

This procedure can be performed only on EAGLEs that contain E5-based control cards. Refer to *Maintenance and Administration Subsystem* for more information about the control cards.

The Integrated Measurements feature is enabled using the `enable-ctrl-feat` command with these parameters.

`:fak` – The feature access key provided by Oracle.

`:partnum` – The Oracle-issued part number of the Integrated Measurements feature, 893037301.

Once this feature is enabled, it is permanently enabled. This feature cannot be enabled with a temporary feature access key.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 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 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. 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 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. 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 Integrated Measurements feature has been enabled, the Integrated Measurements feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Oracle-issued part number of the Integrated Measurements feature, 893037301.

`:status=on` – used to turn the Integrated Measurements feature on.

Once the Integrated Measurements feature has been turned on, it be cannot be turned off.

The status of the Integrated Measurements feature is shown with the `rtrv-ctrl-feat` command.

If a Class B IP address is specified for the `ipaddr` parameter of the `chg-ip-lnk` command, the subnet address that results from the `ipaddr` and `submask` parameter values cannot be the same as the subnet address that results from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command. The `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values can be verified by entering the `rtrv-netopts` command. Choose `ipaddr` and `submask` parameter values for the IP address assigned to the E5-MCAP card whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command.

The Integrated Measurements feature supports the collection and reporting of all measurement entities for EAGLEs configured with a maximum of 2400 signaling links (or 1200 links if the 15-minute measurements feature is turned on) using the E5-MCAP cards instead of the MCPM. The enhanced reporting capabilities provided by the Integrated Measurements feature support the generation of text file measurements reports in the CSV format. The reports can be sent to a customer-provided FTP server on-demand or on a scheduled basis. EAGLEs with more than 2400/1200 signaling links require the Measurements Platform for full measurements support.

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 10-04-28 21:15:37 GMT EAGLE5 42.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
XGTT Table Expansion      893006101  on      400000
XMAP Table Expansion      893007710  off     ----
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000
HC-MIM SLK Capacity       893012707  on      64

The following features have been temporarily enabled:

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

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

   If the Integrated Measurements feature is enabled and turned on, continue the procedure with *Step 21*.

   If the Integrated Measurements feature is enabled but not turned on, continue the procedure with *Step 19*.

   If the Integrated Measurements feature is not enabled, continue the procedure with *Step 2*.

2. Display the control cards in the EAGLE by entering this command.

`rtrv-stp:gpl=oamhc`

This is an example of the possible output.

```
rlghncxa03w 10-04-01 16:07:48 GMT  EAGLE5 42.0.0

Card  Part Number  Rev Serial Number  Type     DB     APPL     GPL Version
----  -----------  --- -------------  ----     --     ----     -----------
1113  870-2903-01  C   10206255064    E5MCAP   4096M  OAMHC    132-018-000
1115  870-2903-01  C   10206255165    E5MCAP   4096M  OAMHC    132-018-000

Command Completed.
```

To enable the Integrated Measurements feature, E5-MCAP cards must be installed in card locations 1113 and 1115. If E5-MCAP cards are not shown in either card location 1113 or 1115, install the E5-MCAP cards in card locations 1113 or 1115 as required. Contact the Customer Care Center before installing the E5-MCAP cards. Refer to the *My Oracle Support (MOS)* section for the contact information.

After the E5-MCAP cards have been installed, or if E5-MCAP cards are shown in card locations 1113 and 1115 in the `rtrv-stp` output, continue the procedure by performing one of these steps.

- If the `rtrv-ctrl-feat` output shows the HC-MIM SLK Capacity feature with a quantity of 64 and other features, continue the procedure with *Step 7*.
- If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, continue the procedure with *Step 3*.

3. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
Command Completed
```

Note: If the serial number is not correct and not locked, continue the procedure with *Step 4*If the serial number is correct and locked, continue the procedure with *Step 7*. If the serial number is correct but not locked, continue the procedure with *Step 6*. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to *My Oracle Support (MOS)* for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

4. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

   For this example, enter this command.

   `ent-serial-num:serial=<EAGLE's correct serial number>`

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

```
rlghncxa03w 10-04-28 21:15:37 GMT EAGLE5 42.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

5. Verify that the serial number entered into *Step 4* was entered correctly using the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 10-04-28 21:15:37 GMT EAGLE5 42.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 10-04-28 21:15:37 GMT EAGLE5 42.0.0
Command Completed
```

If the serial number was not entered correctly, repeat *Step 4* and *Step 5* and re-enter the correct serial number.

6. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in *Step 3*, if the serial number shown in *Step 3* is correct, or with the serial number shown in *Step 5*, if the serial number was changed in *Step 4*, and with the `lock=yes` parameter.

For this example, enter this command.

`ent-serial-num:serial=<EAGLE's serial number>:lock=yes`

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

```
rlghncxa03w 10-04-28 21:15:37 GMT EAGLE5 42.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

If the IP address for the E5-MCAP cards will be either a Class A or Class C IP address, continue the procedure with *Step 8*.

If the IP address for either E5-MCAP card will be a Class B IP address, continue the procedure with *Step 7*.

7. The subnet address that results from the `ipaddr` and `submask` parameter values of the `chg-ip-lnk` command cannot be the same as the subnet address that results from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command.

Display the `pvn`, `pvnmask`, `fcna`, `fcnamask`, `fcnb`, and `fcnbmask` parameter values of the `chg-netopts` command by entering the `rtrv-netopts`command.

If error message `E3967 Cmd Rej: E5IS must be on` is displayed after the `rtrv-netopts` command is executed, the `pvn`, `pvnmask`, `fcna`, `fcnamask`, `fcnb`, and `fcnbmask` parameters are not configured. Continue the procedure with *Step 8*.

This is an example of the possible output if the E5IS feature is on.

```
rlghncxa03w 10-04-28 21:17:37 GMT EAGLE5 42.0.0
NETWORK OPTIONS
------------------
```

```
PVN         = 128.20.30.40
PVNMASK     = 255.255.192.0
FCNA        = 170.120.50.0
FCNAMASK    = 255.255.240.0
FCNB        = 170.121.50.0
FCNBMASK    = 255.255.254.0
```

Choose `ipaddr` and `submask` parameter values for the IP link to the MCPM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask`, `fcna` and `fcnamask`, or `fcnb` and `fcnbmask` parameter values of the `chg-netopts` command. Continue the procedure with *Step 8*.

8. Display the IP link information for both E5-MCAP cards by entering these commands.

   `rtrv-ip-lnk:loc=1113`

   The following is an example of the possible output.

```
rlghncxa03w 10-04-01 21:20:37 GMT EAGLE5 42.0.0
LOC   PORT IPADDR           SUBMASK         DUPLEX SPEED MACTYPE AUTO MCAST
1113  A    --------------- --------------- HALF   10    DIX     NO   NO
1113  B    --------------- --------------- HALF   10    DIX     NO   NO
```

   `rtrv-ip-lnk:loc=1115`

   The following is an example of the possible output.

```
rlghncxa03w 10-04-01 21:20:37 GMT EAGLE5 42.0.0
LOC   PORT IPADDR           SUBMASK         DUPLEX SPEED MACTYPE AUTO MCAST
1115  A    --------------- --------------- HALF   10    DIX     NO   NO
1115  B    --------------- --------------- HALF   10    DIX     NO   NO
```

9. Assign an IP link to each E5-MCAP card by entering the `chg-ip-lnk` command for each E5-MCAP card with these parameters: `loc`, `port=a`, `ipaddr`, `submask`, `speed=100`, `mcast=yes`, `duplex=full`.

   For this example, enter these commands.

   `chg-ip-lnk:loc=1113:port=a:ipaddr=150.1.1.1:submask=255.255.255.0 :speed=100:mcast=yes:duplex=full`

   `chg-ip-lnk:loc=1115:port=a:ipaddr=150.1.2.2:submask=255.255.255.0 :speed=100:mcast=yes:duplex=full`

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

```
rlghncxa03w 10-04-01 21:20:37 GMT EAGLE5 42.0.0
CHG-IP-LNK:   MASP A - COMPLTD
```

10. Display the changes for each E5-MCAP card by entering these commands.

    `rtrv-ip-lnk:loc=1113`

The following is an example of the possible output.

```
rlghncxa03w 10-04-01 21:20:37 GMT EAGLE5 42.0.0
LOC   PORT IPADDR           SUBMASK        DUPLEX SPEED MACTYPE AUTO MCAST
1113  A    150.1.1.1        255.255.255.0  FULL   100   DIX     NO   YES
1113  B    ---------------  ---------------  FULL   10    DIX     NO   NO
```

`rtrv-ip-lnk:loc=1115`

The following is an example of the possible output.

```
rlghncxa03w 10-04-01 21:20:37 GMT EAGLE5 42.0.0
LOC   PORT IPADDR           SUBMASK        DUPLEX SPEED MACTYPE AUTO MCAST
1115  A    150.1.2.2        255.255.255.0  FULL   100   DIX     NO   YES
1115  B    ---------------  ---------------  FULL   10    DIX     NO   NO
```

11. Display the current IP host information in the database by entering the `rtrv-ip-host:display=all` command.

The following is an example of the possible output.

```
rlghncxa03w 07-13-13 09:12:36 GMT EAGLE5 45.0.0
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 4096) <1% full
```

12. Assign an IP host to each E5-MCAP card by using the `ent-ip-host` command.

For this example, enter these commands.

`ent-ip-host:host=gw100.nc.tekelec.com:ipaddr=150.1.1.1`

`ent-ip-host:host=gw200.nc.tekelec.com:ipaddr=150.1.2.2`

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

```
rlghncxa03w 10-04-01 21:18:37 GMT EAGLE5 42.0.0
ENT-IP-HOST: MASP A - COMPLTD
```

13. Display the changes for each E5-MCAP card by entering the `rtrv-ip-host` command with the host name specified in the *Step 12*.

For this example, enter these commands.

`rtrv-ip-host:host=gw100.nc.tekelec.com`

The following is an example of the possible output.

```
rlghncxa03w 07-13-13 09:12:36 GMT EAGLE5 45.0.0
LOCAL IPADDR    LOCAL HOST
```

```
150.1.1.1       GW100.NC.TEKELEC.COM

IP Host table is  (5 of 4096) <1% full
```

`rtrv-ip-host:host=gw200.nc.tekelec.com`

The following is an example of the possible output.

```
rlghncxa03w 07-13-13 09:12:36 GMT EAGLE5 45.0.0
LOCAL IPADDR    LOCAL HOST
150.1.2.2       GW200.NC.TEKELEC.COM

IP Host table is  (5 of 4096) <1% full
```

14. Display the IP card information associated with each E5-MCAP card by entering these commands.

`rtrv-ip-card:loc=1113`

The following is an example of the possible output.

```
rlghncxa03w 10-04-01 09:12:36 GMT  EAGLE5 42.0.0
   LOC 1113
     SRCHORDR  SRVR
     DNSA      ---------------
     DNSB      ---------------
     DEFROUTER ---------------
     DOMAIN    ---------------
     SCTPCSUM  crc32c
     BPIPADDR  ---------------
     BPSUBMASK ---------------
```

`rtrv-ip-card:loc=1115`

The following is an example of the possible output.

```
rlghncxa03w 10-04-01 09:12:36 GMT  EAGLE5 42.0.0
   LOC 1115
     SRCHORDR  SRVR
     DNSA      ---------------
     DNSB      ---------------
     DEFROUTER ---------------
     DOMAIN    ---------------
     SCTPCSUM  crc32c
     BPIPADDR  ---------------
     BPSUBMASK ---------------
```

15. Assign a default router to each E5-MCAP card using the `chg-ip-card` command with these parameters: `loc`, `srchordr=local`, `domain`, and `defrouter`.

For this example, enter these commands.

`chg-ip-card:loc=1113:srchordr=local:domain=nc.tekelec.com:defrouter=150.1.1.50`

`chg-ip-card:loc=1115:srchordr=local:domain=nc.tekelec.com:defrouter=150.1.2.50`

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

```
rlghncxa03w 10-04-01 21:20:37 GMT EAGLE5 42.0.0
CHG-IP-CARD:   MASP A - COMPLTD
```

16. Display the changes for each E5-MCAP card by entering these commands.

`rtrv-ip-card:loc=1113`

The following is an example of the possible output.

```
rlghncxa03w 10-04-01 09:12:36 GMT  EAGLE5 42.0.0
   LOC 1113
     SRCHORDR  LOCAL
     DNSA      ---------------
     DNSB      ---------------
     DEFROUTER 150.1.1.50
     DOMAIN    nc.tekelec.com
     SCTPCSUM  crc32c
     BPIPADDR  ---------------
     BPSUBMASK ---------------
```

`rtrv-ip-card:loc=1115`

The following is an example of the possible output.

```
rlghncxa03w 10-04-01 09:12:36 GMT  EAGLE5 42.0.0
   LOC 1115
     SRCHORDR  LOCAL
     DNSA      ---------------
     DNSB      ---------------
     DEFROUTER 150.1.2.50
     DOMAIN    nc.tekelec.com
     SCTPCSUM  crc32c
     BPIPADDR  ---------------
     BPSUBMASK ---------------
```

17. Display the FTP Server configuration using the `rtrv-ftp-serv` command.

```
rlghncxa03w 10-04-01 09:12:36 GMT EAGLE5 42.0.0

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  mp\measurements\backup\dat

FTP SERV table is (2 of 10) 20% full
```

The EAGLE allows a maximum of three measurements FTP servers (shown by the entry `meas` in the `APP` column of the `rtrv-ftp-serv` output). If there are less than three measurements FTP servers, perform the *Adding an FTP Server* procedure to add the required measurements FTP server.

If there are three measurements FTP servers in the database, and you wish to change any of these measurements FTP servers, perform the *Changing an FTP Server* procedure.

18. Enable the Integrated Measurements feature with the `enable-ctrl-feat` command specifying the part number for the Integrated Measurements feature and the feature access key. Enter this command.

    ```
    enable-ctrl-feat:partnum=893037301:fak=<Integrated Measurements feature access key>
    ```

    The Integrated Measurements feature cannot be enabled with a temporary feature access key.

    The value for the feature access key (the `fak` parameter) are provided by Oracle. If you do not have the feature access key for the Integrated Measurements feature, contact your Oracle Sales Representative or Account Representative.

    When the `enable-crtl-feat` command has successfully completed, this message should appear.

    ```
    rlghncxa03w 10-04-28 21:15:37 GMT EAGLE5 42.0.0
    ENABLE-CTRL-FEAT: MASP A - COMPLTD
    ```

19. Turn the Integrated Measurements feature on with the `chg-ctrl-feat` command specifying the part number for the Integrated Measurements feature and the `status=on` parameter. Enter this command.

    ```
    chg-ctrl-feat:partnum=893037301:status=on
    ```

    Note: Once this feature is turned on, it cannot be turned off.

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

    ```
    rlghncxa03w 10-04-28 21:15:37 GMT EAGLE5 42.0.0
    CHG-CTRL-FEAT: MASP A - COMPLTD
    ```

20. Verify the changes by entering the `rtrv-ctrl-feat`command with the Integrated Measurements feature part number. Enter this command.

    ```
    rtrv-ctrl-feat:partnum=893037301
    ```

    The following is an example of the possible output.

    ```
    rlghncxa03w 10-04-28 21:15:37 GMT EAGLE5 42.0.0
    The following features have been permanently enabled:

    Feature Name              Partnum    Status  Quantity
    Integrated Measurements   893037301  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.
    ```

21. Verify whether or nor the Integrated Measurement collection option for the E5-MCAP card is turned on (`OAMHCMEAS = on`) using the `rtrv-measopts` command.

```
rlghncxa03w 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
PLATFORMENABLE   = on
OAMHCMEAS        = 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 *Commands User's Guide*.

If the `OAMHCMEAS` value is `on`, continue the procedure with *Step 24*.

If the `OAMHCMEAS` value is `on`, continue the procedure with *Step 22*.

22. Turn on the Integrated Measurement collection option for the E5-MCAP card by entering this command.

`chg-measopts:oamhcmeas=on`

Once this option is turned on, it cannot be turned off.

If more than 700 signaling links are provisioned, the scheduled UI measurement reports are disabled. The number of signaling links that are provisioned is shown in the `rtrv-slk` or `rtrv-tbl-capacity` outputs.

If the `PLATFORMENABLE` option is set to `on` before this command is executed, these actions occur after the command is executed.

- All of the historical measurements data on the MCPM is transferred to the E5-MCAP card. The data transfer provides continuity of data within the Measurements Subsystem and takes approximately 30 minutes to complete. UIM 1170 is displayed when the transfer has completed.

  The status of the transfer is shown in the `AST` field of the `rept-stat-card` output for the active E5-MCAP card. The value in the `AST` field shows a value that represents the percentage of the measurements data that has been transferred. When the value in the `AST` field is 100%, the data transfer is complete.

- The `PLATFORMENABLE` option will be set to `off`.

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

```
rlghncxa03w 10-04-01 00:22:57 GMT  EAGLE5 42.0.0
CHG-MEASOPTS: MASP A - COMPLTD
```

23. Verify the changes by entering the `rtrv-measopts` command.

```
rlghncxa03w 10-04-01 16:02:05 GMT  EAGLE5 42.0.0
PLATFORMENABLE   = off
OAMHCMEAS        = 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 *Commands User's Guide*.

24. 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.

```
rlghncxa03w 10-04-01 12:22:55 GMT EAGLE5 42.0.0
COLLECT        =  off
```

Note: The `rtrv-meas-sched` command output contains other fields that are not used in this procedure. Refer to the `rtrv-meas-sched` command description in *Commands User's Guide* to see these fields.

- If measurement collection is off, continue the procedure with *Step 25*.
- If measurement collection is on, continue this procedure with *Step 27*.

25. Turn measurement collection on by entering this command.

`chg-meas:collect=on`

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

```
rlghncxa03w 10-04-01 00:22:57 GMT  EAGLE5 42.0.0
CHG-MEAS: MASP A - COMPLTD
```

26. Verify the changes by entering the `rtrv-meas-sched` command.

This is an example of the possible output.

```
rlghncxa03w 10-04-01 12:22:55 GMT EAGLE5 42.0.0
COLLECT        =  on
```

Note: The `rtrv-meas-sched` command output contains other fields that are not used in this procedure. Refer to the `rtrv-meas-sched` command description in *Commands User's Guide* to see these fields.

27. 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.
```

Configuring the MFC Option

This procedure is used to configure the option for the EAGLE to use Message Flow Control (MFC) to control the traffic in the EAGLE instead of Group Ticket Voucher (TVG). EAGLE Release 46.2 and

later require MFC be turned on. This option is configured with `chg-stpopts` command using these parameters.

- `on=mfc` - turns the MFC option on. When the MFC option is turned on, Message Flow Control controls the traffic in the EAGLE.

  Note: When turning on MFC, the following cards are not supported from EAGLE Release 44.0 or later, except during migration to the B-series cards:

  - DCM card (870-1945-xx)
  - DSM card (870-1984-xx)
  - EDCM card (870-2372-xx) used for SLAN or STC functionality
  - EDCM-A card (870-2508-xx) used for SLAN or STC functionality

Note: A loss in MSU traffic may occur while running bi-directional traffic at 700 MSUs per second, 272 bytes on an E1-ATM or LIM-ATM card after GTT, while two STC cards are active.

Note: If another `chg-stpopts:on=mfc` or `chg-stpopts:off=mfc` command is issued within 10 seconds, the second command is rejected.

1. Enter the `rtrv-stpopts` command to display the existing value for the MFC option. The value for the MFC option is shown in the `MFC` field. This is an example of the possible output.

```
rlghncxa03w 10-12-17 16:02:05 GMT  EAGLE5 43.0.0
STP OPTIONS
---------------------------
MFC                     off

Command Completed.
```

   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 *Commands User's Guide*.

2. Turn the MFC option on by entering this command.

   `chg-stpopts:on=mfc`

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

```
rlghncxa03w 10-12-07 00:22:57 GMT  EAGLE5 43.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

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

```
rlghncxa03w 10-12-17 16:02:05 GMT  EAGLE5 43.0.0
STP OPTIONS
---------------------------
MFC                      on
```

```
Command Completed.
```

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 *Commands User's Guide*.

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.
```

Chapter 5

SEAS Over IP Configuration Procedures

Topics:

Chapter 5, SEAS Over IP Configuration Procedures, describes the procedures used to configure the SEAS over IP feature.

Introduction

The SEAS over IP feature is a TCP/IP-based interface for SEAS that creates a path between the EAGLE and the CCS MR (Common Channel Signaling Message Router). The CCS MR is a stand-alone, self-contained system developed by Telcordia that provides a centralized mechanism for routing CCS network operations traffic between STPs/SCPs and existing and new OSs.

One of the eight telnet terminals on the E5-IPSM is used to provide the connection from the EAGLE and the CCS MR. This terminal is referred to as a SEAS terminal.

The EAGLE can contain a maximum of two SEAS terminals. Only one SEAS terminal can be assigned to an E5-IPSM. The remaining seven telnet terminals on the E5-IPSM continue to provide generic IP-based services such as Telnet and FTP.

SEAS over IP Feature Configurations

The SEAS over IP feature supports three configurations"

- Dual SEAS terminals with a single CCS MR
- Dual SEAS terminals with dual CCS MRs
- One SEAS terminal with one CCS MR.

Dual SEAS Terminals with a Single CCS MR SEAS Configuration

The two SEAS terminals are connected to a single CCS MR as shown in *Figure 9: Dual SEAS Terminals with Single CCS MR SEAS Configuration*. The two SEAS terminals operate in a redundant fashion allowing a maximum of two active connections to the CCS MR. While the connection to the CCS MR is dedicated to SEAS, the other terminals on the E5-IPSM may still be used for other IP-based operations, such as Telnet and FTP, or their secure counterparts, SSH and SFTP. Different SEAS information can be transmitted and received separately over each connection to the CCS MR.

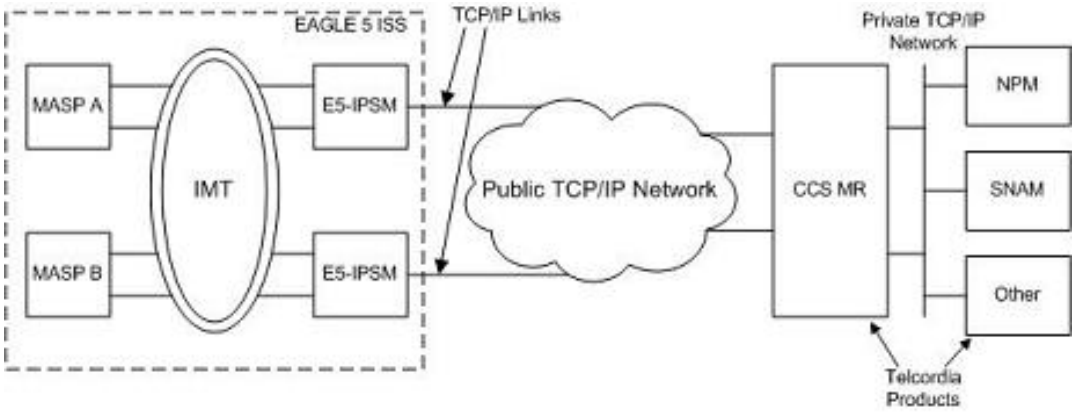


Figure 9: Dual SEAS Terminals with Single CCS MR SEAS Configuration

Dual SEAS Terminals with Dual CCS MRs SEAS Configuration

When the two SEAS terminals are connected to two CCS MRs, as shown in *Figure 10: Dual SEAS Terminals with Dual CCS MRs SEAS Configuration*, the operation of the SEAS connections is similar to

the "Dual SEAS Terminals with a Single CCS MR SEAS Configuration" section with the following exceptions:

- Each SEAS terminal is configured with a connection to one of the CCS MRs.
- The pair of CCS MRs operate in a round robin manner if they each have an active connection to a SEAS terminal. When the EAGLE receives a command request from a CCS MR, the response to the command request is sent to the CCS MR on the same TCP connection that the CCS MR used to send the command request.

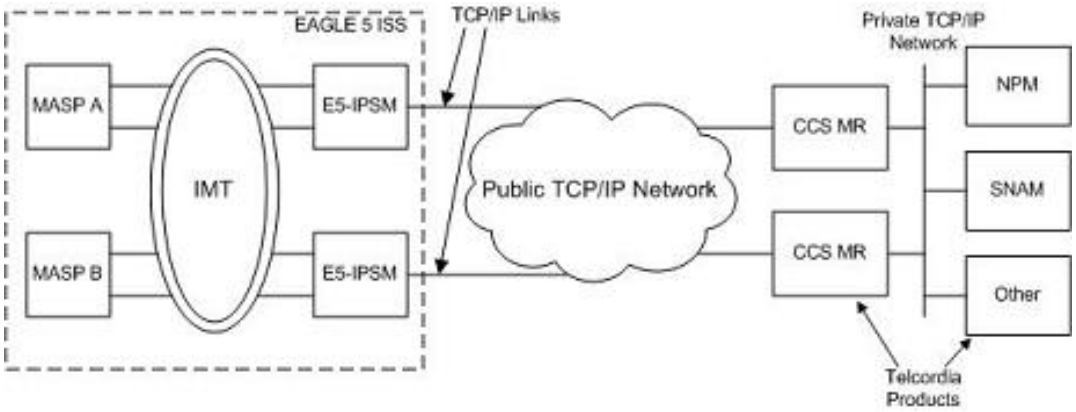


Figure 10: Dual SEAS Terminals with Dual CCS MRs SEAS Configuration

Simplex SEAS Terminal Operation

With the simplex SEAS terminal operation, there is only one SEAS terminal connected to one CCS MR. There are no redundant connections to the CCS MR and this configuration is intended to serve as a restricted mode of operation until another SEAS terminal is returned to service. The simplex mode of operation is not recommended as a standard mode of operation for the SEAS over IP feature.

- All SEAS information is transmitted over this single IP connection to the CCS MR.
- The SEAS system will be in an IS-ANR/Restricted state while the system is in the simplex SEAS terminals operation and a major alarm, UAM 0348, is generated for the SEAS system. Refer to *Unsolicited Alarm and Information Messages Reference* for more information on UAM 0348.

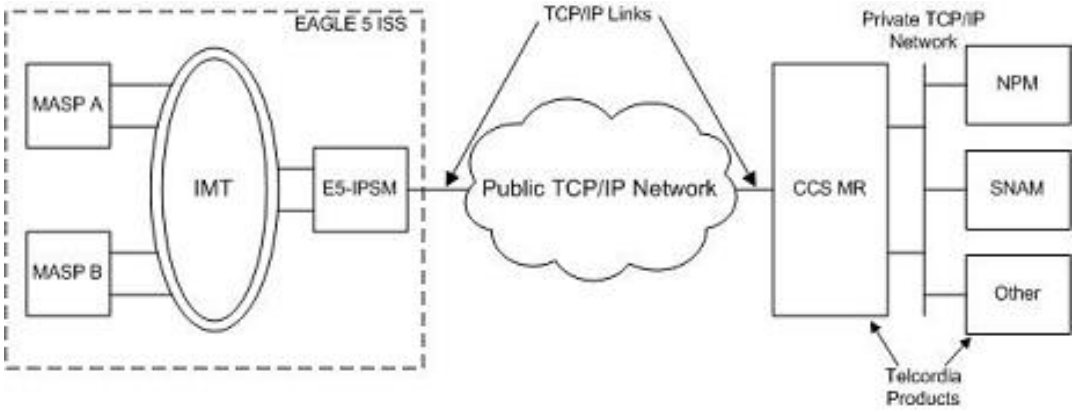


Figure 11: Simplex SEAS Terminal Configuration

Provisioning the SEAS over IP Feature

To provision the SEAS over IP feature, perform these steps.

1. Add the E5-IPSMs to the database using the `ent-card` command. Perform the *Adding an E5-IPSM* procedure.
2. Enable the SEAS over IP feature using the `enable-ctrl-feat` command. Perform the *Activating the SEAS over IP Feature* procedure.
3. Configure the SEAS connections using the `chg-seas-config` command. Perform the *Performing the Initial SEAS Configuration* procedure.
4. Configure the SEAS terminals using the `chg-trm` command. Perform the *Configuring SEAS Terminals* procedure.
5. Turn the SEAS over IP feature on using the `chg-ctrl-feat` command. Perform the *Activating the SEAS over IP Feature* procedure.

Activating the SEAS over IP Feature

This procedure is used to enable and turn on the SEAS over IP feature using the feature's part number and a feature access key.

The feature access key is based on the feature's part number and the serial number of the EAGLE, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Oracle.

`:partnum` – The Oracle-issued part number of the SEAS over IP feature, 893018801.

Once this feature is enabled, it is permanently enabled. This feature cannot be enabled with a temporary feature access key.

The Telnet feature (IP User Interface), part number 893005701, must be enabled and turned on before the SEAS over IP feature can be enabled. Perform the *Activating Controlled Features* procedure to enable and turn on the Telnet feature.

Once the SEAS over IP feature has been enabled, the SEAS over IP feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Oracle-issued part number of the SEAS over IP feature, 893018801.

`:status=on` – used to turn the SEAS over IP feature on.

Note: To turn the SEAS over IP feature on in step 5, these items must be provisioned in the database.

- The `seasclli` value must be provisioned.
- The IP address and port for at least one connection must be provisioned.
- At least one SEAS terminal must be provisioned.
- If the Eagle OAM IP Security Enhancement feature is enabled and turned on, the `login` and `hname` values for at least one connection must be provisioned.

If you wish to provision the EAGLE for the SEAS over IP feature at this time, perform these procedures.

- *Performing the Initial SEAS Configuration*

- *Configuring SEAS Terminals*

Once the SEAS over IP feature has been turned on, it be can be turned off. For more information on turning the SEAS over IP feature off, go to the *Turning Off the SEAS Over IP Feature* procedure.

The status of the SEAS over IP and Telnet features is shown with the `rtrv-ctrl-feat` command.

Caution: When the SEAS over IP feature is turned on, and the SEAS terminals and SEAS configuration is provisioned, SEAS traffic is sent to the CCS MR using the SEAS terminals.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
HC-MIM SLK Capacity       893012707  on      64
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 SEAS over IP feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

   If the SEAS over IP feature is enabled and but not turned on, skip steps 2 and 3 and go to step 4.

   If the SEAS over IP feature is not enabled, go to step 2.

2. To enable the SEAS over IP feature, the Telnet feature must be enabled and turned on. The Eagle OA&M IP Security Enhancement feature can also be used with the SEAS over IP feature. If the `rtrv-ctrl-feat` output in step 1 shows that the Telnet and Eagle OA&M IP Security Enhancement features are enabled and turned on, skip this step and go to step 3.

   If the `rtrv-ctrl-feat` output in step 1 shows that the Telnet is not enabled or turned on, perform the *Activating Controlled Features* procedure to enable and turn on the Telnet feature.

   The Eagle OA&M IP Security Enhancement feature can be enabled and turned on if the Telnet feature is not enabled and turned on. After the Telnet feature is enabled, and the `rtrv-ctrl-feat` output shows that the Eagle OA&M IP Security Enhancement feature is enabled and turned on, go to step 3.

If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, and you do not wish to use the If the Eagle OA&M IP Security Enhancement feature with the SEAS over IP feature, go to step 3.

If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, and you wish to use the If the Eagle OA&M IP Security Enhancement feature with the SEAS over IP feature, perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* procedure to enable and turn on the Activating the Eagle OA&M IP Security Enhancement Controlled Feature. When the Activating the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and turned on, go to step 3.

3. Enable the SEAS over IP feature with the `enable-ctrl-feat` command specifying the part number for the SEAS over IP feature and the feature access key. Enter this command.

   `enable-ctrl-feat:partnum=893018801:fak=<SEAS over IP feature access key>`

   Note: The SEAS over IP feature cannot be enabled with a temporary feature access key.

   Note: The values for the feature access key (the `fak` parameter) are provided by Oracle. If you do not have the feature access key for the SEAS over IP feature, contact your Oracle Sales Representative or Account Representative.

   When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

   Note: To turn the SEAS over IP feature on in step 5, these items must be provisioned in the database.

   - The `seasclli` value must be provisioned.
   - The IP address and port for at least one connection must be provisioned.
   - At least one SEAS terminal must be provisioned.
   - If the Eagle OAM IP Security Enhancement feature is enabled and turned on, the `login` and `hname` values for at least one connection must be provisioned.

   If you wish to provision the EAGLE for the SEAS over IP feature at this time, perform these procedures.

   - *Performing the Initial SEAS Configuration*
   - *Configuring SEAS Terminals*

   After the SEAS over IP feature provisioning has been completed, skip step 4 and go to step 5.

   If you do not wish to provision the EAGLE for the SEAS over IP feature at this time, skip steps 4 and 5, and go to step 6.

   Note: If the SEAS over IP feature was enabled in this step, skip step 4 and go to step 5.

4. Before the SEAS over IP feature can be turned on, the SEAS over IP feature configuration must be correct (see the third note in step 3). Display the SEAS over IP configuration by entering the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
```

```
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
----------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

-------------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

To turn this feature on in step 5, the items shown in the third note in step 3 must be provisioned. If the SEAS configuration is not correct, perform the *Changing the Existing SEAS Configuration* procedure to make the necessary corrections to the SEAS over IP configuration. If no SEAS terminals are shown in this step, perform the *Configuring SEAS Terminals* procedure to configure the SEAS terminals.

5. Turn the SEAS over IP feature on with the `chg-ctrl-feat` command specifying the part number for the SEAS over IP feature and the `status=on` parameter. Enter this command.

   ```
   chg-ctrl-feat:partnum=893018801:status=on
   ```

   Caution: When the SEAS over IP feature feature is turned on, SEAS traffic is sent to the CCS MR using the SEAS terminals.

   When the `chg-ctrl-feat` command has successfully completed, the following message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   CHG-CTRL-FEAT: MASP B - COMPLTD
   ```

6. Verify the changes by entering the `rtrv-ctrl-feat` command with the SEAS over IP feature part number. Enter this command.

   ```
   rtrv-ctrl-feat:partnum=893018801
   ```

   The following is an example of the possible output.

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

   Feature Name              Partnum    Status  Quantity
   SEAS over IP              893018801  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.
```

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

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

   .

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

Performing the Initial SEAS Configuration

This procedure is used to configure the connections to the CCS MR using the `chg-seas-config` command. This procedure is performed only when configuring the connections to the CCS MR for the first time.

The `chg-seas-config` command can be used to change the SEAS configuration after the connections have been configured for the first time. Perform the *Changing the Existing SEAS Configuration* procedure to make this type of change.

The `chg-seas-config` command uses these parameters.

`:conn` – The name of the SEAS connection, either IPMR1 or IPMR2

`:seasclli` – The CLLI part of node name of the EAGLE consisting of one alphabetic character and up to 15 alphanumeric characters. The `seasclli` value is different from the EAGLE `clli` value that is entered with the `chg-sid` command. The `seasclli` value must also be configured on the Telcordia Message Router (CCS MR). Refer to Telcordia Configuration Specification "Telcordia Technologies System Documentation", *BD-SNAM-ADMIN-4 Issue 14, November 2006*.

`:ipaddr` – The IP address of the CCS MR.

`:port` – The port number of the CCS MR that the EAGLE connects to, from 1024 to 5000.

`:hname` – The name of the remote host of the CCS MR, 1 to 15 alphanumeric characters.

`:login` – The login name of the CCS MR, 1 to 15 alphanumeric characters.

`:authmode` – The method of authentication used for the connection. Currently, only password authentication is used for SEAS connections, so this parameter has only one value, `password`. This parameter is optional and does not need to be specified.

The `hname`, `login`, and `authmode` parameters are used only when the Eagle OA&M IP Security feature is enabled and turned on. The values for these parameters are displayed in the

`rtrv-seas-config` output only when the Eagle OA&M IP Security feature is enabled and turned on. The status of the Eagle OA&M IP Security feature is shown in the `rtrv-ctrl-feat` output.

Caution: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

The IP address for the SEAS over IP configuration cannot be shown as the `IPADDR` value in the `rtrv-ip-lnk` or `rtrv-ftp-serv` outputs, or the `BPIPADDR` value in the `rtrv-ip-card` output.

1. Verify whether or not the SEAS over IP feature is enabled by entering this command.

   ```
   rtrv-ctrl-feat:partnum=893018801
   ```

   This is an example of the possible output.

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

   Feature Name              Partnum    Status  Quantity
   SEAS over IP              893018801  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 SEAS over IP feature is enabled, continue the procedure with *Step 2*.

   If the SEAS over IP feature is not enabled, perform the *Activating the SEAS over IP Feature* procedure in this chapter to enable SEAS over IP feature. After the SEAS over IP feature has been enabled, continue the procedure with *Step 2*.

2. Display the current SEAS configuration using the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

   ```
   rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
   SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
   --------     ----------  ---------        ----   --------
   ------------ IPMR1       -------------    ----   --
                IPMR2       -------------    ----   --
   ```

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

   ```
   tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
   SEASCLLI            AUTHMODE
   ----------------------------
   ------------        --------

   TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME
   ```

```
------------------------------------------------------------------------
--            IPMR1         -------------   ----    ----      --------
--            IPMR2         -------------   ----    ----      --------
```

3. Enter the SEASCLLI value by entering the `chg-seas-config` command with the `seasclli` parameter. For this example, enter this command.

   `chg-seas-config:seasclli=TEAGLESTP001`

   Note: The SEASCLLI value is different from the CLLI value specified with the `chg-sid` command.

4. Verify whether or not the Eagle OA&M IP Security Enhancement feature is enabled and turned on by entering this command.

   `rtrv-ctrl-feat:partnum=893400001`

   This is an example of the possible output.

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

Feature Name              Partnum    Status  Quantity
EAGLE OA&M IP Security    893400001  on      ----

The following features have been temporarily enabled:

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

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

5. Provision the first connection to the CCS MR. Enter the `chg-seas-config` command with these parameters:

   - :conn=ipmr1
   - :ipaddr=the IP address of the CCS MR
   - :port = the port number of the CCS MR

   Caution: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

   If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, these parameters must also be specified.

   - :hname = The name of the remote host of the CCS MR.
   - :login = The login name of the CCS MR.

   If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, for this example, enter this command.

   `chg-seas-config:conn=ipmr1:ipaddr=198.168.25.10:port=2500`

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr1:ipaddr=198.168.25.10:port=2500:hname=abaco-a:login=root
```

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-SEAS-CONFIG: MASP A - COMPLTD
```

If the `login` parameter is specified with the `chg-seas-config` command, the `Enter Password:` prompt appears. When the `Enter Password:` prompt appears, enter the password for the login name. The length of the password is from 1 to 15 alphanumeric characters. The password is not echoed on the screen.

6. Provision the second connection to the CCS MR. Enter the `chg-seas-config` command with these parameters:

   - :conn=ipmr2
   - :ipaddr=the IP address of the CCS MR
   - :port = the port number of the CCS MR

Caution: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, these parameters must also be specified.

- :hname = The name of the remote host of the CCS MR.
- :login = The login name of the CCS MR.

If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr2:ipaddr=198.168.25.20:port=2600
```

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr2:ipaddr=198.168.25.20:port=2600:hname=abaco-b:login=root
```

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-SEAS-CONFIG: MASP A - COMPLTD
```

If the `login` parameter is specified with the `chg-seas-config` command, the `Enter Password:` prompt appears. When the `Enter Password:` prompt appears, enter the password for the login name. The length of the password is from 1 to 15 alphanumeric characters. The password is not echoed on the screen.

7. Verify the SEAS configuration using the `rtrv-seas-config` command.

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
---------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

----------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

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.
```

Configuring SEAS Terminals

This procedure is used to configure SEAS terminals for the SEAS over IP feature. The SEAS terminal can be configured only on E5-IPSMs. The EAGLE can contain a maximum of two SEAS terminals, but only one SEAS terminal can be configured on an E5-IPSM. When an E5-IPSM is configured in the database, eight telnet terminals are created. To configure the SEAS terminal, one of these telnet terminals is changed to a SEAS terminal using the `chg-trm` command with these parameters.

`:trm` – The number of the telnet terminal being changed, 17 through 40

`:type=seas` – The SEAS terminal type.

The `chg-trm` command contains other parameters, but these parameters cannot be used in this procedure. For more information on these parameters, see the *Changing Terminal Characteristics* procedure in this manual, or the `chg-trm` command description in *Commands User's Guide*.

SEAS terminals can be configured only if the SEAS over IP feature is enabled. The status of the SEAS over IP feature is shown in the `rtrv-ctrl-feat` output. If the SEAS over IP feature is not enabled,

perform the *Activating the SEAS over IP Feature* procedure in this chapter to enable the SEAS over IP feature.

When the SEAS terminal is configured, the value for the SEAS output group parameter is set to YES. The values for the other output group parameters and the `tmout`, `dural`, and `mxinv` parameters are not changed.

The other output group parameters can be changed with the specific output group parameter or the `all` parameter. If the `all=no` parameter is specified for a SEAS terminal (`type=seas`), all the output group values are changed to NO except for the SEAS output group. The SEAS output group value remains set to YES and this message is displayed.

```
SEAS Output Group is SET for SEAS terminal <terminal number>
```

1. Verify whether or not the SEAS over IP feature is enabled by entering this command.

   ```
   rtrv-ctrl-feat:partnum=893018801
   ```

   This is an example of the possible output.

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

Feature Name              Partnum    Status  Quantity
SEAS over IP              893018801  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 SEAS over IP feature is enabled, go to step 2.

   If the SEAS over IP feature is not enabled, perform the *Activating the SEAS over IP Feature* procedure in this chapter to enable SEAS over IP feature. After the SEAS over IP feature has been enabled, perform the *Performing the Initial SEAS Configuration* procedure in this chapter. After the *Performing the Initial SEAS Configuration* procedure has been performed, go to step 2.

2. Display the terminals in the EAGLE using the `rtrv-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
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
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   TELNET    1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   TELNET    1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
38   TELNET    1205             60    5     00:30:00   yes
39   TELNET    1205             60    5     00:30:00   yes
40   TELNET    1205             60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
27   none     none      none       1
28   none     none      none       1
28   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

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
25   NO   NO   NO  NO  YES NO  YES
26   NO   NO   NO  NO  NO  NO  NO
27   NO   NO   NO  NO  NO  NO  NO
28   NO   NO   NO  NO  NO  NO  NO
29   NO   NO   NO  NO  NO  NO  NO
30   NO   NO   NO  NO  NO  NO  NO
31   NO   NO   NO  NO  NO  NO  NO
32   NO   NO   NO  NO  NO  NO  NO
33   NO   NO   NO  NO  NO  NO  NO
34   NO   NO   NO  NO  YES NO  YES
35   NO   NO   NO  NO  NO  NO  NO
36   NO   NO   NO  NO  NO  NO  NO
37   NO   NO   NO  NO  NO  NO  NO
38   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
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
25   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
26   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
27   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
28   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
29   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
30   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
31   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
32   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
33   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
34   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
35   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
36   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
37   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
38   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  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
```

If no telnet terminals are shown in the `rtrv-trm` output, or only one telnet terminal is shown in the `rtrv-trm` output, perform the *Adding an E5-IPSM* procedure and add E5-IPSM cards to the database. A minimum of two E5-IPSMs are required. After the E5-IPSMs have been added to the database, skip step 3 and go to step 4.

If two or three telnet terminals are shown in the `rtrv-trm` output, go to step 3.

3. Verify that the cards containing the telnet terminals shown in the `rtrv-trm` output in step 2 are E5-IPSMs. Enter the `rept-stat-card` command specifying the card location shown in the `rtrv-trm` output in step 2. For this example, enter these commands.

   ```
   rept-stat-card:loc=1201
   ```

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1201   126-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

```
rept-stat-card:loc=1203
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1203   126-003-000  IPSM      IPS        IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
```

```
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

`rept-stat-card:loc=1205`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1205   126-003-000  IPSM      IPS        IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

If the `GPL` value shown in the `rept-stat-card` output is `IPSHC`, the card is an E5-IPSM. If the `GPL` value shown in the `rept-stat-card` output is `IPS`, the card is an IPSM.

If there are a minimum of two E5-IPSMs shown in the `rept-stat-card` outputs, go to step 4.

If there is only one E5-IPSM or no E5-IPSMs shown in the `rept-stat-card` outputs, E5-IPSMs must be added to the database so that there are a minimum of two E5-IPSMs in the database. Remove enough IPSMs from the database so that when the E5-IPSMs are added, the EAGLE will contain a minimum of two E5-IPSMs. Perform the *Removing an E5-IPSM* procedure to remove the IPSMs. After the IPSMs have been removed from the database, remove the IPSM from the shelf.

When the IPSMs have been removed, perform the "Adding an IPSM" procedure in Chapter 4 of this manual to add the E5-IPSMs.

4. Select two telnet terminals. Each telnet terminal must be assigned to different E5-IPSMs. Display the status of this terminal by entering the `rept-stat-trm` command with the number of the selected telnet terminal. For this example, enter these commands.

   `rept-stat-trm:trm=18`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM    PST          SST          AST
18     IS-NR        Active       -----

Command Completed.
```

`rept-stat-trm:trm=27`

This is an example of the possible output

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
27    IS-NR         Active        -----

Command Completed.
```

- If the state of both telnet terminals displayed in step 4 is OOS-MT-DSBLD, skip step 5 and go to step 6.
- If the state of both telnet terminals displayed in step 4 is not OOS-MT-DSBLD, go to step 5.

5. To change the terminal type to a SEAS terminal type, the telnet terminal must be placed out of service using the `rmv-trm` command. Enter the `rmv-trm` command with the number of the terminal whose state is not OOS-MT_DSBLD. Perform this step only for the terminals shown in step 4 whose state is not OOS-MT_DSBLD.

   ```
   rmv-trm:trm=18
   ```

   ```
   rmv-trm:trm=27
   ```

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

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Inhibit message sent to terminal

   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Command Completed.
   ```

6. Verify that the terminal that was inhibited in step 5 is in the OOS-MT-DSBLD state by entering the `rept-stat-trm` command with the number of the terminal specified in step 5.

   For this command, enter these commands.

   ```
   rept-stat-trm:trm=18
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST            SST           AST
   18    OOS-MT-DSBLD   MANUAL        -----
   Command Completed.
   ```

   ```
   rept-stat-trm:trm=27
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST            SST           AST
   27    OOS-MT-DSBLD   MANUAL        -----
   Command Completed.
   ```

7. Change the terminal type of the terminals shown in step 6 to the SEAS terminal type using the `chg-trm` command with the number of the terminals shown in step 6.

For this example enter these commands.

```
chg-trm:trm=18:type=seas
```

```
chg-trm:trm=27:type=seas
```

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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=18
   ```

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC             TMOUT MXINV DURAL      SECURE
18   SEAS      1201            30    5     00:01:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
18   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
18   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

   ```
   rtrv-trm:trm=27
   ```

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC             TMOUT MXINV DURAL      SECURE
27   SEAS      1203            30    5     00:01:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
27   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
27   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
27   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

9. Display the SEAS configuration using the `rtrv-seas-config` command.

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   --
             IPMR2       192.168.25.20    2600   --
```

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI            AUTHMODE
---------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME
-----------------------------------------------------------------------
--            IPMR1         198.168.25.10   2500    root      abaco-a
--            IPMR2         198.168.25.20   2600    root      abaco-b
```

10. Verify the connection to the CCS MR by entering the `pass:cmd="ping"` command specifying the card location of the SEAS terminal (shown in step 8) and the IP address assigned to the connection (shown in step 9). Perform this step for both connection to the CCS MR. For this example, enter these commands

    `pass:loc=1201:cmd="ping 198.168.25.10"`

    The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PASS: Command sent to card

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING command in progress

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING 198.168.25.10: 56 data bytes
64 bytes from tekral.nc.tekelec.com (198.168.25.10): icmp_seq=0. time=5. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.10): icmp_seq=1. time=9. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.10): icmp_seq=2. time=14. ms
----tekral PING Statistics----
3 packets transmitted, 3 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 5/9/14

PING command complete
```

    `pass:loc=1203:cmd="ping 198.168.25.20"`

    The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PASS: Command sent to card

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
```

```
PING command in progress

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING 198.168.25.20: 56 data bytes
64 bytes from tekral.nc.tekelec.com (198.168.25.20): icmp_seq=0. time=5. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.20): icmp_seq=1. time=9. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.20): icmp_seq=2. time=14. ms
----tekral PING Statistics----
3 packets transmitted, 3 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 5/9/14

PING command complete
```

11. Put the SEAS terminals into service using the `alw-trm` command with the number of the SEAS terminals shown in step 8.

`alw-trm:trm=18`

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

```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
Allow message sent to terminal

rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     18         Terminal Enabled
```

`alw-trm:trm=27`

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

```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
Allow message sent to terminal

rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     27         Terminal Enabled
```

12. 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.
```

Changing the Existing SEAS Configuration

This procedure is used to change the existing SEAS configuration using the `chg-seas-config` command.

The chg-seas-config command uses these parameters.

:conn – The name of the SEAS connection, either IPMR1 or IPMR2

:seasclli – The CLLI part of node name of the EAGLE consisting of one alphabetic character and up to 15 alphanumeric characters. The seasclli value is different from the EAGLE clli value that is entered with the chg-sid command. The seasclli value must also be configured on the Telcordia Message Router (CCS MR). Refer to Telcordia Configuration Specification "Telcordia Technologies System Documentation", *BD-SNAM-ADMIN-4 Issue 14, November 2006*.

:ipaddr – The IP address of the CCS MR.

:port – The port number of the CCS MR that the EAGLE connects to, from 1024 to 5000.

:hname – The name of the remote host of the CCS MR, 1 to 15 alphanumeric characters.

:login – The login name of the CCS MR, 1 to 15 alphanumeric characters.

:authmode – The method of authentication used for the connection. Currently, only password authentication is used for SEAS connections, so this parameter has only one value, password. This parameter is optional and does not need to be specified.

The hname, login, and authmode parameters are used only when the Eagle OA&M IP Security feature is enabled and turned on. The values for these parameters are displayed in the rtrv-seas-config output only when the Eagle OA&M IP Security feature is enabled and turned on. The status of the Eagle OA&M IP Security feature is shown in the rtrv-ctrl-feat output.

If the seasclli value is being changed, all the SEAS terminals must be taken out of service. If the connection information for one connection is being changed, only the terminal associated with this connection must be taken out of service.

Caution: The IP address and port value combination for each SEAS connection must be unique or the chg-seas-config command will be rejected.

The IP address for the SEAS over IP configuration cannot be shown as the IPADDR value in the rtrv-ip-lnk or rtrv-ftp-serv outputs, or the BPIPADDR value in the rtrv-ip-card output.

1. Display the current SEAS configuration using the rtrv-seas-config command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
----------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME
```

```
------------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

2. Display the status of the SEAS terminal associated with the connection that is being changed. Enter the `rept-stat-trm` command with the terminal number shown in *Step 1* .

   If the `seasclli` value is being changed, both SEAS terminals must be taken out of service. Perform this step for both SEAS terminals.

   For this example, enter these commands.

   ```
   rept-stat-trm:trm=18
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   18    IS-NR         Active        -----

   Command Completed.
   ```

   ```
   rept-stat-trm:trm=27
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   27    IS-NR         Active        -----

   Command Completed.
   ```

3. Place the SEAS terminals displayed in *Step 2* out of service using the `rmv-trm` command. Enter the `rmv-trm` command with the number of the terminal whose state is not OOS-MT_DSBLD. Perform this step only for the terminals shown in *Step 2* whose state is not OOS-MT_DSBLD.

   Note: If the SEAS terminal specified in this step is the last SEAS terminal that is in service, the `force=yes` parameter must be specified with the `rmv-trm` command.

   ```
   rmv-trm:trm=18
   ```

   ```
   rmv-trm:trm=27:force=yes
   ```

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

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Inhibit message sent to terminal

   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Command Completed.
   ```

   Note: If the SEASCLLI value is not being changed, skip step 4 and go to step 5.

4. Change the SEASCLLI value by entering the `chg-seas-config` command with the `seasclli` parameter. For this example, enter this command.

   ```
   chg-seas-config:seasclli=TEAGLESTP002
   ```

Note: The SEASCLLI value is different from the CLLI value specified with the `chg-sid` command.

Note: If only the SEASCLLI value is being changed in this procedure, skip step 5 and go to step 6.

5. Change the connection information for a connection to the CCS MR. Enter the `chg-seas-config` command with these parameters:

   - :conn=<the name of the connection being changed, ipmr1 or ipmr2>
   - :ipaddr=the IP address of the CCS MR
   - :port = the port number of the CCS MR

   Caution: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

   If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, these parameters can also be specified.

   - :hname = The name of the remote host of the CCS MR.
   - :login = The login name of the CCS MR.

   If the `LOGIN` column is shown in the `rtrv-seas-config` output in *Step 1* , the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

   Note: If you wish to specify the `login` and `hname` parameters for the connection being changed, and the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* procedure to enable and turn on the Eagle OA&M IP Security Enhancement feature. Enable and turn on the Eagle OA&M IP Security Enhancement feature before performing the `chg-seas-config` command.

   If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, for this example, enter this command.

   ```
   chg-seas-config:conn=ipmr1:ipaddr=198.168.25.30:port=3000
   ```

   If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, for this example, enter this command.

   ```
   chg-seas-config:conn=ipmr1:ipaddr=198.168.25.30:port=3000:hname=remote2:login=root
   ```

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

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   CHG-SEAS-CONFIG: MASP A - COMPLTD
   ```

   If the `login` parameter was specified with the `chg-seas-config` command, the `Enter Password:` prompt appears. When the `Enter Password:` prompt appears, enter the password for the login name. The length of the password is from 1 to 15 characters. The password is not echoed on the screen.

6. Verify the SEAS configuration using the `rtrv-seas-config` command.

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP002 IPMR1       192.168.25.30    3000   18
             IPMR2       192.168.25.20    2600   27
```

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
---------------------------
TEAGLESTP002        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

------------------------------------------------------------------------
18            IPMR1         198.168.25.30   3000    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

Note: If only the SEASCLLI value was changed, continue the procedure with *Step 9*.

7. Display the SEAS terminal associated with the connection that was changed in *Step 6* using the `rtrv-trm` with the number of the SEAS terminal associated with the connection that was changed.

   For this example, enter this command.

   `rtrv-trm:trm=18`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
18   SEAS      1201             30    5     00:01:00   yes

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
18   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

8. Verify the connection to the CCS MR by entering the `pass:cmd="ping"` command specifying the card location of the SEAS terminal (shown in *Step 7*) and the IP address assigned to the connection (shown in *Step 6*).

   `pass:loc=1201:cmd="ping 198.168.25.30"`

   The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PASS: Command sent to card
```

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING command in progress

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING 198.168.25.30: 56 data bytes
64 bytes from tekral.nc.tekelec.com (198.168.25.30): icmp_seq=0. time=5. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.30): icmp_seq=1. time=9. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.30): icmp_seq=2. time=14. ms
----tekral PING Statistics----
3 packets transmitted, 3 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 5/9/14

PING command complete
```

If you wish to change the other connection, repeat this procedure from *Step 2* .

If all the changes to the SEAS configuration have been made, continue the procedure with *Step 9*.

9. Put the SEAS terminals into service using the `alw-trm` command with the number of the SEAS terminals shown in *Step 6* . This step should be performed for all the SEAS terminals that were taken out of service in *Step 3* .

   `alw-trm:trm=18`

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

```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
Allow message sent to terminal

rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     18         Terminal Enabled
```

   `alw-trm:trm=27`

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

```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
Allow message sent to terminal

rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     27         Terminal Enabled
```

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.
```

Turning Off the SEAS Over IP Feature

This procedure is used to turn off the SEAS over IP feature using the `chg-ctrl-feat` command.

The `chg-ctrl-feat` command uses the following parameters:

`:partnum` - The part number of the SEAS over IP feature, 893018801.

`:status=off` – used to turn off the SEAS over IP feature.

The status of the SEAS over IP feature must be `on` and is shown with the `rtrv-ctrl-feat` command.

Caution: If the SEAS over IP feature is turned off, all SEAS terminal traffic stops.

1. Display the status of the SEAS over IP feature by entering the rtrv-ctrl-feat:partnum=893018801 command. The following is an example of the possible output.

   The following is an example of the possible output.

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

Feature Name              Partnum    Status  Quantity
SEAS over IP              893018801  on      ----

The following features have been temporarily enabled:
Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

   If the status of the SEAS over IP feature is off, or if the SEAS over IP feature is not enabled, this procedure cannot be performed.

2. Turn off the SEAS over IP feature by entering the `chg-ctrl-feat` command with the `status=off` parameter. Enter this command.

   `chg-ctrl-feat:partnum=893018801:status=off`

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

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the SEAS over IP feature has been turned off by using the `rtrv-ctrl-feat:partnum=893018801` command. The following is an example of the possible output.

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

Feature Name              Partnum    Status  Quantity
SEAS over IP              893018801  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.
```

Note: Once the SEAS over IP feature is turned off, the SEAS terminals can be changed to TELNET terminals. If you do not wish to change the SEAS terminals to TELNET terminals, skip steps 4 through 6, and go to step 7.

4. Display the SEAS configuration by entering the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
----------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

------------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

5. Change the terminal type of the terminals shown in step 4 to the TELNET terminal type using the `chg-trm` command with the number of the terminals shown in step 4.

   For this example enter these commands.

   `chg-trm:trm=18:type=telnet`

   `chg-trm:trm=27:type=telnet`

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

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-TRM: MASP A - COMPLTD
```

A warning message, "Invalidating the Terminal data in SEASCFG table", is also displayed.

6. Verify the changes made in step 5 by using the `rtrv-trm` command with the terminal number specified in step 5.

   For this example, enter these commands.

   `rtrv-trm:trm=18`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
18   TELNET    1201             30    5     00:01:00   yes

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
18   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

   `rtrv-trm:trm=27`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
27   TELNET    1203             30    5     00:01:00   yes

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
27   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
27   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

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

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

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

Appendix A

Controlled Feature Activation Procedures

Topics:

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

Introduction

Note: As of Release 10.1, the fak parameter is no longer required. This parameter is only used for backward compatibility.

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 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 Oracle.

Features enabled with a permanent feature access key remain enabled for as long as the EAGLE 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, 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 Oracle-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, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 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 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. 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'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 Oracle-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 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

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
```

```
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. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 2 and 3 must be performed.

2. Display the serial number in the database with the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, skip steps 3, 4, and 5, and go to step 6. If the serial number is correct but not locked, skip steps 3 and 4, and go to step 5. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to *My Oracle Support (MOS)* 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's correct serial number>
   ```

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

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   ENT-SERIAL-NUM:  MASP A - COMPLTD
   ```

4. Verify that the serial number entered into step 3 was entered correctly using the `rtrv-serial-num` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   System serial number = nt00001231

   System serial number is not locked.

   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   Command Completed
   ```

   If the serial number was not entered correctly, repeat steps 3 and 4 and re-enter the correct serial number.

5. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 2, if the serial number shown in step 2 is correct, or with the serial number shown in step 4, if the serial number was changed in step 3, and with the `lock=yes` parameter.

   For this example, enter this command.

   ```
   ent-serial-num:serial=<EAGLE's serial number>:lock=yes
   ```

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

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   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=xxxxxxxxxxxxx
   ```

   ```
   enable-ctrl-feat:partnum=893005701:fak=xxxxxxxxxxxxx
   ```

   ```
   enable-ctrl-feat:partnum=893009101:fak=xxxxxxxxxxxxx
   ```

   Note:

   The values for the feature access key (the `fak` parameter) are provided by Oracle. 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 Oracle Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

Note: If a temporarily enabled feature was permanently enabled in step 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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 06-10-01 21:16:37 GMT EAGLE5 36.0.0
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 06-10-01 21:16:37 GMT EAGLE5 36.0.0
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 06-10-01 21:16:37 GMT EAGLE5 36.0.0
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.
```

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 and the telnet terminals allowing passwords to be sent over the connection. This allows the EAGLE administrator to add new users to the EAGLE (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. Go to FTP *Table Base Retrieval User's 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 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, or *Commands User's Guide*.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
```

```
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
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. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 2 through 5 must be performed.

2. Display the serial number in the database with the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note:

If the serial number is correct and locked, skip steps 3, 4, and 5, and go to step 6. If the serial number is correct but not locked, skip steps 3 and 4, and go to step 5. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to *My Oracle Support (MOS)* 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's correct serial number>
   ```

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

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   ENT-SERIAL-NUM:  MASP A - COMPLTD
   ```

4. Verify that the serial number entered into step 3 was entered correctly using the `rtrv-serial-num` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   System serial number = nt00001231

   System serial number is not locked.

   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   Command Completed
   ```

   If the serial number was not entered correctly, repeat steps 3 and 4 and re-enter the correct serial number.

5. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 2, if the serial number shown in step 2 is correct, or with the serial number shown in step 4, if the serial number was changed in step 3, and with the `lock=yes` parameter.

   For this example, enter this command.

   ```
   ent-serial-num:serial=<EAGLE's serial number>:lock=yes
   ```

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

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   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 Oracle. If you do not have the feature access key for the SEAS over IP feature, contact your Oracle Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 OAMIP 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 06-10-01 16:02:08 GMT EAGLE5 39.0.0
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  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
27   none     none      none       1
28   none     none      none       1
28   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

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 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        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 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        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 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
    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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
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 06-10-01 21:16:37 GMT EAGLE5 36.0.0
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 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
    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 FTP *Table Base Retrieval User 's 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.
    ```

Unmate IP Security for Terminal and Measurements

Eagle Release 45.0 provides the capability to unmate the IP Security for Telnet and FTP. The Terminal security (SSH) will be controlled by an option 'ssh' in the Security Default table. This option can be set to ON to enable SSH or set to OFF to disable SSH. The `chg-secu-dflt` command will be modified

to support the parameter 'ssh' that turns SSH ON/OFF. The parameter is optional, and defaults to OFF. Example command:

`chg-secu-dflt:ssh=on`

Security for the FTP interfaces will be controlled by an option Security in the FTP Server table. Each option in the table defines the parameters for a specific FTP interface. The parameter Security can be turned ON/OFF for each server entry independently. When the OAM IP Security feature is ON and the FTP interface Security parameter is ON, the interface will be protected by data encryption.

The Security Parameter can be set when an interface is initially created with the `ent-ftp-serv` command, or changed for an existing interface with the `chg-ftp-serv` command. The parameter is optional, and defaults to OFF. Example commands:

`ent-ft-serv-:ipaddr=x.x.x.x:login=user:app=dist:prio=1=login=eagle:path="/path":security=on`
and

`chg-ftp-serv:ipaddr=x.x.x.x:app=dist:security=on`.

Activating the 15 Minute Measurements Controlled Feature

This procedure is used to enable and turn on the 15 Minute Measurements controlled feature, using the feature's part number and a feature access key. This feature allows EAGLE measurements to be collected every 15 minutes.

To enable and turn on the 15 Minute Measurements controlled feature, the following requirements must be met:

- The Measurements Platform feature must be on, or the Integrated Measurements feature must be enabled and turned on.
- The EAGLE must be configured to use the Measurements Platform, or the Integrated Measurements feature.
- If the Measurements Platform is being used, MCPMs must be provisioned in the database, and the state of all these MCPMs must be IS-NR.

The `enable-ctrl-feat`, `ent-serial-num`, and `chg-ctrl-feat` commands are used to enable and turn on the 15 Minute Measurements controlled feature using the feature's part number and a feature access key.

The feature access key for the 15 Minute Measurements controlled feature is based on the feature's part number and the serial number of the EAGLE, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Oracle. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Oracle-issued part number of the 15 Minute Measurements controlled feature, 893012101.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 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 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. 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's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature has been enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Oracle-issued part number of the 15 Minute Measurements controlled feature, 893027701.

`:status=on` – used to turn the 15 Minute Measurements controlled feature on.

Once the 15 Minute Measurements controlled feature has been turned on, it be cannot be turned off.

The status of the features in the EAGLE is shown with the `rtrv-ctrl-feat` command.

After the 15 Minute Measurements controlled feature is enabled and turned on, the 15 minute measurement collection option in the measurement options table must be turned on.

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 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
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 enabled, and its status is `on`, no further action is necessary.

If the 15 Minute Measurements controlled feature is enabled, and its status is `off`, continue the procedure with *Step 7*.

Note: If the `rtrv-ctrl-feat` output in *Step 1* shows any controlled features, continue the procedure with *Step 6*. If the `rtrv-ctrl-feat` output shows only the HC-MIM SLK Capacity feature with a quantity of 64, *Step 2* through *Step 5* must be performed.

2. Display the serial number in the database with the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

   Note: If the serial number is correct and locked, continue the procedure with *Step 6*. If the serial number is correct but not locked, continue the procedure with *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 *My Oracle Support (MOS)* 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's correct serial number>`

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

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

4. Verify that the serial number entered into *Step 3* was entered correctly using the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

   If the serial number was not entered correctly, repeat *Step 3* and *Step 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's serial number>:lock=yes
   ```

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

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   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>
   ```

   This feature cannot be enabled with a temporary feature access key.

   Note: The values for the feature access key (the `fak` parameter) are provided by Oracle. If you do not have the controlled feature part number or the feature access key for the feature you wish to enable, contact your Oracle Sales Representative or Account Representative.

   When the `enable-ctrl-feat` command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   ENABLE-CTRL-FEAT: MASP B - COMPLTD
   ```

7. Display the quantity of signaling links that are provisioned in the EAGLE by entering the `rtrv-tbl-capacity` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 10-04-19 21:16:37 GMT EAGLE5 42.0.0
   SLK      table is (        7 of      1200)   1% full
   ```

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

8. To enable the 15 Minute Measurements controlled feature, either the Measurements Platform feature must be on and the Measurements Platform option (PLATFORMENABLE) must be on, or the Integrated Measurements feature must be enabled and turned on and the measurement collection option for the E5-MCAP card (OAMHCMEAS) must be on. If the EAGLE contains more than 1200 signaling links, shown in *Step 7*, the Measurements Platform feature must be used. If the EAGLE contains 1200 signaling links or less, either the Measurements Platform feature or the Integrated Measurements feature can be used. Verify whether or nor the Measurements Platform option is enabled (`PLATFORMENABLE = on`), or the measurement collection option for the E5-MCAP card (OAMHCMEAS) must be on using the `rtrv-measopts` command.

The following is an example of the possible output.

```
rlghncxa03w 10-04-01 16:02:05 GMT  EAGLE5 42.0.0

PLATFORMENABLE = on
COLLECT15MIN   = off
CLLIBASEDNAME  = on
OAMHCMEAS      = off
--------------------------------------
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 *Commands User's Guide*.

If the Measurements Platform option is enabled, continue the procedure with *Step 11*.

If the Measurements Platform option is not enabled and the Measurements Platform is required, or you wish to use the Measurements Platform, continue the procedure with *Step 9*.

If the Integrated Measurements feature will be used, continue the procedure by performing one of these steps.

- If the measurement collection option for the E5-MCAP card (OAMHCMEAS) is on, continue the procedure with *Step 11*.
- If the measurement collection option for the E5-MCAP card (OAMHCMEAS) is off, continue the procedure by performing one of these steps.
  - If the Integrated Measurements feature is not enabled or turned on, shown in the `rtrv-ctrl-feat` output in *Step 1*, perform the *Configuring the Integrated Measurements Feature* procedure to configure the Integrated Measurements feature. Continue the procedure with *Step 11*.
  - If the Integrated Measurements feature is enabled and turned on, continue the procedure with *Step 10*.

9. 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 *Commands User's Guide*.

   If the Measurements Platform feature is not on, perform the *Adding a Measurement Collection and Polling Module (MCPM)* procedure 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 to configure the Measurements Platform feature. Continue the procedure with *Step 11*.

   If the Measurements Platform is on, perform the *Configuring the Measurements Platform Feature* procedure to configure Measurements Platform feature and to enable the Measurements Platform option, if required. Continue the procedure with *Step 11*..

10. Turn the measurement collection option for the E5-MCAP card (OAMHCMEAS) on by entering this command.

    `chg-measopts:oamhcmeas=on`

    When the `chg-measopts` command has successfully completed, the following message should appear.

```
rlghncxa03w 10-04-01 21:16:37 GMT EAGLE5 42.0.0
CHG-MEASOPTS: MASP A - COMPLTD
```

11. Turn the 15 Minute Measurements controlled feature on using the `chg-ctrl-feat` command, specifying the 15 Minute Measurements controlled feature part number and the `status=on` parameter.

    Note: If a 30-minute measurement collection is in progress, the `chg-ctrl-feat` command will be rejected. Wait until the 30-minute measurement collection has finished before executing the `chg-ctrl-feat` command.

    For this example, enter this command.

    `chg-ctrl-feat:partnum=893012101:status=on`

    Note: Once the 15 Minute Measurements feature is turned on, it cannot be turned off.

    When the `chg-ctrl-feat` command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

12. Verify the changes by entering the `rtrv-ctrl-feat` command with the part number specified in *Step 11* .

    `rtrv-ctrl-feat:partnum=893012101`

    The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
15 Minute Measurements    893012101  on      ----
```

13. 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 10-04-01 21:16:37 GMT EAGLE5 42.0.0
CHG-MEASOPTS: MASP A - COMPLTD
```

14. 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 10-04-01 16:02:05 GMT  EAGLE5 42.0.0

PLATFORMENABLE = on
COLLECT15MIN   = on
CLLIBASEDNAME  = on
OAMHCMEAS      = off
-----------------------------------
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 *Commands User's Guide*.

15. 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.
```

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.

1. Display the controlled feature that has the expired feature access key by entering the `rtrv-ctrl-feat:expired=yes` command.

    The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:17:37 GMT EAGLE5 36.0.0
The following features have expired temporary keys:
Feature Name              Part Num
Command Class Management  893005801
```

2. Clear the EAGLE 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 06-10-01 21:16:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the alarm has cleared in the database by using the `rtrv-ctrl-feat:expired=yes` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
0367.0181  *  SYSTEM      Temp Key(s) expiration alarm cleared.
```

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

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

   .

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

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 SEAS over IP feature is turned off, all SEAS terminal traffic stops.

Caution: If the IP User Interface (TELNET) 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. If the SEAS over IP feature is turned on, the TELNET feature cannot be turned off.

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 06-10-01 21:17:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
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.
```

   The TELNET feature cannot be turned off if the SEAS over IP feature is turned on. If the TELNET (IP User Interface) is not being turned off, go to step 2.

   If the TELNET feature is being turned off, and the SEAS over IP feature is not turned on (shown in the `rtrv-ctrl-feat` output in this step by the entry `SEAS over IP`), go to step 2.

   If the TELNET feature is being turned off, and the SEAS over IP feature is turned on, perform the *Turning Off the SEAS Over IP Feature* procedure to turn the SEAS over IP feature off. After the SEAS over IP feature has been turned off, go to step 2.

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 06-10-01 21:16:37 GMT EAGLE5 36.0.0
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 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  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.
```

   `rtrv-ctrl-feat:partnum=893005701`

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Telnet                    893005701  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.
```

   `rtrv-ctrl-feat:partnum=893009101`

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

```
Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  off     ----

The following features have been temporarily enabled:

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

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

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

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

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

Activating the HIPR2 High Rate Mode Feature

This procedure is used to enable and turn on the HIPR2 High Rate Mode feature using the feature's part number and a feature access key.

The feature access key for the HIPR2 High Rate Mode feature is based on the feature's part number and the serial number of the EAGLE, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Oracle. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Oracle-issued part number of the HIPR2 High Rate Mode feature, 893020101.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 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 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. 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's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the

serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

This feature cannot be temporarily enabled (with the temporary feature access key).

Once this feature is enabled, the feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters.

`:partnum` – The Oracle-issued part number of the HIPR2 High Rate Mode feature, 893020101.

`:status=on` – used to turn the HIPR2 High Rate Mode feature on.

Caution: The HIPR2 High Rate Mode feature cannot be turned off if any of these conditions are present.

- The IMT Rate Change sequence is being performed.
- The Extended Bit Rate Test (BERT) is being performed.
- Any of the cards in card locations 9 and 10 in each shelf are being flashed with the `init-flash` command.

Once the HIPR2 High Rate Mode feature has been turned on, it be can be turned off. For more information on turning the HIPR2 High Rate Mode feature off, perform *Turning Off the HIPR2 High Rate Mode Feature*.

The status of the features in the EAGLE is shown with the `rtrv-ctrl-feat` command.

When the HIPR2 High Rate Mode feature is turned on, the throughput of the IMT bus is increased to 2.5 Gbps. If the HIPR2 High Rate Mode feature is not turned on, the throughput of the IMT bus is limited to 1 Gbps. To turn the the HIPR2 High Rate Mode feature on, all the cards in card locations 9 and 10 in each shelf must be HIPR2 cards.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
XGTT Table Expansion      893006101  on      400000
XMAP Table Expansion      893007710  off     ----
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000
HC-MIM SLK Capacity       893012707  on      64

The following features have been temporarily enabled:

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

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

If the HIPR2 High Rate Mode feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the HIPR2 High Rate Mode feature is enabled and but not turned on, continue the procedure with *Step 7*.

If the HIPR2 High Rate Mode feature is not enabled, continue the procedure by performing one of these steps.

- If the `rtrv-ctrl-feat` output shows the HC-MIM SLK Capacity feature with a quantity of 64 and other features, continue the procedure with *Step 6*.
- If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, continue the procedure with *Step 2*.

2. Display the serial number in the database with the `rtrv-serial-num` command. This is an example of the possible output.

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
Command Completed
```

Note: If the serial number is correct and locked, continue the procedure with *Step 6*. If the serial number is correct but not locked, continue the procedure with *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 *My Oracle Support (MOS)* 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's correct serial number>`

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

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
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 09-07-28 21:15:37 GMT EAGLE5 41.1.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
Command Completed
```

If the serial number was not entered correctly, repeat *Step 3* and *Step 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's serial number>:lock=yes
   ```

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

   ```
   rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
   ENT-SERIAL-NUM:  MASP A - COMPLTD
   ```

6. Enable the HIPR2 High Rate Mode feature with the `enable-ctrl-feat` command specifying the part number for the HIPR2 High Rate Mode feature and the feature access key. Enter this command.

   ```
   enable-ctrl-feat:partnum=893020101:fak=<HIPR2 High Rate Mode feature access key>
   ```

   The HIPR2 High Rate Mode feature cannot be enabled with a temporary feature access key.

   The values for the feature access key (the `fak` parameter) are provided by Oracle. If you do not have the feature access key for the HIPR2 High Rate Mode feature, contact your Oracle Sales Representative or Account Representative.

   When the `enable-crtl-feat` command has successfully completed, this message should appear.

   ```
   rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
   ENABLE-CTRL-FEAT: MASP B - COMPLTD
   ```

   If you do not wish to turn the HIPR2 High Rate Mode feature on at this time, continue the procedure with *Step 9*.

   If you wish to turn the HIPR2 High Rate Mode feature, continue the procedure with *Step 7*.

7. To turn the HIPR2 High Rate Mode feature on, all the cards in card locations 9 and 10 in each shelf must be HIPR2 cards. Enter these commands to verify that cards that are in card locations 9 and 10 in each shelf.

   a) To verify if HIPR2 cards are in card locations 9 and 10, enter this command.

      ```
      rept-stat-gpl:gpl=hipr2
      ```

      This is an example of the possible output.

   ```
   rlghncxa03w 09-07-01 11:40:26 GMT  EAGLE5 41.1.0

   GPL      CARD   RUNNING           APPROVED      TRIAL
   HIPR2    1309   132-003-000       132-003-000   132-002-000
   HIPR2    1310   132-003-000       132-003-000   132-002-000
   HIPR2    2109   132-003-000       132-003-000   132-002-000
   HIPR2    2100   132-003-000       132-003-000   132-002-000
   Command Completed
   ```

If no cards running the specified GPL are installed, the `rept-stat-gpl` output shows no entries, as shown in this example.

```
rlghncxa03w 09-07-01 11:40:26 GMT  EAGLE5 41.1.0

GPL      CARD   RUNNING           APPROVED      TRIAL

Command Completed
```

If card locations 9 and 10 in all shelves contain HIPR2 cards, continue the procedure with *Step 8*.

If card locations 9 and 10 in any shelves contain HMUX or HIPR cards, perform the procedures in *Installation Guide* to replace the HMUX or HIPR cards with HIPR2 cards. After the HIPR2 cards have been installed, continue the procedure with *Step 8*.

8. Turn the HIPR2 High Rate Mode feature on with the `chg-ctrl-feat` command specifying the part number for the HIPR2 High Rate Mode feature and the `status=on` parameter. Enter this command.

Caution: The HIPR2 High Rate Mode feature cannot be turned off if any of these conditions are present.

- The IMT Rate Change sequence is being performed.
- The Extended Bit Rate Test (BERT) is being performed.
- Any of the cards in card locations 9 and 10 in each shelf are being flashed with the `init-flash` command.

```
chg-ctrl-feat:partnum=893020101:status=on
```

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

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

9. Verify the changes by entering the `rtrv-ctrl-feat`command with the HIPR2 High Rate Mode feature part number. Enter this command.

```
rtrv-ctrl-feat:partnum=893020101
```

The following is an example of the possible output.

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
HIPR2 High Rate Mode      893020101  on      ----

The following features have been temporarily enabled:

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

The following features have expired temporary keys:
```

```
Feature Name              Partnum
Zero entries found.
```

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

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

Turning Off the HIPR2 High Rate Mode Feature

This procedure is used to turn off the HIPR2 High Rate Mode feature, using the `chg-ctrl-feat` command.

Caution: The HIPR2 High Rate Mode feature cannot be turned off if any of these conditions are present.

- The IMT Rate Change sequence is being performed.
- The Extended Bit Rate Test (BERT) is being performed.
- The total provisioned system TPS value is greater than 500,000.
- Any of the cards in card locations 9 and 10 in each shelf are being flashed with the `init-flash` command.

The `chg-ctrl-feat` command uses the following parameters:

`:partnum` - The part number of the HIPR2 High Rate Mode feature, 893020101.

`:status=off` – used to turn off the HIPR2 High Rate Mode feature.

The status of the HIPR2 High Rate Mode feature must be `on` and is shown with the `rtrv-ctrl-feat` command.

Caution: If the HIPR2 High Rate Mode feature is turned off, the throughput rate for the IMT bus is limited to 1 Gbps.

1. Display the status of the HIPR2 High Rate Mode feature by entering the `rtrv-ctrl-feat:partnum=893020101` command.

   The following is an example of the possible output.

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
HIPR2 High Rate Mode      893020101  on      ----
```

```
The following features have been temporarily enabled:

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

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

If the status of the HIPR2 High Rate Mode feature is off, or if the HIPR2 High Rate Mode feature is not enabled, this procedure cannot be performed.

2. Display the maximum system IP TPS value by entering the `rtrv-tps` command.

   The following is an example of the possible output.

```
rlghncxa03w 10-07-28 21:15:37 GMT EAGLE5 42.0.0

    CARD     NUM    NUM      RSVD       MAX
    TYPE   CARDS  LINKS       TPS       TPS
    -----  -----  -----  --------  --------
    IPGW       9      8     32000     40000
    IPSG     100     16     80000     80000
    IPLIM      1      0         0         0
    ATM        0      0         0         0

    Total provisioned System TPS (120000 of 500000) 24%

    Command Completed.
```

   If the maximum system IP TPS value is greater than 500,000, this procedure cannot be performed.

3. Turn off the HIPR2 High Rate Mode feature by entering the `chg-ctrl-feat` command with the `status=off` parameter.

   For example, enter this command.

   `chg-ctrl-feat:partnum=893020101:status=off`

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

```
rlghncxa03w 09-07-28 21:16:37 GMT EAGLE5 41.1.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

4. Verify that the HIPR2 High Rate Mode feature has been turned off by using the `rtrv-ctrl-feat:partnum=893020101` command. The following is an example of the possible output.

```
rlghncxa03w 09-07-28 21:15:37 GMT EAGLE5 41.1.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
HIPR2 High Rate Mode      893020101  off     ----

The following features have been temporarily enabled:
```

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

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

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

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

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

Appendix B

Setting Up a Secure Telnet Connection to the EAGLE using PuTTY

Topics:

Appendix B, Setting Up a Secure Telnet Connection to the EAGLE using PuTTY contains the procedure for setting a secure telnet connection to the EAGLE using PuTTY.

Setting Up a Secure Telnet Connection to the EAGLE using PuTTY

This appendix describes the steps to set up a Telnet connection to to the EAGLE using the PuTTY client program.

The PuTTY client program must be installed on the machine that will be connecting to the EAGLE 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

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 12: PuTTY Configuration Window - Initial Session Setup*.

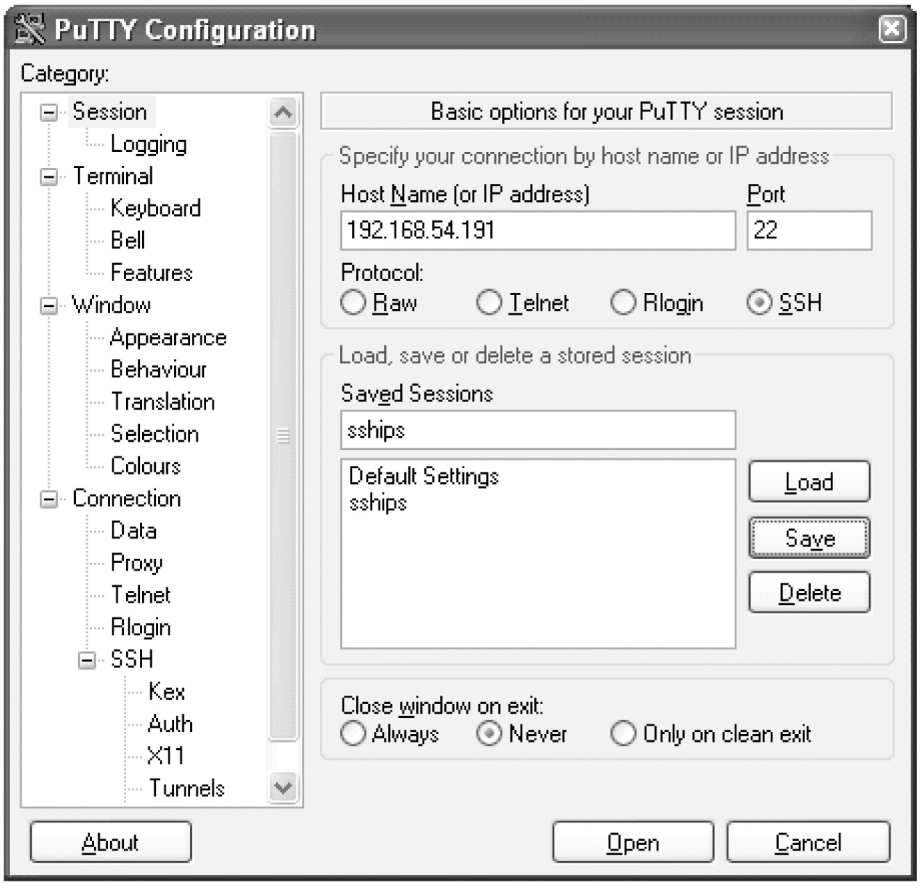


Figure 12: PuTTY Configuration Window - Initial Session Setup

2. Select **Session** in the **Category** list window in the **PuTTY Configuration** window.
3. Enter the IP address of the IPSM in the EAGLE 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 13: PuTTY Configuration Window - SSH Connection Setup*.

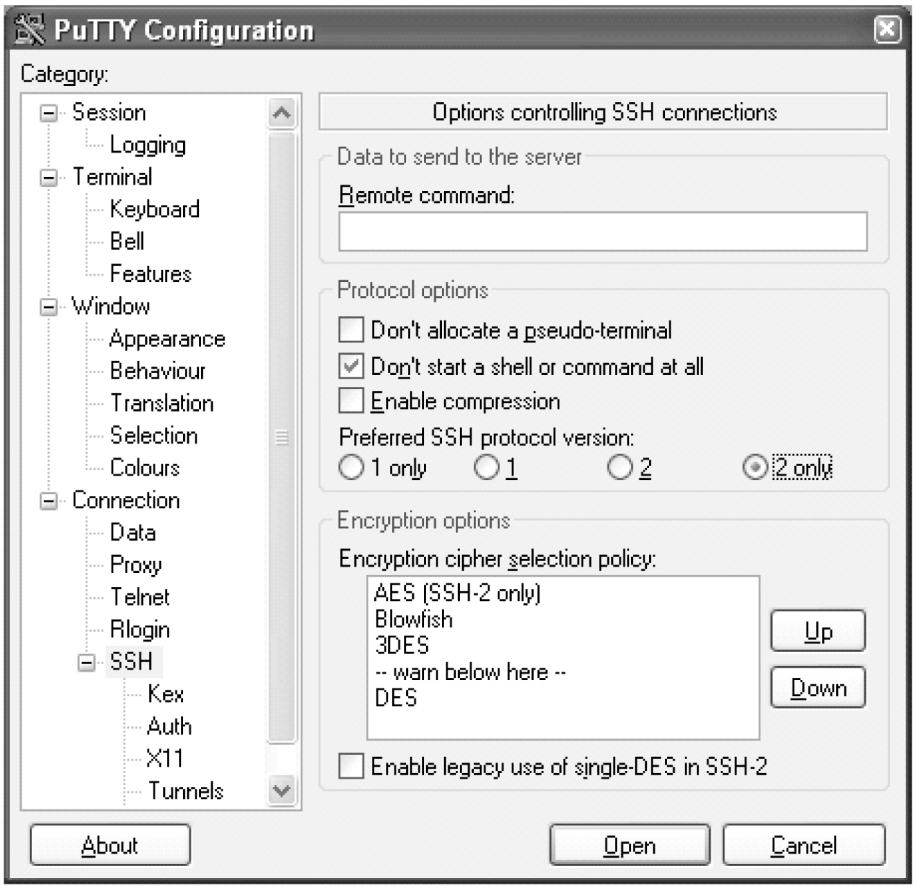


Figure 13: PuTTY Configuration Window - SSH Connection Setup

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 13: PuTTY Configuration Window - SSH Connection Setup*.

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 14: PuTTY Configuration Window - SSH Auth Setup*.

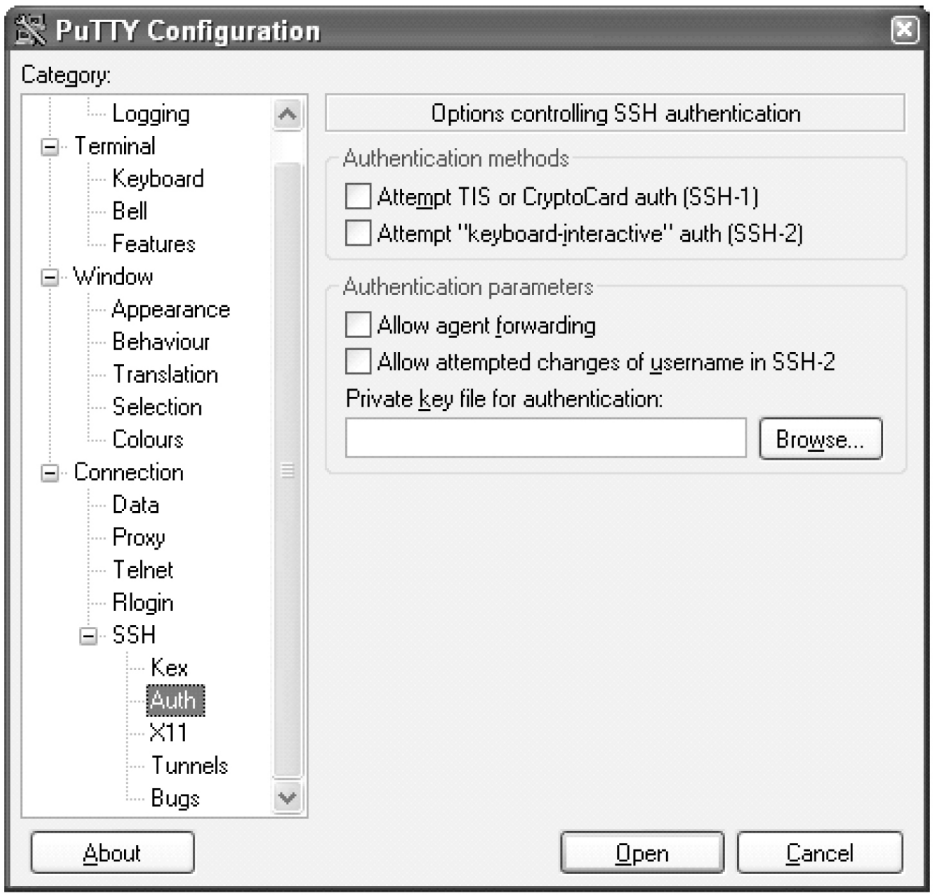


Figure 14: PuTTY Configuration Window - SSH Auth Setup

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 15: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup*), to accept connections from other hosts.

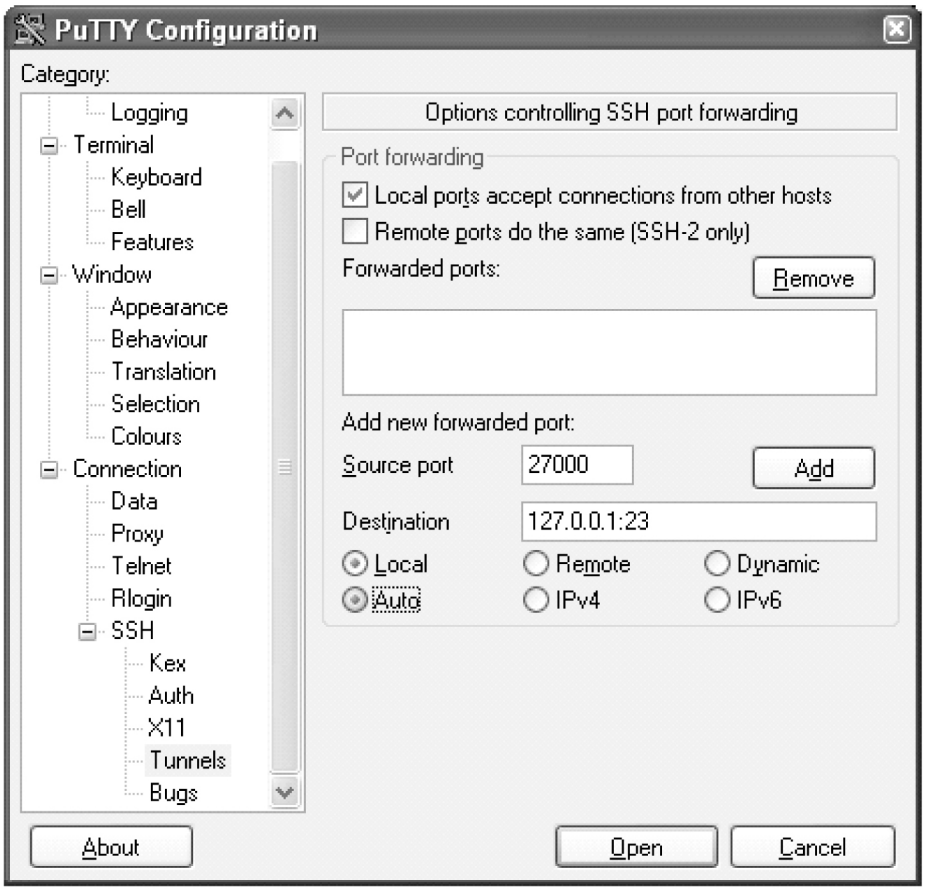


Figure 15: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup

12. In the **Add new forwarded port** section of the **PuTTY Configuration** window (*Figure 15: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup*), 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 15: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup*) 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 `127.0.0.1:23` 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 16: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion*.

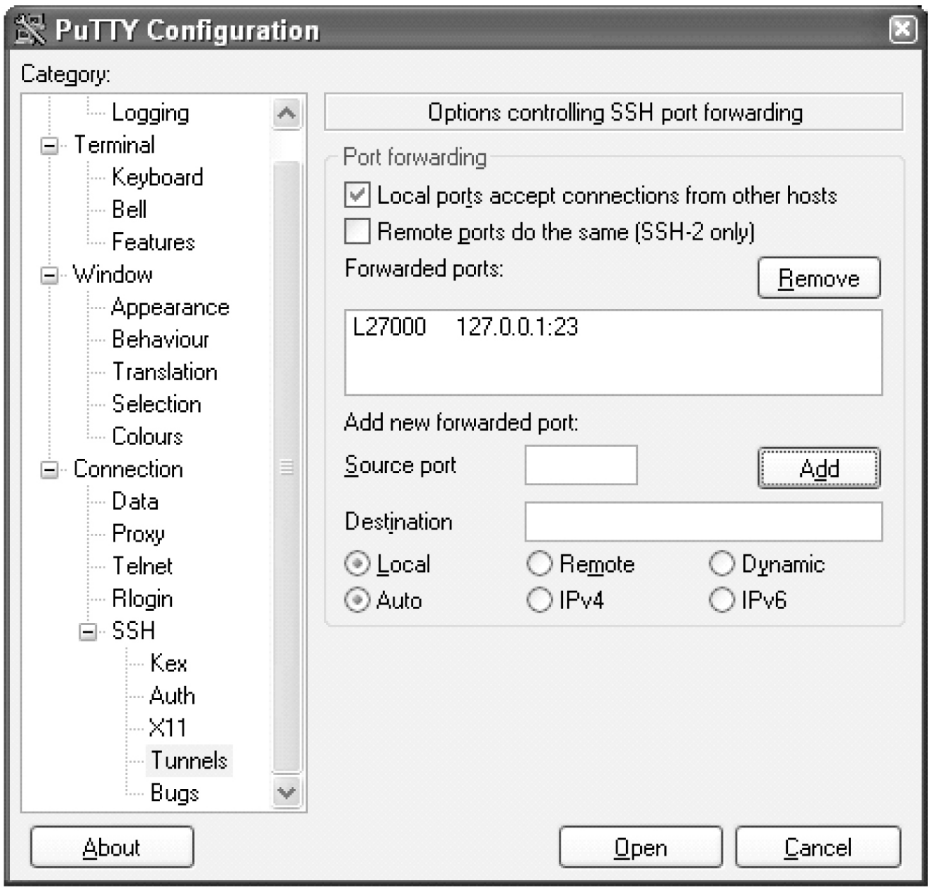


Figure 16: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion

15. Select **Session** in the **Category** list window in the **PuTTY Configuration** window.

    See *Figure 12: PuTTY Configuration Window - Initial Session Setup*. Click the **Save** button.

16. Click the **Open** button in the **PuTTY Configuration** window.

    The dialog box shown in *Figure 17: Key Acceptance Dialog Box* appears. Click the **Yes** button.

Figure 17: Key Acceptance Dialog Box

The **Login** window is displayed. See *Figure 18: PuTTY Login Window*.

Figure 18: PuTTY Login Window

17. Press the **Enter** key.

    Verify that the screen is displayed as shown in *Figure 19: Logged in Window for SSH Session*.

Figure 19: 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.

18. Initiate a telnet connection to the local host at the forwarded port configured in step 14 (see *Figure 16: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion*).

At the prompt, enter the `telnet` command with the IP address and Source port value shown in *Figure 16: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion*. 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 20: Telnet Connection to Local Host Forwarded Port*. Press the **Enter** key.

Figure 20: Telnet Connection to Local Host Forwarded Port

19. The connection to the EAGLE is established and functions as any other telnet terminal connected to the EAGLE.
20. Verify that all the eight telnet connections assigned to this IPSM can be opened and all EAGLE 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.

Appendix C

Setting Up a Secure Telnet Connection to the EAGLE using OpenSSH

Topics:

Appendix C, Setting Up a Secure Telnet Connection to the EAGLE using OpenSSH describes the procedures for setting a secure telnet connection to the EAGLE using OpenSSH.

Introduction

This appendix contains the procedures for establishing a secure telnet connection to the EAGLE using OpenSSH. Perform these procedures.

- If a Windows machine will be used to make the connection, perform these procedures.
  - *Install the Windows OpenSSH Software* to install the software.
  - *Establishing a Secure Telnet Connection to the EAGLE using Windows OpenSSH* to establish the connection.
- If a UNIX/Solaris machine will be used to make the connection, perform these procedures.
  - *Install the UNIX/Solaris OpenSSH Software* to install the software.
  - *Establishing a Secure Telnet Connection to the EAGLE using UNIX/Solaris OpenSSH* to establish the connection.

Before establishing the secure connection to the EAGLE, the EAGLE needs to be configured with these items.

- IPSMs that are in service and containing IP addresses for each IPSM. The IP router on the IPSM must be configured if the client is using a different subnet.
- The Eagle OA&M Security Enhancement feature must be enabled and turned on.

Enter these commands on the EAGLE to verify the IPSM and feature configuration.

- `rtrv-ip-lnk` - shows the IP addresses assigned to the IPSM, in the `IPADDR` column
- `rtrv-ip-card` - shows the IP router, in the `DEFROUTER` field.
- `rept-stat-card` - shows the state of the IPSM, in the `PST` column
- `pass:loc=<IPSM card Location>:cmd="netstat -a"` - shows the state of the ports 22 and 23 on the IPSM, in the `(state)` column. If the IPSM is configured correctly, the state of these ports will be `LISTEN`.
- `rtrv-ctrl-feat` - shows whether or not the Eagle OA&M Security Enhancement feature is enabled and turned on.

Perform the *Adding an E5-IPSM* procedure to configure the IP addresses of the IPSM, the IP router, and to put the IPSM in service. Perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* to enable and turn on the Eagle OA&M Security Enhancement feature.

Install the Windows OpenSSH Software

To install the software on a Windows machine, perform these steps.

1. Go to this site: *http://sourceforge.net/project/showfiles.php?group_id103886&package_id=111688*.
2. Select the `setupssh381-20040709.zip` file and download the file.
3. After the file has been downloaded, run the installer and install all the components.

   The recommended folder for installing the components is `C:\OpenSSH`.

   After installing the software, this warning may be displayed.

Figure 21: OpenSSH Warning Window

Click the `OK` button and perform the *Establishing a Secure Telnet Connection to the EAGLE using Windows OpenSSH* procedure.

Establishing a Secure Telnet Connection to the EAGLE using Windows OpenSSH

To establish a secure telnet connection to the EAGLE using OpenSSH, perform these steps.

1. Open two DOS windows.
2. In DOS window 1, go to the `bin` folder in the folder where the OpenSSH software was installed.

   For this example, enter this command

   ```
   cd C:\OpenSSH\bin
   ```

3. In DOS window 1, enter the `ssh` command with these options and values.
   - `-N` - once the authentication is complete, the `ssh` program executes in the background, meaning the prompt should be returned so that the `telnet` command can be entered.
   - `-f`
   - `-L`
   - the local/forwarding port number, for this example, 23000
   - the local loopback address, 127.0.0.1:23. Port 23 is reserved for `ssh`.
   - The IP address of the EAGLE IPSM. For this example, 10:253.104.36.

   For this example, enter this command.

   ```
   ssh -N -f -L 23000:127.0.0.1:23 10:253.104.36
   ```

   Note:

   1. When issuing the `ssh` command, if the IPSM on the EAGLE has undergone a hard reset, the `ssh` key stored in the `local_host` file must be purged.
   2. If you are making the connection to the EAGLE for the first time, and you are prompted to accept the `ssh` key, accept the `ssh` key and proceed to *Step 4*

4. In DOS window 2, enter the `telnet` command with the the local loopback address, without the port number, the local/forwarding port number specified in *Step 3*. for this example, enter this command.

   ```
   telnet 127.0.0.1 23000
   ```

5. When the Eagle prompt is received in DOS window 2, choose an EAGLE terminal and login with your EAGLE username and password.
6. If you wish to establish another secure telnet connection to the EAGLE, perform *Step 3* with a different local/forwarding port number, then perform *Step 4* using the local/forwarding port number specified in *Step 3*.
7. To logout of the EAGLE and close the secure telnet connection, perform these actions.
   - At the EAGLE, enter the `logout` command.
   - Press the `Ctrl+]` keys to receive the telnet prompt.
   - Enter `quit`.
   - The prompt in DOS window 2 goes to `C:\`.
   - The `ssh` command in DOS window 1 goes away and the prompt returns to `\C:`.

Install the UNIX/Solaris OpenSSH Software

To install the software on a UNIX/Solaris machine, perform these steps.

1. The software can also be found at various mirror sites. These sites can be found at this address:

   http://www.openssh.org/portable.html#http

   If you wish to use one of the other mirror sites, select the closest mirror site.
2. Download this file, `openssh-3.7.1p1.tar.gz`, from the site selected in *Step 1*.
3. After the file has been downloaded, run the installer and install all the components.

   After the software has been installed, perform the *Establishing a Secure Telnet Connection to the EAGLE using UNIX/Solaris OpenSSH* procedure.

Establishing a Secure Telnet Connection to the EAGLE using UNIX/Solaris OpenSSH

To establish a secure telnet connection to the EAGLE using OpenSSH from a UNIX/Solaris machine, perform these steps.

1. Open an `Xterm` window.
2. In the `Xterm` window, go to the `bin` folder in the folder where the OpenSSH software was installed.

   For this example, enter this command

   ```
   cd <install path>/OpenSSH/bin
   ```
3. In the `Xterm` window, enter the `ssh` command with these options and values.
   - `-N` - once the authentication is complete, the `ssh` program executes in the background, meaning the prompt should be returned so that a second command can be entered following the semicolon.
   - `-f`
   - `-L`

- the local/forwarding port number, for this example, 23000
- the local loopback address, 127.0.0.1:23. Port 23 is reserved for `ssh`.
- The IP address of the EAGLE IPSM. For this example, 10:253.104.36.
- The `telnet` command with the local loopback address, without the port number, and the local/forwarding port number.

For this example, enter this command.

```
ssh -N -f -L 23000:127.0.0.1:23 10:253.104.36; telnet 127.0.0.1 23000
```

Note:

1. On Solaris 9 and later, SunSSH is installed. SunSSH is not compatible with the EAGLE secure Telnet terminals. If you have any questions about which version of `ssh` in being invoked, enter the Unix command `which ssh` to ensure that OpenSSH is being used instead of the Sun version.
2. When issuing the `ssh` command, if the IPSM on the EAGLE has undergone a hard reset, the `ssh` key stored in the `local_host` file must be purged.
3. If you are making the connection to the EAGLE for the first time, and you are prompted to accept the `ssh` key, accept the `ssh` key and proceed to *Step 4*.

4. When the Eagle prompt is received in the `Xterm` window, choose an EAGLE terminal and login with your EAGLE username and password.
5. To logout of the EAGLE and close the secure telnet connection, perform these actions.
   - At the EAGLE, enter the `logout` command.
   - Press the `Ctrl+]` keys to receive the telnet prompt.
   - Enter `quit`.

Appendix D

Remote Database Backup and Restore Procedures

Topics:

Appendix D, Remote Database Backup and Restore Procedures, describes how to perform a backup of the database to the FTP server, and how to restore the database from the FTP server.

Introduction

This appendix contains the procedures for performing a backup of the database to the FTP server and to restore a database from the FTP server using the `chg-db` command.

To backup the database, the `chg-db` command uses these parameters.

- `action=backup` - perform a backup of the database.
- `dest=server` - the destination of the backup operation, the FTP server.

To restore the database, the `chg-db` command uses these parameters.

- `action=restore` - restore a previously backed up database.
- `src=server` - the source of the database that is being restored, the FTP server.
- `file` - the name of the TAR file on the DB FTP server that contains database that is being restored.

A removable cartridge is not required and cannot be used to backup the database to the FTP server or to restore a database from the FTP server.

To perform a backup of the database to the FTP server or to restore the database from the FTP server, these items must be provisioned in the database.

- An E5-IPSM - perform the procedure *Adding an E5-IPSM*.
- An FTP server for the DB application - perform the procedure *Adding an FTP Server*.

When the database is backed up to the FTP server, the database on the active partition of the active TDM is packed and compressed into a TAR file andsends the file to the FTP server through an E5-IPSM. *Figure 22: Backup of the Database to the FTP Server* illustrates this action.

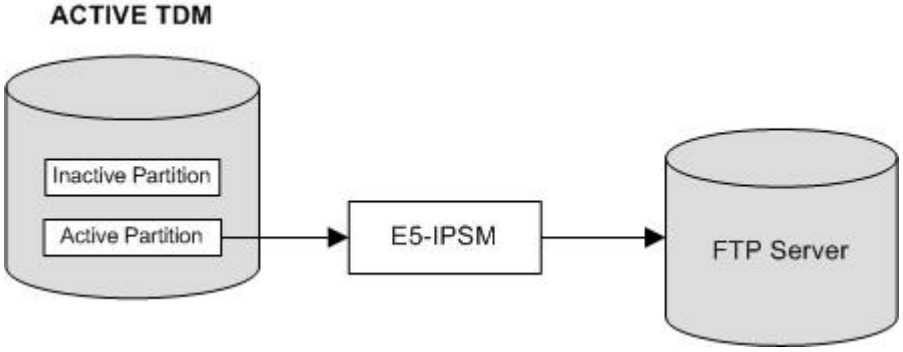


Figure 22: Backup of the Database to the FTP Server

When the database is restored from the FTP server, the TAR that contains the database that is being restored is retrieved by EAGLE through an E5-IPSM. The TAR file is unpacked and uncompressed and the database files are placed on the active partition of both TDMs. *Figure 23: Restoring the Database from the FTP Server* illustrates this action. The EAGLE must be reinitialized to load the restored database to all the cards.

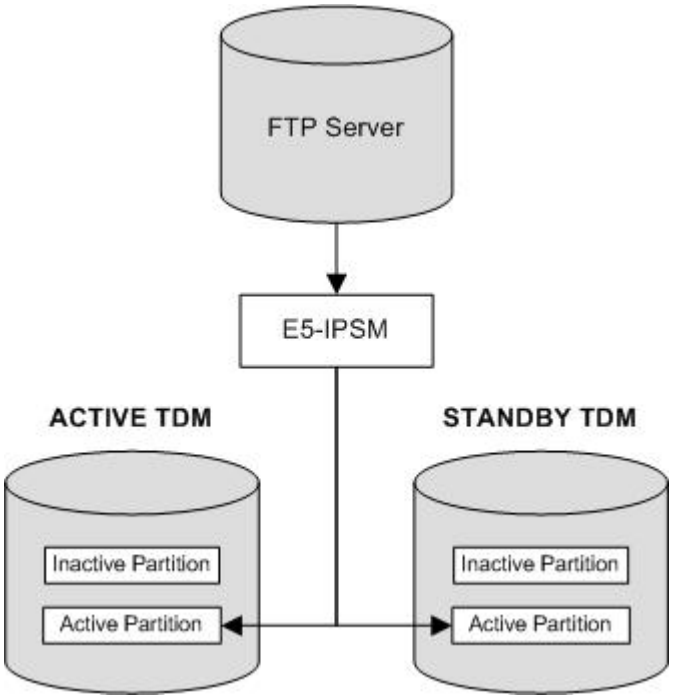


Figure 23: Restoring the Database from the FTP Server

To perform a backup of the database to the FTP server, perform the procedure *Making a Backup of the Database to the FTP Server*.

To restore the database from the FTP server, perform the procedure *Restoring the Database from the FTP Server*.

Making a Backup of the Database to the FTP Server

This procedure is used to make a backup of the database to FTP server using the `chg-db` command with these parameters.

- `:action=backup`
- `:dest=server`

The database in the active partition of the active MASP (FD CRNT) must be coherent. The status of the database is shown in the `rept-stat-db` command. For more information on verifying the database, refer to *Verifying the Database*.

The EAGLE must contain at least one E5-IPSM and an FTP server for the DB application. The `rept-stat-gpl` command with the `appl=ips` parameter displays the E5-IPSMs and IPSMs that are in the database. E5-IPSMs are shown by the entry `IPSHC` in the `GPL` column of the `rept-stat-gpl` output. IPSMs are shown by the entry `IPS` in the `GPL` column of the `rept-stat-gpl` output. The `rtrv-ftp-serv` command shows the FTP servers that are configured. E5-IPSMs can be added by performing the procedure *Adding an E5-IPSM*. FTP servers can be added by performing the procedure *Adding an FTP Server*.

When a backup of the database to the FTP server is performed, A file containing the database is created with the following naming convention is created:

`"CLLI string"-"Release number string"-"yymmddhh".tar.gz`

The CLLI string is the CLLI value shown in the output header. The release number string is the release number shown in the output header. If the `archbldid` option, shown in the `rtrv-stpopts` output, is set to `yes`, the release number string contains the build number instead of the release number. If you wish to change the `archbldid` option, perform the procedure *Configuring the Archive Build ID Option*. The string `yymmddhh` is the year (yy - 2 digits), the month (mm), the day (dd), and the hour (hh) that the backup was performed. For example, the file name for a backup performed on September 26, 2008 at 12 noon would be: `rlghncxa03w-39.2.0-08092612.tar.gz`. This file name will be needed to restore the database from the FTP server. The file name for the backup can contain a maximum of 39 alphanumeric characters.

1. Verify that the database in the active partition of the active MASP (FDCRNT) is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
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 E5-based control cards are installed in the EAGLE, this is an example of the output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- -------------------- - -------- --------------------
FD BKUP Y       35 09-02-19 09:38:25 GMT  Y       35 09-02-19 09:38:25 GMT
FD CRNT Y      106                        Y      106
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       35 09-02-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 GMT
```

   If the database is coherent, continue the procedure with *Step 2*.

   If the database is not coherent, refer to *Verifying the Database* and resolve the database problems. After the database problems have been resolved, continue the procedure with *Step 2*.

2. Display the E5-IPSMs that are in the database by entering this command.

   `rept-stat-card:appl=ips`

This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1111   131-010-000  IPSM      IPSHC      IS-NR          Active     -----
1317   -----------  IPSM      IPS        OOS-MT         Isolated   -----
2217   131-010-000  IPSM      IPS        IS-NR          Active     -----

Command Completed.
```

E5-IPSMs are shown by the entry `IPSHC` in the `GPL` column of the `rept-stat-gpl` output. IPSMs are shown by the entry `IPS` in the `GPL` column of the `rept-stat-gpl` output. Continue the procedure by performing one of these actions.

- If no entries are shown in the `rept-stat-card` output, add an E5-IPSM by performing the procedure *Adding an E5-IPSM*. After the E5-IPSM has been added, continue the procedure with *Step 3*.
- If E5-IPSMs are shown in the `rept-stat-card` output, continue the procedure with *Step 3*.
- If only IPSMs are shown in the `rept-stat-card` output, continue the procedure by performing one of these actions.
  - If two or less entries are shown in this step, add the E5-IPSM by performing the procedure *Adding an E5-IPSM* After the E5-IPSM has been added, continue the procedure with *Step 3*.
  - If three entries are shown in this step, no more IPSMs or E5-IPSMs can be added. A IPSM must be removed so the E5-IPSM can be added. perform the procedure *Removing an E5-IPSM* to remove the IPSM. Add the E5-IPSM by performing the procedure *Adding an E5-IPSM* After the E5-IPSM has been added, continue the procedure with *Step 3*.

3. Display the FTP servers that are provisioned in the database by entering the `rtrv-ftp-serv` command. This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0

APP       IPADDR           LOGIN            PRIO  PATH
--------  ---------------  ---------------  ----  ----
db        10.20.50.102     dbuser1          1     ~/eagle
dist      100.200.50.102   dbuser1          1     ~/eagle
meas      1.255.0.100      ftpmeas3         3     ~meas\local
```

If the entry `db` is shown in the `APP` column, continue the procedure with *Step 4*.

If the entry `db` is not shown in the `APP` column, perform the procedure *Adding an FTP Server* to add the FTP server. After the FTP server has been added, continue the procedure with *Step 4*.

4. Enter the `chg-db:action=backup:dest=server` command.

   During command execution, these messages should appear.

```
BACKUP (SERVER): MASP A - Backup starts on active MASP.
BACKUP (SERVER) : Copy Database to card memory for processing.
BACKUP (SERVER) : Compress Database before archiving.
BACKUP (SERVER) : Send database archive to server.
BACKUP (SERVER): MASP A - Backup to remote server complete.
```

A file with the following naming convention is created.

`"CLLI string"-"Release number string"-"yymmddhh".tar.gz`

The CLLI string is the CLLI value shown in the output header. The release number string is the release number shown in the output header. If the `archbldid` option, shown in the `rtrv-stpopts` output, is set to `yes`, the release number string contains the build number instead of the release number. If you wish to change the `archbldid` option, perform the procedure *Configuring the Archive Build ID Option*. The string `yymmddhh` is the year (yy - 2 digits), the month (mm), the day (dd), and the hour (hh) that the backup was performed. For example, the file name for a backup performed on September 26, 2008 at 12 noon would be: `rlghncxa03w-39.2.0-08092612.tar.gz`. The file name for the backup can contain a maximum of 39 alphanumeric characters. This file name will be needed to restore the database from the FTP server. Record this filename.

Restoring the Database from the FTP Server

This procedure is used to restore the database from the FTP server using the `chg-db` command with these parameters.

- `action=restore`
- `src=server`
- `file` - the name of the TAR file on the FTP server that contains database that is being restored. The `file` parameter value is the file name that was created when the database was backed up to the FTP server. The `file` parameter value can contain a maximum of 39 alphanumeric characters. Refer to *Making a Backup of the Database to the FTP Server* for more information about the file name for database backups to the FTP server.

The EAGLE must contain at least one E5-IPSM and an FTP server for the DB application. The `rept-stat-card` command with the `appl=ips` parameter displays the E5-IPSMs and IPSMs that are in the database. E5-IPSMs are shown by the entry `IPSHC` in the `GPL` column of the `rept-stat-gpl` output. IPSMs are shown by the entry `IPS` in the `GPL` column of the `rept-stat-card` output. The `rtrv-ftp-serv` command shows the FTP servers that are configured. E5-IPSMs can be added by performing the procedure *Adding an E5-IPSM*. FTP servers can be added by performing the procedure *Adding an FTP Server*.

The EAGLE must contain at least one E5-IPSM and an FTP server for the DB application. The `rtrv-stp` command with the `gpl=ipshc` parameter displays the E5-IPSMs. The `rtrv-ftp-serv` command shows the FTP servers that are configured. E5-IPSMs can be added by performing the procedure *Adding an E5-IPSM*. FTP servers can be added by performing the procedure *Adding an FTP Server*.

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.

1. Display the E5-IPSMs that are in the database by entering this command.

   `rept-stat-card:appl=ips`

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
```

```
CARD   VERSION      TYPE      GPL        PST            SST        AST
1111   131-010-000  IPSM      IPSHC      IS-NR          Active     -----
1317   -----------  IPSM      IPS        OOS-MT         Isolated   -----
2217   131-010-000  IPSM      IPS        IS-NR          Active     -----

Command Completed.
```

E5-IPSMs are shown by the entry `IPSHC` in the `GPL` column of the `rept-stat-card` output. IPSMs are shown by the entry `IPS` in the `GPL` column of the `rept-stat-card` output. Continue the procedure by performing one of these actions.

- If no entries are shown in the `rept-stat-card` output, add an E5-IPSM by performing the procedure *Adding an E5-IPSM*. After the E5-IPSM has been added, continue the procedure with *Step 2*.
- If E5-IPSMs are shown in the `rept-stat-card` output, continue the procedure with *Step 2*.
- If only IPSMs are shown in the `rept-stat-card` output, continue the procedure by performing one of these actions.
  - If two or less entries are shown in this step, add the E5-IPSM by performing the procedure *Adding an E5-IPSM* After the E5-IPSM has been added, continue the procedure with *Step 2*.
  - If three entries are shown in this step, no more IPSMs or E5-IPSMs can be added. An IPSM must be removed so the E5-IPSM can be added. perform the procedure *Removing an E5-IPSM* to remove the IPSM. Add the E5-IPSM by performing the procedure *Adding an E5-IPSM* After the E5-IPSM has been added, continue the procedure with *Step 2*.

2. Display the FTP servers that are provisioned in the database by entering the `rtrv-ftp-serv` command. This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0

APP       IPADDR           LOGIN            PRIO  PATH
--------  ---------------  ---------------  ----  ----
db        10.20.50.102     dbuser1          1     ~/eagle
dist      100.200.50.102   dbuser1          1     ~/eagle
meas      1.255.0.100      ftpmeas3         3     ~meas\local
```

If the entry `db` is shown in the `APP` column, continue the procedure with *Step 3*.

If the entry `db` is not shown in the `APP` column, perform the procedure *Adding an FTP Server* to add the FTP server. After the FTP server has been added, continue the procedure with *Step 3*.

3. Enter the `chg-db` command with the `action=restore`, `src=server`, and `file` parameters. For this example, enter this command.

```
chg-db:action=restore:src=server:file="rlghncxa03w-39.2.0-08092612.tar.gz"
```

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

```
RESTORE (SERVER) : Retrieve database archive from server.
RESTORE (SERVER) : Validate database archive.
RESTORE (SERVER) : Restore starts on active MASP.
RESTORE (SERVER) : Restore from server on active MASP complete.
RESTORE (SERVER) : Restore starts on standby MASP.
RESTORE (SERVER) : Restore from server on standby MASP complete.
RESTORE (SERVER) : MASP(s) will reboot to load data.
```

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

   Note: The `init-sys` command causes a complete reload of the EAGLE, 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.

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

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

```
rlghncxa03w 08-09-01  07:05:01 GMT  EAGLE5 39.2.0
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 08-09-01  07:05:17 GMT  EAGLE5 39.2.0
Init System command issued at terminal #4
```

   From the time that the `init-sys` command is accepted, you must wait approximately 2 minutes before you can perform *Step 5* (logging into the EAGLE). If the EAGLE 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 in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 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 has finished reinitializing.

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

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

```
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 08-09-01 @ 05:34:56
```

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 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 08-09-01 07:06:18 GMT  Y       35 08-09-01 07:06:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  -        -     -        -
```

If E5-based control cards are installed in the EAGLE, this is an example of the output.

```
rlghncxa03w 09-03-01 16:07:48 GMT  EAGLE5 40.1.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
        C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
        - -------- ---------------------  - -------- ---------------------
FD BKUP Y       35 09-02-19 09:38:25 GMT  Y       35 09-02-19 09:38:25 GMT
FD CRNT Y      106                        Y      106
        MCAP 1113                         MCAP 1115
        - --------                        - --------
RD BKUP -    -         -        -         Y       35 09-02-19 09:27:17 GMT
USB BKP -    -         -        -         Y        3 09-02-07 01:11:22 GMT
```

Configuring the Archive Build ID Option

When the database is backed up to the FTP server, the release number string of the file name that is created is either the software release number or the software build number. The `archbldid` value of the `on` or `off` parameters of the `chg-stpopts` command determines which number is used as the release number string.

- If the `on=archbldid` parameter is specified, the software build number is used as the release number string.
- If the `off=archbldid` parameter is specified, the software release number is used as the release number string.

The system default value for the `archbldid` parameter is `off` .

1. Display the value for the `archbldid` parameter by entering the `rtrv-stpopts` command.

   The value of the `archbldid` parameter is shown in the `ARCHBLDID` field. This is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
STP OPTIONS
----------------------
ARCHBLDID          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 *Commands User's Guide*.

2. Change the value of the `archbldid` parameter.

   To change the `archbldid` parameter to `on`, enter this command.

   ```
   chg-stpopts:on=archbldid
   ```

   To change the `archbldid` parameter to `off`, enter this command.

   ```
   chg-stpopts:off=archbldid
   ```

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

```
rlghncxa03w 06-10-07 00:22:57 GMT  EAGLE5 36.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

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

   If the `on=archbldid` parameter was specified in *Step 2*, this is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
STP OPTIONS
----------------------
ARCHBLDID          on
```

   If the `off=archbldid` parameter was specified in *Step 2*, this is an example of the possible output.

```
rlghncxa03w 10-07-17 16:02:05 GMT  EAGLE5 42.0.0
STP OPTIONS
----------------------
ARCHBLDID          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 *Commands User's Guide*.

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.
```

Glossary

A

ANSI	American National Standards Institute An organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. ANSI develops and publishes standards. ANSI is a non-commercial, non-government organization which is funded by more than 1000 corporations, professional bodies, and enterprises.
AST	Associated State The associated state of an entity.
ATM	Asynchronous Transfer Mode A packet-oriented transfer mode that uses an asynchronous time division multiplexing technique to multiplex information flow in fixed blocks, called cells. A high-bandwidth, low-delay switching, and multiplexing technology to support applications that include high-speed data, local area network interconnection, multimedia application and imaging, and residential applications such as video telephony and other information-based services.
ATMANSI	The application used for high-speed ANSI ATM signaling links.

A

ATMITU	The application used for high-speed E1 ATM signaling links.

B

BAUD	The transmission rate of the devices connected to the I/O ports expressed in bits per second.
BERT	Bit Error Rate Test

C

CCS	Common Channel Signaling Allows operation over a permanent virtual circuit network via modem-derived data links, used to exchange call setup and routing information for interoffice trunks and to allow for queries to centralized databases and other calling services.
CCS MR	Common Channel Signaling Message Router
CCS7ITU	The application for the ITU SS7 signaling links that is used with card types `limds0, limch, lime1, and limt1`.
CET	Customer Environment Test
CLLI	Common Language Location Identifier The CLLI uniquely identifies the STP in terms of its physical location. It is usually comprised of a combination of identifiers for the STP's city (or locality), state (or

C

province), building, and traffic unit identity. The format of the CLLI is:

- The first four characters identify the city, town, or locality
- The first character of the CLLI must be an alphabetical character
- The fifth and sixth characters identify state or province
- The seventh and eighth characters identify the building
- The last three characters identify the traffic unit

Coherency

The operational status of the database. 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).

Command Class

A set of EAGLE commands that can be assigned to an EAGLE user or to a terminal port of the EAGLE. Command classes are assigned to a user to control the EAGLE commands that user can execute. Command classes are assigned to a terminal port to control the

C

	EAGLE commands that can be executed from a particular terminal.
control cards	Cards that occupy slots 1113 through 1118 of the control shelf on an EAGLE and perform OAM, TDM, and database functions for the EAGLE. The legacy set consists of the single-slot GPSM-II card running the OAM application and EOAM GPL, the single-slot TDM card, and the dual-slot MDAL card. The E5-based set consists of the dual-slot E5-MASP card (the E5-MCAP module and the E5-TDM module) and the dual-slot E5-MDAL card. Cards that occupy slots 1113 through 1118 of the control shelf control cards on an EAGLE and perform basic OAM. The E5-based set consists of the dual-slot E5-MASP card (the E5-MCAP module and the E5-TDM module) and the dual-slot E5-MDAL card.
Control Shelf	The shelf in the EAGLE that contains the Maintenance and Administration Subsystem. The Maintenance and Administration Subsystem contains 5 cards: 2 CAM cards, 2 TDMs (Terminal Disk Modules), and 1 MDAL (Maintenance Disk and Alarm) card. This shelf is designated as Shelf 1100 and cannot be added or removed from the database.
CSV	Comma-Separated Values The comma-separated value file format is a delimited data format that has fields separated by the comma character and records

C

separated by newlines (a newline is a special character or sequence of characters signifying the end of a line of text).

D

Database	All data that can be administered by the user, including cards, destination point codes, gateway screening tables, global title translation tables, links, LNP services, LNP service providers, location routing numbers, routes, shelves, subsystem applications, and 10-digit telephone numbers.
DB	Database Daughter Board Documentation Bulletin Data bus
DBG	Debugger
DCM	Database Communication Module The DCM provides IP connectivity for applications. Connection to a host is achieved through an ethernet LAN using the TCP/IP protocol.
DD	Detailed Design
DSM	Database Service Module. The DSM provides large capacity SCCP/database functionality. The DSM is an application card that supports network specific functions such as EAGLE Application Processor (EPAP), Global System

D

for Mobile Communications (GSM), EAGLE Local Number Portability (ELAP), and interface to Local Service Management System (LSMS).

E

E1

The European equivalent of T1 that transmits digital data over a telephone network at 2.048 Mbps.

E5-E1T1

EPM-based E1/T1 Multi-Channel Interface Module

An EPM-based card that provides E1 and T1 connectivity. E1T1 is an abbreviation for the ITU E1 and ANSI T1 interfaces. Thus the nomenclature defines the shelves where the card can be used and the physical interface that it provides.

E5-ENET

EPM-based Ethernet card

A high capacity single-slot IP signaling card (EPM card plus Gig Ethernet PMC cards).

E5IS

EAGLE 5 Integrated Monitoring Support

The EAGLE Integrated Monitoring Support feature allows the network traffic on the EAGLE's signaling links to be monitored by an ESP (extended services platform) or IMP (integrated message feeder) without additional intrusive cabling. Message Signaling Units (MSUs), alarms, and events are copied to the Sentinel/IMF to provide the network traffic monitoring. The monitored traffic is delivered to the Sentinel/IMF using the EAGLE'S STCs (Signaling

E

	Transport Cards) which are connected to the ESP/IMF subsystem by Ethernet links. The ESP/IMF subsystem delivers the monitored traffic to the Sentinel/IMF.
E5-MASP card	E5-based dual-slot card that consists of the E5-MCAP module (occupies slot 1113 and slot 1115) and the E5-TDM module (occupies slot 1114 and slot 1116) in an EAGLE control shelf. Used when the E5-MDAL card is used.
E5-MCAP card	The module contains the Communications Processor and Applications Processor and provides connections to the IMT bus. Controls the maintenance and database administration activity and performs both application and communication processing. Runs the OAM application and OAMHC GPL. Occupies slot 1113 and slot 1115 in an EAGLE control shelf. Used when the E5-MDAL card is used. Contains two USB ports.
E5-MDAL card	The E5 MDAL card processes alarm requests, provides general purpose relays, and provides fan control. Occupies slots 1117 and 1118 in an EAGLE Control Shelf. Used with E5-MASP cards. Does NOT contain a drive for removable cartridges.
E5-SLAN	E5-ENET card used to support the STP LAN application.
E5-TDM card	The E5-TDM card provides the EAGLE with 16 ports for user

E

	terminals, contains fixed disk storage and distributes Composite Clocks and High Speed Master clocks throughout the EAGLE. Occupies slot 1114 and slot 1116 in an EAGLE Control Shelf. Used when the E5-MDAL card is used.
ELAP	EAGLE Local Number Portability Application Processor The EAGLE LNP Application Processor (ELAP) platform provides capacity and performance required to support the ported number database.
EMSALM	Element Management System Alarm Monitor
EOAM	Enhanced Operation, Administration, and Maintenance The application used by the GPSM-II card for enhanced OAM functions.
EPAP	EAGLE Application Processor
EROUTE	The application used on the Signaling Transport Card (STC and E5-STC) for the EAGLE.

F

FD	Feature Description File Descriptor File Duplicator Fixed Disk

F

flush-mounted USB port	USB port on the E5-MCAP card; used with credit card flash memory drives for upgrades and could be used for disaster recovery.
FTA	File Transfer Area A special area that exists on each OAM hard disk, used as a staging area to copy files to and from the EAGLE using the Kermit file-transfer protocol.
FTP	File Transfer Protocol A client-server protocol that allows a user on one computer to transfer files to and from another computer over a TCP/IP network. Feature Test Plan
FTRA	FTP-based Table Retrieve Application An application that runs in a PC outside of the EAGLE and communicates with the EAGLE through the IPUI feature and the FTP Retrieve and Replace feature.

G

GB	Gigabyte 1,073,741,824 bytes
GLS	Generic Loading Services An application that is used by the TSM cards for downloading gateway screening to LIM cards.
GMT	Greenwich Mean Time

G

GPL

Generic Program Load

Software that allows the various features in the system to work. GPLs and applications are not the same software.

H

HC-MIM

High Capacity Multi-Channel Interface Module

A card that provides access to eight E1/T1 ports residing on backplane connectors A and B. Each data stream consists of 24 T1 or 31 E1 DS0 signaling links assigned in a time-division multiplex (TDM) manner. Each channel occupies a unique timeslot in the data stream and can be selected as a local signaling link on the interface card. Each card has 8 E1 or 8 T1 port interfaces with a maximum of 64 signaling links provisioned among the 8 E1/T1 ports.

HIPR2

High-Speed IMT Packet Router 2

A card that provides increased system throughput and traffic capacity on the existing Fibre-Channel ring. A high rate Fibre-Channel option of 2.5 Gbps is available when an EAGLE is provisioned with all HIPR2 cards. In a mixed topology where a HIPR2 is used in an EAGLE along with HMUX and HIPR, the Fibre-Channel ring runs at the lower rate of 1.0625 Gbps.

HMUX

High-Speed Multiplexer

A card that supports the requirements for up to 1500 links, allowing communication on IMT

H

	buses between cards, shelves and frames. HMUX cards interface to 16 serial links, creating a ring from a series of point to point links. Each HMUX card provides a bypass multiplexer to maintain the ring's integrity as cards are removed and inserted into an operational shelf.
	High-Speed IMT Multiplexer
	A replacement card for the IPMX.

I

ID	Identity Identifier
IMT	Inter-Module-Transport The communication software that operates the inter-module-transport bus on all cards except the LIMATM, DCM, DSM, and HMUX.
IMT Bus	Interprocessor Message Transport Bus
IP	Intelligent Peripheral Internet Protocol - IP specifies the format of packets, also called datagrams, and the addressing scheme. The network layer for the TCP/IP protocol suite widely used on Ethernet networks, defined in STD 5, RFC 791. IP is a connectionless, best-effort packet switching protocol. It provides packet routing, fragmentation and re-assembly through the data link layer.

I

IP Address	The location of a device on a TCP/IP network. The IP Address is either a number in dotted decimal notation which looks something like (IPv4), or a 128-bit hexadecimal string such as (IPv6).
IPGHC	GPL name for IPGWx on the High-Capacity Blade platform.
IPGWI	An application that is used by the SSEDCM/E5-ENET card for IP point-to-multi-pointconnectivity within an ITU-I or ITU-N network. The system allows a maximum of 64 cards to be assigned the IPGWI application.
IPLHC	GPL name for IPLIMx on the High-Capacity Blade platform.
IPLIM	The application used by the SSEDCM/E5-ENET card for IP point-to-point connectivity for ANSI point codes.
IPLIMI	The application used by the SSEDCM/E5-ENET card for IP point-to-point connectivity for ITU point codes.
IPS	Internet Protocol Services An application that is used by the IPSM card for the IP User Interface and FTP Retrieve and Replace features.
IPSHC	IPS GPL ported to run on the E5-IPSM

I

IPSM	IP Services Module A card that provides an IP connection for the IPUI (Telnet) and FTP-based Table Retrieve features. The IPSM is a GPSM-II card with a one Gigabyte (UD1G) expansion memory board in a single-slot assembly running the IPS application.
IS-NR	In Service - Normal
ITU	International Telecommunications Union An organization that operates worldwide to allow governments and the private telecommunications sector to coordinate the deployment and operating of telecommunications networks and services. The ITU is responsible for regulating, coordinating and developing international telecommunications, and for harmonizing national political interests.

K

Key	For the ICNP feature, a unique DS value used to access a table entry, consisting of a number length and number type.
KSR	Keyboard Send/Receive Mode

L

latched USB port	On the E5-MCAP card, a USB port with a lockable latch. Used with removable media (flash memory ″thumb″ drives) to install and back up customer data.

L

LCA	Logic Cell Array
LED	Light Emitting Diode An electrical device that glows a particular color when a specified voltage is applied to it.
LIM	Link Interface Module Provides access to remote SS7, IP, and other network elements such as a Signaling Control Point (SCP) through a variety of signaling interfaces (DS0, MPL, E1/T1 MIM, LIM-ATM, E1-ATM, IPLIMx, IPGWx). The LIMs consist of a main assembly and possibly, an interface appliqué board. These appliqués provide level one and some level two functionality on SS7 signaling links.
LIM-E1	A link interface module (LIM) with the E1 Appliqué.
LIM-T1	A link interface module (LIM) with the T1 Appliqué.
Link	Signaling Link Carries signaling within a Link Set using a specific Association. A Link can belong to only one Link Set and one Association. There is generally one Link per Association in a Link Set.

M

MAS	Maintenance and Administration Subsystem

M

	A set of cards located in the Control Shelf, used to provide a central management point for the EAGLE. The MAS provides user interface, maintenance communication, peripheral services, alarm processing, system disk interface, and measurements using the following three subassemblies: GPSM-II, TDM, and MDAL.
MASP	Maintenance and Administration Subsystem Processor The Maintenance and Administration Subsystem Processor (MASP) function is a logical pairing of the GPSM-II card and the TDM card. The GPSM-II card is connected to the TDM card by means of an Extended Bus Interface (EBI) local bus. The MDAL card contains the removable cartridge drive and alarm logic. There is only one MDAL card in the Maintenance and Administration Subsystem (MAS) and it is shared between the two MASPs.
MCP	Measurement Collection Processor This application is used by the MCPM card for the Measurements Platform feature.
MCPM	Measurement Collection and Polling Module Provides comma delimited core STP measurement data to a remote server for processing. The MCPM is either an EDSM with 2 GB of memory or an E5-MCPM-B card running the MCP application.

M

MDAL	Maintenance Disk and Alarm
Measurement Platform	A feature that supports the EAGLE beyond 700 links by providing a dedicated processor for collecting and reporting Measurements data. The Measurement Platform collection function cannot be disabled once it is enabled in the system.
MFC	Message Flow Control MFC controls all traffic across the IMT bus. With MFC, an EAGLE card can inform all EAGLE cards that it has reached the allotted capacity of a particular advertised service.
MPS	Multi-Purpose Server The Multi-Purpose Server provides database/reload functionality and a variety of high capacity/high speed offboard database functions for applications. The MPS resides in the General Purpose Frame. Messages Per Second A measure of a message processor's performance capacity. A message is any Diameter message (Request or Answer) which is received and processed by a message processor.
MTP	Message Transfer Part The levels 1, 2, and 3 of the SS7 protocol that control all the functions necessary to route an SS7 MSU through the network Module Test Plan

O

OA	Onboard Administrator The management processor for an HP c-Class enclosure.
OAM	Operations, Administration, and Maintenance. These functions are generally managed by individual applications and not managed by a platform management application, such as PM&C. Operations – Monitoring the environment, detecting and determining faults, and alerting administrators. Administration – Typically involves collecting performance statistics, accounting data for the purpose of billing, capacity planning, using usage data, and maintaining system reliability. Maintenance – Provides such functions as upgrades, fixes, new feature enablement, backup and restore tasks, and monitoring media health (for example, diagnostics).
OOS-MT	Out of Service - Maintenance The entity is out of service and is not available to perform its normal service function. The maintenance system is actively working to restore the entity to service.
OOS-MT-DSBLD	Out of Service - Maintenance Disabled The entity is out of service and the maintenance system is preventing the entity from performing its normal service function.

O

OPC	Within an SS7 network, the point codes are numeric addresses which uniquely identify each signaling point. The OPC identifies the sending signaling point.
OS	Operating System Operations Systems

P

PM	Processing Module
PST	Primary State A field in the `rept-stat` command outputs showing the primary state of the specified entity.

R

RD	Receive Data Removable Disk
removable media	Flash memory or “thumb” drives used in the latched USB port on an E5-MCAP card for installation and backup of customer data.
RS	Requirement Specification Redirect Server
RTDB	Real Time Database

S

SB	Stop Bits
SBR	Session Binding Repository

S

	A highly available, distributed database for storing Diameter session binding data.
	Subsystem Backup Routing
SCCP	Signaling Connection Control Part
	The signaling connection control part with additional functions for the Message Transfer Part (MTP) in SS7 signaling. Messages can be transmitted between arbitrary nodes in the signaling network using a connection-oriented or connectionless approach.
SCCS	Switching Control Center System
SCMG	SCCP Management
	SCMG manages the status of subsystems and SCCP-capable signaling points (SPs). It maintains the status of remote SCCP SPs and that of local subsystems.
SCP	Secure Copy
	Service Control Point
	SCPs are network intelligence centers where databases or call processing information is stored. The primary function of SCPs is to respond to queries from other SPs by retrieving the requested information from the appropriate database, and sending it back to the originator of the request.
SEAS	Signaling Engineering and Administration System

S

	An interface defined by Bellcore and used by the Regional Bell Operating Companies (RBOCs), as well as other Bellcore Client Companies (BCCs), to remotely administer and monitor the signaling points in their network from a central location.
Security Log	The security log is a circular file, located on each MASP, containing a record of each command entered on a EAGLE terminal, the name (user ID) of the person entering the command, the date and time the command was entered, and the terminal port that the command was entered on. This record can investigate unauthorized activities that may take place on the EAGLE, or when problems occur, this record can examine the commands that were entered before the problem occurred to check if one or more of those commands caused the problem.
SHLF	Shelf A modular unit that contains the cards that make up the EAGLE. The EAGLE uses two types of shelves, the control shelf, and the extension shelf. The control shelf contains the components of the Maintenance and Administration Subsystem (MAS), and up to eight additional Link Interface Modules (LIMs). The extension shelf provides locations for two High Speed Multiplexer (HMUX) cards and also 16 card locations for any combination of Link Interface Modules (LIMs), STPLAN cards, and Service Modules.

S

SLAN	Signaling Transfer Point Local Area Network A feature in the EAGLE that copies MSUs selected through the gateway screening process and sends these MSUs over the Ethernet to an external host computer for further processing.
SNR	Subsystem Normal Routing Subscriber Notification Request on Sh Interface
SOG	Subsystem Out-of-Service Grant Service Order Gateway
SOR	Support of Optimal Routing System Out of Service Request
SRT	Subsystem Routing Status Test
SS7	Signaling System #7 A communications protocol that allows signaling points in a network to send messages to each other so that voice and data connections can be set up between these signaling points. These messages are sent over its own network and not over the revenue producing voice and data paths. The EAGLE is an STP, which is a device that routes these messages through the network.
SS7ANSI	SS7 ANSI An application used by the LIM cards and the E1/T1 MIM card for the MTP functionality.

S

SS7IPGW	SS7 IP Gateway An application used by the DCM/SSEDCM card for IP point-to-multipoint capability within an ANSI network.
SSA	Subsystem Allowed
SSH	Secure Shell A protocol for secure remote login and other network services over an insecure network. SSH encrypts and authenticates all EAGLE IPUI and MCP traffic, incoming and outgoing (including passwords) to effectively eliminate eavesdropping, connection hijacking, and other network-level attacks.
SSP	Subsystem Prohibited network management message Subsystem Prohibited SCCP (SCMG) management message. (CER) Service Switching Point (SS7 Network) Signal Switching Point Signal Switching Points are switches that originate, terminate, or tandem calls. An SSP sends signaling messages to other SSPs to setup, manage, and release voice circuits required to complete a call.
SST	Secondary State The secondary state of the specified entity. Subsystem Status Test

S

	Subsystem Status Test network management message. Subsystem Status Test SCCP (SCMG) management message. (CER)
STC	Sentinel Transport Card Signaling Transport Card The Signaling Transport Card (STC) is a member of the DCM card family with an "eroute" generic program load (GPL) installed. The STCs provide the IP interface between the LIM cards on the IMT bus and the Signaling Extended Services Platform (ESP) subassembly. The STC is used for sending MSU data to the ESP/IMF.
STP	Signal Transfer Point The STP is a special high-speed switch for signaling messages in SS7 networks. The STP routes core INAP communication between the Service Switching Point (SSP) and the Service Control Point (SCP) over the network. Spanning Tree Protocol
STPLAN	Signaling Transfer Point Local Area Network The application used by the SLAN card and E5-SLAN card to support the STP LAN feature. This application does not support 24-bit ITU-N point codes.

T

T1	Transmission Level 1

T

	A T1 interface terminates or distributes T1 facility signals for the purpose of processing the SS7 signaling links carried by the E1 carrier. A leased-line connection capable of carrying data at 1,544,000 bits-per-second.
TCP	Transfer-Cluster-Prohibited Transfer Control Protocol Transmission Control Protocol A connection-oriented protocol used by applications on networked hosts to connect to one another and to exchange streams of data in a reliable and in-order manner.
TCP/IP	Transmission Control Protocol/Internet Protocol
TDM	Terminal Disk Module Time Division Multiplexing Data transmissions within individual connections follow a pre-defined multiplex scheme where a fixed time slot is available for each channel.
TRM	Termination Response Mode
TSM	Translation Services Module Provides translation capability and Global Title Translation (GTT) implementation for the Local Number Portability (LNP) function and is used for downloading gateway screening tables to link interface modules (LIMs).

T

TVG	Group Ticket Voucher

U

UAM	Unsolicited Alarm Message A message sent to a user interface whenever there is a fault that is service-affecting or when a previous problem is corrected. Each message has a trouble code and text associated with the trouble condition.
UID	User ID
UIM	Unsolicited Information Message A message sent to a user interface whenever there is a fault that is not service-affecting or when a previous problem is corrected. Each message has a trouble code and text associated with the trouble condition. Unified Inventory Management
USB port	Receptacle for flash memory drives on personal computers. On the E5-MDAL card, a flush-mounted USB port used with credit card flash memory drives for upgrade. On the E5-MCAP card, a latched USB port for use with flash memory ”thumb” drives for installation and backup of customer data.
UTC	Coordinated Universal Time

V

VSCCP	VxWorks Signaling Connection Control Part

V

VSCCP

The application used by the Service Module card to support EPAP-related features and LNP features. If an EPAP-related or LNP feature is not turned on, and a Service Module card is present, the VSCCP application processes normal GTT traffic.