Tekelec Signaling Products

Eagle 31.6

Feature Notice

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TEKELEC

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Introduction

Feature Notices are distributed to customers with each new release of software. This revision of the Feature Notice merges the previous two revisions to provide the reader with a better overview of all Eagle 31.6 features. This Eagle 31.6 release introduces the following features to the Eagle STP:

- ITU DTA (a.k.a. ITU Triggerless Message Screening)

- TUP Message Type Screening

- TDM Global Timing Interface

- ASM Obsolescence

- Support for SCCP XUDT/XUDTS Messsages, In-Sequence Delivery of Class 1 SCCP UDT/XUDT Messages

- IPGWx TPS Control

- Increase System-Wide IP Signaling Connections

- Increase System-Wide IPGWx TPS

- Multiple Country Code Support for G-Port

- MSISDN Truncation Support for G-Port

- Measurements Platform IP Security

- Time Stamps for rept-stat-trbl Report

- Support G-Flex at 1700 TPS per DSM (ANSI only)

- Enhanced GSM Map Screening

- Eagle Alarm Modifications for Synchronization with Harris

- EPAP RTDB Level Auto Refresh

- EPAP PDB-RTDB Level Threshold

- EPAP Command Response Enhancement

- FTRA 2.2 Compatibility with Eagle 31.6

- EPAP with TPD 1.1

- Option for Turning on Class 1 Sequencing

The *Feature Notice* includes a brief feature overview, lists new hardware required if any, provides the hardware baseline for this release, and explains how to find the *Release Notice* and other customer documentation on the Customer Support Site for this release (see "How to Find Customer Documentation on the Customer Support Site" on page FN-191).

Important Operational Changes

- UAM Format Change IP TPS System, see "UAM Format Changes" on Page -FN-164

- UIM Format Change 156 (HS Clock Info), see "UIM Format Changes" on Page -FN-172

Feature Overview

Table FN-1 shows the commands that support Eagle Release 31.6 features. For a detailed description of all commands and their parameters, refer to the *Commands Manual* of your current documentation set.

Table FN-1.   New and Changed Parameters for Eagle Release 31.6 Features

Commands	Parameters
ent/chg/dlt/rtrv-gsmmap-scrn	**:csgr** **:ncdsr** **:ncgsr** **:nnpv** **:opname** **:eaddr** **:naiv** **:npv** **:saddr**
ent/chg/dlt/rtrv-gsms-opcode	**:npc** **:npca** **:opcode** **:pc** **:pca**

Table FN-1.   New and Changed Parameters for Eagle Release 31.6 Features

Commands	Parameters
chg-trm	:all :appserv :appss :card :clk :db :dbg :gtt :gws :link :lnpdb :lnpsub :meas :mon :mps :pu :sa :seas :slan :sys :traf :type :uimrd
chg/ent-gws-redirect	**:dpci/dpcn/dpcn24**
chg-scr-isup **ent/dlt/rtrv-scr-isup**	**:tupmt** **:ntupmt** **:tupmt**
chg-stpopts	**:ansigflex** **:hsclkll** **:hsclksrc** **:force**
init-flash	**:force** **:initclk**
init-card	**:loc** **:force** **:initclk**
ent-card	**:type=tsm**

Table FN-1.   New and Changed Parameters for Eagle Release 31.6 Features

Commands	Parameters
chg-ls ent-ls	:matelsn :iptps :lsusealm :slkusealm :iptps :lsusealm :slkusealm
chg/-sg-opts	:iptpsalmthresh
chg/-uaps	:timer :tvalue
chg-gsmopts	:multcc :nmultcc :msisdntrunc
rept-stat-trbl	:display=timestamp
chg-sccpopts	:class1seq

Hardware Baseline

This section lists the baseline hardware supported by this release. Shown in this listing are top-level part numbers (in bold) and assembly part numbers (if applicable).

- Control Shelf   **870-2321-02 Rev A**[1] or
           870-2321-04 Rev A[2] or
           870-2377-01 Rev A[3]

- Control Shelf Backplane   **870-0775-03 Rev E**

- Extension Shelf   **870-2378-01 Rev A**[4]
  Extension Shelf   **870-0776-02 Rev C**[5]
  Extension Shelf   **870-0776-03 Rev D**
  Extension Shelf   **870-0776-06 Rev A**
  Extension Shelf   **870-0776-07 Rev A**

- Extension Shelf Backplane   **870-0776-08 Rev A** or
           870-0776-11 Rev A

- ACM   **870-1008-02 Rev D** or
  ACM   **870-1008-03 Rev A** or
  ACM   **870-1008-04 Rev A** or
  ACM   **870-1008-05 Rev A**

- DCM   **870-1945-03 Rev A**
  DCM   **870-1945-01 Rev A**
  DCM   **870-1945-02 Rev A**

- EDCM   **870-2371-01 Rev E**

- DCMX   **870-1984-01 Rev A**

- DSM, 1GB MEM   **870-1984-02 Rev A**[3] or
  DSM, 2GB MEM   **870-1984-03 Rev A** or
  DSM, 3GB MEM   **870-1984-04 Rev A** or
  DSM, 4GB MEM   **870-1984-05 Rev A**

- DSM-1G   **870-2371-02 Rev A**
  DSM-2G   **870-2371-03 Rev E**
  EDSM-2G   **870-2372-03 Rev A**

- E1/T1 MIM   **870-2198-01 Rev G or**
  E1/T1 MIM   **870-2198-02 Rev A**

- E1-ATM   **870-2455-01 Rev B**
  E1-ATM   **870-2455-02 Rev B**

- EILA   **870-2049-01 Rev A** or
  EILA w/ DIMM   **870-2049-02 Rev A**

- FAP   **870-1606-02 Rev A**[5] or
           870-2320-01 Rev A[6]

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[1] Required for HMUX.
[2] Required for HMUX, Standard Frame
[3] Required for HMUX, Heavy Duty frame
[4] Required for Heavy Duty frame
[5] Required for Standard frame
[6] Required for Heavy Duty frame

- FAP-CF/EF   **870-0243-08 Rev C**
  FAP-MISC   **870-0243-09 Rev C**

- GPSM-II   **870-2360-01 Rev E**

- HMUX   **870-1965-01 Rev A**

- LIM-AINF   **870-1014-01 Rev D** or
  LIM-AINF   **870-1014-02 Rev A** or
  LIM-AINF   **870-1014-03 Rev B** or
  LIM-AINF   **870-1014-04 Rev A** or
  LIM-AINF   **870-1014-05 Rev A** or
  LIM-AINF   **870-1014-06 Rev A** or
  LIM-AINFw/ DIMM   **870-1488-01 Rev A** or
  LIM-AINFw/ DIMM   **870-1488-02 Rev A** or
  LIM-AINFw/ DIMM   **870-1488-03 Rev A** or
  LIM-AINFw/ DIMM   **870-1488-04 Rev A** or
  LIM-AINFw/ DIMM   **870-1488-05 Rev A** or
  LIM-AINFw/ DIMM   **870-1488-06 Rev A**

- LIM-ATM   **870-1293-02 Rev A** or
  LIM-ATM   **870-1293-03 Rev A**
  LIM ATM   **870-1293-06 Rev A**
  LIM ATM   **870-1293-07 Rev A**
  LIM-ATM   **870-1293-08 Rev A**

- LIM-DS0   **870-1009-02 Rev D** or
  LIM-DS0   **870-1009-03 Rev A** or
  LIM-DS0   **870-1009-04 Rev A** or
  LIM-DS0 w/ DIMM   **870-1485-01 Rev A** or
  LIM-DS0 w/ DIMM   **870-1485-02 Rev A** or
  LIM-DS0 w/ DIMM   **870-1485-03 Rev A**

- LIM-E1   **870-1379-01 Rev A**

- LIM-ILA   **870-1484-01 Rev E** or
  LIM-ILA w/ DIMM   **870-1484-02 Rev C**

- LIM-OCU   **870-1010-03 Rev D** or
  LIM-OCU   **870-1010-04 Rev A** or
  LIM-OCU   **870-1010-05 Rev A** or
  LIM-OCU w/ DIMM   **870-1486-02 Rev A** or
  LIM-OCU w/ DIMM   **870-1486-03 Rev A** or
  LIM-OCU w/ DIMM   **870-1486-04 Rev A**

- LIM-V.35   **870-1012-02 Rev D**
  LIM-V.35   **870-1012-03 Rev A**
  LIM-V.35   **870-1012-04 Rev A**
  LIM-V.35 w/ DIMM   **870-1487-01 Rev A** or
  LIM-V.35 w/ DIMM   **870-1487-02 Rev A** or
  LIM-V.35 w/ DIMM   **870-1487-03 Rev A**

- MDAL   **870-0773-04 Rev B** or
  MDAL   **870-0773-05 Rev A** or
  MDAL   **870-0773-06 Rev A**
  MDAL   **870-0773-08 Rev A**

- MPL   **870-2061-01 Rev A**
  MPL-T   **870-2061-02 Rev C**

- MPS TekServer EPAP   **890-1801-01 Rev D**

- MPS Sun Netra ELAP   **890-1374-06 Rev A**

- TDM   **870-0774-10 Rev A**
  TDM   **870-0774-11 Rev A**

- TDM GTI   **870-0774-15 Rev B**

- TSM-256   **870-1289-02 Rev A** or
  TSM-256   **870-1289-03 Rev A**

- TSM-512   **870-1290-02 Rev A** or
  TSM-512   **870-1290-03 Rev A**

- TSM-768   **870-1291-02 Rev A** or
  TSM-768   **870-1291-03 Rev A**

- TSM-1024   **870-1292-02 Rev A** or
  TSM-1024   **870-1292-03 Rev A**

- Dual GR-376 EOAP   **890-1050-02 Rev G**

- Single EOAP   **890-1050-03 Rev H**

- Dual EOAP   **890-1050-01 Rev K**

- Kit, E1   **890-1037-01 Rev A**

- Kit, Holdover Clock Assy   **890-1013-01 Rev A**

- Fan Assy   **890-1038-01 Rev D**

- MPS Sun Netra ELAP   **890-1277-04 Rev G**

- Sun Netra ELAP   **890-1374-04 Rev E**

- TekServer   **870-2640-01 Rev F**

- Dual Port G-Bit E-Net Card   **870-2707-01 Rev B**

- Quad Serial Exp. Card   **870-2708-01 Rev B**

- 120 GB Hard Drive Assy   **870-2721-02 Rev B**

- Upgrade kit, MPS Netra-to-TekServer **870-2735-01 Rev A**
  Field

ITU DTA (a.k.a. ITU Triggerless Message Screening)

Description

ITU Database Transport Access (DTA) is used to divert SS7 traffic to an internal or external SCP process (via SS7, X.25 or IP) for application handling.

DTA intercepts MSUs that need further application processing and delivers the MSUs to the SCP for modification. The SCP sends the processed MSU to the EAGLE to be routed to its final destination.

The redirect function allows the EAGLE to trap MSUs, modify them, and process the new MSUs as ordinary messages. The redirect function essentially diverts an MSU from the original DPC to the DPC specified by the user.

The original implementation of DTA supported ANSI only. ITU DTA alows transmission to any PC type. However, the EAGLE currently allows only a single DTA DPC to be provisioned. If the incoming message type is not the same as the DTA DPC, the message will be "tunneled" to the DPC. The redirect function encapsulates the original MSU in the SCCP data part of a new MSU. The CgPA SSN is designated as the information element to identify the payload type. Payload types are identified in Table FN-2. Tunneling allows multiple payload types to be carried in the SCCP data. The original DTA implementation for ANSI used SSN=0 for all MSUs; there is no change for ANSI payloads. If the EAGLE ANSI True PC is used, it may be converted to a Secondary Point Code during routing.

Table FN-2.   Payload Type MSU encoding information

Payload Type	CgPA SSN	Redirected MSU OPC
ANSI	0	Original OPC
ITU-I/ITU-N	259	Eagle ANSI True PC
ITU-N24	251	Eagle ANSI True PC

Tunneling uses a MTP2/MTP3/SCCP header based on the DTA DPC point code type to allow any incoming message to be routed to the DTA DPC. For example, ITU tunneling involves placing an ANSI wrapper around an ITU message and sending it to an ANSI destination. The destination then removes the ANSI wrapper and processes the original ITU information. Tunneling works in the same way for an ANSI MSU encapsulated for an ITU destination.

Highlights

The original implementation of DTA supported ANSI only. ITU DTA allows transmission to any PC type.

Hardware Requirements

Any hardware required is included in the "Hardware Baseline" on page FN-5

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

chg/ent/rtrv-gws-redirect

Use the `chg-gws-redirect` command to change the provisioning data for the redirect function. The values that are specified for this command are stored in the Redirect table, and they are used to set the variable fields of the MSUs being redirected. For example, if the **ri=gt** parameter is specified, the value **gt** is set for the routing indicator in the called party address (CDPA) of the MSU being redirected.

Use the `ent-gws-redirect` command to provision the redirect function. The Redirect table must be provisioned before configuring gateway screening to redirect received MSUs. The values that are specified with this command are stored in the Redirect table, and they are used to set the variable fields of the MSUs being redirected. For example, if the **ri=gt** parameter is specified, the value **gt** is set for the routing indicator in the called party address (CDPA) of the MSU being redirected.

Use the `rtrv-gws-redirect` command to display the provisioning data for the redirect function. The parameters and values that are retrieved using this command are stored in the Redirect table, and they are used to set the variable fields of the MSUs being redirected.

Output

rtrv-gws-redirect

```
    rlghncxa03w 03-11-10 11:43:04 EST  EAGLE 31.6.0
    ENABLED DPCA        RI  SSN    TT     GTA
    on      001-030-001 SSN 10     25     1800833

    ENABLED DPCI        RI  SSN    TT     GTA
    on      1-001-1     SSN 10     25     1800833

    ENABLED DPCN        RI  SSN    TT     GTA
    on      10234       SSN 10     25     1800833

    ENABLED DPCN24      RI  SSN    TT     GTA
    on      001-030-001 SSN 10     25     1800833
```

Legend

ENABLED—Indicates whether the gateway screening redirect function is on or off

DPCA/DPCI/DPCN/DPCN24—The destination point code that the message is being redirected to.

RI—The routing indicator for the redirected message

SSN—The subsystem to which the redirected message is bound for.

TT—The translation type of the global title translation

GTA—The global title translation address

TUP Message Type Screening

Description

Telephone User Part (TUP) protocol is a predecessor to Integrated Services Digital Network (ISDN) User Part (ISUP) that remains in use for some market areas. ISUP and TUP share the same screen function table. TUP is supported for Gateway Screening (GWS) by overloading the ISUP screening table. To use TUP screening, the screen set defines the screening order to have an SIO table with the rule SI=4 for TUP to screen the TUP messages. This SIO screening reference is specified in the `ent-scr-isup` command as the next screening reference (`nsr`) value in a screening reference for TUP message types.

Point Code screening of DPC and BLKDPC can be used with the overload of the ISUP screen function with TUP, as long as an SIO screen comes first.   To do this there should be an SIO rule for SI=4 to screen for TUP protocol and another rule with SI=5 for ISUP protocol, these two rules must also have separate Next Screen Functions. This allows the screening rules after the SIO to have two separate streams, one that ends with true ISUP, the other that ends with TUP overloading ISUP.

Highlights

To use TUP screening, the screen set defines the screening order to have an SIO table with the rule SI=4 for screening the TUP messages.

Hardware Requirements

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

ent/dlt/chg/rtrv-scr-isup

Use the **ent-scr-isup** command to add an allowed ISUP screening reference to the Allowed ISUP entity set. One or more message types can be associated with the allowed ISUP screening reference. The ISUP message types listed in this entity set are accepted from another network.

Use the **chg-scr-isup** command to change the attributes associated with a specific allowed ISUP screening reference in the Allowed ISUP entity set.

Use the **dlt-scr-isup** command to delete an allowed ISUP screening reference from the Allowed ISUP entity set.

Use the **rtrv-scr-isup** command to display one allowed ISUP screening reference or all allowed ISUP screening references in the Allowed ISUP entity set.

Parameters

:isupmt= or **:tupmt**=   (mandatory)
ISUP message type or TUP message type. A single value or a range of values can be specified. An asterisk (*) indicates the full range of values from **000–255**. The **tupmt** parameter is not valid for SEAS.
Range: 000–255

:nisupmt= or **:ntupmt**=   (mandatory)
New ISUP message type or new TUP message type. A single value or a range of values can be specified. An asterisk (*) indicates the full range of values from **000–255**. The **ntupmt** parameter is not valid for SEAS.
Range: 000–255

Output

chg-scr-isup:tupmt=20:ntupmt=1:sr=tu01

```
tekelecstp 04-04-02 10:26:27 EST   EAGLE 31.6.0
Extended Processing Time Required -- Please Wait
Notice: The number of screensets affected is   2.
CHG-SCR-ISUP: SCREEN SET AFFECTED - ist1    1% FULL
CHG-SCR-ISUP: SCREEN SET AFFECTED - ist2    1% FULL
CHG-SCR-ISUP: MASP A - COMPLTD
```

dlt-scr-isup:tupmt=1:sr=tu01

```
tekelecstp 04-04-02 12:00:30 EST   EAGLE 31.6.0
Extended Processing Time Required -- Please Wait
Notice: The number of screensets affected is   2.
DLT-SCR-ISUP: SCREEN SET AFFECTED - ist1    1% FULL
DLT-SCR-ISUP: SCREEN SET AFFECTED - ist2    1% FULL
DLT-SCR-ISUP: MASP A - COMPLTD
```

ent-scr-isup:tupmt=20:sr=tu01:nsfi=stop

```
tekelecstp 04-04-17 16:22:27 EST   EAGLE 31.6.0
Extended Processing Time Required -- Please Wait
Notice: The number of screensets affected is   2.
ENT-SCR-ISUP: SCREEN SET AFFECTED - ist1    1% FULL
ENT-SCR-ISUP: SCREEN SET AFFECTED - ist2    1% FULL
ENT-SCR-ISUP: MASP A - COMPLTD
```

rtrv-scr-isup:sr=tu01:tupmt=0&&255

```
tekelecstp 04-04-13 13:10:02 EST  EAGLE 31.6.0
SCREEN = ALLOWED ISUP
SR   ISUPMT   NSFI    NSR/ACT
     TUPMT/
tu01 002      STOP    ------
```

ent/chg-scr-sio

Use the **ent-scr-sio** command to add an allowed SIO screening reference and associated attributes (network indicator, service indicator, message priority, H0 heading code, H1 heading code, next screening function identifier, next screening function reference) to the allowed SIO entity set.

Use the **chg-scr-sio** command to change a specific screening reference in the allowed service indicator octet category. Attributes that may be changed are the network indicator, service indicator, message priority, heading codes, next screening function identifier, and next screening reference.

> **NOTE: To use TUP message type screening, an SIO screening reference with si=04 (TUP) must be defined in the SIO table. This SIO screening reference is specified in the ent-scr-isup command as the next screening reference (nsr) value in a screening reference for TUP message types**

TDM Global Timing Interface

Description

The TDM Global Timing Interface (TDM-GTI) is used with an enhanced, backward compatible, TDM card providing the following added functions:

- Ability to generate high speed master clocks from a recovered E1/T1 clock

- Ability to optionally reload the clock Logic Cell Array (LCA) bitfile when the mated GPSM-II is initialized.

Highlights

TDM-GTI provides the ability to generate high speed master clocks from a recovered E1/T1 clock, in addition to the RS422 clock.

Hardware Required

TDM-GTI resides on a TDM-15 (870-0774-15) or later card. TDM-15 cards are backward compatible; they will not provide the features described above.

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

chg/rtrv-stpopts

Use the `chg-stpopts` command to change the values of one or more of the STP node level processing option indicators maintained in the STP's options table. All values are assigned initially to system defaults at STP installation time, and they may be updated subsequently using this command.

Use the `rtrv-stpopts` command to retrieve the current value of the Eagle's node-level processing option indicators maintained in the STP's options table.

Parameters

:hsclkll= (optional)
High speed master clock line length.
Range: **longhaul, shorthaul**
       longhaul—Gain is high for long haul
       shorthaul—Gain is low for short haul

Default: Current value

Sytem Default: **longhaul**

:hsclksrc= (optional)

High speed master clock source. The **force=yes** parameter must be specified with this parameter to change the clock source when the TDMs are reporting that the system clocks are currently valid.

⚠️ **CAUTION: Changing the high speed master clock source can result in clock outage and loss of traffic on all links, if the new source type does not match the provisioned source for the E1 or T1 cards (what is actually plugged into the backplane).**

Range: **rs422, e1framed, e1unframed, t1framed, t1unframed**

rs422—RS-422 clock source

e1framed—E1 Framed clock source

e1unframed—E1 Unframed clock source

t1framed—T1 Framed clock source

t1unframed—T1 Unframed clock source

Default: Current value

Sytem Default: **rs422**

:force= (optional)

Specify **force=yes** to change the **hsclksrc** parameter value when the TDMs are reporting that the system clocks are currently valid.

Range: **yes, no**

Default: `no`

Output

The following example displays MTP STP options with no affecting features on. Certain features that are shown in other examples control additional options and/or changes to this option list:

rtrv-stpopts

```
    rlghncxa03w 04-04-17 16:02:05 EST  EAGLE 31.6.0
    STP OPTIONS
    ---------------------------
    MTPT31CTL                  1
    MTPLTI                   yes
    MTPLTCTDPCQ                3
    MTPLTST                10000
    MTPDPCQ                 2000
    TFATFRPR                1000
    MTPLPRST                 yes
    MTPT10ALT              30000
    UIMRD                    yes
    SLSCNV                 perls
    CRITALMINH               yes
    DISPACTALMS               no
    NPCFMTI            14-0-0-0
    RPTLNPMRSS               yes
    RANDSLS                  off
    GR2878RGLBL              yes
```

```
RSTRDEV                 on
HSCLKSRC              RS422
HSCLKGAIN           LONGHAUL
;
```

The following example displays all MTP STP options. The following list indicates which options appear in the output when the associated features are on:

NOTE: **All options will not appear in actual output, because all features that cause these options to appear cannot be on in the system at the same time.**

- Cluster Routing and Management Diversity (CRMD) feature—MTPXLQ, MTPXLET, MTPXLOT

- MTP Restart (MTPRS or ITUMTPRS) feature—MTPRSI, MTPRSIT

- 6000 Routesets feature—MTPDPCQ=6000

- GSM MAP Screening (GSMSCRN) feature—GSMDFLT, GSMDECERR

- GSM Mobile Number Portability (G-Port) feature, INAP Number Portability (INP) feature, or GSM Flexible Numbering (G-Flex) feature—DEFCC, DEFNDC, DSMAUD

- GSM Flexible Numbering (G-Flex) feature—ANSIGFLEX

- Network Security (NSE) feature—SECMTPMATE, SECMTPSID, SECMTPSNM, SECSCCPSCMG

- ANSI-ITU-China SCCP Conversion (SCCP Conversion) feature—CNVCGDA, CNVCGDI, CNVCGDN, CNVCGDN24, GTCNVDFLT

rtrv-stpopts

```
rlghncxa03w 04-04-17 16:02:05 EST  EAGLE 31.6.0
STP OPTIONS
---------------------------
MTPT31CTL                 1
MTPLTI                  yes
MTPLTCTDPCQ               3
MTPLTST              10000
MTPXLQ                 500
MTPXLET                0100
MTPXLOT                90%
MTPDPCQ               6000
TFATFRPR              1000
MTPRSI                 yes
MTPRSIT               5000
MTPLPRST               yes
MTPT10ALT            30000
UIMRD                  yes
SLSCNV               perls
CRITALMINH             yes
DISPACTALMS             no
NPCFMTI           14-0-0-0
GSMDFLT               PASS
GSMDECERR             PASS
DEFCC                   49
DEFNDC                 177
DSMAUD                  no
```

```
        RPTLNPMRSS                  yes
        RANDSLS                     all
        GR2878RGLBL                  no
        RSTRDEV                      on
        SECMTPMATE                  off
        SECMTPSID                   off
        SECMTPSNM                notify
        SECSCCPSCMG              notify
        CNVCGDA                     yes
        CNVCGDI                     yes
        CNVCGDN                     yes
        CNVCGDN24                   yes
        GTCNVDFLT                   yes
        ANSIGFLEX                   yes
        HSCLKSRC                  RS422
        HSCLKLL               LONGHAUL
;
```

Legend

MTPT31CTL—MTP T31 congestion trigger level. The signaling link congestion level at which the Eagle starts the level 3 t31 timer. When the level 3 t31 timer expires, the associated signaling link is removed from service for realignment.

MTPLTI—MTP loop test indicator. Specifies whether the MTP loop detection procedures are enabled or disabled at the system.

MTPLTCTDPCQ—MTP loop test congestion trigger DPC quantity. The number of most frequently occurring DPCs to which the MTP loop test messages are to be sent when the MTP loop test is triggered by congestion.

MTPLTST—MTP loop test supervision timer. The amount of time, in milliseconds, that the MTP loop test detection procedures run when started.

MTPXLQ—MTP x-list quantity. The number of dynamic status exception list (x-list) entries the Eagle maintains.

MTPXLET—MTP x-list expiration time. The maximum amount of time the Eagle maintains an unreferenced dynamic status exception list (x-list) entry.

MTPXLOT—MTP x-list occupancy threshold. The dynamic status exception list (x-list) occupancy threshold at which the Eagle raises a minor alarm. The threshold is expressed as a percentage of space available.

MTPDPCQ—MTP destination point code quantity. The maximum number of DPCs that can be provisioned from the Eagle.

TFATFRPR—TFA/TFR pacing rate. The amount of time, in milliseconds, between partial broadcasts of up to 20 percent increments of the number of TFAs/TCAs or TFRs/TCRs to be broadcast by the STP when an affected destination becomes accessible using its primary route rather than an alternate route. The STP uses this pacing to prevent congestion on the newly-recovered linksets.

MTPRSIT—MTP Restart isolation timer. The minimum duration of node isolation, in milliseconds, before the MTP Restart procedure is deemed necessary.

MTPRSI—MTP Restart indicator. Specifies whether ANSI or ITU MTP Restart procedures are enabled or disabled at the STP.

MTPLPRST—MTP low priority route set test. Specifies whether low priority route set polling is enabled or disabled at the STP.

MTPT10ALT—MTP T10 alternate timer. Specifies the interval at which the STP performs a route set test on low priority routes.

SLSCNV—Per node SLS conversion indicator. Specifies whether SLS conversion is on, off, or performed per linkset (perls).

UIMRD—Unsolicited Information Message (UIM) redirect. Specifies whether specific UIMs are redirected to this output group.

CRITALMINH—Indicates whether the option that allows the inhibiting of critical alarms is enabled (`yes`) or disabled (`no`).

DISPACTALMS—Indicates whether to display active or total alarms in the alarm status area of the VT320 screen.

NPCFMTI—Defines how the ITU national point code is entered into the database and how it is displayed in any outputs from the Eagle.

GSMDFLT—Indicates whether the GSM MAP screening default action is set to pass or discard.

GSMDECERR—Indicates whether the GSM MAP screening decode error action is set to pass or discard.

DEFCC—Defines the default country code.

DEFNDC—Defines the default network destination code.

DSMAUD—Indicates whether the DSM audit is running (`on`) or disabled (`off`).

RANDSLS—Displays the Random SLS setting.

RTPLNPMRSS—Displays the setting for reporting or suppressing UIM 1049 for LNP MR with missing subsystems.

GR2878RGLBL—`Yes` = use GR-2878-CORE HSL labels and data in SEAS output. `No` = HSL labels and data are not supported to SEAS.

RSTRDEV—Allow or disable restoration of device states when an `init-sys` command is executed, an OAM role changes, or a card reload occurs.

SECMTPMATE—Indicates Network Security screening for MTP messages received by an STP on a non-C-Link, with an OPC equal to the SID (True, Adjacent, or Capability) point code of its mate.

SECMTPSID—Indicates Network Security screening for MTP messages received at MTP3 containing an OPC equal to its own SID (OPC that is the True, Secondary, or Capability point code entered in the `chg-sid` command) that is not a route-set-congestion-message. The Eagle should not receive a message with its own OPC unless the message is a result of a circular route test or is an SLTM when the far end is in loopback. (SLTM messages are not checked.)

SECMTPSNM—Indicates Network Security screening for MTP SNM messages. The Eagle should not receive an MTP network management message unless:

- The OPC is an adjacent point code. (For all link types, this rule does not apply to UPU, TFC, and RCT messages.)

- 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. (For all link types, this rule is not applicable to RST messages.)

SECSCCPSCMG—Indicates Network Security screening for SCCP SCMG messages. This value applies only to SSP and SOR messages. SSA, SST, SOG, SBR, SNR and SRT messages are not affected. 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 (also called the Concerned Point Code in Eagle) in the message on the linkset on which the message was received.

CNVCGDA—Indicates whether or not to discard the CGPA PC in ANSI SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

CNVCGDI—Indicates whether or not to discard the CGPA PC in ITU-I SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

CNVCGDN—Indicates whether or not to discard the CGPA PC in ITU-N SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

CNVCGDN24—Indicates whether or not to discard the CGPA PC in 24-bit ITU-N SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

ANSIGFLEX—Indicates enable or disable of ANSI G-Flex to execute at 1700 TPS per DSM card

HSCLKLL—High speed master clock line length option (SHORTHAUL, LONGHAUL)

HSCLKSRC—High speed master clock source

GTCNVDFLT—Indicates enable or disable of routing of SCCP messages using system defaults when an appropriate entry is not found in the Default GT Conversion table

init-card

Use this command to cause a soft reset of a card. It has the same result as a hard reset (card boots, GPL, and data load), except that IMT connect status is not affected; that is, if a card is not IMTconnected, it stays that way.

When the command is issued to the OAM software, there is a 10-second wait before the card is reset. This wait period is intended to ensure that all database updates are complete before the card is reset.

Parameters

:force= (optional)
The `force=yes` parameter enables the command to be processed under the following conditions:

- If **serial=yes** and all cards of the specified GPL type are not IS-NR or OOS-MT-DSBLD.

- If **data=persist** and all cards of the GPL type cannot maintain a persistent LNP database over the reset.

- If **initclk=yes** and the TDM card specified in the **loc** parameter is the only good HS clock source that is currently active. A temporary clock outage will occur.

- If **initclk=yes** and **appl=eoam** is specified (bitfiles on both TDMs will be initialized). A temporary clock outage will occur.

Range: yes, no
Default: no

:initclk= (optional)
Initialize TDM Bitfile indicator. If TDM reload would cause a system clock outage, the·**initclk** parameter cannot be specified unless **force=yes** is also specified.

⚠ **CAUTION: The resulting clock outage will probably cause loss of traffic on all links usint the system clocks.**

The following scenarios will cause such clock outages:

- Simplex MASP configuration (a system with a single TDM).

- Bad clock status on the remaining TDM.

Range: yes, no
> If **initclk=yes** is specified with a single TDM card location, the bitfile for the specified TDM reloads.
> If **initclk=yes** is specified with **appl=oam** and **force=yes**, the bitfile reloads on both TDMs.

:loc= (optional)
The card location as stenciled on the shelf of the Eagle.
Range: When the **initclk** parameter is not specified, card locations **1101–1108, 1111–1112, 1201–1208, 1211–1218, 1301–1308, 1311–1318, 2101–2108, 2111–2118, 2201–2208, 2211–2218, 2301–2308, 2311–2318, 3101–3108, 3111–3118, 3201–3208, 3211–3218, 3301–3308, 3311–3318, 4101–4108, 4111–4118, 4201–4208, 4211–4218, 4301–4308, 4311–4318, 5101–5108,**

> **5111–5118, 5201–5208, 5211–5218, 5301–5308, 5311–5318, 6101–6108, 6111–6118** are valid.
>
> When the **initclk** parameter is specified with the **loc** parameter, only card locations **1113** and **1115** are valid.

Default: All valid card locations are initialized.

Output

init-card:loc=1115:initclk=yes

```
    tekelecstp 04-04-17 13:01:59 EST  EAGLE 31.6.0
    Init Card command issued to card 1115
;

    tekelecstp 04-04-17 13:01:59 EST  EAGLE 31.6.0
*   3021.0013  * CARD 1115 EOAM        Card is isolated from the system
;

    tekelecstp 04-04-17 13:03:10 EST  EAGLE 31.6.0
    3022.0014    CARD 1115 EOAM        Card is present
                 ASSY SN:  1216115
```

init-flash

Use this command to load the Board PROM to the inactive FLASH memory of a specified card or range of cards. When a card is reinitialized, it runs this version of the GPL in the card's inactive FLASH memory.

Parameters

:force= (optional)

This parameter is required to force the TDM-GTI bitfile reload if a clock outage will occur when **initclk=yes** is specified.

Range: yes, no

Default: no

:initclk= (optional)

If this parameter is specified for an EOAM card location (1113 or 1115), it determines whether or not the TDM-GTI bitfile should be reloaded, causing a clock initialization.

The command will be accepted if the TDM being initialized is a TDM-GTI and the following conditions are true:

- The card being flashed is in location 1113 or 1115.

- Any required clocks from the mate OAM are valid, or the **force=yes** parameter is used.

Range: yes, no

Default: no

Output

init-flash:loc=1113:code=appr:initclk=yes

```
    rlghncxa03w 04-03-08 10:02:04 EST  EAGLE 31.6.0
    FLASH Memory Download for card 1113 Started.
;


    rlghncxa03w 04-03-08 10:02:23 EST  EAGLE 31.6.0
    FLASH Memory Download for card 1113 Completed.
;
```

rept-stat-clk

Use this command to display the clock status summary for cards in the system.

Output

The following example shows output when **mode=full** is not specified, with no HS clock sections, and when the TSCSYNC feature is not on:

rept-stat-clk

```
    rlghncxa03w 04-04-07 08:51:31 EST  EAGLE 31.6.0
    CARD LOC = 1114 (Active   )      CARD LOC = 1116 (Isolated )
    PRIMARY BITS     = Active        PRIMARY BITS     = -----
    SECONDARY BITS   = Fault         SECONDARY BITS   = -----

                                     PST          SST        AST
    SYSTEM CLOCK                     OOS-MT       Fault      -----
    ALARM STATUS = No Alarms.
    # Cards using CLK A = 4          # Cards with bad CLK A = 0
    # Cards using CLK B = 0          # Cards with bad CLK B = 4
    # Cards using CLK I = 0

    Command Completed.
;
```

The following example shows output when **mode=full** is specified, with no HS clock sections, and the TSCSYNC feature is not on:

```
    rlghncxa03w 04-04-07 08:51:31 EST  EAGLE 31.6.0
    CARD LOC = 1114 (Active   )      CARD LOC = 1116 (Isolated )
    PRIMARY BITS     = Active        PRIMARY BITS     = -----
    SECONDARY BITS   = Fault         SECONDARY BITS   = -----

                                     PST          SST        AST
    SYSTEM CLOCK                     OOS-MT       Fault      -----
    ALARM STATUS = No Alarms.
    # Cards using CLK A = 4          # Cards with bad CLK A = 0
    # Cards using CLK B = 0          # Cards with bad CLK B = 4
    # Cards using CLK I = 0

    Cards with bad clock source:
    CARD            CLK A      CLK B
    1103            Active     Fault
```

```
1104                 Active      Fault
1106                 Active      Fault
1113                 Active      Fault

Command Completed.
;
```

If the Time Slot Counter Synchronization feature (TSCSYNC) is turned on, the output includes the TSC clock status.

rept-stat-clk

```
rlghncxa03w 04-04-07 08:51:31 EST  EAGLE 31.6.0
CARD LOC = 1114 (Active   )     CARD LOC = 1116 (Isolated )
PRIMARY BITS     = Active       PRIMARY BITS     = -----
SECONDARY BITS   = Fault        SECONDARY BITS   = -----
TSC CLOCK        = Clock A      TSC CLOCK        = -----

                                PST          SST        AST
SYSTEM CLOCK                    OOS-MT       Fault      -----
ALARM STATUS = No Alarms.
# Cards using CLK A = 4         # Cards with bad CLK A = 0
# Cards using CLK B = 0         # Cards with bad CLK B = 4
# Cards using CLK I = 0

Command Completed.
;
```

The following example includes output that appears when **mode=full** is not specified; at least one HS clock capable card is provisioned, or the TDM cards are TDM-GTI cards (TDM-15 or later) and the TSCSYNC feature is turned on:

rept-stat-clk

```
rlghncxa03w 04-04-07 08:51:31 EST  EAGLE 31.6.0
CARD LOC = 1114 (Active   )   CARD LOC = 1116 (Isolated )
PRIMARY BITS     = Active       PRIMARY BITS     = -----
SECONDARY BITS   = Idle         SECONDARY BITS   = -----
HS PRIMARY CLK   = Active       HS PRIMARY CLK   = -----
HS SECONDARY CLK = Idle         HS SECONDARY CLK = -----
HS CLK TYPE      = E1 UNFRAMED  HS CLK TYPE      = -----
HS CLK LINELEN   = SHORTHAUL    HS CLK LINELEN   = -----
TSC CLOCK        = Unavail      TSC CLOCK        = -----
                                PST          SST        AST
SYSTEM CLOCK                    OOS-MT       Fault      -----
ALARM STATUS = No Alarms.
# Cards using CLK A = 4         # Cards with bad CLK A = 1
# Cards using CLK B = 0         # Cards with bad CLK B = 5
# Cards using CLK I = 1

                                PST          SST        AST
HS SYSTEM CLOCK                 IS-NR        Idle       -----
# Cards using HS CLK A = 0      # Cards with bad HS CLK A = 1
# Cards using HS CLK B = 0      # Cards with bad HS CLK B = 1
# Cards using HS CLK I = 0

;
```

The following example includes output that appears when **mode=full** is not specified; at least one HS clock capable card is provisioned and the TSCSYNC feature is not turned on:

rept-stat-clk

```
    rlghncxa03w 04-04-07 08:51:31 EST  EAGLE 31.6.0
    CARD LOC= 1114 (Active   )    CARD LOC= 1116 (Isolated )
    PRIMARY BITS      = Active      PRIMARY BITS      = -----
    SECONDARY BITS    = Idle        SECONDARY BITS    = -----
    HS PRIMARY CLK    = Active      HS PRIMARY CLK    = -----
    HS SECONDARY CLK  = Idle        HS SECONDARY CLK  = -----
    HS CLK TYPE       = E1 UNFRAMED HS CLK TYPE       = -----
    HS CLK LINELEN    = SHORTHAUL   HS CLK LINELEN    = -----

                                    PST           SST        AST
    SYSTEM CLOCK                    IS-NR         ACTIVE     ALMINH
    ALARM STATUS = No Alarms.
    # Cards using CLK A = 9     # Cards with bad CLK A = 0
    # Cards using CLK B = 0     # Cards with bad CLK B = 9
    # Cards using CLK I = 0

                                    PST           SST        AST
    HS SYSTEM CLOCK                 IS-NR         ACTIVE     ALMINH
    ALARM STATUS = No Alarms.

    # Cards using HSCLK A = 1   # Cards with bad HSCLK A = 0
    # Cards using HSCLK B = 0   # Cards with bad HSCLK B = 2
    # Cards using HSCLK I = 0
    Command Completed.
;
```

The following example includes output that appears when **mode=full** is specified; at least one HS clock capable card is provisioned, or the TDM cards are TDM-GTI cards (TDM-15 or later) and the TSCSYNC feature is turned on:

rept-stat-clk:mode=full

```
    rlghncxa03w 04-04-07 08:51:31 EST  EAGLE 31.6.0
    CARD LOC = 1114 (Active   )    CARD LOC = 1116 (Isolated )
    PRIMARY BITS      = Active      PRIMARY BITS      = -----
    SECONDARY BITS    = Idle        SECONDARY BITS    = -----
    HS PRIMARY CLK    = Active      HS PRIMARY CLK    = -----
    HS SECONDARY CLK  = Idle        HS SECONDARY CLK  = -----
    HS CLK TYPE       = E1 UNFRAMED HS CLK TYPE       = -----
    HS CLK LINELEN    = SHORTHAUL   HS CLK LINELEN    = -----
    TSC CLOCK         = Unavail     TSC CLOCK         = -----

                                    PST           SST        AST
    SYSTEM CLOCK                    OOS-MT        Fault      -----
    ALARM STATUS = No Alarms.
    # Cards using CLK A = 4     # Cards with bad CLK A = 1
    # Cards using CLK B = 0     # Cards with bad CLK B = 5
    # Cards using CLK I = 1

                                    PST           SST        AST
    HS SYSTEM CLOCK                 IS-NR         Idle       -----
    ALARM STATUS = No Alarms.
    # Cards using HS CLK A = 0   # Cards with bad HS CLK A = 1
    # Cards using HS CLK B = 0   # Cards with bad HS CLK B = 1
    # Cards using HS CLK I = 0
```

```
    Cards with bad clock source:
    CARD            CLK A       CLK B       HS CLK A    HS CLK B
    1103            Active      Fault       ------      ------
    1104            Active      Fault       Fault       Fault
    1106            Active      Fault       ------      ------
    1113            Active      Fault       ------      ------
    1205            Fault       Fault       ------      ------

    Command Completed.
;
```

Legend

CARD LOC—The card location of the TDM and the status of the MASP

PRIMARY BITS—The status of the primary BITS clock

SECONDARY BITS—The status of the secondary BITS clock

HS PRIMARY CLK—The status of the high-speed primary clock

HS SECONDARY CLK—The status of the high-speed secondary clock

Possible values for HS PRIMARY CLK and HS SECONDARY CLK status are:

> ---- (dashes)—Undefined or not applicable

> **ACTIVE**—High-speed primary clock is valid and is the current reference being distributed by TDMx to all Eagle shelves.

> **FAULT**—High-speed primary clock source from TDMx is currently invalid.

> **IDLE**—High-speed primary clock is valid, the high-speed secondary clock is the current reference being distributed by TDMx to all Eagle shelves.

HS CLK TYPE—HS clock source (see the `chg-stpopts` command)

HS CLK LINELEN—HS clock line length (see the `chg-stpopts` command)

TSC CLOCK—The status of the Time Slot Counter Synchronization (TSC) clock; appears only when the TSCSYNC feature is turned on.

SYSTEM CLOCK—System clock status

> **PST**—The primary state of the clock. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

> **SST**—The secondary state of the clock. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

> **AST**—The associated state of the clock. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

ALARM STATUS—System clock alarms; "No alarms" is shown when there are no alarms.

 # CARDS USING CLK A, B, I—The number of cards using clock A, clock B, and clock I.

 # CARDS WITH BAD CLK A, B—The number of cards using clock A or clock B, when clock A or B is bad.

HS SYSTEM CLOCK—HS system clock status

PST—The primary state of the clock. The possible values are described in "Possible Values for PST/SST/AST"in Appendix A.

SST—The secondary state of the clock. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

AST—The associated state of the clock. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

ALARM STATUS—HS System clock alarms; "No alarms" is shown when there are no alarms.

 # CARDS USING HSCLK A, B, I—The number of cards using high-speed clock A, B, and I.

NOTE: The value for the internal high-speed clock (# Cards using HSCLK I) is generated differently from the internal system clock (Cards using CLK I). The internal high speed clock is generated by the XILINX on the ATM applique's card. The internal system clock is generated by TDMx when both BITS clock sources are invalid and then distributed to all Eagle shelves.

The use of HSCLK I is not automatic when both the high-speed primary and secondary clocks are invalid. A LIM-ATM card must be provisioned (with the `ent-slk:atmtsel=internal` parameter) to use the high-speed internal clock.

 # CARDS WITH BAD HSCLK A, B—The number of cards using high-speed clock A or B, when high-speed clock A or B is bad

rept-stat-sys

Use this command to display a summary report of the status of the main system entities. Use this display to determine where the troubles in the system are. The display shows the number of these items that are in service (IS-NR) and how many are in another state (IS-ANR, OOS-MT, OOS-MT-DSBLD).

NOTE: VSCCP cards are included in SCCP card status.

Output

The following example shows the output when no features are turned on in the system and only the cards in locations 1109-1110 and 1113-1118 are installed.

rept-stat-sys

```
tekelecstp 04-03-31 15:30:42 EST  EAGLE 31.6.0
    MAINTENANCE STATUS REPORT
      Maintenance Baseline established.
      Routing Baseline established.
      SCCP Baseline established.
      ALARMS:      CRIT=   2   MAJR=   2   MINR=    0     INH=    0
      OAM 1113    IS-NR       Active                     INH=    0
      OAM 1115    IS-NR       Standby                    INH=    0
      LIM     CARD IS-NR=   0   Other=        0          INH=    0
      X25     CARD IS-NR=   0   Other=        0          INH=    0
      SCCP    CARD IS-NR=   0   Other=        0          INH=    0
      GLS     CARD IS-NR=   0   Other=        0          INH=    0
      SLAN    CARD IS-NR=   0   Other=        0          INH=    0
      VXWSLAN CARD IS-NR=   0   Other=        0          INH=    0
```

```
         EMDC    CARD IS-NR=   0    Other=        0            INH=    0
         SS7IPGW CARD IS-NR=   0    Other=        0            INH=    0
         IPGWI   CARD IS-NR=   0    Other=        0            INH=    0
         IPLIM   CARD IS-NR=   0    Other=        0            INH=    0
         IPLIMI  CARD IS-NR=   0    Other=        0            INH=    0
         HMUX    CARD IS-NR=   0    Other=        0            INH=    0
         MCPM    CARD IS-NR=   0    Other=        0            INH=    0
         EROUTE  CARD IS-NR=   0    Other=        0            INH=    0
         CLOCK        IS-NR=   2    Other=        0            INH=    0
         IMT          IS-NR=   2    Other=        0
         SLK          IS-NR=   0    Other=        0            INH=    0
         DLK          IS-NR=   0    Other=        0            INH=    0
         LINK SET     IS-NR=   0    Other=        0            INH=    0
         NDC IP LK    IS-NR=   0    Other=        0            INH=    0
         DSM IP LK    IS-NR=   0    Other=        0            INH=    0
         MCPM IP LK   IS-NR=   0    Other=        0            INH=    0
         APPLSOCK     IS-NR=   0    Other=        0            INH=    0
         SCTP ASSOC   IS-NR=   0    Other=        0            INH=    0
         APPL SERVER  IS-NR=   0    Other=        0            INH=    0
         SS7 DPC      IS-NR=   0    Other=        0            INH=    0
         X25 DPC      IS-NR=   0    Other=        0            INH=    0
         CLUST DPC    IS-NR=   0    Other=        0            INH=    0
         XLIST DPC    IS-NR=   0    Other=        0
         DPC  SS      Actv =   0    Other=        0
         SEAS SS      IS-NR=   0    Other=        2
         SEAS  X25    IS-NR=   0    Other=        2            INH=    0
         LSMS SS      IS-NR=   0    Other=        2
         LSMS Conn    IS-NR=   0    Other=        2            INH=    0
         NDC SS       IS-NR=   0    Other=        0
         NDC  Q.3     IS-NR=   0    Other=        0            INH=    0
         TERMINAL     IS-NR=  16    Other=        0            INH=    0
         MPS          IS-NR=   0    Other=        0
;
```

The following example shows the output when various features are turned on in the system. (Your output will not show all of these entries; some features are mutually exclusive in the system.)

Some entries appear as follows:

- When the Measurements Platform feature is not turned on and no MCPM cards are in the IS-NR state in the system, the MCPM and MCPM IP LK values are zero and the MEAS SS entry does not appear.

- When one or more MCPM cards have been installed and allowed, the MCPM CARD entry shows the number of MCPM cards that are in each state.

- When the Measurements Platform feature is turned on and the Measurements Platform collection option is enabled, the MEAS SS entry appears.

- When the Measurements Platform collection function has been enabled (**chg-measopts-platformenable=on**), the MCPM IP LK entry shows the number of links that are functioning for the MCPM cards, and the MEAS SS entry appears.

- When the OA&M IP Security Enhancement feature is turned on, the SECURITY SS entry appears.

- When the Equipment Identity Register (EIR) feature is turned on, the EIR SS entry appears.

rept-stat-sys

```
rlghncxa03w 04-03-27 16:53:22 EST  EAGLE5 31.6.0
MAINTENANCE STATUS REPORT
   Maintenance Baseline established.
   Routing Baseline established.
   SCCP Baseline established.
   ALARMS:     CRIT=    9    MAJR=  10   MINR=   3     INH=    2
   OAM 1113    IS-NR          Active                   INH=    0
   OAM 1115    IS-NR          Standby                  INH=    0
   LIM    CARD IS-NR=   3    Other=        0           INH=    0
   X25    CARD IS-NR=   0    Other=        0           INH=    0
   SCCP   CARD IS-NR=   3    Other=        0           INH=    0
   GLS    CARD IS-NR=   0    Other=        0           INH=    0
   SLAN   CARD IS-NR=   0    Other=        0           INH=    0
   VXWSLAN CARD IS-NR=  0    Other=        0           INH=    0
   EMDC    CARD IS-NR=  0    Other=        0           INH=    0
   SS7IPGW CARD IS-NR=  0    Other=        0           INH=    0
   IPGWI   CARD IS-NR=  0    Other=        0           INH=    0
   IPLIM   CARD IS-NR=  0    Other=        0           INH=    0
   IPLIMI  CARD IS-NR=  0    Other=        0           INH=    0
   HMUX    CARD IS-NR=  0    Other=        0           INH=    0
   IMT          IS-NR=   2    Other=        0
   SLK          IS-NR=   0    Other=        6           INH=    0
   DLK          IS-NR=   0    Other=        0           INH=    0
   LINK SET     IS-NR=   0    Other=        4           INH=    0
   NDC IP LK    IS-NR=   4    Other=        0           INH=    0
   DSM IP LK    IS-NR=   0    Other=        0           INH=    0
   MCPM   CARD IS-NR=   0    Other=        0           INH=    0
   EROUTE CARD IS-NR=   0    Other=        0           INH=    0
   CLOCK        IS-NR=   2    Other=        0           INH=    0
   HS CLOCK     IS-NR=   2    Other=        0           INH=    0
   MCPM IP LK   IS-NR=   2    Other=        0           INH=    0
   APPLSOCK     IS-NR=   0    Other=        0           INH=    0
   SCTP ASSOC   IS-NR=   0    Other=        0           INH=    0
   APPL SERVER  IS-NR=   0    Other=        0           INH=    0
   SS7 DPC      IS-NR=   0    Other=        6           INH=    0
   X25 DPC      IS-NR=   0    Other=        0           INH=    0
   CLUST DPC    IS-NR=   0    Other=        1           INH=    0
   XLIST DPC    IS-NR=   0    Other=        0
   DPC  SS      Actv =   0    Other=        0
   SEAS SS      IS-NR=   0    Other=        2
   SEAS  X25    IS-NR=   0    Other=        2           INH=    0
   LSMS SS      IS-NR=   0    Other=        2
   LSMS Conn    IS-NR=   0    Other=        2           INH=    0
   NDC SS       IS-NR=   1    Other=        0
   NDC  Q.3     IS-NR=   0    Other=        0           INH=    1
   TERMINAL     IS-NR=   2    Other=       14           INH=    0
   MPS          IS-NR=   2    Other=        0
   SECURITY SS  IS-NR=   1    Other=        0
   EIR SS       IS-NR=   1    Other=        0
;
```

Legend

INH—The number of devices within each device type that have their alarm's inhibited.

ALARMS—The number of critical (**CRIT**), major (**MAJR**), and minor (**MINR**) alarms on the system when this command was executed and the count of alarm inhibited (**INH**) devices for cards, links, linksets, terminals, and SEAS X.25 links and terminals.

OAM—The status of each of the OAM cards.

LIM CARD—The status of the LIM cards.

X25 CARD—The status of the SS7GX25 cards.

SCCP CARD—The status of the SCCP subsystem cards. VSCCP cards are included in the SCCP card status.

GLS CARD—The status of the GLS subsystem cards.

SLAN CARD—The status of the STP LAN subsystem cards.

VXWSLAN CARD—The status of the VXW STP LAN subsystem cards.

EMDC CARD—The status of the EMDC cards.

SS7IPGW CARD—The status of the SS7IPGW cards.

IPGWI CARD—The status of the IPGWI cards.

IPLIM CARD—The status of the IPLIM cards.

IPLIMI CARD—The status of the IPLIMI cards.

HMUX CARD—The status of the HMUX cards.

MCPM CARD—The status of the MCPM cards.

EROUTE CARD—The status of the EROUTE cards.

CLOCK—The status of the system clocks.

HS CLOCK—The status of the high-speed clocks.

IMT—The status of the IMT system.

SLK—The status of the SS7, IPGWI, and X.25 signaling links in the system.

DLK—The status of the TCP/IP data links in the system.

LINK SET—The status of the linksets in the system.

NDC IP LK—The status of the NDC IP linksets.

DSM IP LK—The status of the DSM IP linksets.

MCPM IP LK—The status of the MCPM IP links.

APPLSOCK—The status of the application sockets.

SCTP ASSOC—The status of the SCTP associations.

APPL SERVER—The status of the Application Servers.

SS7 DPC—Summary information for provisioned noncluster DPCs only.

X25 DPC—The status of the destination point codes in the X.25 domain.

CLUST DPC—Summary information for provisioned cluster DPCs only.

XLIST DPC—Summary information for X-LIST DPC entries only.

DPC SS—Summary information for the DPC subsystem.

SCCP SS—The status of the SCCP subsystem.

XLIST SS—Summary information for SEAS Subsystem X.25 Links to SEAC.

SEAS SS—The status of the SEAS subsystem.

LSMS SS—The status of the LSMS subsystem.

MEAS SS—The status of the Measurements subsystem (for Measurements Platform).

SEAS X25—The status of the SEAS X.25 signaling links.

LSMS CONN—Summary information on the communication link between the LSMS and the EMS.

NDC SS—The status of the NDC subsystem.

NDC Q3—Summary information on Q.3 association status.

MPS—Summary information on the MPS.

TERMINAL—The status of the terminals.

SECURITY SS—Eagle OA&M IP Security subsystem status.

EIR SS—Equipment Identity Register subsystem status.

ASM Obsolescence

Description

The current Application Services Module (ASM) card is an aging board with limited functionality when compared with today's modern day processors. This feature removes ASM card support in EAGLE software. The ASM card currently supports only two application Generic Program Loads (GPLs), the Signaling Connection Control Part (SCCP) and Gateway Loading Services (GLS) applications. The TSM card already supports both of these applications. Supported GPLs by card type are shown in Table FN-3.

Table FN-3.   GPL Support for ASM and TSM Cards

GPL	ASM Card	TSM Card
Before ASM Obsolescence		
GLS Application supported	Yes	Yes
SCCP Application supported	Yes	Yes
After ASM Obsolescence		
GLS Application supported	No	Yes
SCCP Application supported	No	Yes

Hardware Required

Any ASM cards in the system must be replaced with TSM cards before the Release 31.6 upgrade can occur.

> **NOTE: Release 31.X baseline hardware includes GPSMIIs, HMUXs, -10s TDMs. If these modules are not equipped the act-upgrade command will be rejected.**

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

rept-stat-card

Use this command to display the card status and maintenance activity states. The output includes card location, the GPL version being used by the card, device type, device primary state, device secondary state, and device associated state.

Output

rept-stat-card

```
rlghncxa03w 04-07-04 12:57:21 EST  EAGLE 31.6.0
CARD   VERSION      TYPE   APPL    PST        SST        AST
1109   023-102-000  HMUX   BPHMUX  IS-NR      Active     -----
1110   023-102-000  HMUX   BPHMUX  IS-NR      Active     -----
1113   003-001-000  GPSM   EOAM    IS-NR      Active     -----
1114   -----------  TDM    -------- IS-NR     Active     -----
1115   -----------  GPSM   EOAM    OOS-MT     Isolated   -----
1116   -----------  TDM    -------- OOT-MT    Isolated   -----
1117   -----------  MDAL   -------- IS-NR     Active     -----
1201   003-001-000  LIM0CU CCS7ITU IS-NR      Active     -----
1202   003-001-000  LIMDS0 CCS7ITU IS-NR      Active     M BIP ERR
1203   003-001-000  LIMDS0 SS7ANSI IS-NR      Active     -----
1205   003-001-000  LIMDS0 CCS7ITU IS-NR      Active     M BIP ERR
1207   003-001-000  LIMATM ATMANSI IS-NR      Active     -----
1209   023-102-000  HMUX   BPHMUX  IS-NR      Active     -----
1210   023-102-000  HMUX   BPHMUX  IS-NR      Active     -----
1211   003-001-000  LIMATM ATMANSI IS-NR      Active     ALMINH
1212   003-001-000  TSM    SCCP    IS-NR      Active     ALMINH
1213   003-001-000  DCM    IPLIM   IS-NR      Active     -----
1215   003-001-000  DCM    SS7IPGW IS-NR      Active     -----
1217   003-001-000  DCM    IPLIMI  IS-NR      Active     -----
1301   003-001-000  DCM    IPGWI   IS-NR      Active     -----
1309   023-102-000  HMUX   BPHMUX  IS-NR      Active     -----
1310   023-102-000  HMUX   BPHMUX  IS-NR      Active     -----
Command Completed.
```

rept-stat-card:stat=alminh

```
rlghncxa03w 04-02-04 12:57:21 EST  EAGLE 31.6.0
CARD   VERSION      TYPE    APPL    PST        SST     AST
1211   023-001-000  LIMATM ATMANSI  IS-NR      Active  ALMINH
1212   023-001-000  TSM    SCCP     IS-NR      Active  ALMINH
Command Completed.
```

rept-stat-card:loc=1101

```
rlghncxa03w  04-02-18 16:46:07 EDT EAGLE 31.6.0
CARD    VERSION      TYPE      APPL      PST      SST      AST
1101    -----------  TSM       SCCP      IS-ANR   Standby  96%
  ALARM STATUS    = No Alarms.
  IMT    VERSION  = 026-013-000
  PROM   VERSION  = 022-005-000
  IMT BUS A       = Conn
  IMT BUS B       = Conn
  SCCP % OCCUP    = 0%
Command Completed.
```

rept-stat-card

```
rlghncxa03w  00-10-04 15:10:19 EST   EAGLE 31.6.0
CARD   VERSION     TYPE   APPL     PST       SST       AST
1113   104-002-000 GPSM   EOAM     IS-NR     Active    -----
1114   ----------- TDM    -------- IS-NR     Active    -----
1115   ----------- GPSM   EOAM     OOS-MT    Isolated  -----
1116   ----------- TDM    -------- OOT-MT    Isolated  -----
1201   104-002-000 LIMV35 CCS7ITU  IS-NR     Active    -----
1202   104-001-000 LIME1  CCS7ITU  IS-NR     Active    -----
1203   104-001-000 LIMCH  CCS7ITU  IS-NR     Active    -----
1212   104-001-000 TSM    SCCP     IS-NR     Active    -----
Command Completed.
```

rept-stat-card

```
rlghncxa03w  00-10-04 15:10:19 EST   EAGLE 31.6.0
CARD   VERSION     TYPE   APPL     PST       SST       AST
1109   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1110   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1113   104-002-000 GPSM   EOAM     IS-NR     Active    -----
1114   ----------- TDM    -------- IS-NR     Active    -----
1115   ----------- GPSM   EOAM     OOS-MT    Isolated  -----
1116   ----------- TDM    -------- OOT-MT    Isolated  -----
1117   ----------- MDAL   -------- IS-NR     Active    -----
1201   104-002-000 LIMV35 CCS7ITU  IS-NR     Active    -----
1202   104-001-000 LIMT1  CCS7ITU  IS-NR     Active    -----
1203   104-001-000 LIMCH  CCS7ITU  IS-NR     Active    -----
1204   104-001-000 LIME1  SS7ANSI  IS-NR     Active    -----
1209   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1210   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1212   104-001-000 TSM    SCCP     IS-NR     Active    -----
Command Completed.
```

rept-stat-card

```
rlghncxa03w  00-10-04 15:10:19 EST   EAGLE 31.6.0
CARD   VERSION     TYPE   APPL     PST       SST       AST
1109   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1110   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1113   003-001-000 GPSM   EOAM     IS-NR     Active    -----
1114   ----------- TDM    -------- IS-NR     Active    -----
1115   ----------- GPSM   EOAM     OOS-MT    Isolated  -----
1116   ----------- TDM    -------- OOT-MT    Isolated  -----
1117   ----------- MDAL   -------- IS-NR     Active    -----
1201   003-001-000 LIM0CU CCS7ITU  IS-NR     Active    -----
1202   003-001-000 LIMDS0 CCS7ITU  IS-NR     Active    M BIP ERR
1203   003-001-000 LIMDS0 SS7ANSI  IS-NR     Active    -----
1205   003-001-000 LIMDS0 CCS7ITU  IS-NR     Active    M BIP ERR
1207   003-001-000 LIMATM ATMANSI  IS-NR     Active    -----
1209   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1210   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1211   003-001-000 LIMATM ATMANSI  IS-NR     Active    ALMINH
1212   003-001-000 TSM    SCCP     IS-NR     Active    ALMINH
1213   003-001-000 DCM    IPLIM    IS-NR     Active    -----
1215   003-001-000 DCM    SS7IPGW  IS-NR     Active    -----
1217   003-001-000 DCM    IPLIMI   IS-NR     Active    -----
1301   003-001-000 DCM    IPGWI    IS-NR     Active    -----
1309   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
1310   023-102-000 HMUX   BPHMUX   IS-NR     Active    -----
Command Completed.
```

Legend

CARD—The location of the card.

VERSION—The version number of the GPL loaded on the card. Dashes (- - - - -) in the version column indicate one of the following conditions about the card:The card is configured but is not physically present in the system.

- The card does not run a GPL, such as TDM or MDAL cards..

- The card is configured but is not physically present in the system.

- The card is IS-ANR or is in the process of being loaded.

TYPE—The card type entered in the database. (The DCM and SSEDCM cards show card type DCM.)

APPL—The GPL loaded on this card.

PST—The primary state of the card. The possible values are described in section "Possible Values for PST/SST/AST" in Appendix A.

SST—The secondary state of the card. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

AST—The associated state of the card. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

The group ticket voucher status is displayed in these fields: SCCP TVG RESULT (for SCCP messages), SLAN TVG RESULT (for STPLAN messages), and SNM TVG RESULT (for SNM messages). Group ticket voucher status output is displayed as a series of these letters:

G—Service Granted. Indicates normal system behavior.

D—Service Denied. Indicates an overload, but the group ticket voucher hardware and software are working correctly.

N—No granter in the system. For GTT or STPLAN traffic, there can be no TSM-SCCP cards or ACMs in the system. If there are TSM-SCCP cards or ACMs in the system, then a serious failure is indicated (hardware or software bug or hardware failure).

H—Hardware time-out. Indicates the hardware timed out waiting for a group ticket voucher packet to return. Group ticket voucher packets can be lost when a card is plugged in or booted. This is a serious condition if cards have not been connecting or disconnecting from the IMT.

S—Software time-out. No result was ever returned from hardware, indicating a probable hardware failure.

I—Invalid result from hardware.

The `HW VERIFICATION CODE` field is shown only in the **mode=full** report. "-----" is shown in the `HW VERIFICATION CODE` field for cards with valid hardware detected. One of the following numerical values is shown when invalid hardware is detected, and all such cards will be auto-inhibited.

Table FN-4. Auto-Inhibit Hardware Verification Codes

HW Verification Code	Card or Application Code	Description	Associated UAM Code
002*	VSCCP	VSCCP card equipped with non-DSM MPS feature is on	99
003*	VSCCP	VSCCP card equipped with non-DSM LNP and VGTT feature is on	99
004*	VSCCP	VSCCP card equipped with non-DSM XGTT 1,000,000 feature is on	99
050	VSCCP	VSCCP card equipped with no daughterboards	99
051	VSCCP	VSCCP card equipped with less than 4GB when LNP ported TNs key equal to or greater than 48 million is on	422
052	VSCCP	VSCCP card equipped with less than 3GB when LNP ported TNs key equal to or greatuer than 36 million is on	422
053	VSCCP	VSCCP card equipped with less than 2GB when LNP NPANXX 150,000 or LNP LRN 100,000 feature key is on	422
054	SCCP EBDA	SCCP or EBDA card with less than 2GB when LNP ported TNs key equal to 24 million is on	422
055	SCCP EBDA	SCCP or EBDA card DB memory insufficient for LNP ported TNs key equal to 4 million (Requires a minimum of 512 MB)	422
056	SCCP EBDA	SCCP or EBDA card DB memory insufficient for LNP ported TNs key equal to 6 million (Requires a minimum of 768 MB)	422
057	SCCP EBDA	SCCP or EBDA card DB memory insufficient for LNP ported TNs key equal to 8-12 million (Requires a minimum of 1024 MB)	422
058	SCCP	SCCP card equipped wit less than 256K or greater than the MAX of extended memory	422
059	VSCCP	MPS database has been detected to exceed capacity of DSM extended memory (only for GPORT, GFLEX, INP, EIR features). UAMs 281, 283, and 185 are used for LNP and LNP ELAP Configuration features..	422
100	SS7IPGW IPGWI	DCM with IP connection on Ethernet Interface B only when debug enabled	276
101	IPLIM IPLIMI	DCM only supports SLK/IP on ports A or B	276
102*	SS7IPGW IPGWI	Non-DCM detected in slot	276

Table FN-4. Auto-Inhibit Hardware Verification Codes (Cont'd)

HW Verification Code	Card or Application Code	Description	Associated UAM Code
103	SS7IPGW IPGWI IPLIM IPLIMI	DCM does not support more than 2 associations per card (IPLIMx) -or- DCM does not support more than 4 associations (IPGWx) -or- EDCM does not support more than 50 associations (IPGWx)	276
104	SS7IPGW IPGWI IPLIM IPLIMI	DCM does not support more than2 sockets per card (IPLIMx) -or- DCM does not support >2 sockets per card (IPLIMx) -or- Card does not support more than 50 sockets (IPGWx)	276
110	SS7IPGW IPGWI	(SRKQ = DRKQ > 1000) not supported on DCM	276
119	LIME1	2 port E1 card provisioned with ports greater than 2 (signaling link provisioned on port A1-B3)	297
120	LIMDS0	2 port LIM card provisioned with ports greater than 2 (ignaling link provisioned on port A1-B3)	297
121	LIME1	2 port LIM card does not support MIM with E1 port AMI encoding provisioned.	297
122	MIM	Card is not a MIM - provisioned as a T1 card or as a T1 channel card associated with T1 interface	99
123	MPL	MPL cannot run with port A or B provisioned for speeds not equal to 56K	297
140	MCP	MCP card not running with D2G memory	422
141	IPS	IPSM card not running with D2G memory	422
150	ASM	Card is obsolete	47

* It is possible that the card will continually boot in these cases, before the alarm is ever displayed.

rept-stat-lnp

Use this command to generate a report of the local number portability (LNP) status information.

When the `rept-stat-lnp` command is entered with no parameters, a summary of the LNP status of all equipped SCCP cards is provided. This summary includes Global Title Translation (GTT) and LNP function status for every SCCP card, as well as LNPQS system information.

When the **loc** parameter is specified, a detailed status of LNP information for the specified SCCP card is provided. These detailed reports include information for each of the following functions: Global Title Translation (GTT), LNP Message Relay (LNPMR), LNP Query Service (LNPQS), Personal Communication Service LNP Query Service (PLNPQS) (if the PLNP feature is turned on), Wireless LNP Query Service (WNPQS) (if the WNP feature is turned on), Triggerless LNP (TLNP) (if the TLNP feature is turned on), and Automatic Call Gap (ACG).

When the `card=sccp all` parameter is specified, a detailed status of LNP information for all SCCP cards is provided.

Output

rept-stat-lnp:loc=1106

```
rlghncxa03w 04-04-24 10:37:22 EST  EAGLE 31.6.0.0
CARD   VERSION       TYPE     PST           SST       AST
1106   021-101-000   TSM      IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  GTT:    STATUS = ACT      USAGE = 10%   ERRORS:   1 out of  1000
  LNPMR:  STATUS = ACT      USAGE = 13%   ERRORS:   0 out of  1300
  LNPQS:  STATUS = ACT      USAGE = 20%   ERRORS:   1 out of  2000
  WNPQS:  STATUS = ACT      USAGE =  0%   ERRORS:   0 out of     0
  PLNPQS: STATUS = ACT      USAGE =  0%   ERRORS:   0 out of     0
  TLNP:   STATUS = ACT      USAGE =  0%   ERRORS:   0 out of     0
  ACG:    OVERLOAD LEVEL = 0   MIC USAGE = 100%
  CPU USAGE = 43%
Command Completed.
```

Legend

CARD—The locations of the SCCP cards.

VERSION—The version number of the GPL the cards are running.

TYPE—The type of SCCP card.

PST—The primary state of the card. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

SST—The secondary state of the card. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

AST—The associated state of the card. The possible values are described in "Possible Values for PST/SST/AST" in Appendix A.

ent/rtrv-card

Use the `ent-card` command to add a card to the database. The card type and application specifies the function assigned to the card.

Use the `rtrv-card` command to display the information about a card. The command displays the card type, the application the card is running, the linkset name, the signaling link code, and the ports. If no parameter is specified, the command displays information for all cards defined by the `ent-card` command. If the **loc** parameter is specified, the command displays information for the specified card only.

Parameters

:appl= (mandatory)

The application for this card.

Range: atmansi, atmitu, ccs7itu, ebdablm, ebdadcm, emdc, eroute, gls, ipgwi, iplim, iplimi, ips, mcp, sccp, ss7ansi, ss7gx25, ss7ipgw, stplan, vsccp, vxwslan

> **atmansi**—The GPL is used by the LIM cards to support the high-speed ATM signaling link feature.
>
> **atmitu**—The GPL is used by the E1 ATM cards to support the high-speed E1 ATM signaling link
>
> **ccs7itu**—This GPL is used by the LIM cards for ITU-TSS MTP functionality.
>
> **ebdablm**—This GPL is used by the TSM card for enhanced bulk download.
>
> **ebdadcm**—This GPL is used by the DCM card to transmit the LSMS LNP database to the Eagle at high speed over an ethernet connection for enhanced bulk download.
>
> **emdc**—This GPL is used by the DCM card for CMIP/OSI measurement collection interface as defined by Telcordia GR-376.
>
> **eroute**—This GPL is used by the STC card for Eagle Support for Integrated Sentinel functions.
>
> **gls**—This GPL is used by the TSMs for downloading gateway screening to LIM cards.
>
> **ipgwi**—This GPL is used by the DCM card for IP point-to-multi-point connectivity for ITU point codes. The system allows a maximum of 64 cards to be assigned the **ipgwi** application.
>
> **iplim**—This GPL is used by the DCM card for IP point-to-point connectivity for ANSI point codes.
>
> **iplimi**—This GPL is used by the DCM card for IP point-to-multi-point connectivity for ITU point codes.
>
> **ips**—This GPL is used by the IPSM card for the IP User Interface feature.
>
> **mcp**—This GPL is used by the MCPM card for the Measurements Platform feature.
>
> **sccp**—This GPL is used by the TSMs for the global title translation application.
>
> **ss7ansi**–This application is used by the LIM cards and the E1/T1 MIM card for the MTP functionality.
>
> The MPL or MPL-T (multi-port LIM) card is provisioned with the **ss7ansi** application to allow the card to replace a two-port LIM without having to reprovision the LIM in the database. Both types of LIMs perform the same functions. Although the MPLs are provisioned with the **ss7ansi** application,

the MPLs run the **ss7ml** GPL. The **ss7ml** GPL allows the MPL cards to support eight signaling link ports. The MPL cards support the DS0 interface only.

The E1/T1 MIM card is provisioned with the **ss7ansi** application. The card can replace a two-port E1 card without having to reprovision the E1 card in the database, and can function as a T1 card. Both types of E1 cards perform the same functions. Although the E1/T1 MIM card is provisioned with the **ss7ansi** application, the E1/T1 MIM card runs the **ss7ml** GPL. The **ss7ml** GPL allows the E1/T1 MIM card to support eight signaling link ports.

ss7gx25—This GPL is used by the LIM cards to support X.25 functionality.

ss7ipgw—The application software for IP point-to-multipoint connectivity. The system allows a maximum of 64 cards to be assigned the **ss7ipgw** application.

stplan—This GPL is used by the ACM card to support the STP LAN application.

vsccp—This GPL is used by the DSM card to support the G-Flex, G-Port, INP, and LNP ELAP Configuration features. If the G-Flex, G-Port, INP, or LNP ELAP Configuration feature is not turned on, and a DSM card is present, the VSCCP GPL processes normal GTT traffic.

vxwslan–This GPL is used by the DCM card to support the STP LAN application.

:type= (mandatory)

The type of hardware (daughterboard) being added.

Range: **acmenet, dcm, dsm, ipsm, limatm, limds0, lime1atm, limocu, limv35, lime1, limt1, limch, mcpm, stc, tsm**

acmenet—Data link card for the STP LAN feature. The application type (**appl**) for this card type is **stplan**.

dcm—Database Communications Module card to support the STP LAN, enhanced bulk download, and GR-376 features. The application types (**appl**) for this card type are **ebdadcm, vxwslan**, and **emdc**. The DCM card also runs either the **ss7ipgw**, **and ipgwi iplim**, or **iplimi** application.

dsm—Database Services Module card to support the G-Flex, G-Port, and INP features. The application type (**appl**) for this card type is **vsccp**.

ipsm—IP Services Module card to support the IP User Interface feature. The application type (**appl**) for this card type is **ips**.

limatm—High speed ATM signaling link. The application type (**appl**) for this card type is **atmansi**.

limds0—Signaling link with DS0 interface. For a two-port LIM, the application types (**appl**) for this card type are **ss7ansi, ss7gx25**, and **ccs7itu**. For a multi-port LIM, the application type (**appl**) for this card type must be **ss7ansi**.

lime1atm—High speed E1 ATM signaling link. The application type (**appl**) for this card type is **atmitu**.

limocu—Signaling link with OCU interface. The application types (**appl**) for this card type are **ss7ansi, ss7gx25**, and **ccs7itu**.

limv35—Signaling link with V.35 interface. The application types (**appl**) for this card type are **ss7ansi, ss7gx25**, and **ccs7itu**.

lime1—E1 card or E1/T1 MIM card used as an E1 card. The application types (**appl**) for this card type are **ss7ansi** and **ccs7itu**.

limt1—E1/T1 MIM card used as a T1 card. The application types (**appl**) for this card type are **ss7ansi** and **ccs7itu**.

limch—E1 card or E1/T1 MIM card defined as a Channel card. The application types (**appl**) for this card type are **ss7ansi** and **ccs7itu**.

mcpm—Measurement Collection and Polling Module card used for the Measurements Platform feature. The application type for this card type is **mcp**.

stc—Sentinel Transport card used for the Eagle Support for Integrated Sentinel feature. The application type for this card type is **eroute**.

tsm—Memory card for GTT, gateway screening, and the enhanced bulk download feature. The application types (**appl**) for this card type are **gls, sccp** and **ebdablm**.

Output

rtrv-card

```
rlghncxa03w 04-04-15 16:34:56 EST   EAGLE 31.6.0
CARD   TYPE     APPL      LSET NAME      PORT SLC LSET NAME      PORT SLC
1101   TSM      SCCP      ------------   A    --  ------------   B    --
1102   TSM      GLS       ------------   A    --  ------------   B    --
1103   ACMENET  STPLAN    ------------   A    --  ------------   B    --
1104   ACMENET  STPLAN    ------------   A    --  ------------   B    --
1113   GPSM     OAM
1114   TDM-A
1115   GPSM     OAM
1116   TDM-B
1117   MDAL
1201   LIMV35   CCS7ITU   lsn156         A    0   lsn1234        B    1
1205   LIME1    CCS7ITU   e1lim1         A    0   ------------   B    --
                          ------------   A1   --  ------------   B1   --
                          ------------   A2   --  ------------   B2   --
                          ------------   A3   --  ------------   B3   --
1206   LIMCH    CCS7ITU   e1lim1         A    1   ------------   B    --
                          ------------   A1   --  ------------   B1   --
                          ------------   A2   --  ------------   B2   --
                          ------------   A3   --  ------------   B3   --
1207   LIME1    SS7ANSI   e1lsn1         A    0   e1jwk4         B    1
                          e1lsn2         A1   2   e1jwk3         B1   2
                          e1lsn3         A2   4   e1jwk2         B2   15
                          ------------   A3   --  e1jwk1         B3   16
1208   LIMCH    SS7ANSI   e1jwk5         A    8   e1lsn1         B    1
                          e1jwk6         A1   9   e1lsn7         B1   13
                          e1jwk7         A2   10  e1lsn6         B2   14
                          e1jwk8         A3   10  e1lsn5         B3   15
1211   LIMT1    SS7ANSI   t1lsn1         A    0   t1lsn1         B    1
                          ------------   A1   --  t1lsn1         B1   2
                          t1lsn5         A2   0   t1lsn6         B2   6
                          t1lsn7         A3   13  ------------   B3   --
1212   LIMCH    SS7ANSI   t1lsn1         A    3   t1lsn13        B    10
                          t1lsn10        A1   16  t1lsn14        B1   10
                          t1lsn11        A2   1   t1lsn15        B2   4
                          t1lsn12        A3   8   ------------   B3   --
```

rept-stat-sccp

Use this command to display the following types of reports:

- **rept-stat-sccp** (with no parameters)—displays the status of the SCCP and VSCCP cards and the GTT (Global Title Translation), G-Flex (GSM Flexible Numbering), G-Port (GSM Mobile Number Portability), INP (INAP-based Number Portability), and EIR (Equipment Identity Register) services executing on those cards. This command also displays any cards that are denied SCCP service.

- **rept-stat-sccp:mode=perf**—targets the general SCCP traffic performance for both SCCP and VSCCP cards. The report supplies message rates for group ticket voucher (TVG) performance.

- **rept-stat-sccp:loc=***nnnn*—provides a detailed view of the status of SCCP services provided by a specific SCCP/VSCCP card. Fields are omitted if an associated feature is not turned on.

NOTE: **The rept-stat-sccp and rept-stat-sccp:mode=perf reports include the status of TSM, and DSM cards but do not differentiate between these card types.**

NOTE: **To retrieve traffic statistics for the LNP feature, use the rept-stat-lnp command.**

Output

In the following example, all four cards are VSCCP cards with 1700 TPS capacity per card. The **ansigflex** system option is enabled.

rept-stat-sccp:mode=perf

```
eaglestp 00-07-24 20:38:58 EST  EAGLE5 31.6.0
SCCP SUBSYSTEM REPORT IS-NR          Ovflw-1    -----
     SCCP ALARM STATUS = No Alarms

SCCP Cards Configured=4  Cards IS-NR=4
System TPS Alarm Threshold = 80% Total Capacity
System Peak SCCP Load = 4000 TPS
System Total SCCP Capacity = 6800 TPS

TPS STATISTICS
======================================================================
CARD   CPU      TOTAL     CLASS 0   Class 1
       USAGE    MSU RATE  TVG RATE  TVG RATE
----------------------------------------------------------------------
1217   54%      1200      1000      200
1218   31%      900       750       150
4118    5%      800       650       150
4211    5%      1000      800       200
----------------------------------------------------------------------
AVERAGE MSU USAGE = 44%
AVERAGE CPU USAGE = 24%
TOTAL MSU RATE    = 3900

STATISTICS FOR PAST 30 SECONDS
======================================================================
TOTAL TRANSACTIONS:   35000
TOTAL ERRORS:    5
Command Completed.
```

Support for SCCP XUDT/XUDTS Messsages, In-Sequence Delivery of Class 1 SCCP UDT/XUDT Messages

Description

With the introduction of various new applications in the wireless industry, the size of application data on top of SCCP layer has increased to a point where it does not fit in a single MTP message. This has led to the requirement of segmentation and reassembly of the SS7 messages - both at SCCP level and at higher application levels (like TCAP). These messages are carried over SCCP class 0 protocol and SCCP class 1 protocol. Class 1 is used when the sequence of the segments of the message and number of message within the same transaction or dialogue needs to be guaranteed at the arriving node.

The EAGLE distributed architecture and internal method of load sharing across SCCP processing cards means that one message of a sequence could arrive at one SCCP card for processing, while another message in the same sequence could arrive at a different SCCP card for processing. Depending upon the current loads and buffer levels in the two SCCP cards, it is possible that the second message may complete SCCP processing and arrive at the outgoing link ahead of the first message. Thus, the second message will arrive at the destination before the first, and the end node will be unable to process the sequence.

The In-sequence Delivery of SCCP Messages feature addresses the in-sequence delivery requirement of SCCP protocol class 1 message.

The Support of SCCP Extended User Data (XUDT)/Extended User Data Service (XUDTS) messages feature addresses the processing of Eagle destined XUDT/XUDTS messages and in-sequence delivery requirement of SCCP XUDT/XUDTS protocol class 1 messages.

Long User Data (LUDT)/Long User Data Service (LUDTS) messages along with other non-UDT/XUDTS SCCP messages will not be supported by SCCP. UIM 1023 is generated on the incoming LIM card when LUDT/LUDTS messages is received and is destined to Eagle. MTP routed LUDT/LUDTS messages will continue to be supported by Eagle. However, GWS, TT mapping and Network Security features will not support LUDT/LUDTS messages.

Eagle support is provided for the following features and functions when processing XUDT/XUDTS messages:

- GTT, EGTT, VGTT

- All supported link types, including E1/T1 MIM, E1-ATM HSL, IPLIMx, and IPGWx

- Multiple and duplicate point codes

- SLAN and Sentinel Copy

- G-Flex

- LNPMR services for Class 1 UDT messages

- INMPR services (but not INPQ)

- G-Port, G-Port Message Relay, and IS-41 to GSM Migration - XUDT/XUDTS messages are supported as long as the G-Port GSN SRI or PPSMS query or IS-41 Loc Req messages are not segmented. If a query is segmented, it will treated as a G-Port non-SRI or IS-41 non-Loc REq message and message relay will be performed using the SCCP CDPA portion of the message.

Highlights

The In-sequence delivery of SCCP messages feature addresses the in-sequence delivery requirement of SCCP protocol class 1 message.

The Support of SCCP XUDT/XUDTS messages feature addresses the processing of Eagle destined XUDT/XUDTS messages and in-sequence delivery requirement of SCCP XUDT/XUDTS protocol class 1 message.

Both ANSI and ITU Class 1 UDT and XUDT/XUDTS (both Class 0 and Class 1) messages are supported.

Hardware Required

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

chg-scr-cgpa

Use this command to change the attributes associated with a specific screening reference in the allowed calling party address category. Attributes that can be changed are the point code, subsystem number, routing indicator, next screening function identifier, and next screening reference.

Parameters

:sccpmt=   (mandatory)
The SCCP message type. A single value or a range of values can be specified. An asterisk (*) indicates the full range of values.

Range: **9, 10, 17, 18***
        9—UDT
        10—UDTS
        17—SUDT
        18—XUDTS

chg-scr-cdpa

Use this command to change the attributes associated with a specific screening reference in the allowed called party address category. Attributes that can be changed are the point code, subsystem number, next screening function identifier, and next screening reference.

Parameters

:scmgfid= (optional)

The SCCP management (SCMG) format ID, which consists of a one-octet field and uniquely defines the function and format of each SCMG message. A single value or a range of values can be specified. An asterisk (*) indicates the full range of values from **1–255**. The following SCCP message types are screened against the Allowed CDPA table and all others are passed: UDT, UDTS, XUDT, XUDTS.

Range: 1–255, *

IPGWx TPS Control

Description

Beginning with this feature, the IPGWx IP Signaling TPS is a true system key, and can be enabled for a quantity up to 112,000 TPS. A portion of the system IPGWx IP Signaling TPS can be assigned to each linkset in the system; the total IP TPS sum across all linksets cannot exceed the enabled system IPGWx IP Signaling TPS.

Temporary keys will no longer be supported for IPGWx IP TPS. Instead, appropriate alarms are generated when system IP TPS exceeds a configurable threshold.

Highlights

A true system IPGWx IP Signaling TPS maximum quantity is implemented in the system. A default of 200 TPS is provided with no IP Signaling TPS quantity feature access key enabled. IP Signaling TPS up to 112,000 can be enabled with a quantity Feature Access Key.

A portion of the system maximum IP TPS can be assigned to each linkset in the system. The total IP TPS assigned to all linksets cannot exceed the enabled system maximum quantity.

Alarm thresholds can be defined to display a warning when the system IP TPS approaches the enabled maximum, when a linkset approaches its assigned maximum, and when a link approaches its "fair share" of the TPS assigned to its linkset.

Hardware Required

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

ent/chg/dlt/rtrv-ls

Use the `ent-ls` command to add a linkset, with its assigned far-end point code and other linkset attributes, to the database.

Use the `chg-ls` command to change the attributes for a specified linkset in the Eagle database. The new values overwrite the existing values.

Use the `dlt-ls` command to remove a linkset from the system database. A linkset is a group of signaling links carrying traffic to the same signaling point.

Use the `rtrv-ls` command to show the linkset information.

Parameters

:iptps= (optional)
IPGWx Linkset TPS. This value is a user-defined portion of the total enabled system IP Signaling TPS shown in the **rtrv-ctrl-feat** command output. This parameter is allowed and required only for IPGWx linksets (when **ipgwapc=yes** is specified).
Range: **100-112000**

The specified value must be divisible by 10.

The sum of the **iptps** values assigned to all linksets in the system cannot exceed the enabled system IP Signaling TPS value (see the **rtrv-ctrl-feat** command).

NOTE: The maximum range value for the iptps parameter is 188000 for future expansion. However, the maximum system IPGWx Signaling TPS capacity currently available is 112000.

Default: No change to current value.

:lsusealm= (optional)
IPTPS linkset alarm threshold percent. The percent of the linkset TPS (**iptps**) at which an alarm is generated to indicate that the actual linkset TPS is approaching the configured **iptps** value for the linkset.
Range: **10-100**
Default: No change to current value

:slkusealm= (optional)
IPTPS signaling link alarm threshold percent. The percent of the link "fair share" TPS at which an alarm is generated to indicate that the actual link TPS is approaching the link's "fair share" of its linkset's configured TPS (**iptps**). The "fair share" of the linkset TPS for a link is the configured linkset TPS divided by the number of in-service links in the linkset.
Range: **10-100**
Default: No change to current value

Output

rtrv-ls:lsn=ipgw1

- The IPTPS, LSUSEALM, and SLKUSEALM fields are shown when a specific IP linkset is specified (IPGWAPC=yes). The values shown are either the default values or the provisioned values if the default was changed.

```
tekelecstp 04-04-08 16:22:25 EST  EAGLE 31.6.0

                            L3T SLT             GWS GWS GWS
LSN        APCI   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
ipgw1      1-202-0       none  1   1  no   A   1   off off off ---   on

           CLLI        TFATCABMLQ MTPRSE ASL8 SLSRSB ITUTFR
           ----------- 5          no     ---  1      off

           IPGWAPC MATELSN  IPTPS   LSUSEALM  SLKUSEALM
           yes     ipgw2    2000    100       80

                            L2T          L1              PCR  PCR
           LOC  LINK SLC TYPE  SET  BPS   MODE TSET ECM  N1   N2

                            LP           ATM
           LOC  LINK SLC TYPE  SET  BPS   TSEL    VCI   VPI  LL

                            LP       ATM                 E1ATM
           LOC  LINK SLC TYPE  SET BPS   TSEL   VCI   VPI  CRC4 SI SN

           LOC  LINK SLC TYPE     IPLIML2

           LOC  LINK SLC TYPE
           1301  A   0  SS7IPGW

                            L2T              PCR  PCR  E1   E1
           LOC  LINK SLC TYPE  SET  BPS   ECM  N1   N2   LOC  PORT TS

                            L2T              PCR  PCR  T1   T1
           LOC  LINK SLC TYPE  SET  BPS   ECM  N1   N2   LOC  PORT TS


    Link set table is (10 of 1024) 1% full.
;
```

rtrv-ls:lsn=ipgw3

- The IPTPS, LSUSEALM, and SLKUSEALM fields are shown when a specific IP linkset is specified (IPGWAPC=yes). The values shown are either the default values or the provisioned values if the default was changed.

```
tekelecstp 04-04-08 16:22:25 EST  EAGLE 31.6.0
                              L3T SLT              GWS GWS GWS
LSN        APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
ipgw3      1-115-0       none  1   1   no  A   8    off off off ---   on

           CLLI       TFATCABMLQ MTPRSE ASL8 SLSRSB ITUTFR
           ---------- 5          no     ---  1      off

           IPGWAPC MATELSN  IPTPS   LSUSEALM  SLKUSEALM
           yes     ---      2000    100       80

                              L2T          L1                PCR  PCR
           LOC  LINK SLC TYPE SET  BPS      MODE TSET  ECM   N1   N2

                              LP           ATM
           LOC  LINK SLC TYPE SET  BPS      TSEL      VCI    VPI  LL

                              LP           ATM                   E1ATM
           LOC  LINK SLC TYPE SET BPS       TSEL      VCI   VPI  CRC4 SI SN

           LOC  LINK SLC TYPE  IPLIML2

           LOC  LINK SLC TYPE
      1301  A   0   SS7IPGW
      1302  A   1   SS7IPGW
      1303  A   2   SS7IPGW
      1304  A   3   SS7IPGW
      1305  A   4   SS7IPGW
      1306  A   5   SS7IPGW
      1307  A   6   SS7IPGW
      1308  A   7   SS7IPGW

                              L2T          PCR  PCR  E1   E1
           LOC  LINK SLC TYPE SET  BPS ECM N1   N2   LOC  PORT TS

                              L2T          PCR  PCR  T1   T1
           LOC  LINK SLC TYPE SET  BPS ECM N1   N2   LOC  PORT TS

   Link set table is (10 of 1024) 1% full.
```

Legend

LSN—The name of the linkset.

APC/APCI/APCN/APCN24—The adjacent DPC of the linkset.

SCRN—The screen set assigned to the linkset.

L3TSET—The level 3 timer set value assigned to the linkset.

SLTSET—The SLTM record associated with the linkset.

BEI—The broadcast exception indicator. This field indicates whether TFP (transfer prohibited) messages are allowed to be broadcast on the linkset.

LST—The type of links in the linkset (access links, bridge links, etc.).

LNKS—The number of links in the linkset.

GWSA—Shows whether gateway screening is used on the specified linkset.

GWSM—Shows whether the display of messages generated for each screened message is turned on or off.

GWSD—Shows whether the gateway screening message discard function is turned on or off.

SLSCI—Shows whether the 5-to-8-bit SLS conversion feature is to be used to select links for outgoing messages directed to the given linkset.

NIS—SHOWS whether the Network Indicator Spare option is on or off for the specified linkset.

CLLI—The far end Common Language Location Identifier (CLLI).

TFATCABMLQ—Displays the minimum number of links in the given linkset (or in the combined linkset in which it resides) that must be available to user-part messages traffic in order for the STP to consider the first-choice ordered routes using that linkset as allowed rather than restricted.

MTPRSE—Shows whether the adjacent node is equipped with MTP restart.

ASL8—Shows whether the adjacent node is sending MSUs with 8-bit SLSs.

MULTGC—Shows whether multiple group codes are allowed.

IPGWAPC—Shows whether the adjacent point code is an IP gateway adjacent point code.

MATELSN—The name of the mate IPGWx linkset.

IPTPS—Provisioned or default TPS for the specifie IPGWx linkset. This value is a user-defined or desfault portion of the total enabled system IP Signaling TPS.

LSUSEALM—The percent of the linkset TPS (**iptps**) at which an alarm is generated to indicate that the actual linkset TPS is approaching the configured **iptps** value for the linkset.

SLKUSEALM—The percent of the link "fair share" TPS at which an alarm is generated to indicate that the actual link TPS is approaching the link's "fair share" of its linkset's configured TPS (**iptps**). The "fair share" of the linkset TPS for a link is the configured linkset TPS divided by the number of in-service links in the linkset.

LOC—The location of the card containing the signaling links that make up the linkset.

PORT—The port on the card containing the signaling link.

SLSOCBIT—The setting of the Other CIC (Circuit Identification Code) Bit.

SLSRSB—The setting of the Rotated SLS (Signaling Link Selection) Bit.

GSMSCRN—Shows whether the GSM MAP screening indicator is turned on or off.

ITUTFR—Shows whether the ITU TFR procedure indicator is turned on or off.

L2TSET—The level 2 timer set value associated with the signaling link.

SLC—The signaling link code of the signaling link.

TYPE—The type of card.

BPS—The transmission rate for the link in bits per second.

L1MODE—The mode of operation used to select the link clocking source at layer 1.

TSET—An indicator of whether the transmitter signal element timing is on or off.

E1PORT—The E1 port for which the E1 interface is defined that services the link.

E1LOC—The card location of the E1 card with the E1 interface that services the link.

T1PORT—The T1 port for which the T1 interface is defined that services the link.

T1LOC—The card location of the T1 card with the T1 interface that services the link.

TS—The timeslot assigned to the link that is serviced by the E1 or T1 interface.

E1ATMCRC4—The indicator of whether CRC4 multi-frame structure is enabled or disabled.

E1ATMSI—Value of two Spare International bits of NFAS data.

E1ATMSN—Value of five Spare National bits of NFAS data.

chg/rtrv-sg-opts

Use the `chg-sg-opts` command to change the IP[7] Secure Gateway protocol options.

Use the `rtrv-sg-opts` command to retrieve information about the currently chosen IP[7] Secure Gateway protocol options.

Parameters

:iptpsalmthresh= (optional)
System IPTPS alarm threshold percentage at which an alarm are raised. The threshold can be set below 100 percent if "early warning" is desired.
Range: 10-100
Default: Current value.
          System Default: **80**

Output

rtrv-sg-opts
```
rlghncxa03w 00-10-07 09:50:17 EST  EAGLE 30.0.0
rlghncxa03w 03-07-07 09:50:17 EST  EAGLE 31.6.0
SYNC:           TALI
SRKQ:           250
DRKQ:           750
SNMPCONT:       john doe 555-123-4567
GETCOMM:        public
SETCOMM:        private
TRAPCOMM:       public
INHFEPALM:      YES
SCTPCSUM:       adler32
IPGWABATE:      NO
IPLIMABATE:     NO
IPTPSALMTHRESH: 100%
;
```

Legend

SYNC—The synchronization opcode used for messages sent by SS7IPGW cards (TALI or SASI).

SRKQ—The static routing key quantity. The maximum number of routing key entries in the Static Routing Key table.

DRKQ—The dynamic routing key quantity. The maximum number of routing key entries in the Dynamic Routing Key table of each SS7IPGW card.

SNMPCONT—The system contact information for each DCM SNMP agent.

GETCOMM—The community name used for SNMP Get and GetNext request validations. This value applies for each DCM SNMP agent in the Eagle

SETCOMM—The community name used for SNMP Set request validation. This value applies for each DCM SNMP agent in the Eagle.

TRAPCOMM—The community name to use when SNMP traps are generated. This value applies for each DCM SNMP agent in the Eagle.

SCTPCSUM—SCTP checksum algorithm type (adler32 or crc32c).

IPGWABATE—Enabled (YES) or disabled (NO) IPGWx SS7 congestion abatement procedures.

IPTPSALMTHRESH—Alarm threshold used in calculating system IPTPS alarms. Can be set below 100 percent if "early warning" is desired.

IPLIMABATE—Enabled (YES) or disabled (NO) IPLIMx SS7 congestion abatement procedures.

IPTPSALMTHRESH—Alarm threshold percent at which system IPTPS alarms are generated. Can be set below 100 percent if "early warning" is desired.

enable/rtrv-ctrl-feat

Use the **enable-ctrl-feat** command to enable a controlled feature that the customer has purchased.

NOTE: The "LNP (Local Number Portability) feature" is turned on when the LNP ported TNs quantity is greater than 0 in the rtrv-ctrl-feat command output. An LNP ported TNs quantity feature access key has been enabled and turned on.

Use the **rtrv-ctrl-feat** command to retrieve the status of feature access key controlled features that are purchased and enabled in the system.

Output

NOTE: The following output example differs from the output shown at your terminal and might include features that are not supported in your system. A feature must be purchased before you can enable the feature and turn the feature on. If you are not sure whether you have purchased a feature, contact your Tekelec Sales Representative or Account Representative.

If a Part Number (**partnum** parameter) is entered that belongs to a feature associated with quantity, the output will show which quantity is currently enabled on the system, even if the specified Part Number is for a different quantity. The output will also include the temporary enabled information, if applicable.

rtrv-ctrl-feat

```
rlghncxa03w 04-04-29 16:40:40 EST  EAGLE5 31.6.0
The following features have been permanently enabled:
Feature Name            Partnum    Status  Quantity
IPGWx Signaling TPS     893012805  on          2000
ISUP Normalization      893000201  on          ----
Command Class Management 893005801 on          ----
LNP Short Message Service 893006601 on         ----
Prepaid SMS Intercept Ph1 893006701 on         ----
Intermed GTT Load Sharing 893006901 on         ----
G-Port Circ Route Prevent 893007001 on         ----
XGTT Table Expansion    893006101  on        400000
XMAP Table Expansion    893007710  on          3000
Large System # Links    893005910  on          1500
Routesets               893006401  on          6000
EAGLE5 Product          893007101  on          ----
EAGLE Product           893007201  off         ----
IP7 Product             893007301  off         ----
Network Security Enhance 893009101 off         ----
Telnet                  893005701  on          ----
Port Chk for MO SMS     893009301  on          ----
LNP ELAP Configuration  893010901  on          ----
LNP ported TNs          893011012  on      96000000
LNP ported LRNs         893010501  on        150000
LNP ported NPANXXs      893009402  on        300000
15 Minute Measurements  893012101  off         ----
EIR                     893012301  on          ----
EAGLE OA&M IP Security  893400001  off         ----
SCCP Conversion         893012001  on          ----
GSM Map Screening (GMS) 893013201  on          ----
Enhanced GMS (EGMS)     893012401  on          ----
XUDT                    893013401  on          ----
```

New Command

The following command has been added to support this feature. For a complete description of this command, refer to the *Commands Manual* of your current documentation set.

rept-stat-iptps

Use this command to display current and peak IPGWx TPS utilization.

Parameters

:lsn= (optional)
Linkset name. The name of the linkset for which the report information is to be displayed
Range: 1 alphabetic character followed by up to 9 alphanumeric characters

Default: All linksets are displayed

:peakreset= (optional)
Reset peak values to the current TPS values.
Range: yes, no
Default: no

Output

rept-stat-iptps

```
rlghncxa03w 03-05-06 09:49:20 EST  EAGLE 31.6.0

IP TPS USAGE REPORT

            THRESH  CONFIG        TPS     PEAK      PEAKTIMESTAMP
-----------------------------------------------------------------
SYSTEM
CLLI1234567  100%  100000  TX:    4127    4550   03-05-05 09:49:19
                           RCV:   3962    4450   03-05-05 09:49:19
-----------------------------------------------------------------
LSN
LSGW1101      80%    4000  TX:    3700    4000   03-05-05 09:49:19
                           RCV:   3650    4000   03-05-05 09:49:19
LSGW1103      80%     500  TX:     427     550   03-05-05 09:49:19
                           RCV:    312     450   03-05-05 09:49:19
-----------------------------------------------------------------

Command Completed.
;
```

Increase System-Wide IP Signaling Connections

Description

This feature increases the system-wide number of IP signaling connections from 250 to 4000.

Table FN-5. Total IP Signaling Connections Supported

Type	Cards Per System	Links Per Card	IP Connections Per Link	Total Connections
IPLIMx	100	8	1	800
IPGWx	64	1	50	3200
System				4000

Because M3UA and SUA protocols require an ASP to be assigned to each association (connection), the number of supported ASPs is increased by the equivalent number.

This feature obsoletes the ASP table, combines the ASP table with the IPAPSOCK table, but still refers to the ASP table in MTT errors and command output. The IPAPSOCK table has been expanded to contain a maximum of 4000 entries.

Highlights

The system-wide number of ASPs has been increased from 250 to 4000.

This feature increases the number of system-wide IP signaling connections to 4000.

Hardware Required

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced with new parameters to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

rtrv-appl-rtkey

Use this command to retrieve information from the Routing Key table. A routing key entry associates a routing key with up to 16 socket names or 1 association (AS) with a limit of 1000 routing keys per system (if there are any dual-slot DCMs) or 2500 routing keys per system (if there are SSEDCMs).

The `rtrv-appl-rtkey` command can be canceled using the **F9** function key or the `canc-cmd` command.

ent/chg/rtrv-appl-sock

Use the `ent-appl-sock` command for the **iplim**, **iplimi**, **ss7ipgw,** or **ipgwi** application to configure the Socket table, which is used to associate the local host/local port to a remote host/remote port.

Use the `chg-appl-sock` command for the `iplim`, `iplimi`, `ss7ipgw`, or `ipgwi` application to configure the Socket table which is used to associate the local host/local port to a remote host/remote port.

Use the `rtrv-appl-sock` command to retrieve the configuration data from the Socket table. The Socket table is used to associate the local host/local port to a remote host/remote port.

The `rtrv-appl-sock` command can be canceled using the **F9** function key or the `canc-cmd` command.

Output

rtrv-appl-sock:sname=swbel32

```
    rlghncxa03w 04-04-17 15:35:05 EST  EAGLE 31.6.0
    SNAME swbel32
        LINK     A
        LHOST  GW108.NC.TEKELEC.COM
        RHOST  GW100.NC.TEKELEC.COM
        LPORT    1030          RPORT    2345
        SERVER   YES           DCMPS    1
        REXMIT   FIXED         RTT      60
        OPEN     YES           ALW      YES


    IP Appl Sock/Assoc table is (4 of 4000) 1% full
;
```

rtrv-appl-sock:lhost=gw105.nc.tekelec.com

```
    rlghncxa03w 04-04-17 15:35:05 EST  EAGLE 31.6.0
    SNAME socket2
         LINK    A
         LHOST  GW105.NC.TEKELEC.COM
         RHOST  GW100.NC.TEKELEC.COM
         LPORT   1030         RPORT   2345
         SERVER  YES          DCMPS   1
         REXMIT  MOD          RTT     250
         OPEN    YES          ALW     YES

    SNAME socket3
         LINK    A
         LHOST  GW105.NC.TEKELEC.COM
         RHOST  GW102.NC.TEKELEC.COM
         LPORT   1030         RPORT   2346
         SERVER  YES          DCMPS   1
         REXMIT  BSD          RTT     ----
         OPEN    YES          ALW     YES
    IP Appl Sock/Assoc table is (4 of 4000) 1% full
;
```

rtrv-appl-sock

```
    rlghncxa03w 04-04-17 15:35:05 EST  EAGLE 31.6.0
    SNAME socket1
         LINK    A
         LHOST  GW105.NC.TEKELEC.COM
         RHOST  GW100.NC.TEKELEC.COM
         LPORT   1035         RPORT   2361
         SERVER  YES          DCMPS   1
         REXMIT  BSD          RTT     ----
         OPEN    YES          ALW     YES

    SNAME socket2
         LINK    B
         LHOST  GW108.NC.TEKELEC.COM
         RHOST  GW102.NC.TEKELEC.COM
         LPORT   1035         RPORT   2360
         SERVER  YES          DCMPS   1
         REXMIT  BSD          RTT     ----
         OPEN    YES          ALW     YES
    IP Appl Sock/Assoc table is (2 of 4000) 1% full
;
```

rtrv-appl-sock:port=b1

```
    rlghncxa03w 04-04-17 15:35:05 EST  EAGLE 31.6.0
    SNAME socket2
         LINK    B1
         LHOST  GW108.NC.TEKELEC.COM
         RHOST  GW102.NC.TEKELEC.COM
         LPORT   1035         RPORT   2361
         SERVER  YES          DCMPS   1
         REXMIT  BSD          RTT     ----
         OPEN    YES          ALW     YES

    IP Appl Sock/Assoc table is (4 of 4000) 1% full
;
```

rtrv-appl-sock

```
    rlghncxa03w 04-04-17 15:35:05 EST  EAGLE 31.6.0
    SNAME socket
          LINK     A
          LHOST    e6p1305a
          RHOST    e5p1305a
          LPORT    1305          RPORT    1305
          SERVER   YES           DCMPS    10
          REXMIT   FIXED         RTT      60
          OPEN     NO            ALW      NO

    IP Appl Sock/Assoc table is (1 of 4000) 1% full
;
```

Legend

SNAME—The socket name.

LHOST—The local host name.

LPORT—The local port name.

SERVER—The role of the local socket in the client/server relationship. If YES, the server is the local side. If NO, the client is the local side.

RHOST—The remote host name.

RPORT—The remote port name.

OPEN—Whether or not the connection manager is to open this socket if the socket is operational, YES or NO.

ALW—Whether or not to the socket is allowed to carry SS7 traffic, **YES** or **NO**.

DCMPS—The parameter set used by this socket, 1 to **10**.

PORT—The signalling link port associated with this socket.

REXMIT—Retransmission mode to use on socket when packet loss is detected; BSD, FIXED or MOD.

RTT—Expected Round Trip Time for socket when REXMIT is FIXED or MOD.

rtrv-assoc

Use this command to retrieve the configuration data from the IP Socket/Association (IPAPSOCK) table.

The **rtrv-assoc** command can be canceled using the **F9** function key or the **canc-cmd** command.

Output

rtrv-assoc:aname=swbel32

```
    rlghncxa03w 04-04-04 08:40:18 EST  EAGLE 31.6.0
    ANAME SWBEL32
         LINK     A
         ADAPTER  M3UA
         LHOST    GW105.NC.TEKELEC.COM
         ALHOST   ---
         RHOST    GW100.NCD_ECONOMIC_DEVELOPMENT.SOUTHEASTERN_COORIDOR_ASH.GOV
         LPORT    1030        RPORT    2345
         ISTRMS   2           OSTRMS   2
         RMODE    LIN         RMIN     120         RMAX     800
         RTIMES   10          CWMIN    3000
         OPEN     YES         ALW      YES
IP Appl Sock table is (4 of 4000) 1% full
```

rtrv-asp

Use this command to retrieve the characteristics of one or all Application Server Processes from the ASP table.

The **rtrv-asp** command can be canceled using the **F9** function key or the **canc-cmd** command.

Output

rtrv-asp

```
  rlghncxa03w 03-07-04 08:40:18 EST  EAGLE 31.6.0
  ASP             Association      UAPS
  ASP1            sock1            1
  ASP2            sock2            1
  ASP3            sock3            1

  ASP Table is (3 of 4000) 1% full
;
```

rtrv-asp

```
  rlghncxa03w 03-07-04 08:40:18 EST  EAGLE 31.6.0

  ASP             Association      UAPS
  asp01           asoc01           10
  asp02           asoc02           10

  ASP Table is (2 of 4000) 1% full
;
```

rept-stat-as

Use this command to generate a report of the Application Server (AS) association status.

The `rept-stat-as` command can be canceled using the **F9** function key or the `canc-cmd` command.

rept-stat-asp

Use this command to generate a report of the Application Server Process (ASP) status.

The `rept-stat-asp` command can be canceled using the **F9** function key or the `canc-cmd` command.

rept-stat-assoc

Use this command to generate a report of the SCTP association's status.

The `rept-stat-assoc` command can be canceled using the **F9** function key or the `canc-cmd` command. .

rtrv-dcmps

Use this command to retrieve the sets of generic timers and parameters that can be used by any Eagle application.

The `rtrv-dcmps` command can be canceled using the **F9** function key or the `canc-cmd` command.

rtrv-uaps

Use this command to retrieve one UA parameter set or all UA parameter sets.

The `rtrv-uaps` command can be canceled using the **F9** function key or the `canc-cmd` command.

canc/dact-cmd

The `canc-cmd` and dact-cmd commands halt processing and output of the commands listed in Table FN-6:

Table FN-6.   Commands For Which `canc-cmd/dact-cmd` Halts Processing and Output

Commands		
	`rtrv-asp`	`rtrv-map`
`rept-stat-as`	`rtrv-assoc`	`rtrv-mrn`
`rept-stat-asp`	`rtrv-cmd`	`rtrv-obit` (active
`rept-stat-assoc`	`rtrv-dcmps`	OAM)
`rept-stat-card`	`rtrv-dstn`	`rtrv-rte`
`rept-stat-clk`	`rtrv-gta`	`rtrv-seculog`
`rept-stat-dstn`	`rtrv-gtt`	`rtrv-secu-user`
`rept-stat-ls`	`rtrv-lbp`	`rtrv-slk`
`rept-stat-slk`	`rtrv-log`	`rtrv-tbl-capacity`
`rtrv-appl-rtkey`	`rtrv-ls`	`rtrv-trbltx`
`rtrv-appl-sock`		`rtrv-uapS`

When using the `canc/dact-cmd` command without the **trm** parameter, enter the command on the same terminal that is currently running the command you want to cancel.

When using the `canc/dact-cmd` command with the **trm** parameter, enter the command on a terminal other than the one that is currently running the command you want to cancel.

rtrv-tbl-capacity

Use this command to retrieve table use capacity summary information. For each table listed, the number of table entry elements in use and the total allowed number of table elements is presented, along with a percent (%) full value.

Output

The following example shows the output for the minimum table sizes in the system:

rtrv-tbl-capacity

```
    tekelecstp 04-04-02 07:35:33 EST   EAGLE 31.6.0

    DSTN      table is (    200 of    2000)  10% full
    XLIST     table is (      0 of     500)   0% full
    X25-DSTN  table is (      0 of    1024)   0% full
    SPC       table is (      0 of      40)   0% full
    LS        table is (    512 of    1024)  50% full
    SLK       table is (     48 of    1200)   4% full
    X25-SLK   table is (      0 of     256)   0% full
    IP-LNK    table is (     10 of     500)   2% full
    MAP       table is (    256 of    1025)  25% full
    GTT       table is (   2700 of  270000)   1% full
    SCRSET    table is (     50 of     255)  20% full
    AS        table is (      5 of     250)   2% full
    ASP       table is (      5 of    4000)   2% full
    RTEKEY    table is (      2 of    2500)   1% full
    IPAPSOCK  table is (    324 of    4000)   8% full
;
```

Increase System-Wide IPGWx TPS

Description

This feature increases the limit on the number of SS7IPGW and IPGWI cards from 2 each (4 total) to a total of 64 cards system wide. Each IPGWx card will continue to host one and only one signaling link. This feature implements a new maximum limit of 8 IPGWx links per linkset, if the linkset does not have a mate linkset (mate-set).

An IPGWx mate-set is a group of IPGWx cards that act together to carry traffic between the SS7 network and a set of IP-based MTP user-part applications. As an example, the M3UA/SUA Application Server state needs to be maintained throughout an IPGWx mate-set, but is not maintained across multiple IPGWx mate-sets.

Prior to this feature, the IPGWx application simple definition of mate-set was that the cards running the same IPGWx application are considered mates. An IPGWx mate-set can now be defined in terms of linkset configuration, rather than simply in terms of application type. An IPGWx mate-set is comprised of IPGWx cards hosting links in the same linkset or in the same combined-linkset with mated linksets. This feature adds `matelsn` as a new parameter to the Change Linkset (`chg-ls`) command, thereby providing for the assignment of an IPGWx mate linkset. In addition, the `chg-ls` command now uses the '**action=delete**' parameter to delete a configured `matelsn`. The `matelsn` linkset parameter provides backward compatibility with the current combined-linkset IPGWx mate-set deployments.

While deployment of IPGWx using combined linksets remains supported, the recommendation is that each IPGWx mate-set be deployed with a single linkset. Any N+K redundant configuration of IPGWx can be deployed, as long as the number of cards in the mate-set is 8 or less and the system-wide limit is not exceeded. Because each IPGWx card is now rated at 2000 TPS, the maximum transaction rate to/from a single IP-based point code for the IPGWx will be 14000 TPS (7+1 redundancy). If the maximum number of IPGWx cards is deployed (64 cards) using 8 mate-sets (linksets), then the total system-wide IPGWx transaction rate will be 112,000 TPS (7+1 redundancy).

Highlights

This feature increases the limit on the number of SS7IPGW and IPGWI cards from 2 each (4 total) to a total of 64 cards system wide. Each IPGWx card will continue to host one and only one signaling link. This feature implements a new maximum limit of 8 IPGWx links per linkset.

Each IPGWx card is now rated at 2000 TPS.

An IPGWx mate-set can now be defined in terms of linkset configuration, rather than simply in terms of application type. An IPGWx mate-set is comprised of IPGWx cards hosting links in the same linkset or in the same combined-linkset with mated linksets.

Hardware Required

This feature requires SSEDCM cards running the IPGWx applications.

Enhancements to Existing Commands

The following commands or command families have been enhanced with new parameters to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

msucount

This command is used to report the count of SS7 MSUs and bytes that pass through links, routing keys, and IP commections. These counts can be reported and reset at the same time to get accurate counts for longer periods of time. In addition to MSUs transmitted and received, the `msucount` command also reports statistics on packets relatd to MTP Primitives and on discarded transmist and receive data.

Options

-**s** <u>connection name</u>
This option is used to display counts for the specified IP commection only.
Range: Up to 15 alphanumeric characters
Default: Counts for all IP commections within the option combination

Output

In the examples that follow, the hexadecimal output for discarded *transmit* data represents data stored beginning at the SIO bytes through the first 32 bytes of the MSU. If the MSU was less than 32 bytes, the remaining bytes are represented by zeros.

Output For Discarded Received Packets

Two of the types of reports (link and connection) may display 0 or more individual receive packets that were discarded at layer 2. It should be noted that the discarded receive data that is stored begins at the particular adapter (M3UA, SUA, or TALI) header. If the storage space is greater than the size of the adapter data, the extra bytes are 0'd.

Output Specific to SS7IPGW and IPGWI

Example of help for using the command:

pass:loc=1105:cmd="msucount -h"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -h"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    Usage: msucount [-l] [-k routing key] [-s name] [-t static]
                    [-k routing key -s name]
                    [-l -k routing key] [-l -s name]
                    [-l -k routing key -s name]
                    [-r *] [-h]

    Options:        -h  Display this help message
                    -c  pointCode type specifier
                        -c ANSI, -c ITUI, -c ITUN, -c ITUN24
                    -p  partial routing key msu count report
                    -d  default routing key msu count report
                    -k  Routing Key msu count report
                    -l  Link msu count report
                    -r  Reset msu counts (* used with above options)
                    -s  Connection Name msu report
                    -t  Use routing key from static route key table
 ;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT command complete
;
```

Example of link report only:

pass:loc=1105:cmd="msucount -l"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -l"
    Command entered at terminal #1.
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0


    MSUCOUNT: MSU Count Report


    -------------------------
    Link Measurements (Port A)
    -------------------------


    Transmit Counts
    -------------------
    tx bytes:                              927186
    tx msus:                               35661
    tx average rate (msus/second):         00441


    Receive Counts
    ------------------
    rcv bytes:                             775302
    rcv msus:                              29826
    rcv average rate (msus/second):        00342


    MGMT Primitive Totals
    -------------------------
    MTPP primitives received               00000
    MTPP primitives discarded              00000
    MTPP primitives transmitted            00000
    RKRP requests received                 00000
    RKRP requests discarded                00000
    RKRP dynamic route key table updates   00000


    Reroute Counts
    -------------------
    msus sent to mate cards:               00000
    msus received from mate cards:         00000
```

```
Transmit Discard Counts
-----------------------
discarded tx due to special adjpc msu:     00000
discarded tx due to discard all adjpc msu: 00000
discarded tx due to no ss7 rtbl entry:     00000
discarded tx due to no ss7 rtkey:          00001
discarded tx due to no conn avail to pc:   00000
discarded tx due to no conn avail to rtkey:00001
discarded tx due to congested connection:  00000
discarded tx due to sccp msg type:         00000
discarded tx due to sccp class:            00001
discarded tx due to circular rte:          00000
discarded tx due to normalization error:   00000
discarded tx due to invalid traffic type:  00000
discarded tx due to M3UA conversion error: 00001
discarded tx due to SUA conversion error:  00000
discarded tx due to AS-Pending overflow:   00000
discarded tx due to AS timer Tr expiry:    00000
discarded tx due to reroute failure:       00000
```

Routing Key Report Output Examples

The routing key report contains data about MSUs (tx), MSU bytes (tx), and discards on the transmit path for the routing key. A list of one or more connections associated with the routing key, with the MSU and MSU bytes counts for each connection, is also presented. If **–s name** is in the same input command with **–k routekey**, only the connection association data for the specified connection is diplayed. When -**s name** is not specified with -**k routekey**, all connection associations are listed.

pass:loc=1105:cmd="msucount -k 5-5-1:3:5"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -k 5-5-1:3:5"
    Command entered at terminal #1.
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0


    MSUCOUNT: MSU Count Report


    -----------------------------------------------
    Routing Key Measurements for Dynamic Routing Key
    -----------------------------------------------


    Transmit Counts
    -------------------
    tx bytes:                              971646
    tx msus:                               37371
```

```
        Transmit Discard Counts
        -----------------------
        discarded tx due to sccp msg type:         00000
        discarded tx due to sccp class:            00001
        discarded tx due to normalization error:   00000
        discarded tx due to invalid traffic type:  00000

        Associated IP Connection              tx bytes        tx  msus
        ---------------------------           --------        --------
        c7000                                 00000000        00000000
        c7050                                 00326378        00012553
        c7052                                 00322660        00012410
        c7054                                 00322608        00012408


        Stored Transmit Discard Data
        ----------------------------
        83 01 05 05 0a 01 03 94 09 01 03 08 0d 05 c3 05
        01 05 05 05 c3 05 0a 01 03 08 e2 06 c7 04 28 10


        END of Report
```

;

Example of a routing key report for an ANSI routing key (from the static Routing Key table):

pass:loc=1105:cmd="msucount -k 5-5-1:3:5 -t static"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -k 5-5-1:3:5 -t static"
    Command entered at terminal #1.
;
    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    PASS: Command sent to card
;
    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress
;
    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    --------------------------------------------------
    Routing Key Measurements for Static Routing Key
    --------------------------------------------------


    Transmit Counts
    --------------------
    tx bytes:                              00000
    tx msus:                               00000

    Transmit Discard Counts
    -----------------------
    discarded tx due to sccp msg type:         00000
    discarded tx due to sccp class:            00000
    discarded tx due to normalization error:   00000
    discarded tx due to invalid traffic type:  00000
```

```
    Associated IP Connection                   tx bytes        tx  msus
    ----------------------------               --------        --------
    c7000                                      00000000        00000000
    c7050                                      00000000        00000000
    c7052                                      00000000        00000000
    c7054                                      00000000        00000000

    Stored Transmit Discard Data
    ----------------------------
    no stored transmit discard data


    END of Report
```

;

Example of routing key report for an ANSI routing key, with one specified socket association displayed:

pass:loc=1105:cmd="msucount -k 5-5-1:3:5 -s c7000"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -k 5-5-1:3:5 -s c7000"
    Command entered at terminal #1.
;
    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    PASS: Command sent to card
;
    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress
;
    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    -------------------------------------------------
    Routing Key Measurements for Dynamic Routing Key
    -------------------------------------------------


    Transmit Counts
    -------------------
    tx bytes:                           1132794
    tx msus:                            43569

    Transmit Discard Counts
    -----------------------
    discarded tx due to sccp msg type:       00000
    discarded tx due to sccp class:          00001
    discarded tx due to normalization error: 00000
    discarded tx due to invalid traffic type: 00000

    Associated IP Connection                   tx bytes        tx  msus
    ----------------------------               --------        --------
    c7000                                      00000000        00000000
```

```
    Stored Transmit Discard Data
    ----------------------------
    83 01 05 05 0a 01 03 94 09 01 03 08 0d 05 c3 05
    01 05 05 05 c3 05 0a 01 03 08 e2 06 c7 04 28 10


    END of Report
```

;

Example of an ITU-I routing key report:

pass:loc=1105:cmd="msucount –c ITUI -k 5-5-1:3:5"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -c ITUI -k 5-5-1:3:5"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress


;


    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    -------------------------------------------------
    Routing Key Measurements for Dynamic Routing Key
    -------------------------------------------------


    Transmit Counts
    -------------------
    tx bytes:                          971646
    tx msus:                           37371


    Transmit Discard Counts
    -----------------------
    discarded tx due to sccp msg type:        00000
    discarded tx due to sccp class:           00001
    discarded tx due to normalization error:  00000
    discarded tx due to invalid traffic type: 00000

    Associated IP Connection           tx bytes        tx  msus
    ----------------------------       --------        --------
    c7000                              00000000        00000000
    c7050                              00326378        00012553
    c7052                              00322660        00012410
    c7054                              00322608        00012408
```

```
Stored Transmit Discard Data
----------------------------
83 01 05 05 0a 01 03 94 09 01 03 08 0d 05 c3 05
01 05 05 05 c3 05 0a 01 03 08 e2 06 c7 04 28 10


END of Report
```

pass:loc=1105:cmd="msucount –c ITUN -k 2860-gr:3:5 –t static"

```
Command Accepted - Processing

    rlghncxa03w 00-10-29 11:33:40 EST  Rel 31.6.0
    pass:loc=1105:cmd="msucount -c ITUN -k 2860-gr:3:5 -t static"
    Command entered at terminal #1.
;
```

- The remainder of the ITUN routing key report is the same for both the **on** and **off** settings of the ITUDUPPC feature:

```
    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress

;

    rlghncxa03w 04-04-29 11:33:40 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    ------------------------------------------------
    Routing Key Measurements for Static Routing Key
    ------------------------------------------------


    Transmit Counts
    -------------------
    tx bytes:                               00000
    tx msus:                                00000

    Transmit Discard Counts
    -----------------------
    discarded tx due to sccp msg type:      00000
    discarded tx due to sccp class:         00000
    discarded tx due to normalization error: 00000
    discarded tx due to invalid traffic type: 00000

    Associated IP Connection             tx bytes       tx  msus
    ----------------------------         --------       --------
    c7000                                00000000       00000000
    c7050                                00000000       00000000
    c7052                                00000000       00000000
    c7054                                00000000       00000000
```

```
        Stored Transmit Discard Data
        ----------------------------
        no stored transmit discard data


        END of Report

    ;
```

Example of P connection statistics report only, for a specific connection:

pass:loc=1105:cmd="msucount -s c7050"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -s c7050"
    Command entered at terminal #1.
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    -----------------------
    IP Connection Measurements
    -----------------------


    Transmit Counts
    -------------------
    tx bytes:                               320294
    tx msus:                                12319


    Receive Counts
    ------------------
    rcv bytes:                              167681
    rcv msus:                               06451


    Transmit Discard Counts
    ----------------------
    discarded tx due to sccp msg type:        00000
    discarded tx due to sccp class:           00000
    discarded tx due to normalization error:  00000
    discarded tx due to invalid traffic type: 00000
    discarded tx due to M3UA conversion error: 00000
    discarded tx due to SUA conversion error:  00001
```

```
Receive Discard Counts
----------------------
discarded rcv due to link state:          00000
discarded rcv due to sccp msg type:       00000
discarded rcv due to sccp class:          00000
discarded rcv due to sccp called party:   00000
discarded rcv due to sccp calling party:  00003
discarded rcv due to isup sio:            00004
discarded rcv due to normalization error: 00000
discarded rcv due to error in XSRV packet: 00000
discarded rcv due to M3UA PDU error:      00000
discarded rcv due to SUA PDU error:       00001

Stored Transmit Discard Data
----------------------------
no stored transmit discard data

Stored Receive Discard Data
---------------------------
53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

END of Report
;
```

Output Examples for Two Reports in the Same Command

The output for each report, as shown in the previous examples, is generated and concatenated into a single report before the `END of Report` line.

Example of a link report followed by a routing key report:

pass:loc=1105:cmd="msucount -k 5-5-1:3:5 -l"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -k 5-5-1:3:5 -l"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress

;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    -------------------------
    Link Measurements (Port A)
    -------------------------

    Transmit Counts
    -------------------
    tx bytes:                          990132
    tx msus:                           38082
    tx average rate (msus/second):     00251

    Receive Counts
    -------------------
    rcv bytes:                         838248
    rcv msus:                          32247
    rcv average rate (msus/second):    00198

    Reroute Counts
    --------------
    msus sent to mate cards:           00000
    msus received from mate cards:     00000
```

```
Transmit Discard Counts
-----------------------
discarded tx due to special adjpc msu:      00000
discarded tx due to discard all adjpc msu: 00000
discarded tx due to no ss7 rtbl entry:      00000
discarded tx due to no ss7 rtkey:           00001
discarded tx due to no conn avail to pc:    00000
discarded tx due to no conn avail to rtkey:00001
discarded tx due to congested connection:  00000
discarded tx due to sccp msg type:          00000
discarded tx due to sccp class:             00001
discarded tx due to circular rte:           00000
discarded tx due to normalization error:   00000
discarded tx due to invalid traffic type:  00000
discarded tx due to AS-Pending overflow:   00000
discarded tx due to AS timer Tr expiry:     00000
discarded tx due to reroute failure:        00000


Receive Discard Counts
----------------------
discarded rcv due to link state:            00000
discarded rcv due to sccp msg type:         00001
discarded rcv due to sccp class:            00003
discarded rcv due to sccp called party:    00004
discarded rcv due to sccp calling party:   00021
discarded rcv due to isup sio:              00011
discarded rcv due to normalization error:  00000
discarded rcv due to error in XSRV packet: 00000


MGMT Primitive Totals
---------------------
MTPP primitives received                    00000
MTPP primitives discarded                   00000
MTPP primitives transmitted                 00000
RKRP primitives received                    00000
RKRP primitives discarded                   00000
RKRP dynamic route key table updates        00000


Stored Transmit Discard Data
----------------------------
no stored transmit discard data


Stored Receive Discard Data
---------------------------
no stored receive discard data


------------------------------------------------
Routing Key Measurements for Dynamic Routing Key
------------------------------------------------


Transmit Counts
-------------------
tx bytes:                                   991146
tx msus:                                    38121


Transmit Discard Counts
-----------------------
discarded tx due to sccp msg type:          00000
discarded tx due to sccp class:             00001
discarded tx due to normalization error:   00000
discarded tx due to invalid traffic type:  00000
```

```
    Associated IP Connection                tx bytes        tx  msus
    ----------------------------            --------        --------
    c7000                                   00000000        00000000
    c7050                                   00332930        00012805
    c7052                                   00329134        00012659
    c7054                                   00329082        00012657


    Stored Transmit Discard Data
    ----------------------------
    83 01 05 05 0a 01 03 94 09 01 03 08 0d 05 c3 05
    01 05 05 05 c3 05 0a 01 03 08 e2 06 c7 04 28 10



    END of Report

;
```

Example of a link report followed by a routing key report that shows an IP connections statistics report for one specified socket:

pass:loc=1105:cmd="msucount -r -s c7050 -k 5-5-1:3:5 -l"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -r -s c7050 -k 5-5-1:3:5 -l"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress


;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    --------------------------
    Link Measurements (Port A)
    --------------------------


    Transmit Counts
    -------------------
    tx bytes:                          00000
    tx msus:                           00000
    tx average rate (msus/second):     00000

    Receive Counts
    ------------------
    rcv bytes:                         00000
    rcv msus:                          00000
    rcv average rate (msus/second):    00000
```

```
Reroute Counts
--------------
msus sent to mate cards:                00000
msus received from mate cards:          00000


Transmit Discard Counts
-----------------------
discarded tx due to special adjpc msu:    00000
discarded tx due to discard all adjpc msu: 00000
discarded tx due to no ss7 rtbl entry:    00000
discarded tx due to no ss7 rtkey:         00000
discarded tx due to no conn avail to pc:  00000
discarded tx due to no conn avail to rtkey:00001
discarded tx due to congested connection: 00000
discarded tx due to sccp msg type:        00000
discarded tx due to sccp class:           00000
discarded tx due to circular rte:         00000
discarded tx due to normalization error:  00000
discarded tx due to invalid traffic type: 00000


Receive Discard Counts
----------------------
discarded rcv due to link state:          00000
discarded rcv due to sccp msg type:       00000
discarded rcv due to sccp class:          00000
discarded rcv due to sccp called party:   00000
discarded rcv due to sccp calling party:  00000
discarded rcv due to isup sio:            00000
discarded rcv due to normalization error: 00000
discarded rcv due to error in XSRV packet: 00000


MGMT Primitive Totals
-------------------------
MTPP primitives received                00000
MTPP primitives discarded               00000
MTPP primitives transmitted             00000
RKRP primitives received                00000
RKRP primitives discarded               00000
RKRP dynamic route key table updates    00000


Stored Transmit Discard Data
----------------------------
no stored transmit discard data


Stored Receive Discard Data
---------------------------
no stored receive discard data


-------------------------------------------------
Routing Key Measurements for Dynamic Routing Key
-------------------------------------------------


Transmit Counts
-------------------
tx bytes:                               00000
tx msus:                                00000
```

```
    Transmit Discard Counts
    -----------------------
    discarded tx due to sccp msg type:       00000
    discarded tx due to sccp class:          00000
    discarded tx due to normalization error: 00000
    discarded tx due to invalid traffic type: 00000

    Associated IP Connection              tx bytes        tx  msus
    ----------------------------          --------        --------
    c7050                                 00000000        00000000

    Stored Transmit Discard Data
    ----------------------------
    no stored transmit discard data


    END of Report

;
```

Example of a link report followed by an IP connection statistics report:

pass:loc=1105:cmd="msucount -l -s c7050"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msucount -l -s c7050"
    Command entered at terminal #1.
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT: Command In Progress
;
    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report


    --------------------------
    Link Measurements (Port A)
    --------------------------


    Transmit Counts
    -------------------
    tx bytes:                         1099384
    tx msus:                          42284
    tx average rate (msus/second):    00156

    Receive Counts
    ------------------
    rcv bytes:                        947500
    rcv msus:                         36449
    rcv average rate (msus/second):   00134
```

```
Transmit Discard Counts
-----------------------
discarded tx due to special adjpc msu:      00000
discarded tx due to discard all adjpc msu: 00000
discarded tx due to no ss7 rtbl entry:      00000
discarded tx due to no ss7 rtkey:           00001
discarded tx due to no conn avail to pc:    00000
discarded tx due to no conn avail to rtkey:00001
discarded tx due to congested connection:   00000
discarded tx due to sccp msg type:          00000
discarded tx due to sccp class:             00001
discarded tx due to normalization error:    00000
discarded tx due to invalid traffic type:   00000
discarded tx due to AS-Pending overflow:    00000
discarded tx due to AS timer Tr expiry:      00000
discarded tx due to reroute failure:        00000


Receive Discard Counts
----------------------
discarded rcv due to link state:            00000
discarded rcv due to sccp msg type:         00001
discarded rcv due to sccp class:            00003
discarded rcv due to sccp called party:     00004
discarded rcv due to sccp calling party:    00021
discarded rcv due to isup sio:              00011
discarded rcv due to normalization error:   00000
discarded rcv due to error in XSRV packet: 00000


MGMT Primitive Totals
-------------------------
MTPP primitives received                    00000
MTPP primitives discarded                   00000
MTPP primitives transmitted                 00000
RKRP primitives received                    00000
RKRP primitives discarded                   00000
RKRP dynamic route key table updates        00000


Stored Transmit Discard Data
----------------------------
83 01 05 05 0a 01 03 bf 09 80 03 08 0d 05 c3 07
01 05 05 05 c3 07 0a 01 03 08 e2 06 c7 04 13 10

83 01 05 05 0a 01 03 94 09 01 03 08 0d 05 c3 05
01 05 05 05 c3 05 0a 01 03 08 e2 06 c7 04 28 10

83 01 05 05 0a 01 03 ec 10 00 00 00 00 00 00 00
02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

```
Stored Receive Discard Data
---------------------------
53 41 53 49 73 63 63 70 1a 00 09 01 03 08 0d 05
c3 05 0a 01 03 05 c3 05 01 05 05 08 e2 06 c7 04

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 05 0a 02
c1 05 05 c3 05 01 05 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 05 0a 02
c1 05 05 c3 05 01 05 05 08 e2 06 c7 04 00 00 00


-------------------------
IP Connection Measurements
-------------------------


Transmit Counts
-------------------
tx bytes:                         369694
tx msus:                          14219

Receive Counts
-------------------
rcv bytes:                        217081
rcv msus:                         08351

Transmit Discard Counts
----------------------
discarded tx due to sccp msg type:        00000
discarded tx due to sccp class:           00000
discarded tx due to normalization error:  00000
discarded tx due to invalid traffic type: 00000
```

```
Receive Discard Counts
----------------------
discarded rcv due to link state:            00000
discarded rcv due to sccp msg type:         00000
discarded rcv due to sccp class:            00000
discarded rcv due to sccp called party:     00000
discarded rcv due to sccp calling party:    00003
discarded rcv due to isup sio:              00004
discarded rcv due to normalization error:   00000
discarded rcv due to error in XSRV packet: 00000

Stored Transmit Discard Data
----------------------------
no stored transmit discard data

Stored Receive Discard Data
---------------------------
53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 69 73 6f 74 11 00 87 0a 01 03 01 05
05 00 01 02 03 04 05 06 07 08 09 00 00 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

53 41 53 49 73 63 63 70 17 00 09 80 03 08 0a 05
c3 05 0a 01 03 02 c1 05 08 e2 06 c7 04 00 00 00

END of Report
```

Output Specific to IPLIM and IPLIMI

**NOTE: The routing key report is not supported for IPLIMx applications. The -c, -k, -t
options are not supported because the IPLIMx card does not use routing keys and does
not support dynamic routing key registration.**

Example of help for using the command:

pass:loc=1103:cmd="msucount -h"   or

pass:loc=1103:cmd="msucount"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1103:cmd="msucount -h"
    Command entered at terminal #2.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

     rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    Usage: msucount [-l [port]] [-s name]
                    [-l [port]-s name]
                    [-r *] [-h]

    Options:        -h  Display this help message
                    -l  Link msu count report
                    -l  port Link msu count report for specified port
                    -r  Reset msu counts (* used with above options)
                    -s  IP Connection msu report

;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUCOUNT command complete
```

Example of an IP connection statistics report. The IPLIMx IP connection report does not contain tx/rcv discard data, because there are no discards performed at layer 2 of the IPLIMx applications.

pass:loc=1103:cmd="msucount -s ipl1103"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1103:cmd="msucount -s ipl1103"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    MSUCOUNT: Command In Progress

;
```

```
rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

MSUCOUNT: MSU Count Report


-------------------------
IP Connection Measurements
-------------------------

Transmit Counts
-------------------
tx bytes:                             696670920
tx msus:                              4996264

Receive Counts
------------------
rcv bytes:                            696774676
rcv msus:                             4997113


END of Report
```

;

Example of the link report and the IP connection report requested in one command:

pass:loc=1103:cmd="msucount -l -s ipl1103"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1103:cmd="msucount -l -s ipl1103"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    MSUCOUNT: Command In Progress

;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    MSUCOUNT: MSU Count Report
```

```
---------------------------
Link Measurements (Port A)
---------------------------


Transmit Counts
-------------------
tx bytes:                              707541396
tx msus:                               5074039
tx average rate (msus/second):         01125


Receive Counts
------------------
rcv bytes:                             707645252
rcv msus:                              5074889
rcv average rate (msus/second):        01127


---------------------------
Link Measurements (Port B)
---------------------------


Transmit Counts
-------------------
tx bytes:                              00000
tx msus:                               00000
tx average rate (msus/second):         00000


Receive Counts
------------------
rcv bytes:                             00000
rcv msus:                              00000
rcv average rate (msus/second):        00000


---------------------------
IP Connection Measurements
---------------------------


Transmit Counts
-------------------
tx bytes:                              707541396
tx msus:                               5074039


Receive Counts
-------------------
rcv bytes:                             707645252
rcv msus:                              5074889



END of Report
```

msuroute

This command is used to provide a list of all routing keys currently configured on an SS7IPGW/IPGWI card that could be used to route a particular MSU. With 3 types of routing keys (fully specified, partial and default) and 2 types of routing key tables (static and dynamic) the complexity associated with figuring out how a particular MSU would be routed at any point in time is not trivial. This command provides output to help determine how MSUs will be routed based on current conditions.

The output for each **msuroute** command consists of a list of all of the routing keys that exist on the IPGWx card that could be used to route the MSU. The list of routing keys is presented in the hierarchical search order in which the keys would be used. The list of routing keys indicates keys that have IP connections available for traffic, and indicates which routing key would currently be used to route the MSU (marked with ***).

For the routing key that is selected to route the MSU, the list of IP connections associated with the key is also displayed.

> NOTE: **Most of the following output examples show command entries for ANSI MSUs. Because, other than echoing the input command back to the screen, there is nothing in the output that contains specific fields from any configured keys, the output would not be different if the user entered ITUI MSUs instead of ANSI MSUs.**

Output

pass:loc=1105:cmd="msuroute -h"

```
Command Accepted - Processing


;

    rlghncxa03w 00-10-29 16:30:51 EST  Rel 31.6.0
    pass:loc=1105:cmd="msuroute -h"
    Command entered at terminal #1.
;

    eagle20003 01-03-27 10:16:03 EST  Rel 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 00-10-29 16:30:51 EST  Rel 31.6.0
    Usage: MSUROUTE [-h] [-c point code] [-k route key]
    Options:
       -h              Displays this message
       -c point code   ANSI | ITUI | ITUN | ITUN24
       -k routing key  Displays entries affecting specified routing key
;

    rlghncxa03w 00-10-29 16:30:51 EST  Rel 28.0.0
    MSUROUTE command complete


;
```

Example of **msuroute** output for an ANSI CIC-based MSU, showing at least 1 routing key of every key type in the search hierarchy configured on the 1105 card. Only key types that are configured on the card will be listed in the display.

pass:loc=1105:cmd="msuroute –c ANSI –k 5-5-5:5:6-6-6:1100"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msuroute -c ANSI -k 5-5-5:5:6-6-6:1100"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUROUTE command in progress

;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

    TABLE    KEYTYPE                  #ConnCfgd   #ConnAvail   RTKEY USED
    DYN      FULL                     1           0            no
    DYN      PARTIAL: IGNORE-CIC      2           0            no
    DYN      PARTIAL: IGNORE-CIC+OPC  1           0            no
    DYN      PARTIAL: DPC-SI ONLY     3           3            yes
    DYN      PARTIAL: DPC ONLY        2           2            no
    DYN      PARTIAL: SI ONLY         4           0            no
    DYN      DEFAULT                  4           4            no
    STATIC   FULL                     12          4            no
    STATIC   PARTIAL: IGNORE-CIC      3           0            no
    STATIC   PARTIAL: IGNORE-CIC+OPC  2           0            no
    STATIC   PARTIAL: DPC-SI ONLY     3           2            no
    STATIC   PARTIAL: DPC ONLY        2           2            no
    STATIC   PARTIAL: SI ONLY         1           0            no
    STATIC   DEFAULT                  2           0            no

    IP Connections Associated with the RTKEY USED
    Name                         Avail?
    Vox1                         yes
    Mgc2                         yes
    Mgc24                        yes

    MSUROUTE command complete

;
```

Example of **msuroute** output for an ANSI SCCP MSU. Several of the key types in the search hierarchy are not configured on the 1105 card, and therefore are not part of the output (for example, dynamic or static full key and dynamic or static partial SI only). Only key types that are configured on the card will be listed in the display.

pass:loc=1105:cmd="msuroute –c ANSI –k 5-5-5:3:34"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msuroute -c ANSI -k 5-5-5:3:34"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUROUTE command in progress

;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    TABLE   KEYTYPE                 #ConnCfgd  #ConnAvail  RTKEY USED
    DYN     PARTIAL: DPC-SI ONLY    3          2           yes
    DYN     PARTIAL: DPC ONLY       2          2           no
    DYN     DEFAULT                 4          4           no
    STATIC  PARTIAL: DPC-SI ONLY    3          2           no
    STATIC  PARTIAL: DPC ONLY       2          2           no
    STATIC  DEFAULT                 2          0           no

    SocketsIP Connections Associated with the RTKEY USED
    Name                          Avail?
    Scpsandiego                   no
    scpdenver                     yes
    scpkansascity                 yes

    MSUROUTE command complete

;
```

Example of **msuroute** output for an ANSI MSU with SI=8:

pass:loc=1105:cmd="msuroute –c ANSI -k 5-5-5:8"

```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msuroute -c ANSI -k 5-5-5:8"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUROUTE command in progress

;
```

```
rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0

TABLE   KEYTYPE                    #ConnCfgd  #ConnAvail  RTKEY USED
DYN     FULL                       7          0           no
DYN     PARTIAL: DPC ONLY          2          2           yes
DYN     PARTIAL: SI ONLY           2          0           no
DYN     DEFAULT                    4          4           no
STATIC  FULL                       11         0           no
STATIC  PARTIAL: DPC ONLY          2          2           no
STATIC  PARTIAL: SI ONLY           1          0           no
STATIC  DEFAULT                    2          0           no

IP Connections Associated with the RTKEY USED
Name                           Avail?
SI8sock1                       yes
SI8sock2                       yes

MSUROUTE command complete
```

;

Examples of **msuroute** output for an ITUN and an ITUN24 MSU with SI=5. The output format is the same for all three commands.

The ITUDUPPC feature is OFF (default):

pass:loc=1105:cmd="msuroute –c ITUN –k 345:5:678:100:200"

The ITUDUPPC feature is ON (the 2-letter group code must be specified with the DPC and OPC)

pass:loc=1105:cmd="msuroute –c ITUN –k 345-gr:5:678-gr:100:200"

An ITUN24 MSU with SI=5:

pass:loc=1105:cmd="msuroute –c ITUN24 –k 10-200-10:5:10-200-1:1:100"
```
Command Accepted - Processing

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    pass:loc=1105:cmd="msuroute -c ITUN -k 345:678:100:200"
    Command entered at terminal #1.
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    PASS: Command sent to card
;

    rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
    MSUROUTE command in progress

;
```

```
rlghncxa03w 04-04-29 11:31:09 EST  EAGLE 31.6.0
TABLE    KEYTYPE                     #ConnCfgd   #ConnAvail   RTKEY USED
DYN      FULL                        1           0            no
DYN      PARTIAL: IGNORE CIC         2           0            no
DYN      PARTIAL: IGNORE CIC+OPC     1           0            no
DYN      PARTIAL: DPC-SI ONLY        3           3            yes
DYN      PARTIAL: DPC ONLY           2           2            no
DYN      PARTIAL: SI ONLY            4           0            no
DYN      DEFAULT                     4           4            no
STATIC   FULL                        12          4            no
STATIC   PARTIAL: IGNORE-CIC         3           0            no
STATIC   PARTIAL: IGNORE-CIC+OPC     2           0            no
STATIC   PARTIAL: DPC-SI ONLY        3           2            no
STATIC   PARTIAL: DPC ONLY           2           2            no
STATIC   PARTIAL: SI ONLY            1           0            no
STATIC   DEFAULT                     2           0            no

IP Connections Associated with the RTKEY USED
Name                           Avail?
Vox1                           yes
Mgc2                           yes
Mgc24                          yes

MSUROUTE command complete
```

ent-card

Use this command to add a card to the database. The card type and application specifies the function assigned to the card.

See Table FN-7 for the increase of IPGWx cards in the system from 2 to 64.

Table FN-7.   Valid `ent-card` Applications (**appl**) and Card Types (**type**)

Card Name (as shown on card label)	Part Number	Card Type (:type)	Application Type (:appl)	Maximum Cards in the Database
ACM-ENET	870-1008-XX	**acmenet**	**stplan**	32
DCM	870-1945-XX	**dcm**	**ebdadcm**	1 for **ebdadcm**
			vxwslan	32 for **vxwslan**
			emdc	2 for **emdc**
			iplim, **iplimi**	41 for **iplim** or **iplimi** (≤700 links)
				100 for **iplim** or **iplimi** (>700 links)
			ss7ipgw, **ipgwi**	2 each for **ss7ipgw** and **ipgwi** (total of 4)
		stc	**eroute**	32 for **eroute** (minimum of 17 for 500 links)

Table FN-**7.**   Valid `ent-card` Applications (**appl**) and Card Types (**type**) (Cont'd)

Card Name (as shown on card label)	Part Number	Card Type (:type)	Application Type (:appl)	Maximum Cards in the Database
DCM (SSEDCM)	870-2372-01	**dcm**	**iplim**, **iplimi**	41 for **iplim** or **iplimi** (≤700 links)
				100 for **iplim** or **iplimi** (>700 links)
			ss7ipgw, **ipgwi**	Total of 64 **ss7ipgw**, **ipgwi**, or combination
		stc	**eroute**	32 for **eroute** (minimum of 14 for 500 links)
DSM	870-1984-02 to 870-1984-05	**dsm**	**vsccp**	25 for **vsccp**
DSM-1G	870-2371-02	**ipsm**	**ips**	3 for **ips**
DSM-2G*	870-2371-03	**mcpm**	**mcp**	250 for **mcp**
EDSM-2G*	870-2372-03	**mcpm**	**mcp**	250 for **mcp**
E1/T1 MIM††	870-2198-XX	**lime1**, **limt1**, **limch**	**ss7ansi**, **ccs7itu**	250 for each application
E1 ATM	870-2455-XX	**lime1atm**	**atmitu**	41 (≤500 links)
				100 (501-700 links)
				115 (>700 links)
EILA	870-2049-XX	**limds0**, **limocu**, **limv35**	**ss7ansi**, **ss7gx25**, **ccs7itu**	250 for each application
ILA	870-1484-XX	**limds0**, **limocu**, **limv35**	**ss7ansi**, **ss7gx25**, **ccs7itu**	250 for each application
LIM** or LIM-AINF	870-1014-XX 870-1488-XX	**limds0**, **limocu**, **limv35**	**ss7ansi**, **ss7gx25**, **ccs7itu**	250 for each application
LIM-ATM	870-1293-XX	**limatm**	**atmansi**	41 (≤500 links)
				100 (501-700 links)
				115 (>700 links)
LIM-DS0	870-1009-XX 870-1485-XX	**limds0**	**ss7ansi**, **ss7gx25**, **ccs7itu**	250 for each application
LIM-E1††	870-1379-XX	**limocu**, **limds0**, **limv35** **lime1**, **limch**	**ss7ansi**, **ccs7itu**	250 for each application
LIM-OCU	870-1010-XX 870-1486-XX	**limocu**	**ss7ansi**, **ss7gx25**, **ccs7itu**	250 for each application
LIM-V.35	870-1012-XX 870-1487-XX	**limv35**	**ss7ansi**, **ss7gx25**, **ccs7itu**	250 for each application
MPL MPL-T	870-2061-XX 870-2061-02	**limds0**	**ss7ansi**	250 for **ss7ansi**

Table FN-7.   Valid `ent-card` Applications (**appl**) and Card Types (**type**) (Cont'd)

Card Name (as shown on card label)	Part Number	Card Type (:type)	Application Type (:appl)	Maximum Cards in the Database
TSM-256†	870-1289-XX	**tsm**	**sccp** **gls** **ebdablm**	25 for **sccp** 8 for **gls** 1 for **ebdablm**
TSM-512	870-1290-XX			
TSM-768	870-1291-XX			
TSM-1024	870-1292-XX			

*Though the system allows 250 MCPM cards, practical usage is 2.

**Required for Measurements Platform IP Security

**A LIM, EILA, or ILA is a link interface module using the AINF interface and can be installed in place of the LIM-DS0A, LIM-OCU, or LIM-V.35. It is configured in the database as either a LIM-DS0A, LIM-OCU, or LIM-V.35 card.

†TSMs or DSMS are required for the LNP feature.-For more information about turning the LNP feature on, refer to the *LNP Feature Activation Guide* and the *Database Administration - LNP Manual.*

††For the E1 or T1 interface, either SS7 application (SS7ANSI or CCS7ITU) can be assigned to these cards.

For more information on the E1 or T1 interface go to Chapter 3 "System Administration Procedures" in the *Database Administration Manual - SS7.*

Parameters

:appl= (mandatory)

The application for this card.

Range: **atmansi, atmitu, ccs7itu, ebdablm, ebdadcm, emdc, eroute, gls, ipgwi, iplim, iplimi, ips, mcp, sccp, ss7ansi, ss7gx25, ss7ipgw, stplan, vsccp, vxwslan**

> **atmansi**—The GPL is used by the LIM cards to support the high-speed ATM signaling link feature.

> **atmitu**—The GPL is used by the E1 ATM cards to support the high-speed E1 ATM signaling link

> **ccs7itu**—This GPL is used by the LIM cards for ITU-TSS MTP functionality.

> **ebdablm**—This GPL is used by the ASM card for enhanced bulk download.

> **ebdadcm**—This GPL is used by the DCM card to transmit the LSMS LNP database to the Eagle at high speed over an ethernet connection for enhanced bulk download.

> **emdc**—This GPL is used by the DCM card for CMIP/OSI measurement collection interface as defined by Telcordia GR-376.

> **eroute**—This GPL is used by the STC card for Eagle Support for Integrated Sentinel functions.

> **gls**—This GPL is used by the ASMs for downloading gateway screening to LIM cards.

> **ipgwi**—This GPL is used by the DCM card for IP point-to-point connectivity for ITU point codes. The system allows a maximum of 64 cards to be assigned the **ipgwi** application.

> **iplim**—This GPL is used by the DCM card for IP point-to-point connectivity for ANSI point codes.

> **iplimi**—This GPL is used by the DCM card for IP point-to-point connectivity for ITU point codes.

ips—This GPL is used by the IPSM card for the IP User Interface feature.

mcp—This GPL is used by the MCPM card for the Measurements Platform feature.

sccp—This GPL is used by the TSMs for the global title translation application.

ss7ansi–This application is used by the LIM cards and the E1/T1 MIM card for the MTP functionality.

The MPL or MPL-T (multi-port LIM) card is provisioned with the **ss7ansi** application to allow the card to replace a two-port LIM without having to reprovision the LIM in the database. Both types of LIMs perform the same functions. Although the MPLs are provisioned with the **ss7ansi** application, the MPLs run the **ss7ml** GPL. The **ss7ml** GPL allows the MPL cards to support eight signaling link ports. The MPL cards support the DS0 interface only.

The E1/T1 MIM card is provisioned with the **ss7ansi** application. The card can replace a two-port E1 card without having to reprovision the E1 card in the database, and can function as a T1 card. Both types of E1 cards perform the same functions. Although the E1/T1 MIM card is provisioned with the **ss7ansi** application, the E1/T1 MIM card runs the **ss7ml** GPL. The **ss7ml** GPL allows the E1/T1 MIM card to support eight signaling link ports.

ss7gx25—This GPL is used by the LIM cards to support X.25 functionality.

ss7ipgw—The application software for IP point-to-multipoint connectivity. The system allows a maximum of 64 cards to be assigned the **ss7ipgw** application.

stplan—This GPL is used by the ACM card to support the STP LAN application.

vsccp—This GPL is used by the DSM card to support the G-Flex, G-Port, INP, and LNP ELAP Configuration features. If the G-Flex, G-Port, INP, or LNP ELAP Configuration feature is not turned on, and a DSM card is present, the VSCCP GPL processes normal GTT traffic.

vxwslan–This GPL is used by the DCM card to support the STP LAN application.

chg/dlt/rtrv-ls

Use the `chg-ls` command to change the attributes for a specified linkset in the Eagle database. The new values overwrite the existing values.

Use the `dlt-ls` command to remove a linkset from the system database. A linkset is a group of signaling links carrying traffic to the same signaling point.

Use the `rtrv-ls` command to show the linkset information.

Parameters

:action= (optional)
Add or delete SAPC or mate linkset name.
Range: add, delete
Default: add

:matelsn= (optional)
Mate linkset name.
Range: 1 alphabetic character followed by up to 9 alphanumeric characters
Default: No change to current value.

Output

rtrv-ls:lsn=ipgw1

The MATELSN field is shown when a specific IP linkset is specified
(IPGWAPC=yes).

```
    tekelecstp 04-04-08 16:22:25 EST  EAGLE 31.6.0


                                L3T SLT            GWS GWS GWS
    LSN        APCI  (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    ipgw1      1-202-0       none 1   1   no  A   1   off off off ---   on


           CLLI        TFATCABMLQ MTPRSE ASL8 SLSRSB ITUTFR
           ----------- 5          no     ---  1      off


           IPGWAPC MATELSN  IPTPS   LSUSEALM  SLKUSEALM
           yes     ipgw2    2000    100       80

                                L2T         L1              PCR  PCR
           LOC  LINK SLC TYPE   SET  BPS     MODE TSET ECM  N1   N2

                                LP          ATM
           LOC  LINK SLC TYPE   SET  BPS     TSEL     VCI   VPI  LL

                                LP      ATM                 E1ATM
           LOC  LINK SLC TYPE   SET BPS TSEL     VCI   VPI  CRC4 SI SN

           LOC  LINK SLC TYPE   IPLIML2

           LOC  LINK SLC TYPE
           1301 A    0   SS7IPGW

                                L2T          PCR PCR  E1   E1
           LOC  LINK SLC TYPE   SET  BPS  ECM N1  N2   LOC  PORT TS

                                L2T          PCR PCR  T1   T1
           LOC  LINK SLC TYPE   SET  BPS  ECM N1  N2   LOC  PORT TS


    Link set table is (10 of 1024) 1% full.
    ;
```

rtrv-ls:lsn=ipgw3

The MATELSN field is shown when a specific IP linkset is specified
(IPGWAPC=yes).

```
    tekelecstp 04-04-08 16:22:25 EST  EAGLE 31.6.0
                                    L3T SLT          GWS GWS GWS
    LSN         APCA    (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    ipgw3       1-115-0        none 1   1   no  A   8    off off off ---   on

                CLLI        TFATCABMLQ MTPRSE ASL8 SLSRSB ITUTFR
                ----------- 5          no     ---  1      off

                IPGWAPC MATELSN  IPTPS   LSUSEALM  SLKUSEALM
                yes     ---      2000    100       80

                                    L2T         L1              PCR  PCR
                LOC  LINK SLC TYPE  SET BPS      MODE TSET ECM  N1   N2

                                    LP          ATM
                LOC  LINK SLC TYPE  SET BPS      TSEL     VCI    VPI   LL

                                    LP      ATM                   E1ATM
                LOC  LINK SLC TYPE  SET BPS TSEL    VCI   VPI  CRC4 SI SN

                LOC  LINK SLC TYPE  IPLIML2

                LOC  LINK SLC TYPE
        1301  A   0   SS7IPGW
        1302  A   1   SS7IPGW
        1303  A   2   SS7IPGW
        1304  A   3   SS7IPGW
        1305  A   4   SS7IPGW
        1306  A   5   SS7IPGW
        1307  A   6   SS7IPGW
        1308  A   7   SS7IPGW


                                    L2T          PCR  PCR  E1   E1
                LOC  LINK SLC TYPE  SET BPS  ECM  N1   N2   LOC  PORT TS

                                    L2T          PCR  PCR  T1   T1
                LOC  LINK SLC TYPE  SET BPS  ECM  N1   N2   LOC  PORT TS

    Link set table is (10 of 1024) 1% full.
```

Legend

LSN—The name of the linkset.

APC/APCI/APCN/APCN24—The adjacent DPC of the linkset.

SCRN—The screen set assigned to the linkset.

L3TSET—The level 3 timer set value assigned to the linkset.

SLTSET—The SLTM record associated with the linkset.

BEI—The broadcast exception indicator. This field indicates whether TFP (transfer prohibited) messages are allowed to be broadcast on the linkset.

LST—The type of links in the linkset (access links, bridge links, etc.).

LNKS—The number of links in the linkset.

GWSA—Shows whether gateway screening is used on the specified linkset.

GWSM—Shows whether the display of messages generated for each screened message is turned on or off.

GWSD—Shows whether the gateway screening message discard function is turned on or off.

SLSCI—Shows whether the 5-to-8-bit SLS conversion feature is to be used to select links for outgoing messages directed to the given linkset.

NIS—Sʜᴏᴡs whether the Network Indicator Spare option is on or off for the specified linkset.

CLLI—The far end Common Language Location Identifier (CLLI).

TFATCABMLQ—Displays the minimum number of links in the given linkset (or in the combined linkset in which it resides) that must be available to user-part messages traffic in order for the STP to consider the first-choice ordered routes using that linkset as allowed rather than restricted.

MTPRSE—Shows whether the adjacent node is equipped with MTP restart.

ASL8—Shows whether the adjacent node is sending MSUs with 8-bit SLSs.

MULTGC—Shows whether multiple group codes are allowed.

IPGWAPC—Shows whether the adjacent point code is an IP gateway adjacent point code.

MATELSN—The name of the mate IPGWx linkset.

IPTPS—The name of the mate IP Gateway linkset.

LSUSEALM—The percent of the linkset TPS (**iptps**) at which an alarm is generated to indicate that the actual linkset TPS is approaching the configured **iptps** value for the linkset.

SLKUSEALM—The percent of the link "fair share" TPS at which an alarm is generated to indicate that the actual link TPS is approaching the link's "fair share" of its linkset's configured TPS (**iptps**). The "fair share" of the linkset TPS for a link is the configured linkset TPS divided by the number of in-service links in the linkset.

LOC—The location of the card containing the signaling links that make up the linkset.

PORT—The port on the card containing the signaling link.

SLSOCBIT—The setting of the Other CIC (Circuit Identification Code) Bit.

SLSRSB—The setting of the Rotated SLS (Signaling Link Selection) Bit.

GSMSCRN—Shows whether the GSM MAP screening indicator is turned on or off.

ITUTFR—Shows whether the ITU TFR procedure indicator is turned on or off.

L2TSET—The level 2 timer set value associated with the signaling link.

SLC—The signaling link code of the signaling link.

TYPE—The type of card.

BPS—The transmission rate for the link in bits per second.

L1MODE—The mode of operation used to select the link clocking source at layer 1.

TSET—An indicator of whether the transmitter signal element timing is on or off.

E1PORT—The E1 port for which the E1 interface is defined that services the link.

E1LOC—The card location of the E1 card with the E1 interface that services the link.

T1PORT—The T1 port for which the T1 interface is defined that services the link.

T1LOC—The card location of the T1 card with the T1 interface that services the link.

TS—The timeslot assigned to the link that is serviced by the E1 or T1 interface.

E1ATMCRC4—The indicator of whether CRC4 multi-frame structure is enabled or disabled.

E1ATMSI—Value of two Spare International bits of NFAS data.

E1ATMSN—Value of five Spare National bits of NFAS data.

ent-slk

Use this command to add a low-speed or high-speed (ATM or IP) signaling link to a linkset in the database.

The ent-slk command now allows defining of up to 8 links in an IPGWx linkset if the linkset does not have a mate linkset.

ent/chg-appl-sock

Use the `ent-appl-sock` command for the **iplim**, **iplimi**, **ss7ipgw,** or **ipgwi** application to configure the Socket table, which is used to associate the local host/local port to a remote host/remote port.

Use the `chg-appl-sock` command for the IPLIM, IPLIMI, SS7IPGW, or IPGWI application to configure the Socket table which is used to associate the local host/local port to a remote host/remote port.

chg/rtrv-uaps

Use the `chg-uaps` command to change the UA parameter set.

Use the `rtrv-uaps` command to retrieve one UA parameter set or all UA parameter sets.

Parameters

:timer= (optional)
The Timer number within the UA parameter set.
Range: **1**-**10**

       1—Maximum time messages are queued when an AS transitions from AS-ACTIVE to AS-PENDING

       2—False IP Connection Congestion Timer

       3-**10**—Unused

Default: Current value

:tvalue= (optional)

The value that each timer will be set to. Though each timer value is 32 bits (decimal 4294967295), the **ss7ipgw** and **ipgwi** applications enforce 10-2000 milliseconds for timer 1 and 0-30,000 milliseconds for timer 2.

Range: Timer 1—**10-2000** milliseconds

Timer 2—**0-30000** milliseconds

Default: Current value.

System Default: Timer 1—**10** milliseconds

System Default: Timer 2—**3000** milliseconds

Output

rtrv-uaps:set=1

```
Rlghncxa03w 02-03-01 08:50:12 EST  EAGLE 31.6.0
SET  TIMER     TVALUE  PARM     PVALUE
 1     1          10    1          255
 1     2        3000    2            0
 1     3           0    3            0
 1     4           0    4            0
 1     5           0    5            0
 1     6           0    6            0
 1     7           0    7            0
 1     8           0    8            0
 1     9           0    9            0
 1    10           0   10            0


 TIMER 1: AS Recovery Timer (ms) T(r), min time AS msgs are queued,
          SS7IPGW and IPGWI applications enforce 10-2000(ms).
 TVALUE : Valid Range: 32-bits

 TIMER 2: False IP Connection Congestion Timer (ms), max time an
          association can be congested before failing due to false
          congestion. SS7IPGW and IPGWI applications enforce 0-30000(ms).
 TVALUE : Valid range = 32-bits

 PARM  1: ASP SNM options.  Each bit is used as an enabled/disabled
          flag for a particular ASP SNM option.
 PVALUE : Valid Range: 32-bits
          BIT                              BIT VALUE
          0=Broadcast                      0=Disabled , 1=Enabled
          1=Response Method                0=Disabled , 1=Enabled
          2-5=Reserved
          6=Broadcast Congestion Status Change 0=Disabled , 1=Enabled
          7-31=Reserved

 PARM  2: ASP/AS Notification options.  Each bit is used an
          enabled/disabled flag for a particular ASP/AS
          Notification option.
 PVALUE : Valid Range: 32-bits
          BIT                              BIT VALUE
          0=ASP Active Notifications       0=Disabled , 1=Enabled
          1=ASP Inactive Notifications     0=Disabled , 1=Enabled
          2=ASP AS State Query             0=Disabled , 1=Enabled
          3-31=Reserved
```

```
PARM  3: AS/ASP Validations.  Each bit is used to control a
         particular AS/ASP Validation method.
PVALUE : Valid Range: 32-bits
         BIT                                BIT VALUE
         0=Strict ASP-ID checking           0=Disabled , 1=Enabled
         1-31=Reserved
```

;

rtrv-uaps

```
Rlghncxa03w 02-03-01 08:50:12 EST  EAGLE 31.6.0
 SET  TIMER    TVALUE  PARM     PVALUE
  1     1        10     1         3
  1     2      3000     2         0
  1     3         0     3         1
  1     4         0     4         0
  1     5         0     5         0
  1     6         0     6         0
  1     7         0     7         0
  1     8         0     8         0
  1     9         0     9         0
  1    10         0    10         0
 SET  TIMER    TVALUE  PARM     PVALUE
  2     1        10     1         3
  2     2      3000     2         0
  2     3         0     3         1
  2     4         0     4         0
  2     5         0     5         0
  2     6         0     6         0
  2     7         0     7         0
  2     8         0     8         0
  2     9         0     9         0
  2    10         0    10         0
 SET  TIMER    TVALUE  PARM     PVALUE
  3     1        10     1         3
  3     2      3000     2         0
  3     3         0     3         0
  3     4         0     4         0
  3     5         0     5         0
  3     6         0     6         0
  3     7         0     7         0
  3     8         0     8         0
  3     9         0     9         0
  3    10         0    10         0
 SET  TIMER    TVALUE  PARM     PVALUE
  4     1        10     1         3
  4     2      3000     2         0
  4     3         0     3         0
  4     4         0     4         0
  4     5         0     5         0
  4     6         0     6         0
  4     7         0     7         0
  4     8         0     8         0
  4     9         0     9         0
  4    10         0    10         0
 SET  TIMER    TVALUE  PARM     PVALUE
  5     1        10     1         3
```

```
 5      2      3000      2          0
 5      3         0      3          1
 5      4         0      4          0
 5      5         0      5          0
 5      6         0      6          0
 5      7         0      7          0
 5      8         0      8          0
 5      9         0      9          0
 5     10         0     10          0
SET   TIMER   TVALUE   PARM     PVALUE
 6      1        10      1          3
 6      2      3000      2          0
 6      3         0      3          1
 6      4         0      4          0
 6      5         0      5          0
 6      6         0      6          0
 6      7         0      7          0
 6      8         0      8          0
 6      9         0      9          0
 6     10         0     10          0
SET   TIMER   TVALUE   PARM     PVALUE
 7      1        10      1          3
 7      2      3000      2          0
 7      3         0      3          0
 7      4         0      4          0
 7      5         0      5          0
 7      6         0      6          0
 7      7         0      7          0
 7      8         0      8          0
 7      9         0      9          0
 7     10         0     10          0
SET   TIMER   TVALUE   PARM     PVALUE
 8      1        10      1          3
 8      2      3000      2          0
 8      3         0      3          0
 8      4         0      4          0
 8      5         0      5          0
 8      6         0      6          0
 8      7         0      7          0
 8      8         0      8          0
 8      9         0      9          0
 8     10         0     10          0
SET   TIMER   TVALUE   PARM     PVALUE
 9      1        20      1          2
 9      2      3000      2          0
 9      3         0      3          0
 9      4         0      4          0
 9      5         0      5          0
 9      6         0      6          0
 9      7         0      7          0
 9      8         0      8          0
 9      9         0      9          0
 9     10         0     10          0
SET   TIMER   TVALUE   PARM     PVALUE
10      1        10      1          3
```

```
   10      2       3000    2           0
   10      3          0    3           0
   10      4          0    4           0
   10      5          0    5           0
   10      6          0    6           0
   10      7          0    7           0
   10      8          0    8           0
   10      9          0    9           0
   10     10          0   10           0


   TIMER 1: AS Recovery Timer (ms) T(r), min time AS msgs are queued,
            SS7IPGW and IPGWI applications enforce 10-2000(ms).
   TVALUE : Valid Range: 32-bits


   TIMER 2: False IP Connection Congestion Timer (ms), max time an
            association can be congested before failing due to false
            congestion. SS7IPGW and IPGWI applications enforce 0-30000(ms).
   TVALUE : Valid range = 32-bits


   PARM  1: ASP SNM options.  Each bit is used as an enabled/disabled
            flag for a particular ASP SNM option.
   PVALUE : Valid Range: 32-bits
            BIT                                BIT VALUE
            0=Broadcast                        0=Disabled , 1=Enabled
            1=Response Method                  0=Disabled , 1=Enabled
            2-5=Reserved
            6=Broadcast Congestion Status Change 0=Disabled , 1=Enabled
            7-31=Reserved


   PARM  2: ASP/AS Notification options.  Each bit is used an
            enabled/disabled flag for a particular ASP/AS
            Notification option.
   PVALUE : Valid Range: 32-bits
            BIT                                BIT VALUE
            0=ASP Active Notifications         0=Disabled , 1=Enabled
            1=ASP Inactive Notifications       0=Disabled , 1=Enabled
            2=ASP AS State Query               0=Disabled , 1=Enabled
            3-31=Reserved


   PARM  3: AS/ASP Validations.  Each bit is used to control a
            particular AS/ASP Validation method.
   PVALUE : Valid Range: 32-bits
            BIT                                BIT VALUE
            0=Strict ASP-ID checking           0=Disabled , 1=Enabled
            1-31=Reserved
;
```

Multiple Country Code Support for G-Port

Description

Currently, the Eagle's G-Port MNP feature allows entry of one Default Country Code (DEFCC) per system. The DEFCC has four main uses in G-Port:

1. To condition non-International format MSISDNs received by G-Port prior to performing a Mobile Number Portability (MNP) database lookup. (All Mobile Switching Integrated Services Digital Network Numbers (MSISDNs) stored in the MNP database are stored in International format. Therefore, if a MSISDN is received in National format, G-Port converts it to International by appending the DEFCC.)

2. To formulate the CC+RN+MSISDN response format for the MSRN parameter in SRI-ack responses. (In this case, G-Port compares the DEFCC against the leading digits of the International MSISDN (i.e. CC+MSISDN) to determine where to place the RN returned from the database.)

3. To formulate the CC+RN+MSISDN format in the outgoing SCCP CdPA GTA parameter in message relay scenarios for non-SRI messages. (As with MSRN formulation, G-Port uses the DEFCC to determine where to place the RN).

4. To perform HomeRN deletion. Again, G-Port uses the DEFCC to determine which digits are the RN.

Certain operators wish to use a single MNP database to handle portability for different countries, and some areas may have more than one country code defined. In this case, due to condition 1 noted above, G-Port would not be able to correctly condition numbers that are received in non-International format, because it will always append the same DEFCC. However, because numbers must be provisioned in International format in the MNP database, this limitation can be easily overcome by insuring that the Mobile Switching Centers (MSCs) always send the MSISDN in the SCCP Called Party Address (CdPA) in International format. Therefore, no conditioning needs to be performed, and the lack of multiple DEFCCs in the Eagle is not an issue.

On the other hand, if these customers also require the use of the CC+RN+MSISDN format in the SRI-ack response or for message relay, then G-Port is currently unable to handle this condition. This is because due to the fact that G-Port currently uses the DEFCC to determine which digits of the International number are the CC, and there can be only one DEFCC per system.

Likewise, if the Eagle is configured to perform non-SRI message relay using the digit action of "Insert", this will cause the SCCP CdPA of outgoing messages to be in the format CC+RN+MSISDN. Using only DEFCC, the same problems would be encountered when constructing the outgoing SCCP CdPA as detailed for the MSRN parameter above.

The Multiple Country Code Support for G-Port MNP feature will resolve addresses the problem noted in condition 2 above. It will not address condition 1 noted above because, as previously stated, this problem can be easily overcome by having the MSCs always send MSISDNs in International format to the MNP node.

The G-Port MNP feature is modified to provide support for up to 10 "Multiple Country Codes" (MultCCs) for use in formulating the MSRN parameter of the SRI-ack response for G-Port Query Response, and for constructing the SCCP CdPA in certain cases of G-Port Message Relay.

The existing `defcc` parameter in the `chg-stpopts` command will continue to be used for conditioning of numbers to International format when necessary, and will also be used for constructing the MSRN and SCCP CdPA parameters in addition to the new MULTCC list.

Highlights

This feature provides the ability to define multiple country codes in the system (up to 10) for use by the G-Port MNP feature, in addition to the existing default country code (`dsefcc`).

Hardware Required

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced with new parameters to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

chg-stpopts

Use the `chg-stpopts` command to change the values of one or more of the STP node level processing option indicators maintained in the STP's options table. All values are assigned initially to system defaults at STP installation time, and they may be updated subsequently using this command.

A default country code must be defined with the `defcc` parameter before any multiple county codes can be defined using the `chg-gsmopts` command.

chg/rtrv-gsmopts

Use the `chg-gsmopts` command to enter GSM (Global System for Mobile Telecommunications) system options in the database. This command updates the GSMOPTS Table.

Use the `rtrv-gsmopts` command to display all GSM (Global System for Mobile Telecommunication) system options from the database.

Parameters

NOTE: See "Point Code Formats and Conversion" in Appendix A for a detailed description of point code formats, rules for specification, and examples.

:multcc= (optional)
Multiple country code. The G-Port feature must be turned on before this parameter can be specified.
Range: 1 to 3 digits (**0-9, a-f, A-F**)
Default: No change to current value

:nmultcc= (optional)
New multiple country code. The specified **multcc** value is either changed to the specified **nmultcc** value, or deleted if **nmultcc=none** is specified. The G-Port feature must be turned on before this parameter can be specified.
Range: 1 to 3 digits (**0-9, a-f, A-F**), or **none**
               none—Deletes the specified **multcc** value from the multiple country code list
Default: No change to current value

Output

The following example includes multiple country code enries and no MSISDN truncation digits.

rtrv-gsmopts

```
tekelecstp 04-04-08 14:53:59 EST   EAGLE 31.6.0
GSM OPTIONS
----------------------
DEFMCC     = NONE
DEFMNC     = NONE
SRFADDR    = NONE
MSRNDIG    = RN
IS412GSM   = NONE
DEFMAPVR   = 1
IS412GSM   = NONE
MULTCC     = 2
MULTCC     = 4
MULTCC     = 5
MULTCC     = 20
MULTCC     = 119
MULTCC     = 121
MULTCC     = 123
MULTCC     = 124
MSISDNTRUNC = 0
;
```

Legend

DEFMCC—E212 default mobile country code.

DEFMNC—E212 default mobile network code.

CCNC—E214 country code and network code.

MCCMNC—E212 mobile country code and mobile network code.

SRFADDR—Entity address of the MNP_SRF node.

SRFNAI—The nature of address indicator value of the MNP_SRF.

SRFNP—The numbering plan value of the MNP_SRF.

MSRNDIG—The routing number to be used as is or to be concatenated with the MSISDN.

MSRNNAI—The nature of address indicator value for the MSRN.

MSRNNP—The numbering plan value for the MSRN.

SRIDN—Send Routing Information Dialed Number location.

PPSMSRI1—A routing indicator for an Intelligent Network (IN) platform used by Prepaid Short Message Sevice Intercept (PPSMS) for credit checking.

PPSMSRI2—A routing indicator for an Intelligent Network (IN) platform used by Prepaid Short Message Sevice Intercept (PPSMS).

PPSMSPCI1—An ITU international point code for an IN platform used by PPSMS.

PPSMSPCI2—An ITU international point code for an IN platform used by PPSMS.

PPSMSPCN1—An ITU national point code for an IN platform used by PPSMS.

PPSMSPCN2—An ITU national point code for an IN platform used by PPSMS.

PPSMSGTA—Entity addresses for up to 3 IN platforms used by PPSMS.

IS412GSM—IS-41 to GSM Migration prefix.

EIRGRSP—Equipment Identity Register Global Response status.

EIRRSPTYPE—Equipment Identity Register Global Response Type.

EIRIMSICHK—Equipment Identity Register IMSI Check status.

MULTCC—Multiple country code list enty

MSISDNTRUNC—number of digits to delete from the beginning of the National MSISDN (MSISDN without Country Code) before formulating the MSRN parameter of the SRI-ack response

MSISDN Truncation Support for G-Port

Description

In some networks, the SRI-ack response returned by G-Port includes the Routing Number (RN) associated with a ported out number prefixed to the International MSISDN in the MAP MSRN parameter. Depending on the number of digits in the MSISDN and the RN, this prefixing could result in the MSRN parameter exceeding 15 digits. This can cause problems with certain MSCs. Therefore, a new option for G-Port allows a certain specified number of digits to be deleted from the beginning of the National MSISDN (MSISDN without Country Code) prior to formulating the MSRN parameter of the SRI-ack response. (This feature does not affect the encoding of any other parameters or any other messages processed by G-Port.)

Highlights

A new option for G-Port allows a specified number of digits to be deleted from the beginning of the National MSISDN (MSISDN without Country Code) prior to formulating the MSRN parameter of the SRI-ack response.

Hardware Required

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

chg/rtrv-gsmopts

Use the `chg-gsmopts` command to enter GSM (Global System for Mobile Telecommunications) system options in the database. This command updates the GSMOPTS Table.

Use the `rtrv-gsmopts` command to display all GSM (Global System for Mobile Telecommunication) system options from the database.

Parameters

:msisdntrunc= (optional)

MS ISDN truncation digits. Specifies number of digits to delete from the beginning of the National MSISDN (MSISDN without Country Code) before formulating the MSRN parameter of the SRI-ack response. The G-Port feature must be on before this parameter can be specified.

Range: 1 digit (**0-5**)

Default: No change to current value

Output

The following example includes multiple country code enries and no MSISDN truncation digits.

rtrv-gsmopts

```
tekelecstp 04-04-08 14:53:59 EST  EAGLE 31.6.0
GSM OPTIONS
----------------------
DEFMCC      = NONE
DEFMNC      = NONE
SRFADDR     = NONE
MSRNDIG     = RN
IS412GSM    = NONE
DEFMAPVR    = 1
IS412GSM    = NONE
MULTCC      = 2
MULTCC      = 4
MULTCC      = 5
MULTCC      = 20
MULTCC      = 119
MULTCC      = 121
MULTCC      = 123
MULTCC      = 124
MSISDNTRUNC = 0
;
```

Legend

DEFMCC—E212 default mobile country code.

DEFMNC—E212 default mobile network code.

CCNC—E214 country code and network code.

MCCMNC—E212 mobile country code and mobile network code.

SRFADDR—Entity address of the MNP_SRF node.

SRFNAI—The nature of address indicator value of the MNP_SRF.

SRFNP—The numbering plan value of the MNP_SRF.

MSRNDIG—The routing number to be used as is or to be concatenated with the MSISDN.

MSRNNAI—The nature of address indicator value for the MSRN.

MSRNNP—The numbering plan value for the MSRN.

SRIDN—Send Routing Information Dialed Number location.

PPSMSRI1—A routing indicator for an Intelligent Network (IN) platform used by Prepaid Short Message Sevice Intercept (PPSMS) for credit checking.

PPSMSRI2—A routing indicator for an Intelligent Network (IN) platform used by Prepaid Short Message Sevice Intercept (PPSMS).

PPSMSPCI1—An ITU international point code for an IN platform used by PPSMS.

PPSMSPCI2—An ITU international point code for an IN platform used by PPSMS.

PPSMSPCN1—An ITU national point code for an IN platform used by PPSMS.

PPSMSPCN2—An ITU national point code for an IN platform used by PPSMS.

PPSMSGTA—Entity addresses for up to 3 IN platforms used by PPSMS.

IS412GSM—IS-41 to GSM Migration prefix.

EIRGRSP—Equipment Identity Register Global Response status.

EIRRSPTYPE—Equipment Identity Register Global Response Type.

EIRIMSICHK—Equipment Identity Register IMSI Check status.

MULTCC—Multiple country code list enty

MSISDNTRUNC—number of digits to delete from the beginning of the National MSISDN (MSISDN without Country Code) before formulating the MSRN parameter of the SRI-ack response

Measurements Platform IP Security

Description

Secure Shell defines a protocol for secure network services over any non-secure network. The Secure Shell utility SFTP is a file transfer replacement for FTP used for transferring Measurements Platform measurement reports.

SFTP uses the same provisioning information as FTP (IP address, username, password) and transparently replaces FTP. The Eagle OA&M IP Security Enhancements feature provides the Secure Shell SFTP file transfer program on the Eagle for the Measurements Platform IP Security feature (and for the IP User Interface telnet sessions).

The Eagle OA&M IP Security Enhancements Feature provides tools to securely pass data across an otherwise non-secure network. Once the Eagle OA&M IP Security Enhancements Feature is turned on, the Eagle provides secure measurements information transfer between the Eagle and the target server.

In order to use security, the target server needs to support Secure Shell Server with SFTP specified with subsystem option in SSH Server configuration file. When operational, the secure file transfers requires SSHD Server & SFTP server, version 2.0, to be available. (Customer responsibility)

The hardware baseline for EAGLE 31.6 software release only supports EDSM-2G (870-2372-03) for the MCP application. If any DSM-2G card is presently congigured to run the MCP application in an EAGLE 31.6 system, it will be auto-inhibited during it's loading process. The hardware baseline is independent of activated features. Therefore if an MCP is provisioned in any 31.6 system, it must be running on an EDSM-2G.

The swap of hardware from DSM-2G to EDSM-2G for MCPMs must be done prior to the system being upgraded to EAGLE 31.6. The upgrade command will verify that all MCP provisioned in a system are running EDSM-2G prior to executing the upgrade. In event of an MCP running on a DSM-2G, the MO must be removed and the system will need to be booted out of upgrade and the hardware swapped, prior to any re-attempt. This check is to prevent the loss of any MCP service.

If the IP security feature is activated before the software upgrade to Release 31.6, a secure FTP server should be in the Measurements FTP server list before starting the upgrade. The FTP server list can be retrieved via rtrv-ftp-serv. All servers listed with app=meas are Measurements FTP servers. A maximum of two can be Measurements FTP servers. Servers may be provisioned with the ent-ftp-serv command. After the MCP software is upgraded during Eagle Upgrade to 31.6, it will immediately begin transferring files to the secure FTP server. If no secure FTP server is found, the report transfers will fail. No servers can be provisioned during upgrade, so the servers must be provisioned before upgrade in order to transfer all measurements.

Highlights

The Eagle OA&M IP Security Enhancements feature provides the Secure Shell SFTP file transfer program on the Eagle for the Measurements Platform IP Security feature.

Once the Eagle OA&M IP Security Enhancements Feature is turned on, the Eagle provides secure measurements information transfer between the Eagle and the target server.

Hardware Required

The Measurements Platform feature in Release 31.6, with or without use of the IP Security feature, requires an MCPM card with 32MB FSRAM and 2 GB RAM (EDSM-2G, part number 870-2372-03). This is a hardware baseline change for the MCPM to be upgraded to the EDSM-2G.

> **NOTE: Release 31.X baseline hardware includes GPSMIIs, HMUXs, -10s TDMs. If these modules are not equipped the act-upgrade command will be rejected.**

Enhancements to Existing Commands

The following commands or command families have been enhanced with new parameters to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

ent-card

Use the **ent-card** command to add a card to the database. The card type and application specifies the function assigned to the card.

Measurements Platform in Release 31.6 requires the EDSM-2G card as the MPCM card. Provisioninng of the DSM-2G card will no longer be allowed for Measurements Platform.

Table FN-7 on page FN-89 shows the card names, the only valid card type (**type**) and application (**appl**) combinations, the card part numbers, and the maximum number of cards allowed in the database.

rtrv-ftp-serv

Use this command to retrieve an entry for an FTP server from the FTP Server table or all entries in the FTP Server table.

Output

The following examples show output when the Eagle OA&M IP Security feature is not enabled:

rtrv-ftp-serv:app=meas:ipaddr=1.255.0.100

```
    rlghncxa03w 04-02-28 11:34:04 EST  EAGLE 31.6.0

    APP       IPADDR          LOGIN           PRIO  PATH
    --------  --------------  --------------  ----  ----
    meas      1.255.0.100     ftpmeas3        3     ~ftpmeas3\files

    FTP SERV table is (1  of 10)  10% full
;
```

rtrv-ftp-serv:mode=brief

```
    rlghncxa03w 04-02-28 11:34:04 EST  EAGLE 31.6.0

    APP       IPADDR          LOGIN           PRIO  PATH
    --------  --------------  --------------  ----  ----
    meas      1.255.0.100     ftpmeas3        3     ~ftpmeas3\files
    meas      1.255.0.101     ftpmeas2        2     \home\ftpmeas2\public
    user      1.255.0.100     tekperson1      1     \share

    FTP SERV table is (3  of 10)  20% full
;
```

rtrv-ftp-serv:app=meas

```
    rlghncxa03w 04-02-28 11:34:04 EST  EAGLE 31.6.0.

    APP       IPADDR          LOGIN           PRIO  PATH
    --------  --------------  --------------  ----  ----
    meas      1.255.0.100     ftpmeas3        3     ~ftpmeas3\files
    meas      1.255.0.101     ftpmeas2        2     \home\ftpmeas2\public

    FTP SERV table is (2  of 10)  20% full
;
```

rtrv-ftp-serv:ipaddr=1.255.0.100

```
    rlghncxa03w 04-02-28 11:34:04 EST   EAGLE 31.6.0.

    APP       IPADDR          LOGIN           PRIO PATH
    --------  --------------  --------------  ---- ----
    meas      1.255.0.100     ftpmeas3        3    ~ftpmeas3\files
    user      1.255.0.100     tekperson1      1    \share

    FTP SERV table is (2  of 10)  20% full
;
```

rtrv-ftp-serv:mode=full

```
    rlghncxa03w 04-02-28 11:34:04 EST   EAGLE 31.6.0.

    APP       IPADDR          LOGIN           PRIO
    --------  --------------  --------------  ----
    meas      1.255.0.100     ftpmeas3        3
      Path:  ~ftpmeas3\files
    meas      1.255.0.101     ftpmeas2        5
      Path:  \tmp\measurements\backup\data\path\that\goes\on\and\on\and\on\
          and\keeps\on scrolling\to\new\line
    user      1.255.0.100     tekperson1      1
      Path:  \share

    FTP SERV table is (3  of 10)  30% full
;
```

The following example shows output when the Eagle OA&M IP Security feature is enabled and turned off:

rtrv-ftp-serv:mode=full

```
    tekelecstp 04-02-15 12:41:58 EST   EAGLE 31.6.0
    FTP Client Security: OFF

    APP       IPADDR          LOGIN           PRIO
    --------  --------------  --------------  ----
    meas      1.255.0.100     ftpmeas3        3
      Path:  ~ftpmeas3/files
    meas      1.255.0.101     ftpmeas2        5
       Path: /tmp/measurements/backup/data/path/that/goes/on/and/on/and/on/and/
           keeps/on/scrolling/to/new/line
    user      1.255.0.100     tekperson1      1
      Path:  \share

    FTP SERV table is (3  of 10)  30% full
;
```

The following example shows output when the Eagle OA&M IP Security feature is turned on:

rtrv-ftp-serv:mode=full

```
    tekelecstp 04-02-15 12:41:58 EST   EAGLE 31.6.0
    FTP Client Security: ON

    APP       IPADDR          LOGIN           PRIO
    --------  --------------  --------------  ----
    meas      1.255.0.100     ftpmeas3        3
      Path:  ~ftpmeas3/files
    meas      1.255.0.101     ftpmeas2        5
       Path: /tmp/measurements/backup/data/path/that/goes/on/and/on/and/on/and/
           keeps/on/scrolling/to/new/line
```

```
user      1.255.0.100      tekperson1      1
  Path:  \share

FTP SERV table is (3  of 10)  30% full
```

Time Stamps for rept-stat-trbl Report

Description

The `display=timestamp` parameter value has been added to the `rept-stat-trbl` command, to display all alarms with the date and time when the alarm was logged.

Only one parameter value for `display` is allowed in the command at one time. Therefore, timestamps cannot be displayed for just inhibited or active alarms (`display=inhb` and `display=act`).

Highlights

The `display=timestamp` parameter value of the `rept-stat-trbl` command displays all alarms with the date and time when the alarm was logged.

Hardware Required

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following command has been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

rept-stat-trbl

Use this command to display a summary report of all the device trouble notifications that are logged currently in the OAM's RAM storage area.

Parameters

:display= (optional)
Display type of alarms to be reported.
Range: act, all, inhb, timestamp

    act—Display only active alarms with no timestamps

    all—Display all alarms with no timestamps

    inhb—Display only inhibited alarms with no timestamps

    timestamp—Display all alarms with timestamps showing the date and time the alarm was logged

Default: all

Output

The following example shows output when the **display=timestamp** parameter is specified.

rept-stat-trbl:display=timestamp

```
    rlghncxa03w 04-04-07 09:50:17 EST  EAGLE 31.6.0
    Searching devices for alarms...
;

    tekelecstp 04-04-07 09:50:17 EST  EAGLE 31.6.0
    SEQN UAM  AL DEVICE     ELEMENT        TROUBLE TEXT
    0003.0048  * TERMINAL    1             Terminal failed
                  04-1-27  15:19:25
    0004.0048  * TERMINAL    2             Terminal failed
                  04-1-27  15:19:25
    0005.0048  * TERMINAL    4             Terminal failed
                  04-1-27  15:19:25
    0006.0002  * GPL SYSTEM EOAM           Card is not running approved GPL
                  04-1-27  15:19:25
    0007.0176  * SECULOG 1116              Stdby security log -- upload required
                  04-1-27  15:19:25
    0008.0013 ** CARD 1103 VSCCP           Card is isolated from the system
                  04-15-27  15:19:25
    0009.0438 *C SYSTEM                    Degraded Mode, Invalid OAM HW config
                  04-1-27  15:19:27
    0010.0331 *C SCCP SYSTEM               SCCP is not available
                  04-1-27  15:19:25
    Command Completed.
;
```

Legend

In the AL column:

*—Minor Alarm

**—Major Alarm

*C—Critical Alarm

I—Inhibited Alarm

Support G-Flex at 1700 TPS per DSM (ANSI only)

Description

This feature allows the DSM card to run at 1700 TPS when the G-Flex feature is turned on in an ANSI environment. Only G-Flex can be on to achieve the 1700 TPS per DSM.

Highlights

This feature provides an STP option to allow the DSM card to run at 1700 TPS when the G-Flex feature is turned on in an ANSI environment.

Hardware Required

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced with new parameters to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

chg/rtrv-stpopts

Use the `chg-stpopts` command to change the values of one or more of the STP node level processing option indicators maintained in the STP's options table. All values are assigned initially to system defaults at STP installation time, and they may be updated subsequently using this command.

NOTE: **For those STP option attributes supporting STP event message throttling, the values for the indicated parameters shall become effective in the next event-message output interval following their activation. All other updates shall be effective immediately, as of the time of activation.**

Use the `rtrv-stpopts` command to retrieve the current value of the Eagle's node-level processing option indicators maintained in the system's options table.

Parameters

:ansigflex= (optional)
Enables ANSI G-Flex to execute at 1700 TPS per DSM card.
Range: **yes, no**
           yes—Enabled
           no—Disabled
Default: Current value

System Default: **no**

Output

The following example displays MTP STP options with no affecting features on. Certain features that are shown in other examples control additional options and changes to this option list:

```
rlghncxa03w 04-04-17 16:02:05 EST  EAGLE 31.6.0
STP OPTIONS
---------------------------
MTPT31CTL                1
MTPLTI                 yes
MTPLTCTDPCQ              3
MTPLTST              10000
MTPDPCQ               2000
TFATFRPR             1000
MTPLPRST              yes
MTPT10ALT            30000
UIMRD                 yes
SLSCNV              perls
CRITALMINH            yes
DISPACTALMS            no
NPCFMTI           14-0-0-0
RPTLNPMRSS           yes
RANDSLS              off
GR2878RGLBL           yes
RSTRDEV               on
HSCLKSRC            RS422
HSCLKGAIN        LONGHAUL
;
```

The following example displays all MTP STP options. The following list indicates which options appear in the output when the associated features are on:

NOTE: All options will not appear in actual output, because all features that cause these options to appear cannot be on in the system at the same time.

- Cluster Routing and Management Diversity (CRMD) feature—MTPXLQ, MTPXLET, MTPXLOT

- MTP Restart (MTPRS or ITUMTPRS) feature—MTPRSI, MTPRSIT

- 6000 Routesets feature—MTPDPCQ=6000

- GSM MAP Screening (GSMSCRN) feature—GSMDFLT, GSMDECERR

- GSM Mobile Number Portability (G-Port) feature, INAP Number Portability (INP) feature, or GSM Flexible Numbering (G-Flex) feature—DEFCC, DEFNDC, DSMAUD

- GSM Flexible Numbering (G-Flex) feature—ANSIGFLEX

- Network Security (NSE) feature—SECMTPMATE, SECMTPSID, SECMTPSNM, SECSCCPSCMG

- ANSI-ITU-China SCCP Conversion (SCCP Conversion) feature—CNVCGDA, CNVCGDI, CNVCGDN, CNVCGDN24, GTCNVDFLT

rtrv-stpopts

```
    rlghncxa03w 04-04-17 16:02:05 EST  EAGLE 31.6.0
    STP OPTIONS
    ---------------------------
    MTPT31CTL               1
    MTPLTI                yes
    MTPLTCTDPCQ             3
    MTPLTST             10000
    MTPXLQ                500
    MTPXLET               0100
    MTPXLOT               90%
    MTPDPCQ              6000
    TFATFRPR             1000
    MTPRSI                yes
    MTPRSIT              5000
    MTPLPRST              yes
    MTPT10ALT           30000
    UIMRD                 yes
    SLSCNV              perls
    CRITALMINH            yes
    DISPACTALMS            no
    NPCFMTI           14-0-0-0
    GSMDFLT              PASS
    GSMDECERR            PASS
    DEFCC                  49
    DEFNDC                177
    DSMAUD                 no
    RPTLNPMRSS            yes
    RANDSLS               all
    GR2878RGLBL            no
    RSTRDEV                on
    SECMTPMATE            off
    SECMTPSID             off
    SECMTPSNM          notify
    SECSCCPSCMG        notify
    CNVCGDA               yes
    CNVCGDI               yes
    CNVCGDN               yes
    CNVCGDN24             yes
    GTCNVDFLT             yes
    ANSIGFLEX             yes
    HSCLKSRC            RS422
    HSCLKLL          LONGHAUL
;
```

Legend

MTPT31CTL—MTP T31 congestion trigger level. The signaling link congestion level at which the Eagle starts the level 3 t31 timer. When the level 3 t31 timer expires, the associated signaling link is removed from service for realignment.

MTPLTI—MTP loop test indicator. Specifies whether the MTP loop detection procedures are enabled or disabled at the system.

MTPLTCTDPCQ—MTP loop test congestion trigger DPC quantity. The number of most frequently occurring DPCs to which the MTP loop test messages are to be sent when the MTP loop test is triggered by congestion.

MTPLTST—MTP loop test supervision timer. The amount of time, in milliseconds, that the MTP loop test detection procedures run when started.

MTPXLQ—MTP x-list quantity. The number of dynamic status exception list (x-list) entries the Eagle maintains.

MTPXLET—MTP x-list expiration time. The maximum amount of time the Eagle maintains an unreferenced dynamic status exception list (x-list) entry.

MTPXLOT—MTP x-list occupancy threshold. The dynamic status exception list (x-list) occupancy threshold at which the Eagle raises a minor alarm. The threshold is expressed as a percentage of space available.

MTPDPCQ—MTP destination point code quantity. The maximum number of DPCs that can be provisioned from the Eagle.

TFATFRPR—TFA/TFR pacing rate. The amount of time, in milliseconds, between partial broadcasts of up to 20 percent increments of the number of TFAs/TCAs or TFRs/TCRs to be broadcast by the STP when an affected destination becomes accessible using its primary route rather than an alternate route. The STP uses this pacing to prevent congestion on the newly-recovered linksets.

MTPRSIT—MTP Restart isolation timer. The minimum duration of node isolation, in milliseconds, before the MTP Restart procedure is deemed necessary.

MTPRSI—MTP Restart indicator. Specifies whether ANSI or ITU MTP Restart procedures are enabled or disabled at the STP.

MTPLPRST—MTP low priority route set test. Specifies whether low priority route set polling is enabled or disabled at the STP.

MTPT10ALT—MTP T10 alternate timer. Specifies the interval at which the STP performs a route set test on low priority routes.

SLSCNV—Per node SLS conversion indicator. Specifies whether SLS conversion is on, off, or performed per linkset (perls).

UIMRD—Unsolicited Information Message (UIM) redirect. Specifies whether specific UIMs are redirected to this output group.

CRITALMINH—Indicates whether the option that allows the inhibiting of critical alarms is enabled (`yes`) or disabled (`no`).

DISPACTALMS—Indicates whether to display active or total alarms in the alarm status area of the VT320 screen.

NPCFMTI—Defines how the ITU national point code is entered into the database and how it is displayed in any outputs from the Eagle.

GSMDFLT—Indicates whether the GSM MAP screening default action is set to pass or discard.

GSMDECERR—Indicates whether the GSM MAP screening decode error action is set to pass or discard.

DEFCC—Defines the default country code.

DEFNDC—Defines the default network destination code.

DSMAUD—Indicates whether the DSM audit is running (`on`) or disabled (`off`).

RANDSLS—Displays the Random SLS setting.

RTPLNPMRSS—Displays the setting for reporting or suppressing UIM 1049 for LNP MR with missing subsystems.

GR2878RGLBL—`Yes` = use GR-2878-CORE HSL labels and data in SEAS output. `No` = HSL labels and data are not supported to SEAS.

RSTRDEV—Allow or disable restoration of device states when an `init-sys` command is executed, an OAM role changes, or a card reload occurs.

SECMTPMATE—Indicates Network Security screening for MTP messages received by an STP on a non-C-Link, with an OPC equal to the SID (True, Adjacent, or Capability) point code of its mate.

SECMTPSID—Indicates Network Security screening for MTP messages received at MTP3 containing an OPC equal to its own SID (OPC that is the True, Secondary, or Capability point code entered in the `chg-sid` command) that is not a route-set-congestion-message. The Eagle should not receive a message with its own OPC unless the message is a result of a circular route test or is an SLTM when the far end is in loopback. (SLTM messages are not checked.)

SECMTPSNM—Indicates Network Security screening for MTP SNM messages. The Eagle should not receive an MTP network management message unless:

- The OPC is an adjacent point code. (For all link types, this rule does not apply to UPU, TFC, and RCT messages.)

- 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. (For all link types, this rule is not applicable to RST messages.)

SECSCCPSCMG—Indicates Network Security screening for SCCP SCMG messages. This value applies only to SSP and SOR messages. SSA, SST, SOG, SBR, SNR and SRT messages are not affected. 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 (also called the Concerned Point Code in Eagle) in the message on the linkset on which the message was received.

CNVCGDA—Indicates whether or not to discard the CGPA PC in ANSI SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

CNVCGDI—Indicates whether or not to discard the CGPA PC in ITU-I SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

CNVCGDN—Indicates whether or not to discard the CGPA PC in ITU-N SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

CNVCGDN24—Indicates whether or not to discard the CGPA PC in 24-bit ITU-N SCCP messages if the PC or ALIAS PC of the destination network type is not defined.

ANSIGFLEX—Indicates enable or disable of ANSI G-Flex to execute at 1700 TPS per DSM card

GTCNVDFLT—Indicates enable or disable of routing of SCCP messages using system defaults when an appropriate entry is not found in the Default GT Conversion table.

HSCLKLL—High speed master clock line length option (SHORTHAUL, LONGHAUL)

HSCLKSRC—High speed master clock source

rept-stat-sccp

Use this command to display the following types of reports:

- **rept-stat-sccp** (with no parameters)—displays the status of the SCCP and VSCCP cards and the GTT (Global Title Translation), G-Flex (GSM Flexible Numbering), G-Port (GSM Mobile Number Portability), INP (INAP-based Number Portability), and EIR (Equipment Identity Register) services executing on those cards. This command also displays any cards that are denied SCCP service.

- **rept-stat-sccp:mode=perf**—targets the general SCCP traffic performance for both SCCP and VSCCP cards. The report supplies message rates for group ticket voucher (TVG) performance.

- **rept-stat-sccp:loc=**nnnn—provides a detailed view of the status of SCCP services provided by a specific SCCP/VSCCP card. Fields are omitted if an associated feature is not turned on.

NOTE: The **rept-stat-sccp** and **rept-stat-sccp:mode=perf** reports include the status of TSM, and DSM cards but do not differentiate between these card types.

NOTE: To retrieve traffic statistics for the LNP feature, use the **rept-stat-lnp** command.

Output

In the following example, all four cards are VSCCP cards with 1700 TPS capacity per card. The **ansigflex** system option is enabled.

rept-stat-sccp:mode=perf

```
eaglestp 00-07-24 20:38:58 EST  EAGLE5 31.6.0
SCCP SUBSYSTEM REPORT IS-NR           Ovflw-1    -----
     SCCP ALARM STATUS = No Alarms

SCCP Cards Configured=4  Cards IS-NR=4
System TPS Alarm Threshold = 80% Total Capacity
System Peak SCCP Load = 4000 TPS
System Total SCCP Capacity = 6800 TPS

TPS STATISTICS
=====================================================================
CARD   CPU      TOTAL     CLASS 0   Class 1
       USAGE    MSU RATE  TVG RATE  TVG RATE
---------------------------------------------------------------------
1217   54%      1200      1000      200
1218   31%      900       750       150
4118    5%      800       650       150
4211    5%      1000      800       200
---------------------------------------------------------------------
AVERAGE MSU USAGE = 44%
```

```
AVERAGE CPU USAGE = 24%
TOTAL MSU RATE    = 3900

STATISTICS FOR PAST 30 SECONDS
======================================================================
TOTAL TRANSACTIONS:   35000
TOTAL ERRORS:     5
Command Completed.
```

Enhanced GSM Map Screening

Description

> The Enhanced GSM MAP Screening Feature is an enhancement to the existing GSM MAP Screening feature that adds the ability to perform screening based on the Called Party Address Global Title Digits (CdPA) including NP and NAI. In addition, wild card entries are supported for the MAP Operation Code, CgPA and CdPA.

> Prior to this feature, GSM Map Screening was limited to the combinations of MAP Operation Codes and Calling Party Address Global Title Digits (CgPA GTA). With this feature, the screening is extended to include the ability to a combine the CgPA and CdPA, each including NP and NAI information, along with a new wild card option for the MAP Operation Code, CgPA, and CdPA.

> The supported screening actions will continue to be: Discard, Route, Duplicate, Forward , Pass, Duplicate and Discard, and Error (ATI only).

> The Enhanced GSM MAP Screening Feature allows the screening tp be extended to include the ability to a combine the CgPA and CdPA, each including NP and NAI information, along with a new wild card option for the MAP Operation Code, CgPA, and CdPA.

Hardware Requirements

> Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

chg/ent/rtrv-ls

Use the chg-ls command to change the attributes for a specified linkset in the Eagle database. The new values overwrite the existing values.

Use the ent-ls command to add a linkset, with its assigned far-end point code and other linkset attributes, to the database.

Use the rtrv-ls command to show the linkset information.

Output

The following examples show the GSMSCRN parameter value for an ANSI linkset and an ITU linkset.

rtrv-ls:lsn=lsa

```
    tekelecstp 03-12-05 01:33:29 EST  EAGLE 31.6.0
                                L3T SLT           GWS GWS GWS
    LSN         APCA   (SS7)   SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    lsa         003-003-003   none 1   1   no  A   0    off off off no    off

            CLLI          TFATCABMLQ MTPRSE ASL8 GSMSCRN IPGWAPC
            -----------   1          ---    no   off     no

                                      L2T           L1                PCR  PCR
            LOC   PORT SLC TYPE       SET   BPS     MODE TSET ECM     N1   N2

                                      LP            ATM
            LOC   PORT SLC TYPE       SET   BPS      TSEL     VCI   VPI   LL

                                      LP        ATM                   E1ATM
            LOC   PORT SLC TYPE       SET BPS   TSEL     VCI   VPI  CRC4 SI SN

            LOC   PORT SLC TYPE       IPLIML2

            LOC   PORT SLC TYPE

                                      L2T               PCR  PCR   E1   E1
            LOC   PORT SLC TYPE       SET   BPS   ECM    N1   N2    LOC  PORT TS

                                      L2T               PCR  PCR   T1   T1
            LOC   PORT SLC TYPE       SET   BPS   ECM    N1   N2    LOC  PORT TS


        Link set table is (3 of 1024) 1% full.

    ;
```

rtrv-ls:lsn=lsi

```
    tekelecstp 03-12-05 01:33:29 EST  EAGLE 31.6.0
                                    L3T SLT              GWS GWS GWS
    LSN         APCI    (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    lsi         4-004-4        none  1   2   no  A   0   off off off ---   off

                CLLI       TFATCABMLQ MTPRSE ASL8 SLSOCBIT SLSRSB MULTGC
                ----------- 1          ---    ---  none     1      no

                ITUTFR GSMSCRN IPGWAPC
                off    on      no

                               L2T         L1                  PCR  PCR
                LOC  PORT SLC TYPE   SET  BPS    MODE TSET ECM  N1   N2

                               LP          ATM                 PCR  PCR
                LOC  PORT SLC TYPE   SET  BPS     TSEL     VCI     VPI   LL

                               LP          ATM                     E1ATM
                LOC  PORT SLC TYPE   SET BPS     TSEL     VCI   VPI  CRC4 SI SN

                LOC  PORT SLC TYPE   IPLIML2

                LOC  PORT SLC TYPE

                               L2T              PCR  PCR  E1   E1
                LOC  PORT SLC TYPE   SET  BPS    ECM  N1   N2   LOC  PORT TS

                               L2T              PCR  PCR  T1   T1
                LOC  PORT SLC TYPE   SET  BPS    ECM  N1   N2   LOC  PORT TS


    Link set table is (3 of 1024) 1% full.
;
```

Legend

LSN—The name of the linkset.

APC/APCI/APCN/APCN24—The adjacent DPC of the linkset.

SCRN—The screen set assigned to the linkset.

L3TSET—The level 3 timer set value assigned to the linkset.

SLTSET—The SLTM record associated with the linkset.

BEI—The broadcast exception indicator. This field indicates whether TFP (transfer prohibited) messages are allowed to be broadcast on the linkset.

LST—The type of links in the linkset (access links, bridge links, etc.).

LNKS—The number of links in the linkset.

GWSA—Shows whether gateway screening is used on the specified linkset.

GWSM—Shows whether the display of messages generated for each screened message is turned on or off.

GWSD—Shows whether the gateway screening message discard function is turned on or off.

SLSCI—Shows whether the 5-to-8-bit SLS conversion feature is to be used to select links for outgoing messages directed to the given linkset.

NIS—Shows whether the Network Indicator Spare option is on or off for the specified linkset.

CLLI—The far end Common Language Location Identifier (CLLI).

TFATCABMLQ—Displays the minimum number of links in the given linkset (or in the combined linkset in which it resides) that must be available to user-part messages traffic in order for the STP to consider the first-choice ordered routes using that linkset as allowed rather than restricted.

MTPRSE—Shows whether the adjacent node is equipped with MTP restart.

ASL8—Shows whether the adjacent node is sending MSUs with 8-bit SLSs.

MULTGC—Shows whether multiple group codes are allowed.

IPGWAPC—Shows whether the adjacent point code is an IP gateway adjacent point code.

LOC—The location of the card containing the signaling links that make up the linkset.

PORT—The port on the card containing the signaling link.

SLSOCBIT—The setting of the Other CIC (Circuit Identification Code) Bit.

SLSRSB—The setting of the Rotated SLS (Signaling Link Selection) Bit.

GSMSCRN—Shows whether the GSM MAP screening indicator is turned on or off.

ITUTFR—Shows whether the ITU TFR procedure indicator is turned on or off.

L2TSET—The level 2 timer set value associated with the signaling link.

SLC—The signaling link code of the signaling link.

TYPE—The type of card.

BPS—The transmission rate for the link in bits per second.

L1MODE—The mode of operation used to select the link clocking source at layer 1.

TSET—An indicator of whether the transmitter signal element timing is on or off.

E1PORT—The E1 port for which the E1 interface is defined that services the link.

E1LOC—The card location of the E1 card with the E1 interface that services the link.

T1PORT—The T1 port for which the T1 interface is defined that services the link.

T1LOC—The card location of the T1 card with the T1 interface that services the link.

TS—The timeslot assigned to the link that is serviced by the E1 or T1 interface.

E1ATMCRC4—The indicator of whether CRC4 multi-frame structure is enabled or disabled.

E1ATMSI—Value of two Spare International bits of NFAS data.

E1ATMSN—Value of five Spare National bits of NFAS data.

chg/rtrv-feat

Use the chg-feat command to activate the optional features available on the system.

You must purchase a feature before you turn the feature on. If you are not sure whether you have purchased a feature, contact your Tekelec Sales Representative or Account Representative.

⚠ **CAUTION: The features are off when you install the system, Once they are turned on with this cmmand, you cannot turn them off.**

Use the rtrv-feat command to show the status of optional features in the system that are controlled with the **chg-feat** command.

> **NOTE: The GSM Map Screening (GSMSCRN) feature bit parameter was removed from this command. It has been converted to the GMS controlled feature. See the enable-ctrl-feat command.**

Output

CAUTION: The following output example may differ from the output shown at your terminal and may include unsupported features. A feature must be purchased before you turn the feature on. If you are not sure whether you have purchased a feature, contact your Tekelec Sales Representative or Account Representative. Once you turn on a feature with the chg-feat command, you cannot turn it off.

rtrv-feat

```
rlghncxa03w 04-01-28 11:34:04 EST  EAGLE 31.6.0.
EAGLE FEATURE LIST

GTT      = on     GWS      = off     NRT      = off
X25G     = off    LAN      = off     CRMD     = off
SEAS     = off    LFS      = off     MTPRS    = off
FAN      = off    DSTN5000 = off     WNP      = off
CNCF     = off    TLNP     = off     SCCPCNV  = off
TCAPCNV  = off    IPISUP   = off     DYNRTK   = off
X252000  = off    INP      = off     PLNP     = off
NCR      = off    ITUMTPRS = off     SLSOCB   = off
EGTT     = off    VGTT     = off     MGTT     = off
MPC      = off    ITUDUPPC = off     GFLEX    = off
GPORT    = off    MEASPLAT = off     TSCSYNC  = off
E5IS     = off
;
```

Legend

GTT—The Global Title Translation feature

GWS—The Gateway Screening feature

NRT—Network Routing feature

X25G—The X.25/SS7 Gateway feature

LAN—The STP LAN feature

CRMD—The Cluster Routing and Management Diversity feature

SEAS—The Signaling Engineering Administration System feature

LFS—The Link Fault Sectionalization feature

MTPRS—The ANSI MTP Restart feature

FAN—The Cooling Fan feature

DSTN5000—The DSTN5000 (5000 Routes) feature

WNP—The Wireless Number Portability feature

CNCF—The Calling Name Conversion Facility with Redirect Capability feature

TLNP—The Triggerless Local Number Portability feature

IPISUP—The ISUP Routing over IP feature

DYNRTK—The Dynamic Routing Key feature

SCCPCNV—The SCCP Conversion feature

TCAPCNV—The TCAP Conversion feature

GFLEX—The GSM Flexible Numbering feature

X252000—The 2000 X.25 Routes and Destinations feature

PLNP—The PCS 1900 Number Portability feature

NCR—The Nested Cluster Routing feature

ITUMTPRS—ITU MTP Restart feature

SLSOCB—Other CIC Bit Used feature

EGTT—The Enhanced Global Title Translation feature

VGTT—Variable Length GTT feature

MGTT—The Global Title Modifications feature

MPC—The Multiple Point Code feature

INP—The INAP Number Portability feature

ITUDUPPC—The ITU National Duplicate Point Code feature

GPORT—The GSM Mobile Number Portability feature

TSCSYNC—The Time Slot Counter Synchronization (TSC) feature

E5IS—The Eagle Support for Integrated Sentinel feature

MEASPLAT—The Measurements Platform feature

ent-card

Use this command to add a card to the database. The card type and application specifies the function assigned to the card.

rept-meas

Use this command to generate measurement reports on demand. The reports display on the UI terminal, and are not transferred to the customer FTP server when the Measurements Platform feature is enabled.

ITU gateway measurements are done for **stp** and, on a per-linkset basis, for **lnkset**, **lsonismt**, **lsdestni**, and **lsorigni** entity types.

> NOTE: Enhanced GSM Map Screening measurements are not supported
> with the rept-meas command.

ent/chg/dlt/rtrv-gsmmap-scrn

Use the ent-gsmmap-scrn command to assign the GSM (Global System for Mobile Telecommunication) MAP (Mobile Application Part) screening entries that filter or allow TCAP messages for certain MAP operation codes. The messages are filtered or allowed based on CgPA GTA+NPV+NAIV, CdPA GTA+NPV+NAIV, and forbidden (**forbid**) parameters. Each CgPA entry is associated with one or more CdPA entries and one or more CgPA entries are associated with a MAP Opcode. This command provisions both CgPA and CdPA entries into the database.

Use the chg-gsmmap-scrn command to change the attributes (**nforbid** and **naction**) of the GSM (Global System for Mobile Telecommunication) MAP (Mobile Application Part) screening entries that filter or allow TCAP messages for certain MAP operation codes. The SCCP messages contain MAP operation codes, origination addresses, numbering plan values, nature of address indicator values, and forbidden parameters.

Use the chg-gsmmap-scrn command to change the attributes (**nforbid**, **npc/npca/npci/npcn/npcn24**, **nssn**, **ncgsr**, **ncdsr**, and **naction**) of GSM Map Screening CgPA and CdPA entries that are used to filter out or allow SCCP messages containing Map Op-Codes, CgPA GTA+NPV+NAIV, CdPA GTA+NPV+NAIV, and forbidden parameters.

Use the dlt-gsmmap-scrn command to delete the GSM Map Screening CgPA and CdPA entries that are used to filter out or allow SCCP messages containing Map Op-Codes, CGPA GTA+NPV+NAIV, CDPA GTA+NPV+NAIV, and forbidden parameters.

Use the rtrv-gsmmap-scrn command to retrieve the GSM (Global System for Mobile Telecommunication) MAP (Mobile Application Part) Screening CgPA and CdPA entries and their attributes from the active Eagle database.

Parameters

:cgsr= (mandatory)
CgPA Screening Reference.
Range: 1 alphabetic character followed by up to 3 optional alphanumeric characters

:cdsr= (optional)
CdPA Screening Reference.
Range: 1 alphabetic character followed by up to 3 optional alphanumeric characters

:ncdsr= (optional)

The new CDPA Screening Reference.

Range: 1 alphabetic character followed by up to 3 optional alphanumeric characters

:ncgsr= (optional)

The new CGPA Screening Reference.

Range: 1 alphabetic character followed by up to 3 optional alphanumeric characters

:nnpv= (optional)

The new numbering plan value for the address or range of addresses. If a message is screened and does not contain matching **npv** and **naiv** values, the message is rejected. The message is rejected with the default action defined via the **ent-gsms-opcode** command for the operation code (**opcode**) parameter entry referenced by the operation name (**opname**) parameter.

Range: **0–15**

Default: Null

:npc/npca/npci/npcn/npcn24= (optional)

New ITU point code. The **npc/npca/npci ⁄ npcn ⁄ npcn24** and **nssn** parameters are used when the new screening action (**naction**) is **forward**, **duplicate**, or **dupdisc** (duplicate and discard). These parameters allow the craftsperson to change the defined node to which the input message will be routed.

:npc or :npca= (optional)

ANSI point code in the form of *network indicator-network cluster-network cluster member* (*ni-nc-ncm*).

Range: When **chg-sid:pctype=ansi** is specified.

      ni—**001–255**

      nc—**001–255** (if *ni* = **001–005**)

        —**000–255** (if *ni* = **006–255**)

      ncm—**000–255**

      The point code **0-0-0** is not a valid point code.

Range: (When **chg-sid:pctype=other** is specified:

      ni—**000–255**

      nc—**000–255**

      ncm—**000–255**

      The point code **0-0-0** is not a valid point code.

:opname= (mandatory)

The user-defined name for the operation code. The **opname** value references the operation code (**opcode**) defined with the **ent-gsms-opcode** command. GSM Map Screening is performed on the specified address or addresses for the referenced operation code.

:eaddr= (optional)

The ending origination address to be screened.

In association with **npv**, **naiv**, and **cgsr**, it is for the ending CGPA address in the range to be screened.

In association with **npv**, **naiv**, and **cdsr**, it is for the ending CDPA address in the range to be soreened.

Range: 1–15 hexadecimal digits of values **0–9**, **a-f**, **A-F**

:saddr= (optional if EGMS is on; mandatory if EGMS is off)

The starting origination address.

In association with **npv**, **naiv**, and **cgsr**, it is for the single CGPA entry or the starting CGPA address in the range to be screened.

In association with **npv**, **naiv**, and **cdsr**, it is for the single CDPA entry or the starting CDPAaddress in the range to be soreened.

Range: 1–15 hexadecimal digits of values **0–9**, **a-f**, **A-F**; or *

Default: *

:naiv= (optional; must be specified together with **npv**)

Nature of Address value for the address or range of CgPA and CdPA addresses. If a message is screened and does not contain matching **npv** and **naiv** values, the message is rejected. The message is rejected with the default action defined by the **ent-gsms-opcode** command for the operation code (**opcode**) parameter entry referenced by the operation name (**opname**) parameter.

Range: 0–127, *

Default: *

:npv= (optional must be specified together with **naiv**)

Numbering Plan value for the address or range of CgPA and CdPA addresses. If a message is screened and does not contain matching **npv** and **naiv** values, the message is rejected. The message is rejected with the default action defined by the **ent-gsms-opcode** command for the operation code (**opcode**) parameter entry referenced by the operation name (**opname**) parameter.

Range: 0–15, *

Default: *

Output

ent-gsmmap-scrn:saddr=123deed:opname=xyz:npv=9:naiv=9:cdsr=fall:cgsr=fela

```
    rlghncxa03w 04-02-29 08:50:12 EST  EAGLE 31.6.0
    GSM Map Screening table is (2 of 4000) 1% full
    ENT-GSMMAP-SCRN: MASP A – COMPLTD
;
```

ent-gsmmap-scrn:saddr=123deed:opname=xyz:npv=9:naiv=9:cdsr=fall

```
    rlghncxa03w 04-02-29 08:50:12 EST  EAGLE 31.6.0
    GSM Map Screening table is (2 of 4000) 1% full
    ENT-GSMMAP-SCRN: MASP A – COMPLTD
;
```

ent-gsmmap-scrn:saddr=abcdefabcdefabc:eaddr=abcdefabcdefabd:opname=xyz :npv=10:naiv=10:cgsr=fela:action=discard

```
    rlghncxa03w 04-02-29 08:50:12 EST  EAGLE 31.6.0
    GSM Map Screening table is (1 of 4000) 1% full
    ENT-GSMMAP-SCRN: MASP A – COMPLTD
```

NOTE: **GSM MAP Screening commands are separated by single entries and range entries; therefore, single entries and range entries are output in separate sections of the retrieval report. All single entries are output first in a summary report and then all range entries follow.**

rtrv-gsmmap-scrn:opname=ati

```
rlghncxa03w 00-10-20 09:07:58 EST  EAGLE 31.6.0

Single Entries
--------------
SADDR           NPV  NAIV  OPNAME    FORBID    ACTION


Range Entries
--------------
SADDR           EADDR           NPV  NAIV  OPNAME    FORBID    ACTION

No matching entries with the specified criteria found.

GSM Map Screening table is (1500 of 2000) 75% full
RTRV-GSMMAP-SCRN: MASP A - COMPLTD


;
```

rtrv-gsmmap-scrn:opname=ati

```
rlghncxa03w 00-10-20 09:07:58 EST  EAGLE 31.6.0

Single Entries
--------------
SADDR           NPV  NAIV OPNAME    FORBID    ACTION
919462000000005 01   000  atireqst  location  atierr

Range Entries
--------------
SADDR           EADDR           NPV  NAIV  OPNAME    FORBID    ACTION
919461888888888 919461888888888 04   001   atireqst  location  atierr
919462000000000 919463000000000 --   ---   atireqst  location  atierr



GSM Map Screening table is (1500 of 2000) 75% full
RTRV-GSMMAP-SCRN: MASP A - COMPLTD


;
```

The following example shows output when the GSM MAP Screening Forward/Duplicate
feature is enabled.

rtrv-gsmmap-scrn:opname=atireqst

```
rlghncxa03w 00-10-20 09:07:58 EST  EAGLE 31.6.0

Single Entries for OPNAME: atireqst
----------------------------------
SADDR            NPV  NAIV FORBID  ACTION  PCI          SSN
919462000000005  01   000  locat   dupl    128-10-6-1-ab 5

Range Entries for OPNAME: atireqst
----------------------------------

SADDR            EADDR            NPV  NAIV  FORBID  ACTION  PCI          SSN
919461888888888  919461888888888  04   001   locat   dupl    128-10-6-1-ab 5
919462000000000  919463000000000  --   ---   locat   atierr  ---          ---


GSM Map Screening table is (1500 of 2000) 75% full
RTRV-GSMMAP-SCRN: MASP A - COMPLTD
;
```

rtrv-gsmmap-scrn:opname=ati

```
    tekelecstp 03-04-07 11:51:50 EST  EAGLE 31.6.0
      Single Entries for OPNAME: ati
      ----------------------------------
      SADDR            NPV  NAIV  FORBID  ACTION  PCI/PCN/PCN24  SSN
      919833          --   ---   all     disc    ------------   ---

      Range Entries for OPNAME: ati
      ----------------------------------
      SADDR            EADDR            NPV NAIV FORBID ACTION PCI/PCN/PCN24 SSN

      GSM MAP Screening Table (1 of 2000) is 1% full
;
```

rtrv-gsmmap-scrn:opname=xyz

```
tekelecstp 03-10-30 10:33:28 EST  EAGLE 31.6.0

Single CgPA Entries for OPNAME: xyz
-----------------------------------
SADDR           NPV NAIV FORBID ACTION PCA         SSN CGSR

SADDR           NPV NAIV FORBID ACTION PCI         SSN CGSR

SADDR           NPV NAIV FORBID ACTION PCN         SSN CGSR
*               3   20   all    dup    1234        100 fal1

SADDR           NPV NAIV FORBID ACTION PCN24       SSN CGSR

SADDR           NPV NAIV FORBID ACTION CGSR
abcdefabcdefabc *   *    all    disc   cal3
*               2   20   all    disc   fal2


Range CgPA Entries for OPNAME: xyz
-----------------------------------
SADDR           EADDR           NPV NAIV FORBID ACTION PCA         SSN CGSR
123456789012345 234567890123456 3   40   all    fwd    001-001-001 200 fela
123456789012345 234567890123456 5   60   all    fwd    001-001-001 200 fell

SADDR           EADDR           NPV NAIV FORBID ACTION PCI         SSN CGSR

SADDR           EADDR           NPV NAIV FORBID ACTION PCN         SSN CGSR

SADDR           EADDR           NPV NAIV FORBID ACTION PCN24       SSN CGSR

SADDR           EADDR           NPV NAIV FORBID ACTION CGSR


GSM MAP Screening Table (10 of 4000) is 1% full
;
```

rtrv-gsmmap-scrn:opname=xyz:cgsr=fela

```
tekelecstp 03-10-30 10:33:28 EST  EAGLE 31.6.0
rtrv-gsmmap-scrn:opname=xyz:cgsr=fela
Command entered at terminal #4.

Single CdPA Entries for OPNAME: xyz  CGSR: FELA
-----------------------------------------------
    SADDR           NPV NAIV FORBID ACTION PCA         SSN CDSR

    SADDR           NPV NAIV FORBID ACTION PCI         SSN CDSR

    SADDR           NPV NAIV FORBID ACTION PCN         SSN CDSR

    SADDR           NPV NAIV FORBID ACTION PCN24       SSN CDSR

    SADDR           NPV NAIV FORBID ACTION CDSR
    123deed         *   *    all    disc   sr01
    *               15  29   all    disc   cal4
    *               11  20   all    disc   cal5
```

```
    Range CdPA Entries for OPNAME: xyz  CGSR: FELA
    ----------------------------------------------
    SADDR          EADDR          NPV NAIV FORBID ACTION PCA        SSN CDSR
    123456789012345 234567890123456 5  60   all    fwd    001-001-001 201 cal2
    123456789012345 234567890123456 7  80   all    fwd    001-001-001 202 cal3

    SADDR          EADDR          NPV NAIV FORBID ACTION PCI        SSN CDSR

    SADDR          EADDR          NPV NAIV FORBID ACTION PCN        SSN CDSR

    SADDR          EADDR          NPV NAIV FORBID ACTION PCN24      SSN CDSR

    SADDR          EADDR          NPV NAIV FORBID ACTION CDSR

    GSM MAP Screening Table (10 of 4000) is 1% full
;
```

Legend

SINGLE ENTRIES/RANGE ENTRIES—GSM MAP screening commands have two separate tables for single and range entries; therefore, single entries and range entries are output in separate sections of the retrieval report. All single entries are output first during a summary report and then all range entries follow.

CGPA—Calling Party Address entry

CDPA—Called Party Address entry

OPNAME—User-defined MAP operation code name.

SADDR—Start origination address.

EADDR—End origination address. This column is displayed for range entries only.

NPV—Numbering plan value.

NAIV—Nature of address indicator value.

FORBID—Indicates a forbidden parameter for the entered address. If a forbidden parameter is detected the message is rejected by the action defined by the **action** parameter. (Some values are abbreviated; for example, `locat` means **location**.)

ACTION—Screening action, if forbidden. Possible actions are pass, discard (disc), atierr, route, forward, duplicate (dupl), and dupdisc.

PC/PCA—ANSI Point Code

PCI—ITU International Point Code

PCN—ITU National Point Code

PCN24—24-bit ITU National Point Code

SSN—Subsystem Number

CGSR—CgPA Screening Reference

CDSR—CdPA Screening Reference

ent/chg/dlt/rtrv-gsms-opcode

Use the ent-gsms-opcode command to assign the concerned GSM (Global System for Mobile Telecommunication) MAP (mobile application part) screening operation codes and the default screening action for the operation code. This command allows the craftsperson to provision a list of all operation codes that the Eagle uses in performing GSM screening.

Use the chg-gsms-opcode command to change the attributes of the GSM (Global System for Mobile Telecommunication) MAP (mobile application part) screening operation codes. The command allows you to change the default screening action and the operation-code name for a specific operation code.

Use the dlt-gsms-opcode command to delete GSM (Global System for Mobile Telecommunication) MAP (Mobile Application Part) screening operation codes and the default screening action for that operation code.

Use the rtrv-gsms-opcode command to retrieve the concerned GSM (Global System for Mobile Telecommunication) MAP (mobile application part) screening operation codes and the default screening action for the operation code. This command allows the craftsperson to verify a list of all operation codes or a single operation code that the Eagle uses in performing GSM Map Screening.

Parameters

:npc or :npca=   (optional)

ANSI point code in the form of *network indicator-network cluster-network cluster member* (*ni-nc-ncm*).

Range: When **chg-sid:pctype=ansi** is specified.

      ni—**001–255**

      nc—**001–255** (if *ni* = **001–005**)

        —**000–255** (if *ni* = **006–255**)

      ncm—**000–255**

      The point code **0-0-0** is not a valid point code.

Range: (When **chg-sid:pctype=other** is specified:

      ni—**000–255**

      nc—**000–255**

      ncm—**000–255**

      The point code **0-0-0** is not a valid point code.

:opcode=   (mandatory)

MAP operation code. This parameter refers to the actual decimal value of the MAP operation codes from the TCAP layer of GSM MAP messages.

Range: **0–255, ***

      If a decimal Map Opcode is not found in the database, then the asterisk (wildcard *), if provisioned, will constitute a match when screening the MSUs.

:opcode=   (optional for rtrv-gs,s-opcode)

MAP operation code.

Range: **0–255, ***

Default: Display all MAP operation codes

:pc/pca/pci/pcn/pcn24= (optional)

Point code. The **pc/pca/pci∕ncn/pcn24** and **ssn** parameters are used when the default screening action (**dfltact**) is **forward**, **duplicate** or **dupdisc** (duplicate and discard). These parameters allow the craftsperson to change the defined node to which the input message will be routed.

:pc or :pca= (optional)

ANSI point code in the form of *network indicator-network cluster-network cluster member* (*ni-nc-ncm*).

Range: When **chg-sid:pctype=ansi** is specified.

        ni—**001–255**

        nc—**001–255** (if *ni* = **001–005**)

          —**000–255** (if *ni* = **006–255**)

        ncm—**000–255**

        The point code **0-0-0** is not a valid point code.

Range: (When **chg-sid:pctype=other** is specified:

        ni—**000–255**

        nc—**000–255**

        ncm—**000–255**

        The point code **0-0-0** is not a valid point code.

Output

rtrv-gsms-opcode

```
rlghncxa03w 04-02-10 11:43:04 EST  EAGLE 31.4.0
OPCODE  OPNAME     DFLTACT     PCA           SSN
*       xyz        duplicate   009-009-009   3

OPCODE  OPNAME     DFLTACT     PCI           SSN

OPCODE  OPNAME     DFLTACT     PCN           SSN

OPCODE  OPNAME     DFLTACT     PCN24         SSN

OPCODE  OPNAME     DFLTACT

GSMMS OPCODE Table (1 of 257) is 1% full
OPCODE  OPNAME     DFLTACT
22      SRI        DISCARD
71      ATI        ATIERR

GSM Map Op-Code Table is (2 of 256257) 1% full
RTRV-GSMS-OPCODE: MASP A - COMPLTD
;
```

rtrv-gsms-opcode:opname=ati

```
rlghncxa03w 03-03-10 11:43:04 EST  EAGLE 31.4.0
OPCODE  OPNAME     DFLTACT
71      ati        atierr

GSM Map Op-Code Table is (1 of 256257) 1% full
RTRV-GSMS-OPCODE: MASP A - COMPLTD
```

dlt/rtrv-gsmssn-scrn

Use the dlt-gsmssn-scrn command to delete an SSN (subsystem number) from the GSM (Global System for Mobile Telecommunication) SSN screening table.

Use the rtrv-gsmssn-scrn command to retrieve all or single subsystem numbers in the GSM SSN screening table.

chg/enable/rtrv-ctrl-feat

Use the chg-ctrl-feat command for controlled features that have been purchased and enabled with the **enable-ctrl-feat** command. to:

- Turn on or turn off On/Off features

- Turn on Permanently On features (they cannot be turned off once they have been turned on)

Use the chg-ctrl-feat command when the **Eagle** station shows an expired temporary key and the administrator wants to clear the CRITICAL system error without purchasing a permanent Feature Access Key.

Use the enable-ctrl-feat command to enable a controlled feature that the customer has purchased.

NOTE: The "LNP (Local Number Portability) feature" is turned on when the LNP ported TNs quantity is greater than 0 in the rtrv-ctrl-feat command output. An LNP ported TNs quantity feature access key has been enabled and turned on.

Use the rtrv-ctrl-feat command to retrieve the status of feature access key controlled features that are purchased and enabled in the system.

Output

NOTE: The following output examples will differ from the output shown at your terminal and might include features that are not supported in your system. A feature must be purchased before you can enable the feature and turn the feature on. If you are not sure whether you have purchased a feature, contact your Tekelec Sales Representative or Account Representative.

If a Part Number (**partnum** parameter) is entered that belongs to a feature associated with quantity, the output will show which quantity is currently enabled on the system, even if the specified Part Number is for a different quantity. The output will also include the temporary enabled information, if applicable.

rtrv-ctrl-feat

```
    rlghncxa03w 03-07-29 16:40:40 EST  EAGLE5 31.6.0
    The following features have been permanently enabled:
    Feature Name              Partnum    Status  Quantity
    IPGWx Signalling TPS      893012805  on         2000
    TPS                       893000110  on         1000
    ISUP Normalization        893000201  on         ----
    Command Class Management  893005801  on         ----
    LNP Short Message Service 893006601  on         ----
    Prepaid SMS Intercept Ph1 893006701  on         ----
    Intermed GTT Load Sharing 893006901  on         ----
    G-Port Circ Route Prevent 893007001  on         ----
```

```
      XGTT Table Expansion     893006101  on       400000
      XMAP Table Expansion     893007710  on         3000
      Large System # Links     893005910  on         1500
      Routesets                893006401  on         6000
      Telnet                   893005701  off        ----
      EAGLE5 Product           893007101  on         ----
      EAGLE Product            893007201  off        ----
      IP7 Product              893007301  off        ----
      Network Security Enhance 893009101  off        ----
      Telnet                   893005701  on         ----
      Port Chk for MO SMS      893009301  on         ----
      LNP ELAP Configuration   893010901  on         ----
      LNP ported TNs           893011012  on     96000000
      LNP ported LRNs          893010501  on       150000
      LNP ported NPANXXs       893009402  on       300000
      15 Minute Measurements   893012101  off        ----
      EIR                      893012301  on         ----
      EAGLE OA&M IP Security   893400001  off        ----
      SCCP Conversion          893012001  on         ----
      GSM Map Screening (GMS)  893013201  on         ----
      Enhanced GMS (EGMS)      893012401  on         ----
```

rtrv-ctrl-feat:enable=perm

```
    rlghncxa03w 03-07-29 16:40:40 EST  EAGLE 31.6.0
    The following features have been permanently enabled:
    Feature Name             Partnum    Status  Quantity
    IPGWx Signalling TPS     893012805  on         2000
    TPS                      893000110  on         1000
    ISUP Normalization       893000201  on         ----
    Command Class Management  893005801  on         ----
    LNP Short Message Service 893006601  on         ----
    Prepaid SMS Intercept Ph1 893006701  on         ----
    Intermed GTT Load Sharing 893006901  on         ----
    G-Port Circ Route Prevent 893007001  on         ----
    XGTT Table Expansion     893006101  on       400000
    XMAP Table Expansion     893007710  on         3000
    Large System # Links     893005910  on         1500
    Routesets                893006401  on         6000
    EAGLE5 Product           893007101  off        ----
    EAGLE Product            893007201  on         ----
    IP7 Product              893007301  on         ----
    Network Security Enhance 893009101  on         ----
    Telnet                   893005701  on         ----
    Port Chk for MO SMS      893009301  on         ----
    LNP ELAP Configuration   893010901  on         ----
    LNP ported TNs           893011012  on     96000000
    LNP ported LRNs          893010501  on       150000
    LNP ported NPANXXs       893009402  on       300000
    15 Minute Measurements   893012101  off        ----
    EIR                      893012301  on         ----
    EAGLE OA&M IP Security   893400001  off        ----
    SCCP Conversion          893012001  on         ----
    GSM Map Screening (GMS)  893013201  on         ----
    Enhanced GMS (EGMS)      893012401  on         ----
```

Eagle Alarm Modifications for Synchronization with Harris

Description

There is an issue between the Harris monitoring system and the alarm generation/clearing shown by the Eagle. There are multiple instances where the Eagle will either silently clear an alarm, or silently refresh an alarm to a different alarm. Since the Harris system is relying on the Eagle output to set or clear alarms on Eagle devices, the two systems alarming counts are frequently out of sync.

Element Management System Alarm Monitor (EMSALM) Terminals

EMSALM terminals display UAM alarm set and clear messages and the UIM 1083 "system alive" messages only. No other messages (including reports and other UIMs) are displayed. EMSALM terminals are designed to display alarm messages only. EMSALM terminals are not restricted in any other way. They can accept login, and commands; however these operations may interfere with alarm monitoring and should be performed on an alternate terminal.

Serial port terminal IDs 1-16 can be assigned as EMSALM terminals. These EMSALM terminals are a refinement of the KSR terminal, and contain all the KSR terminal communication parameters.

Telnet terminal IDs 17-40 can be assigned as EMSALM terminals when the IP User Interface feature is enabled and turned on and up to 3 IPSM cards are equipped in the system. These EMSALM terminals have all of the functions of a telnet type terminal.

When the **chg-trm** command is entered to change a terminal to the EMSALM type, all output group parameter values for that terminal default to YES, even if they were set to NO before the change. Individual output group values can be changed to NO by entering another **chg-trm** command for that terminal (do this only with caution; it can cause loss of alarm messages at the EMSALM terminal).

When the **chg-trm** command is entered to change a terminal from type EMSALM to another type, the output group values remain unchanged. A **chg-trm** command can be entered to change output group settings.

Highlights

The changes that will be addressed within this release are:

- All clearing alarms are now directed to the same output group as the corresponding setting alarm.

- Unless another alarm is to immediately replace the alarm being cleared, alarms that were cleared silently using a valid clearing alarm now use those same clearing alarms with output. (Does not apply to signaling link alarms)

- Unless another alarm is to immediately replace the alarm being cleared, replace all instances of silently clearing an alarm with an invalid or inappropriate clearing alarm to instead use the generic clearing alarm with output. (Does not apply to signaling link alarms)

- Add an alarm severity indication to the Alarm Inhibit UAMs, so the element management system knows which level alarms for a device are inhibited. Currently there are only two alarms which indicate TEMPorary or PERManent alarm inhibits for a device, but fail to indicate at what level alarms are inhibited. The format will be enhanced to show the alarm level which is being inhibited.

- Add an application of MDAL to the MDAL card alarms, and TDM to TDM card alarms. Since there isn't an application GPL tied to these cards, the application GPL field of the card format was empty, now for MDAL and TDM cards it will indicate the card type.

- Modify the SEAS "X25 Link" device UAM formats to output "X25-Link", this will help the Harris element management system identify the SEAS X25 link alarms.

- Modify the UAM generator to correctly output the HS clock system alarms in their appropriate format. This is an internal test tool, that was incorrect for these alarms.

- The addition of a new terminal type (EMSALM) for monitoring Alarms and the system alive message.

Hardware Requirements

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

chg/rtrv-trm

Use the chg-trm command to configure the operational characteristics of each of the 40 terminal ports used to connect modems, printers, and terminals to the Eagle.

Use rtrv-trm command to show the port configuration for all TDM terminals or a specified terminal. These ports are used to connect modems, printers, and terminals to the system. This command displays the following information: device type, data transmission rate, parity, type of flow control used, number of stop bits, number of data bits, and the type of unsolicited messages to be received.

Parameters

:all= (optional)
Specifies whether you want to see unsolicited messages of all types (TRAF, LINK, SA, DB, SYS, PU, LNPDB, LNPSUB, UIMRD, APPSERV, APPSS, CARD, CLK, DBG, GTT, GWS, MEAS, MON, MPS, SEAS, SLAN) in the scroll area.

Range: **yes, no**
       yes—Receive all.
       no—Receive none.
Default: **yes**—If **type=emsalm** is specified

Current value—if **type** parameter value is not **emsalm**

:appserv= (optional)
Specifies whether you want to see UAMs/UIMs assigned to the Application Server output group in the scroll area.
Range: **yes, no**
> **yes**—Receive all.
> **no**—Receive none.
Default: If **all** is specified—current **all** value
> If **all** is not specified—current **appserv** value.
> If **type=emsalm** is specified—**yes**
> System Default: **no**

:appss= (optional)
Specifies whether you want to see UAMs/UIMs assigned to the Application Subsystem output group in the scroll area
Range: **yes, no**
> yes—Receive all.
> no—Receive none.
Default: If **all** is specified—current **all** value
> If **all** is not specified—current **appss** value.
> If **type=emsalm** is specified—**yes**
> System Default: **no**

:card= (optional)
Specifies whether you want to see UAMs/UIMs assigned to the Card output group in the scroll area.
Range= **yes, no**
> yes—Receive all.
> no—Receive none.
Default: If **all** is specified—current **all** value
> If **all** is not specified—current **card** value.
> If **type=emsalm** is specified—**yes**
> System Default: **no**

:clk= (optional)
Specifies whether you want to see UAMs/UIMs assigned to the Clock output group in the scroll area.
Range: **yes, no**
> yes—Receive all.
> no—Receive none.
Default: If **all** is specified—current **all** value
> If **all** is not specified—current **clk** value.
> If **type=emsalm** is specified—**yes**
> System Default: **no**

:db= (optional)
Specifies whether you want to see database-related unsolicited messages in the scroll area.

Range: **yes, no**
        yes—Receive all.
        no—Receive none.
Default: If **all** is specified—current **all** value
        If **all** is not specified—current **db** value.
        If **type=emsalm** is specified—**yes**
        System Default: **no**

:dbg= (optional)
Specifies whether you want to see UAMs/UIMs assigned to the Debug output group in the scroll area.
Range: **yes, no**
        yes—Receive all.
        no—Receive none.
Default: If **all** is specified—current **all** value
        If **all** is not specified—current **dbg** value.
        If **type=emsalm** is specified—**yes**
        System Default: **no**

:gtt= (optional)
Specifies whether you want to see UAMs/UIMs assigned to the GTT output group in the scroll area.
Range: **yes, no**
        yes—Receive all.
        no—Receive none.
Default: If **all** is specified—current **all** value
        If **all** is not specified—current **gtt** value.
        If **type=emsalm** is specified—**yes**
        System Default: **no**

:gws= (optional)
Specifies whether you want to see UAMs/UIMs assigned to the GWS output group in the scroll area.
Range: **yes, no**
        yes—Receive all.
        no—Receive none.
Default: If **all** is specified—current **all** value
        If **all** is not specified—current **gws** value.
        If **type=emsalm** is specified—**yes**
        System Default: **no**

:link=   (optional)
Specifies whether you want to see link maintenance-related unsolicited messages in the scroll area.
Range: **yes, no**
        yes—Receive all.
        no—Receive none.

    Default: If **all** is specified—current **all** value

                  If **all** is not specified—current **link** value.

                  If **type=emsalm** is specified—**yes**

                  System Default: **no**

:lnpdb= (optional)

LNP database. Specifies whether you want to see LNP database-related autonomous messages in the scroll area.

Range: **yes, no**

                  yes—Receive all.

                  no—Receive none.

Default: If **all** is specified—current **all** value

                  If **all** is not specified—current **lnpdb** value.

                  If **type=emsalm** is specified—**yes**

                  System Default: **no**

:lnpsub= (optional)

LNP subscription. Specifies whether you want to see LNP subscription-related autonomous messages in the scroll area.

Range: **yes, no**

                  yes—Receive all.

                  no—Receive none.

Default: If **all** is specified—current **all** value

                  If **all** is not specified—current **lnpsub** value.

                  If **type=emsalm** is specified—**yes**

                  System Default: **no**

:meas= (optional)

Specifies whether you want to see UAMs/UIMs assigned to the Measurements Maintenance output group in the scroll area.

Range: **yes, no**

                  yes—Receive all.

                  no—Receive none.

Default: If **all** is specified—current **all** value

                  If **all** is not specified—current **meas** value.

                  If **type=emsalm** is specified—**yes**

                  System Default: **no**

:mon= (optional)

Specifies whether you want to see UAMs/UIMs assigned to the Monitor output group in the scroll area.

Range: **yes, no**

                  yes—Receive all.

                  no—Receive none.

Default: If **all** is specified—current **all** value

                  If **all** is not specified—current **mon** value.

                  If **type=emsalm** is specified—**yes**

                  System Default: **no**

:mps= (optional)

Specifies whether you want to see UAMs/UIMs assigned to the MPS output group in the scroll area.

Range: **yes, no**

       yes—Receive all.

       no—Receive none.

Default: If **all** is specified—current **all** value

       If **all** is not specified—current **mps** value.

       If **type=emsalm** is specified—**yes**

       System Default: **no**

:pu= (optional)

Specifies whether you want to see program update-related unsolicited messages in the scroll area.

Range: **yes, no**

       yes—Receive all.

       no—Receive none.

Default: If **all** is specified—current **all** value

       If **all** is not specified—current **pu** value.

       If **type=emsalm** is specified—**yes**

       System Default: **no**

:sa= (optional)

Specifies whether you want to see security administration-related unsolicited messages in the scroll area.

Range: **yes, no**

       yes—Receive all.

       no—Receive none.

Default: If **all** is specified—current **all** value

       If **all** is not specified—current **sa** value.

       If **type=emsalm** is specified—**yes**

       System Default: **no**

:seas= (optional)

Specifies whether you want to see UAMs/UIMs assigned to the SEAS Maintenance output group in the scroll area.

Range: **yes, no**

       yes—Receive all.

       no—Receive none.

Default: If **all** is specified—current **all** value

       If **all** is not specified—current **seas** value.

       If **type=emsalm** is specified—**yes**

       System Default: **no**

:slan= (optional)

Specifies whether you want to see UAMs/UIMs assigned to the SLAN Maintenance output group in the scroll area.

Range: **yes, no**

   yes—Receive all.

   no—Receive none.

Default: If **all** is specified—current **all** value

   If **all** is not specified—current **slan** value.

   If **type=emsalm** is specified—**yes**

   System Default: **no**

:sys= (optional)

Specifies whether you want to see system maintenance-related unsolicited messages in the scroll area.

Range: **yes, no**

   yes—Receive all.

   no—Receive none.

Default: If **all** is specified—current **all** value

   If **all** is not specified—current **sys** value.

   If **type=emsalm** is specified—**yes**

   System Default: **no**

:traf= (optional)

Specifies whether you want to see traffic-related unsolicited messages displayed in the scroll area.

Range: **yes, no**

   yes—Receive all.

   no—Receive none.

Default: If **all** is specified—current **all** value

   If **all** is not specified—current **traf** value

   If **type=emsalm** is specified—**yes**

   System Default: **no**

:type= (optional)

The type of device being connected to this terminal.

Range: **vt320, ksr, oap, printer, sccs, mgmt, telnet, emsalm, none**

   The **type=emsalm** parameter value is valid for terminals 1-40.

   Only **telnet**, **emsalm**, and **none** are valid values for terminals 17 - 40.

Default: Current value.

   System Default: **v1320** for terminals 1 - 16

   System Default: **telnet** for terminals 17 -40

:uimrd= (optional)

Specifies whether you want to see the unsolicited messages assigned to this group.

Range: **yes, no**

   yes—Receive all.

   no—Receive none.

Default: If **all** is specified—current **all** value

   If **all** is not specified—current **uimrd** value.

   If **type=emsalm** is specified—**yes**

   System Default: **no**

Output

The following example shows the display of the terminal settings with an EMSALM type terminal on a serial terminal port. All output group settings default to YES when a terminal is set to type EMSALM.

rtrv-trm:trm=11

```
    rlghncxa03w  04-03-01 16:02:08 EST   EAGLE 31.6.0
    TRM    TYPE    COMM         FC    TMOUT MXINV DURAL
    11     EMSALM  9600 -7-E-1 SW     0     5       00:01:00


                                    LNP LNP
    TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
    11   YES  YES  YES YES YES YES YES YES  YES

         APP APP
    TRM  SRV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
    11   YES YES YES  YES YES YES YES YES  YES YES YES  YES
;
```

Legend

Part one of the **rtrv-trm** report contains these fields:

TRM—The TDM terminal port number associated with the output device.

TYPE—The type of output device that is connected.

COMM—This field is composed of four communication attributes in the format *baud-dbts-prty-sb.* The parts are:

BAUD—The serial port baud rate of the output device

DBTS—The number of data bits used by the output device

PRTY—The parity of the output device

SB—The number of stop bits used in communications with the output device

FC—The type of protocol used between the Eagle and the output devices.

TMOUT—Shows the maximum amount of time (in minutes) that a login session can remain idle.

MXINV—Shows the login/unlock failure threshold.

DURAL—Shows the length of time (in seconds, minutes, and hours) the terminal is disabled after each failed login/unlock attempt in excess of the threshold configured with the **mxinv** parameter.

Part two of the **rtrv-trm** report contains these fields:

TRM—The TDM terminal associated with the output device.

TRAF—Shows whether traffic-related unsolicited messages are received by the output device.

LINK—Shows whether link-related unsolicited messages are received by the output device.

SA—Shows whether security administration-related unsolicited messages are received by the output device.

SYS—Shows whether system maintenance-related unsolicited messages are received by the output device.

PU—Shows whether program update-related unsolicited messages are received by the output device.

DB—Shows whether database-related unsolicited messages are received by the output device.

UIMRD—Shows whether Unsolicited Information Messages (UIMs) specific to the group are received by the output device.

If the LNP feature is turned on, the following fields are displayed:

LNPDB—Shows whether LNP database-related unsolicited messages are received by the output device.

LNPSUB—Shows whether LNP subscription-related unsolicited messages are received by the output device.

Part three of the **rtrv**-**trm** report contains these fields:

APP SRV—Shows whether Application Server unsolicited messages are received by the output device.

APP SS—Shows whether Application Subsystem unsolicited messages are received by the output device.

CARD—Shows whether Card unsolicited messages are received by the output device.

CLK—Shows whether Clock unsolicited messages are received by the output device.

DBG—Shows whether Debug unsolicited messages are received by the output device.

GTT—Shows whether GTT unsolicited messages are received by the output device.

GWS—Shows whether GWS unsolicited messages are received by the output device.

MEAS—Shows whether Measurements Maintenance unsolicited messages are received by the output device.

MON—Shows whether Monitor unsolicited messages are received by the output device.

MPS—Shows whether MPS unsolicited messages are received by the output device.

SEAS—Shows whether SEAS Maintenance unsolicited messages are received by the output device.

SLAN—Shows whether STP LAN unsolicited messages are received by the output device.

EPAP RTDB Level Auto Refresh

This feature provides a configurable auto refresh rate for the viewPDBAStatus.cgi and viewRtdbStatus.cgi screens. Users are able to halt the refreshing without losing the information displayed on the screen at the time (for debugging or capturing data).

A new field is added to the Modify Defaults screen that takes a value of 0 or 5-600 seconds. This determines if (0 means no refreshing) the PDBA and RTDB View Status pages are refreshed and how often. On the screen, this value can be modified, but reloading the screen using the left-most menu links causes the system default to be changed. The system default applies to both screens.

EPAP PDB-RTDB Level Threshold

Currently, the amount of time used to determine if the RTDB is too slow on getting updates (alarm is raised) is configurable using the RTDB->Maintenance->Configure Record Delay menu. uiEdit or the cgi script interface can be used to change this value from the default value of 15 to any value between 1 and 300.

The mate PDBA is configurable via the new menu (PDBA->Maintenance->Configure PDBA Record Delay.) The PDBA threshold may also be changed (by development/cust service only) by using uiEdit to change the value of PDBA_MAX_STANDBY_DELAY - which is defaulted to 300.

EPAP Command Response Enhancement

This feature provides users of the PDBI with the ability to retrieve information about the status of the DSMs in their network. This information includes, but is not limited to, the database level of each card. The DSM database level is of specific importance because the customer can use it to determine when a specific update has made its way to most or all of the DSM cards.

This new information will be made available to PDBI clients through new asynchronous notifications and synchronous requests/responses. New WebUI screens that utilize the new PDBI messages are also created for displaying the DSM information.

In order to propagate the DSM information up from the DSM to being available through the PDBI, the DSM code as well as several processes in the EPAP are changed.

FTRA 2.2 Compatibility with Eagle 31.6

The FTRA Release 2.2 provides FTRA compatibility with Eagle 31.6. The following changes have been made in FTRA 2.2 to support features new to Release 31.6:

- ASM Obsolescence - Data field of card type "ASM" changed to "TSM" for rtrv-card.

- IPGWx TPS Control and System-wide IPGWx TPSñ New data fields MATELSN, IPTPS, LSUSEALM, SLKUSEALM added in rtrv-ls.

- Support G-Flex at 1700 TPS per DMS ñ New data field ANSIGFLEX added in rtrv-stpopts.

- TDM Global Timing Interface - New data fields HSCLKSRC and HSCLKLL added to support global timing interface in rtrv-stpopts.

EPAP with TPD 1.1

MPS now uses Tekelec Platform Distribution (TPD) Release 1.1, which offers the following improvements over TPD Release 1.0:

- An additional diagnostic service, `smartd`, has been added. The `smartd` service reads status information from the disk (produced according to the S.M.A.R.T. standard) and reports that status through the `syscheck` utility.

  The standard S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) technology is implemented into all modern hard disks. According to this standard, a special program inside the disk constantly tracks the condition of a number of the vital parameters, such as driver, disk heads, surface state, electronics, etc. At the present time, S.M.A.R.T. technology is able to predict up to 70% of all hard disk problems.

  The following errors are detected by the `smartd` service and are described in this manual.

  — 3000000000002000-Server Disk Health Test Error

  — 3000000000004000-Server Disk Unavailable Error

  — 5000000000000800-Server Disk Self Test Warning

- Various changes that make the platform easier for the EPAP application to use (these changes do not result in changes that are noticeable by the user).

Option for Turning on Class 1 Sequencing

Description

This feature addresses the problem where messages are sent as Class 1 even though they are not segmented or sequenced and the customer wants to be able to load share these messages among 8 GTT destinations.

The release 36.1.3 feature number 53481 "in-sequence delivery of Class 1 UDT messages," guarantees that Class 1 messages (both XUDT and UDT) are transmitted out of the Eagle in the same order they are received. A by-product of the initial implementation of this feature is that the existing GTT load sharing mechanism (where a message can be load shared among 8 GTT destinations) no longer works for Class 1 messages. The Class 1 messages can only be delivered to a primary node with backup. This is a change to previous Eagle behavior where Class 1 UDT messages could be load shared among 8 GTT destinations in the same manner as Class 0 messages.

The original thinking was that if a customer is using Class 1, they should not want them spread out among different end nodes. Even if they did, the thought was that they could simply use Random SLS Generation feature set to "Class 1" to get a load share distribution. However, due to the way the end node processes received traffic, they are unable to use Random SLS set to Class 1. As a result, the behavior of release 31.6 with Class 1 messages will break the current routing mechanism because there is no way to turn off the sequencing algorithm and go back to allowing full load sharing (but not guaranteed sequencing) on these messages.

An option is added to the Eagle that turns ON/OFF the guaranteed in-sequence delivery of Class 1 (X)UDT messages. When ON, the Eagle guarantees that these messages are delivered in the order they were received, but the messages will not be GTT load shared. When OFF, the Eagle is able to GTT load share the messages but does not guarantee in-sequence delivery.

This design provides the option to turn ON/OFF the Class 1 Guaranteed Sequencing Algorithm. This requires storage, a user interface, and conditional logic to control Class 1 sequencing based upon the new parameter setting.

Hardware Requirements

Any hardware required is included in the "Hardware Baseline" on page FN-5.

Enhancements to Existing Commands

The following commands or command families have been enhanced to support this feature. For a complete description of these commands, refer to the *Commands Manual* of your current documentation set.

chg/rtrv-sccpopts

Use the chg-sccpopts command to change the values of one or more of the SCCP option indicators maintained in the STP options table.

Use the rtrv-sccpopts command to display the current value of one or more of the SCCP option indicators maintained in the STP options table.

Parameters

:class1seq= (optional)

Enable or disable Class 1 message sequencing.

Range: **on, off**

    on—Enabled; Class 1 messages are guaranteed to be sequenced, but the messages are not load shared.

    off—Disabled; Class 1 message sequencing is not guaranteed, but the messages might be GTT load shared (if appropriate configuration exists).

Default: Current value

    System Default: **off**

Output

chg-sccpopts:class1seq=on

```
rlghncxa03w 04-08-29 16:40:40 EST  EAGLE 31.6.y
CHG-SCCPOPTS: MASP A - COMPLTD
```

rtrv-sccpopts

```
rlghncxa03w 04-08-29 16:40:40 EST  EAGLE 31.6.y
    SCCP OPTIONS
    --------------------------
    class1se1 = on
```

Alarms

New UAMs necessary to support Eagle Release 31.6 are as defined in Table FN-8.

New UIMs neccessary to support Eagle Release 31.6 are as defined in Table FN-9.

New hardware verification codes necessary to support Eagle Release 31.6 are as defined in Table FN-10..

Table FN-8.   Eagle Release 31.6 New/Changed UAMs (Sheet 1 of 6)

Format	CARD	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**CARD**
Format	SLK	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**SLK**
Format	LSN	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**LSN**
Format	TERMINAL	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**TERMINAL**
Format	CLOCK	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**CLOCK**
Format	DLK	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**DLK**
Format	CDT	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		

Table FN-8.   Eagle Release 31.6 New / Changed UAMs (Sheet 2 of 6)

New data	Added new optional parameter for alarm inhibits		**CDT**
Format	SEAS X25 LINK	Format	Output Group
Action	Added for PR 54051		
Old Data	SEAS X25 Link XX		
New data	SEAS X25-Link XX Also, added new optional parameter for alarm inhibits		**SEAS X25-LINK**
Format	LSMS CONNECTION	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**LSMS CONNEC-TION**
Format	NDC	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**NDC**
Format	DPC	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**DPC**
Format	IP7	Format	Output Group
Action	Added for PR 54051		
Old Data	Unchanged		
New data	Added new optional parameter for alarm inhibits		**IP7**
UAM	500	Format	Output Group
Action	Added for PR 54051		
Old Data	Unused		
New data	Alarm being cleared for this device		**ANY FORMAT, DEPENDING ON THE DEVICE HAVING ITS ALARM CLEARED**

Table FN-8. Eagle Release 31.6 New/Changed UAMs (Sheet 3 of 6)

UAM	294	Format	Output Group
Action	Added for PR 54051		
Old Data			**CARD**
New data			**ANY FORMAT, DEPENDING ON THE DEVICE HAVING ITS ALARM CLEARED**
UAM	295	Format	Output Group
Action	Added for PR 54051		
Old Data			**CARD**
New data			**ANY FORMAT, DEPENDING ON THE DEVICE HAVING ITS ALARM CLEARED**
UAM	296	Format	Output Group
Action	Added for PR 54051		
Old Data			**CARD**
New data			**ANY FORMAT, DEPENDING ON THE DEVICE HAVING ITS ALARM CLEARED**
UAM	114	Format	Output Group
Action	PR 51217, for the IPGWx TPS Control feature		
Old data	Available for reuse		
New data	System IP TPS threshold exceeded	IP TPS SYSTEM	SYS_MAINT
UAM	115	Format	Output Group
Action	PR 51217, for the IPGWx TPS Control feature		
Old data	Available for reuse		
New data	Linkset IP TPS threshold exceeded	LINKSET	LINK_MAINT

Table FN-8.   Eagle Release 31.6 New/Changed UAMs (Sheet 4 of 6)

UAM	116	Format	Output Group
Action	PR 51217, for the IPGWx TPS Control feature		
Old data	Available for reuse		
New data	Link expected IP TPS threshold exceeded	LINK	LINK_MAINT
UAM	117	Format	Output Group
Action	PR 51217, for the IPGWx TPS Control feature		
Old data	Available for reuse		
New data	System IP TPS normal	IP TPS SYSTEM	SYS_MAINT
UAM	118	Format	Output Group
Action	PR 51217, for the IPGWx TPS Control feature		
Old data	Available for reuse		
New data	Linkset IP TPS normal	LINKSET	LINK_MAINT
UAM	119	Format	Output Group
Action	PR 51217, for the IPGWx TPS Control feature		
Old data	Available for reuse		
New data	Link IP TPS normal	LINK	LINK_MAINT
FORMAT	IP TPS SYSTEM	Format	Output Group
Action	PR 51217, for the IPGWx TPS Control feature		
Update	Added the new format	IP TPS SYSTEM	
UAM	47	Format	Output Group
Action	Added for PR 56448 - ASM Card Obsolescence		
Old data	Available for reuse		
New data	Card type not valid for application	CARD	SYS_MAINT

Table FN-8. Eagle Release 31.6 New/Changed UAMs (Sheet 5 of 6)

UAM	403	Format	Output Group
Action	Added for TDM-GTI, PR 52515		
Old data	Available for reuse		
New data	1114 E1/T1 clock requires TDM-GTI	HS System Clock	Clock
UAM	404	Format	Output Group
Action	Added for TDM-GTI, PR 52515		
Old data	Available for reuse		
New data	1116 E1/T1 clock requires TDM-GTI	HS System Clock	Clock
UAM	405	Format	Output Group
Action	Added for TDM-GTI, PR 52515		
Old data	Available for reuse		
New data	1114, 1116 E1/T1 clock requires TDM-GTI	HS System Clock	Clock
UAM	406	Format	Output Group
Action	Added for TDM-GTI, PR 52515		
Old data	Available for reuse		
New data	1114 Clock selection mismatch	HS System Clock	Clock
UAM	407	Format	Output Group
Action	Added for TDM-GTI, PR 52515		
Old data	Available for reuse		
New data	1116 Clock selection mismatch	HS System Clock	Clock
UAM	408	Format	Output Group
Action	Added for TDM-GTI, PR 52515		
Old data	Available for reuse		
New data	1114, 1116 Clock selection mismatch	HS System Clock	Clock

Table FN-8.   Eagle Release 31.6 New/Changed UAMs (Sheet 6 of 6)

UAM	409	Format	Output Group
Action	Added for TDM-GTI, PR 52515		
Old data	Available for reuse		
New data	Clock configuration corrected	HS System Clock	Clock

Table FN-9.   Eagle Release 31.6 New/Changed UIMs (Sheet 1 of 2)

UIM	1019	UIM Format	Output Group
Action	Added to support XUDT feature		
Old data	Available for reuse		
New data	SCCP rcvd invalid UDTS/XUDTS msg	I12	GTT
UIM	1060	UIM Format	Output Group
Action	Added for Enhanced GSM Map Screening		
Old data	Available for reuse		
New data	Map Screening cannot generate ATIERR	I48	GWS
UIM	1061	Format	Output Group
Action	Added for Enhanced GSM Map Screening		
Old data	Available for reuse		
New data	Meas sync not allowed from old version	I1	Measurements Maintenance
UIM	1107	Format	Output Group
Action	Added for XUDT feature, PR 34255		
Old data	Available for reuse		
New data	SCCP XUDT(S) msg: Hop Counter violation	I43	GTT
UIM	1108	Format	Output Group
Action	Added for XUDT feature, PR 34255		
Old data	Available for reuse		
New data	SCCP XUDT(S) msg: inv opt portion len	I43	GTT

Table FN-9.   Eagle Release 31.6 New/Changed UIMs (Sheet 2 of 2)

UIM	1109	Format	Output Group
Action	Added for XUDT feature, PR 34255		
Old data	Available for reuse		
New data	XUDT(S) msg:inv segmentation parm	I43	GTT
UIM	1022	Format	Output Group
Action	Corrected for PR 56487		
Old data	UIM text unchanged, only output group.		GTT
New data	UIM text unchanged, only output group.	I1	Measurements Maintenance
UIM	1199	Format	Output Group
Action	Corrected for PR 56487		
Old data	UIM text unchanged, only output group.		Application Subsystem
New data	UIM text unchanged, only output group.	I43	Measurements Maintenance
UIM	1185	Format	Output Group
Action	Added for PR 52515-TDM-GTI		
Old data	Available for reuse		
New data	GTI input clock anomalies detected	I56	CLOCK
UIM	1234	Format	Output Group
Action	Added for PR 52760		
Old data	Available for reuse		
New data	LNP Day Meas. Discarded for NPANXX	I1	Measurements Maintenance

Table FN-10.   Eagle Release 31.6 New/Changed Hardware Verification Codes

H/W Code	5	Format	UAM
Action	Added for Enhanced GSM Map Screening		
Old Data	Available		
New Data	VSCCP card equipped w/non-DSM when EGMS enabled	CARD	99
HW Verif Code	25 - 33	Format	UAM
Action	PR 56448 - ASM Card Obsolescence		
Update	Removed for ASM obsolescence	CARD	441
HW Ver Code	150	Format	UAM
Action	Added for PR 56448 - ASM Card Obsolescence		
New data	150 - Card is obsolete	CARD	47

UAM Format Changes

The following UAM formats have been added to support Eagle 31.6.

CARD

Format	
Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 xxxx.yyyy zz CARD cccc [device] text ASSY SN: nnnnnnnnnnnnnn(optional field) HW VERIFICATION CODE: values) INFO: ######## ######(optional field) ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 * 0012.0008 * CARD 1113 OAM Active MASP has become isolated 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ** 0012.0013 ** CARD 1101 SCCP Card is isolated from the system ASSY SN: 102199815a1234 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ** 0012.0514 ** CARD 1115 OAM Standby MASP is inhibited 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0012.0515 CARD 1115 OAM Standby MASP is allowed 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0044.0422 ** CARD 1107 Insufficient extended memory HW VERIFICATION CODE: 051 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ** 5009.0300 ** CARD 1202 SS7ANSI TVG Grant Failure INFO: SLAN -D-H— 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ** 0012.0390 ** CARD 1109 HMUX Illegal Address Error 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0062.0296 CARD 1117 MDAL REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: CRIT ```
Notes	Added an optional line for the alarms inhibit level. Added an additional optional field for auto-inhibit HW verification code.

CDT

Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 xxxx.yyyy zz CDT xx text ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 * 0044.0060 * CDT 9 Minor customer trouble detected 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0045.0296 CDT REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: MAJR ```
Notes	Added an optional line for the alarms inhibit level.

CLOCK (HOLDOVER CLOCK)

Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 xxxx.yyyy zz CLOCK text ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 * 0044.0065 * CLOCK Minor holdover clock trouble detected 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0045.0296 CLOCK REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: MINR ```
Notes	Added an optional line for the alarms inhibit level.

DLK (DATA LINK)

Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ```
	``` xxxx.yyyy zz DLK cccc,ppp text ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ```
	``` * 0046.0155 * DLK 1104,A1 STPLAN connection unavailable ```
	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0045.0296 DLK 1104,A1 REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: MINR ```
Notes	Added an optional line for the alarms inhibit level.

DPC

Format	

	Variation #1:
	
	`          1         2         3         4         5         6         7         8`
	`12345678901234567890123456789012345678901234567890123456789012345678901234567890`
	`   xxxx.yyyy zz DPC ###-###-###        text`
	`                ALARM INHIBIT LEVEL:   XXXX(optional field)`
	
	Variation #2: (used when DPC SS status has changed)
	
	`          1         2         3         4         5         6         7         8`
	`12345678901234567890123456789012345678901234567890123456789012345678901234567890`
	`   xxxx.yyyy zz DPC ###-###-###        text`
	`                LSN=[lnkset]`
	`                Prohibited SS  ###, ###, …  (optional)`
	`                Blocked    SS  ###, ###, …  (optional)`
	`                Allowed    SS  ###, ###, …  (optional)`
	`                UnBlocked  SS  ###, ###, …  (optional)`
	
	Variation #3: (used to report circular routing)
	
	`          1         2         3         4         5         6         7         8`
	`12345678901234567890123456789012345678901234567890123456789012345678901234567890`
	`   xxxx.yyyy zz DPC ###-###-###        text`
	`                XMIT LSN=[lnkset]    RC=##`
	`                RCV LSN=[lnkset]`
	`                MEMBER=###-###-###`

Output
Examples
	`          1         2         3         4         5         6         7         8`
	`12345678901234567890123456789012345678901234567890123456789012345678901234567890`
	`    0045.0296    DPC 001-001-001       REPT-ALMINH: alarm output TEMP Inhibit`
	`                ALARM INHIBIT LEVEL:   MINR`
	
	`          1         2         3         4         5         6         7         8`
	`12345678901234567890123456789012345678901234567890123456789012345678901234567890`
	`    0044.0311    DPC 001-001-001       DPC is allowed`
	`                LSN=lsn012345`
	
	`          1         2         3         4         5         6         7         8`
	`12345678901234567890123456789012345678901234567890123456789012345678901234567890`
	`*C  0044.0313 *C DPC 001-001-001       DPC is prohibited`
	`                LSN=lsn012345`
	`                Prohibited SS  5, 20`
	
	`          1         2         3         4         5         6         7         8`
	`12345678901234567890123456789012345678901234567890123456789012345678901234567890`
	`*C  0101.0319 *C DPC 011-20-*          REPT-MTPLP-DET: Circ rte det(cong)`
	`                XMIT LSN=ls01  RC=10`
	`                RCV LSN=lsnabcde1`
	`                MEMBER=011-210-007`

Notes	There are several variations of this output format. What variation is used depends upon the condition being reported. Added an optional line for the alarms inhibit level.

IP7

Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 xxxx.yyyy zz IP7 yyyyyyyyyyyyyy text ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 1234.0084 IP7 LONGSOCKETNAME1 IP Connection Unavailable 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0133.0277 ** IP7 as1 AS Unavailable 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0136.0278 IP7 as1 AS Available 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0045.0296 IP7 as1 REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: MAJR ```
Notes	Added an optional line for the alarms inhibit level.

LSMS CONNECTION

Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 xxxx.yyyy zz LSMS Connection x1 text ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 *C 0009.0041 *C LSMS Connection A1 LNP DB Maintenance required. 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0045.0296 LSMS Connection A1 REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: MAJR ```
Notes	Added an optional line for the alarms inhibit level.

LSN (LINKSET)

Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 xxxx.yyyy zz LSN [lnkset] text ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0047.0317 LSN ABCDE12345 RCVRY-LKSTO: link set allowed 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0045.0296 LSN ABCDE12345 REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: MAJR ```
Notes	Added an optional line for the alarms inhibit level.

NDC SYSTEM

Format	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 xxxx.yyyy zz NDC SYSTEM text ALARM INHIBIT LEVEL: XXXX(optional field) ```
Output Examples	``` 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0046.0181 *C NDC SYSTEM NDC system is Unavailable 1 2 3 4 5 6 7 8 12345678901234567890123456789012345678901234567890123456789012345678901234567890 0045.0296 NDC SYSTEM REPT-ALMINH: alarm output TEMP Inhibit ALARM INHIBIT LEVEL: MAJR ```
Notes	Added an optional line for the alarms inhibit level.

SEAS X25 LINK

| Format | ```
          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.yyyy zz SEAS  X25-Link ##      text
                ALARM INHIBIT LEVEL:   XXXX(optional field)
``` |
|---|---|
| Output Examples | ```
          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
*   0046.0344  * SEAS  X25-Link A1      SEAS PVC unavailable

          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    0045.0296    SEAS  X25-Link A1      REPT-ALMINH: alarm output TEMP Inhibit
                ALARM INHIBIT LEVEL:   MINR
``` |
| Notes | Added an optional line for the alarms inhibit level. |

SLK (LINK)

| Format | ```
          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.yyyy zz SLK cccc,ppp [lnkset]    text
                SLC=##   FECLLI=@*************            CLASS=@@@@
                Restart Delay(sec)=#######        (optional)
                ALARM INHIBIT LEVEL:   XXXX       (optional)
``` |
|---|---|
| Output Examples | ```
          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    0044.0200    SLK 1201,A   lsnabcde   RCVRY-LKF: link available
                SLC=01   FECLLI=A1234567890            CLASS=SAAL

          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    0045.0296    SLK 1201,A   lsnabcde   REPT-ALMINH: alarm output TEMP Inhibit
                ALARM INHIBIT LEVEL:   MINR
``` |
| Notes | Added an optional line for the alarms inhibit level. |

TERMINAL

Format	<pre> 1 2 3 4 5 6 7 8
	     12345678901234567890123456789012345678901234567890123456789012345678901234567890
	      xxxx.yyyy zz TERMINAL ## text
	                   ALARM INHIBIT LEVEL: XXXX (optional)</pre>

Output
Examples
	<pre> 1 2 3 4 5 6 7 8
	     12345678901234567890123456789012345678901234567890123456789012345678901234567890
	      0043.0048 TERMINAL 2 Terminal failed
	
	              1 2 3 4 5 6 7 8
	     12345678901234567890123456789012345678901234567890123456789012345678901234567890
	      0045.0296 TERMINAL 2 REPT-ALMINH: alarm output TEMP Inhibit
	                   ALARM INHIBIT LEVEL: MINR</pre>

Notes	Added an optional line for the alarms inhibit level.

IP TPS SYSTEM

Format	<pre> 1 2 3 4 5 6 7 8
	     12345678901234567890123456789012345678901234567890123456789012345678901234567890
	      xxxx.yyyy zz IP TPS SYSTEM text</pre>

Output
Examples
	<pre> 1 2 3 4 5 6 7 8
	     12345678901234567890123456789012345678901234567890123456789012345678901234567890
	      1234.0114 ** IP TPS SYSTEM System IP TPS threshold exceeded</pre>

Notes	Added for IPGWx TPS Control

UIM Format Changes

The following UIM format has been added to support Eagle 31.6.

I56 (HS CLOCK INFO)

Release 31.6	
Literal	RPT_MRN_GTI_CLOCK_ANOMALY
| Format | ```
          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.xxxx    HS CLOCK    INFO    'text'
                  Reporting TDM Location      : NNNN
                  GTI Status Register         : h'NNNN
                  Primary LIU Violation Count : NNN
                  Secondary LIU Violation Count : NNN
``` |
| Output Examples | ```
          1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    0024.1185    HS CLOCK    INFO    GTI input clock anomalies detected
                  Reporting TDM Location      : 1114
                  GTI Status Register         : h'NNNN
                  Primary LIU Violation Count : 200
                  Secondary LIU Violation Count : 125
                  Report Date:02-07-21  Time:16:20:19
``` |
| Data Structures | ```
struct s_ath_rpt_gti_clk_status_anomaly
    {
    t_loc   tdm_loc;
    t_u8    gti_clock_status_register;
    t_u8    primary_liu_violation_count;
    t_u8    secondary_liu_violation_count;
    };

typedef struct s_ath_rpt_gti_clk_status_anomaly
t_ath_rpt_gti_clk_status_anomaly;
``` |
| Notes | New for release 31.6 |

Error Codes

Incorrect use of the enhanced commands for Eagle Release 31.6 features may result in the error messages listed in :

Table FN-11.   Eagle Release 31.6 TUP: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E2519	ISUPMT/TUPMT already exists in given SR	No	ent-scr-isup chg-scr-isup
E2520	ISUPMT/TUPMT does not exist in given SR	No	chg-scr-isup dlt-scr-isup

Table FN-12.   Eagle Release 31.6 TDM Global Timing Interface: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E2235	Card location must be 1113 or 1115, or APPL=(E)OAM	Y	init-card init-flash
E2729	TDM does not support Global Timing Interface	Y	chg-stpopts
E3291	Card location specified must be an OAM card	N	new for clr/disp-disk-stats
E3525	Command will cause system clock outage - Use FORCE=YES	Y	init-card init-flash
E3526	Invalid TDM configuration for INITCLK	Y	init-card init-flash
E3799	FORCE=YES must be specified	N	new for chg-stpopts
E3847	FORCE valid only with APPL, DATA or INIT-CLK parameters	N	init-card

Table FN-13. IPGWx TPS Control: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E3695	Command not supported for non-IPGWx linksets	Yes	rept-stat-iptps
E4251	IPTPS required for IPGWx linksets	Yes	ent-ls chg-ls
E4252	IPTPS not allowed for non-IPGWx linksets	Yes	ent-ls chg-ls
E4253	LSUSEALM not allowed for non-IPGWx linksets	Yes	ent-ls chg-ls
E4254	SLKUSEALM not allowed for non-IPGWx linksets	Yes	ent-ls chg-ls
E4255	Total IPTPS for all linksets can't exceed system TPS limit	Yes	ent-ls chg-ls
E4256	IPTPS must be divisible by 10	Yes	ent-ls chg-ls

Table FN-14. Eagle Release 31.6 Increase System-Wide IP Signaling Connections: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E3747	Too many IP connections per card	No	ent-appl-sock chg-appl-sock
E3752	Max IP connections exceeded	No	ent-appl-sock
E4094	After: Before: Maximum associations exceeded	No	no longer used in ent-assoc
E4095	After: Before: IP Socket/Association table is full	No	no longer used in ent-assoc
E4131	Version parameter not supported for either SUA or M2PA	No	chg-assoc

Table FN-15.   Eagle Release 31.6 Increase System-Wide IPGWx TPS: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E3772	Only one SS7IPGW or IPGWI link allowed in mated linkset	No	ent-slk
E4216	Linkset cannot be the mate of another linkset	Yes	chg-ls dlt-ls
E4217	Linkset cannot reference self as mate	Yes	chg-ls
E4218	A mated linkset cannot have more than one link assigned	Yes	chg-ls
E4219	Mated linksets must contain only SS7IPGW or IPGWI links	Yes	chg-ls
E4220	Mated linksets must have APCs of same network type	Yes	chg-ls
E4221	Card having link in linkset must first be inhibited	Yes	chg-ls
E4222	Card having link in mate linkset must first be inhibited	Yes	chg-ls
E4223	ACTION requires either SAPC or MATELSN, not both	Yes	chg-ls
E4224	Up to 8 SS7IPGW or IPGWI links allowed in un-mated linkset	Yes	ent-slk
E4225	Mate already exists for linkset	Yes	chg-ls
E4249	Mate linkset not defined	Yes	chg-ls
E4250	Linkset does not reference MATELSN	Yes	chg-ls
E4251	IPTPS required for IPGWx linksets	Yes	chg-ls
E4253	LSUSEALM not allowed for non-IPGWx linksets	Yes	chg-ls
E4254	SLKUSEALM not allowed for non-IPGWx linksets	Yes	chg-ls
E4255	Total IPTPS for all linksets can't exceed system TPS limit	Yes	chg-ls
E4256	IPTPS must be divisible by 10	Yes	chg-ls

Table FN-16. Eagle Release 31.6 Multiple Country Code Support for G-Port: Error
Messages

Response ID Code	Error Message	New?	Used by Command:
E2258	NMULTCC and MULTCC parameters must be entered together	Yes	chg-gmsopts
E3031	MULTCC entry cannot be NONE	Yes	chg-gmsopts
E3493	MULTCC entry already exists in the GSM Options CC list	Yes	chg-gmsopts
E3527	NMULTCC entry already exists in the GSM Options MULTCC list	Yes	chg-gmsopts
E3541	After: Failed reading GSM Options TableBefore: Failed reading GSM Options Table	Yes	chg-gmsopts
E3630	Entry is already defined as the STP Options DefCC	Yes	chg-gmsopts
E3632	MULTCC list is full	Yes	chg-gmsopts
E3633	MULTCC entry does not exist	Yes	chg-gmsopts
E3634	Cannot set DefCC to none if a GSM Options MULTCC is defined		
E3687	Cannot enter MULTCC if STP Options DefCC is NONE	Yes	chg-gmsopts

Table FN-17. Eagle Release 31.6 Support G-Flex at 1700 TPS per DSM: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E4295	The FEATURE/ANSIGFLEX option combination is invalid	Yes	chg-stpopts chg-feat enable-ctrl-feat ent-srvsel chg-srvsel
E4296	SRVSEL of ITU found, but not allowed with ANSIGFLEX	Yes	chg-stpopts
E4297	ITU entries not allowed when ANSIGFLEX is on	Yes	ent-srvsel chg-srvsel

Table FN-18.   Eagle Release 31.6 ASM Obsolescence: Error Messages

Response ID Code	Error Message	New?	Used by Command:
<u>E2105</u>	Invalid card TYPE and APPL load type combination	N	new for act-upgrade

> **NOTE:**   **Release 31.X baseline hardware includes GPSMIIs, HMUXs, -10s TDMs. If these modules are not equipped the act-upgrade command will be rejected.**

Table FN-19.   Eagle Release 31.6 Enhanced GSM MAPScreening (EGMS): Error Messages

Response ID Code	Error Message	New?	Used by Command:
E3090	Full Point Code must be specified	Yes No	ent-gsmmap-scrn ent-gsms-opcode chg-gsms-opcode chg-gsmmap-scrn
E3883	GSM Map Screening feature must be ON	No	ent-ls chg-ls ent-gsmmap-scrn chg-gsmmap-scrn no longer used by ent-gsms-opcode chg-gsms-opcode enable-ctrl-feat no longer used by rtrv-gsms-opcode rtrv-gsmssn-scrn rtrv-gsmmap-scrn
E3892	OPNAME does not exist in the database	No	rtrv-gsmmap-scrn rtrv-gsms-opcode
E3894	SADDR and EADDR must have the same number of digits	No	no longer used by chg-gsmmap-scrn dlt-gsmmap-scrn
E3895	EADDR must be greater than SADDR	No	no longer used by chg-gsmmap-scrn and dlt-gsmmap-scrn
E3898	EADDR can not be specified without SADDR	No	ent-gsmmap-scrn

Table FN-19. Eagle Release 31.6 Enhanced GSM MAPScreening (EGMS):
              Error Messages (Cont'd)

Response ID Code	Error Message	New?	Used by Command:
E3899	EGMS feature requires DSM card with VSCCP APPL or better	No	chg-feat rtrv-feat
E3901	CGPA entry is referred by CDPA entries	No	dlt-gsmmap-scrn no longer used by ent-gsmmap-scrn and chg-gsmmap-scrn
E3905	CGSR doesn't exist for specified OPNAME	No	ent-gsmmap-scrn chg-gsmmap-scrn dlt-gsmmap-scrn rtrv-gsmmap-scrn
E4014	CGSR must be specified when CDSR is specified	Yes	rtrv-gsmmap-scrn
E4015	CGSR or CDSR shouldn't be specified when SADDR is specified	Yes	rtrv-gsmmap-scrn
E4016	SADDR, NPV and NAIV must be specified together	Yes	rtrv-gsmmap-scrn
E4017	ACTION or FORBID parameter shouldn't be specified	Yes	rtrv-gsmmap-scrn
E4019	OPCODE and OPNAME shouldn't be specified together	Yes	rtrv-gsms-opcode
E4087	Both NPV and NAIV must be either * or numbers	Yes	ent-gsmmap-scrn
E4284	CGPA entry can't be provisioned	Yes	ent-gsmmap-scrn
E4285	Enhanced GSM Map Screening feature must be ON	Yes	ent-ls chg-ls ent-gsmmap-scrn chg-gsmmap-scrn ent-gsms-opcode chg-gsms-opcode
E4286	Ending address mustn't be specified when Starting address=*	Yes	ent-gsmmap-scrn rtrv-gsmmap-scrn
E4287	CDSR doesn't exist for specified OPNAME and CGSR	Yes	chg-gsmmap-scrn dlt-gsmmap-scrn rtrv-gsmmap-scrn

Table FN-19. Eagle Release 31.6 Enhanced GSM MAPScreening (EGMS):
Error Messages (Cont'd)

Response ID Code	Error Message	New?	Used by Command:
E4288	NCGSR shouldn't be specified when CDSR is specified	Yes	chg-gsmmap-scrn
E4289	(N)CGSR already exists for specified OPNAME	Yes	ent-gsmmap-scrn chg-gsmmap-scrn
E4290	CDSR must be specified when NCDSR is specified	Yes	chg-gsmmap-scrn
E4291	Enhanced GSM Map Screening feature must be enabled	Yes	dlt-gsmmap-scrn rtrv-gsmmap-scrn rtrv-gsms-opcode
E4292	SADDR must be specified when EGMS feature is OFF	Yes	ent-gsmmap-scrn
E4293	(N)CDSR already exists for specified CGSR	Yes	ent-gsmmap-scrn chg-gsmmap-scrn
E4294	Enhanced GSM MAP Screening measurements are not supported on the OAM	Yes	rept-meas

Table FN-20. Eagle Release 31.6 Eagle Alarm Modifications for Synchronization with
Harris: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E2320	Telnet terminal TYPE can only be set to TELNET, EMSALM, or NONE	No	`chg-trm`

Table FN-21. Eagle Release 31.6 Option for Turning on Class 1 Sequencing: Error Messages

Response ID Code	Error Message	New?	Used by Command:
E2136	At least one optional parameter is required	N	`chg-sccpopts`
E2852	Failed reading STP Options table	N	`chg-sccpopts`

Limitations

ITU DTA (a.k.a. ITU Triggerless Message Screening)

- The redirect function must be performed on the receiving LIM.

- Only MTP screening can select MSUs to be redirected. the SCCP screening functions (CGPA, TT, CDPA, and AFTPC) cannot select MSUs to be redirected.

- The redirect function cannot be performed on the SCCP.

- MSUs may be too large to be encapsulated by the redirect function.

- SLTA (Signal Link Test Acknowledgement) messages should not be redirected. Do not apply a Redirect Stop Action on the Adjacent Node point code for any of the screening functions: **BLKOPC** or **OPC**.. When a Redirect Stop Action is applied to an OPC or BLKOPC screen rule, inbound SLTAs from an adjacent node are not processed by the EAGLE.

- MSUs can be directed only to a single ANSI/ITU-I/ITU-N/ITU-N24 point code.

- Do not apply a Redirect Stop Action for an allowed DPC screen rule if the rule contains the point code of Eagle where the screening rule is applied. This is because the redirection of SLTA / SLTM's (Signal Link test Messages) will not return to the originating Eagle and will cause the link to fail.

- If the DTA DPC is the EAGLE, the local SCCP subsystem is active, and TVG is unable to obtain an SCCP granter for the redirected message, the message is discarded without UDTS generation. This could occur if SCCP is overloaded/congested. Discard is the normal operation upon TVG grant failure.

- Do not apply a Redirect Stop Action after any SIO screening rule where SI=1 or SI=2.

Support TUP Message Screening

- Point Code screening of DPC and BLKDPC can be used with the overload of the ISUP screen function with TUP, as long as an SIO screen comes first. To do this there must be an SIO rule for `si=4` to screen for TUP protocol and another rule with `si=5` for ISUP protocol. These two rules must also have separate Next Screen functions. This allows the screening rules after the SIO to have two separate streams, one that ends with true ISUP and the other that ends with TUP overloading ISUP in the screening table.

- For the Support TUP Message Type Screening feature, the LSONISMT ISUP and TUP messages are pegged by message type only. There is potential for overlap because TUP and ISUP share a common message type value and the screens are set up to screen this value. Therefore there is no way to know whether the message was ISUP or TUP from a measurements point of view. The UIMs generated include the SIO value, but measurement reports do not.

- For the Support TUP Message Type Screening feature, the potential for overlap of message type values for ISUP and TUP also applies to the screening function. Care must be given to provision the screenset order with SIO screen rules to separate SI=4 (for TUP) and SI=5 (for ISUP) prior to the ISUP screening function. Although the `-scr-isup` commands support the

two separate parameters `isupmt` and `tupmt`, the parameters are handled by the database as the common generic parameter named `isupmt`.

Support for SCCP XUDT/XUDTS Messages

- The NP, EIR, LNP, PPSMS, MNPSMS and MAP Screening features that use TCAP data do not support XUDT/XUDTS messages.

- Eagle does not perform re-ordering of XUDT/XUDTS Segmented messages.

- Eagle does not perform any conversion of XUDT/XUDTS to UDT message and vice versa.

- The Weighted SCP Load Balancing and IGTTLS features do not support load sharing of messages across equal cost destinations for Class 1 UDT/XUDT/XUDTS messages (when `randsls` is OFF or CLASS0)

- Eagle supports XUDTS messages as long as the message length is <=272 bytes.

Multiple Country Code Support and MSISDN Truncation Support for G-Port MNP

- For a network using multiple country codes, it is assumed that all messages needing G-Port service will be sent with MSISDNs in International format. This is true whether the SCCP CdPA digits or the MAP MSISDN digits are used for the database lookup. (This is determined by the message type and the setting of the SRIDN option in G-Port). There continues to be only one default country code (DEFCC) per system for conditioning of non-International MSISDNs. All MSISDNs sent in National format will be conditioned using the same system-wide DEFCC, regardless of the actual country code that may be assigned to the MSISDN.

- This feature changes only the encoding of the MAP MSRN parameter in the SRI-ack response generated by G-Port for a ported out number and the encoding of the SCCP CdPA parameter for G-Port message relay when Digit Action = "Insert". It does not change the encoding of the MAP MSISDN or SCCP CdPA parameters in the SRI-ack, or SCCP parameters when Digit Action is not equal to "Insert".

- The country code search is a longest match search; for example, if MSISDN = 12345, and two country codes are provisioned equal to 1 and 123, G-Port MULTCC will match on 123 for this number and consider this to be the country code. There may be cases of overlap depending upon the country code and the digits allowed by the particular numbering plan. For example, assume 1 and 123 are both valid country codes for the node. Also assume that 2345 is a valid National MSISDN for country code 1. This will cause a problem with G-Port because MULTCC will match on 123 for this number, and consider the National MSISDN to be 45 instead of 2345. Therefore, the number returned will be 123RN45 instead of 1RN2345 as it should be. Using country codes of all one length will reduce the likelihood of a mismatch occurring.

Support G-Flex at 1700 TPS per DSM

- G-Flex at 1700 TPS per DSM is supported only when G-Flex is the only database feature active and there are no ITU service selectors provisioned.

ASM Obsolescence

- Beginning with EAGLE software release 31.6 there will be no support for the ASM card and card type.

Measurements Platform IP Security

- This feature provides secure access for the Eagle transfer of data off-board to remote SFTP servers.

- This feature does not provide the remote Secure Shell client or server applications (SSH, SFTP).

- If this feature is enabled with a temporary key, it sets up a situation where the key can expire while telnet (SSH) or FTP (SFTP) connections are up and in progress. In this scenario, all existing (legacy) SFTP connections remain up, and new connections follow the state of the feature: on or off; while all telnet (SSH) connections are dropped immediately. Thus, there is a possibility of both secure and non-secure connections, for the duration of the 'legacy' connection(s).

- The Eagle OA&M IP Security Enhancements feature is an On/Off feature. Turning on the Eagle OA&M IP Security Enhancements disables the unsecure FTP, and telnet functions for all MCPM **and** IPSM cards, and enables secure datat transfer. Turning off the Eagle OA&M IP Security Enhancements feature disables the secure data transfer for all MCPM **and** IPSM cards and enables Telnet/FTP functions. Security cannot be enabeld and disabled separately for telnet and Measurements Platform.

- If data transfer is in progress when the Eagle OA&M IP Security feature is turned on or off, the transfer will be allowed to complete. Subsequent transfers will occur in the mode that is enabled by the change in the feature status (on or off, secure or not secure). The Measurements Platform entries in the FTP Servier table must be defined to allow the switch between secure and unsecure data transfer.

- Multiple SFTP sessions are not allowed on an MCPM card. Each MCPM card in an Eagle system shall support one SFTP session, but only one session is allowed to be in progress at any given time on the Measurements Platform, regardless of the number of MCPMs installed.

- The Measurements Platform as FTP Client provides no inherent control of access to the FTP session (there is no available way to manually exchange server keys on the Eagle). Access is controlled at the FTP Server. Thus, references to IP Security on the Measurements Platform essentially describe encryption of the data transmitted during the FTP session.

- Support for Secure FTP Server.

- There is the potential for the restart data to be over-written on EDSMs. Should a software error occur, the MCPM card will cold-reboot and request reload from mate. Should the fault occur simultaneously on both MCPM cards, Measurement data will be lost.

Enhanced GSM MAP Screening

1. Since there is a 150 characters limit on PROCOMM terminal, sometimes a single ENT/CHG-GSMMAP-SCRN command does not fit in a single line when ACTION is FORWARD, DUPLICATE or DUPDISC. If an ENT-GSMMAP-SCRN command doesn't fit in one line, execute the same with less number of parameters, then run CHG-GSMMAP-SCRN command(s) to modify the rule. If CHG-GSMMAP-SCRN command doesn't fit in one line, break the same into multiple commands.

2. NPV and NAIV values can't be modified, as they are part of the CgPA and CdPA keys, after implementing this feature.

3. If a single entry (CgPA or CdPA) is created which falls into existing range in range entry, then the range entry is not split into two range entries.

4. Mass deletion of CgPAs and CdPAs is not allowed.

5. If an existing EAGLE with 2000 CgPA entries is upgraded to this release, then a default wildcard CdPA entry is created for each CgPA entry, thus utilizing all of the 2000 CdPA entries. Thus the table remains full and no additional entries will be allowed.

6. Measurements data are not be collected for screening rules containing ranged CgPA or CdPA entries.

7. The Measurements Platform are provisioned and enabled before EGMS measurements can be collected or reported. EGMS can be turned on without measurements platform installed but EGMS measurements data are not available.

8. DSM or later revision card running the VSCCP GPL is required before the EGMS feature can be turned on.

9. GTT\GFlex must be turned on and passed prior to this feature.

10. If an upgrade to the new release is performed, EGMS remains off, and OAM measurements are being used to report normal GMS data, then the ordering of individual entities within the MEAS MAP Screening Per-Server report will change.

11. The retrieve output screens on the Eagle appear differently after the upgrade, even if the EGMS FAK is not turned ON.

12. GSM MAP Screening and Enhanced GSM MAP Screening do not perform best-fit, longest-match searches in the database. Therefore, a match is only found if the digits received in the message exactly match digits in the database. This is true for both individual and range entries. For example, if a number is received containing 15 digits, and a 14 digit database entry exists which exactly matches the first 14 digits of the received number, this does NOT result in a match. The database entry would also have to be 15 digits long.

Eagle Alarm Modifications for Synchronization with Harris

If a customer is only using a normal KSR terminal for monitoring, there is a potential to drop alarms from the terminals output if the output buffers fill up with data such as hourly reports, IMT reports, Measurements reports, excessive UIM output, etc. There are ways to minimize this extra output to significantly reduce the likelihood of such a buffer overflow:

- Turn off Traffic output group (TRAF) for the terminal used by Harris

- Use UIM thresholding

    NOTE: using the new EMSALM terminal solves this limitation

Due to the sheer number of Alarms that are potentially generated during link alignments for an Eagle with a large number of signaling links, the multiple signaling link alarm states continue to be done without output. The first Signalling Link alarm is output but subsequent alarms for that device transition silently. This suppression of output is OK for signaling links, in that all the signaling link silent alarm transitions are within the same alarm level, MAJR. When the signaling link alarms are cleared, there is an appropriate clearing alarm issued for each affected link. To cycle through and issue each overtaking signaling alarm for every link over an "init-sys" on a large system output overwhelms the output buffer, and alarms would be lost.

In the event that the Harris system's alarms get out of Sync with the Eagle's alarms, it is up to the Harris system both to detect and correct its alarm counts to match that of the Eagle.

Option for Turning on Class 1 Sequencing

Eagle does not guarantee that Class 1 ITU messages will be delivered in sequence when CLASS1SEQ is ON and RANDSLS is ALL.

Customer Documentation

The documentation set for Eagle 31.6 comprises the following manuals and documents. The list is sorted by manual name and indicates the manual's part number. The list is followed by a brief description of each manual.

> **NOTE:** **The most current update of each manual can be found on Tekelec's Customer Support website.**

- *Commands Manual*

- *Commands Quick Reference*

  – *Commands Pocket Guide*

- *Commands Error Recovery Manual*

- *Database Administration Manual - Features*

- *Database Administration Manual - Gateway Screening*

- *Database Administration Manual - Global Title Translation*

- *Database Administration Manual - IP7 Secure Gateway*

- *Database Administration Manual - LNP*

- *Database Administration Manual - SEAS*

- *Database Administration Manual - SS7*

- *Database Administration Manual - System Management*

- *EPAP Administration Manual*

- *ELAP Administration Manual*

- *Feature Manual - EIR*

- *Feature Manual - G-Flex C7 Relay*

- *Feature Manual - G-Port*

- *Feature Manual - INP*

- *FTP-Based Table Retrieve Application (FTRA) User Guide*

- *Hardware Manual (Signaling Products)*

- *Hardware Manual (TekServer Services Platform)*

- *Installation Manual - Eagle*

- *Installation Manual - Integrated Applications*

- *LNP Feature Activation*

- *LNP Database Synchronization (LSMS 6.5/Eagle)*

- *Maintenance Manual*

    – *Maintenance Pocket Guide*)

    – *Maintenance Emergency Recovery Pocket Guide*

- *MPS Platform Software and Maintenance*

- *Previously Released Features*

- *Provisioning Database Interface Manual*

- *Release Documentation*

    – *Cross-Reference Index*

    – *Feature Notice*

    – *Glossary*

    – *System Overview*

Commands Manual

The *Commands Manual* contains procedures for logging into an Eagle STP system or an IP[7] Secure Gateway system, logging out of the system, a general description of the terminals, printers, the disk drive used on the system, and a description of all the commands used in the system.

Commands Error Recovery Manual

The *Commands Error Recovery Manual* contains the procedures to resolve error message conditions generated by the commands in the *Commands Manual.* These error messages are presented in numerical order.

Database Administration Manual – Features

The *Database Administration Manual – Features* contains procedural information required to configure an Eagle STP system or an IP[7] Secure Gateway system to implement these features: X.25 Gateway, STP LAN, Database Transport Access, GSM MAP Screening, and Eagle Support for Integrated Sentinel.

Database Administration Manual - Gateway Screening

The *Database Administration Manual - Gateway Screening* contains a description of the Gateway Screening (GWS) feature and the procedures necessary to configure the Eagle STP system or IP[7] Secure Gateway system to support this feature.

Database Administration Manual – Global Title Translation

The *Database Administration Manual – Global Title Translation* contains procedural information required to configure an Eagle STP system or an IP[7] Secure Gateway system to implement these features: Global Title Translation, Enhanced Global Title Translation, Variable Length Global Title Translation, Interim Global Title Modification, and Intermediate GTT Load Sharing.

Database Administration Manual - IP[7] Secure Gateway

This manual contains procedural information required to configure the system to implement the SS7-IP Gateway.

Database Administration Manual - LNP

The *Database Administration Manual – LNP* contains procedural information required to configure the system LNP and the database to implement the local number portability (LNP) feature.

Database Administration Manual - SEAS

The *Database Administration Manual – SEAS* contains the procedures that can be performed from the Signaling Engineering and Administration Center (SEAC) or a Signaling Network Control Center (SNCC) to configure the EAGLE. These procedures contain a brief description of the procedure, a reference to the procedure in either the *Database Administration Manual – SS7, Database Administration Manual – Features,* or *Database Administration Manual – Gateway Screening* that contains more information on that procedure, and a flowchart showing the order that the tasks must be performed.

Database Administration Manual – SS7

The *Database Administration Manual – SS7* contains procedural information required to configure an Eagle STP system or an IP[7] Secure Gateway system to implement the SS7 protocol.

Database Administration Manual – System Management

The *Database Administration Manual – System Management* contains procedural information required to manage the Eagle's database and GPLs, and to configure basic system requirements such as user names and passwords, system-wide security requirements, and terminal configurations.

EPAP Administration Manual

The *EPAP Administration Manual* describes how to administer to the Eagle Provisioning Application Processor on the MPS/EPAP platform. The manual defines the methods for accessing the user interface, menus, and screens available to the user and describes their impact. It provides the syntax and semantics of user input and defines the output the user receives, including messages, alarms, and status.

ELAP Administration Manual

The *ELAP Administration Manual* defines the user interface to the Eagle LNP Application Processor on the MPS/ELAP platform. The manual defines the methods for accessing the interface, menus, screens available to the user and describes their impact. It provides the syntax and semantics of user input, and defines the output the user receives, including information and error messages.

Feature Manual - EIR

The *Feature Manual - EIR* provides details of a feature providing network operators with the capability to prevent stolen or disallowed GSM mobile handsets from accessing the network. This manual gives the instructions and information on how to install, use, and maintain the EIR feature on the Multi-Purpose Server (MPS) platform of the Eagle System.

Feature Manual - G-Flex C7 Relay

The *Feature Manual - G-Flex C7 Relay* provides an overview of a feature supporting the efficient management of Home Location Registers in various networks. This manual gives the instructions and information on how to install, use, and maintain the G-Flex feature on the Multi-Purpose Server (MPS) platform of the Eagle System.

Feature Manual - G-Port

The *Feature Manual - G-Port* provides an overview of a feature providing the capability for mobile subscribers to change the GSM subscription network within a portability cluster while retaining their original MSISDNs. This manual gives the instructions and information on how to install, use, and maintain the G-Port feature on the Multi-Purpose Server (MPS) platform of the Eagle System.

Feature Manual - INP

Provides the user with information and instructions on how to implement, utilize, and maintain the INAP-based Number Portability (INP) feature on the Eagle Multi-Purpose Server (MPS) platform.

FTP-Based Table Retrieve Application (FTRA) User Guide

The *FTP-Based Table Retrieve Application (FTRA) User Guide* describes how to set up and use a PC to serve as the offline application for the Eagle FTP Retrieve and Replace feature.

Hardware Manual (Signaling Products)

The *Signaling Products Hardware Manual* contains hardware descriptions and specifications of Tekelec's Network Signaling Division (NSD) products. These include the Eagle STP system, the IP^7 Secure Gateway (SG) system, and OEM-based products which include the AS*i* 4000 Service Control Point (SCP), and the Integrated Sentinel with Extended Services Platform (ESP) subassembly.

Hardware Manual (TekServer Services Platform)

The *TekServer Services Platform Hardware Manual* provides general specifications and a description of the TekServer. This manual also includes site preparation, environmental and other requirements, procedures to physically install the TekServer, and troubleshooting and repair of Field Replacable Units (FRUs).

Installation Manual - Eagle

The *Installation Manual - Eagle* contains cabling requirements, schematics, and procedures for installing the Eagle systems along with LEDs, Connectors, Cables, and Power Cords to Peripherals. Refer to this manual to install components or the complete systems.

Installation Manual - Integrated Applications

The *Integrated Applications Installation Manual* provides the installation information on Frame Floors and Shelves for Integrated Applications Products such as MPS EPAP 4.0, AS*i* 4000 SCP, and VX*i* Media Gateway Controller, Integrated and Non-Integrated Sentinel, LEDs, Connectors, Cables, and Power Cords to Peripherals. Refer to this manual to install components or the complete systems.

LNP Feature Activation Guide

The *LNP Feature Activation Guide* contains the procedures necessary to activate the LNP 48 Million Number feature.

LNP Database Synchronization (LSMS 6.0/Eagle)

The *LNP Database Synchronization Manual* - LSMS 6.0/Eagle describes how to keep the LNP databases at a Release 6.0 LSMS and at the network element (the Eagle is a network element) synchronized through the use of resynchronization, audits and reconciles, and bulk loads.

> **NOTE:** **LNP Database Synchronization Manuals for LSMS releases 5.0 and 4.0 can be ordered separately. Contact your sales representative for part number information.**

Maintenance Manual

The *Maintenance Manual* contains procedural information required for maintaining the Eagle STP system and the IP^7 Secure Gateway system. The *Maintenance Manual* provides preventive and corrective maintenance procedures used in maintaining the different systems.

MPS Platform Software and Maintenance Manual (Eagle STP with TekServer IAS)

The *Eagle STP with TekServer IAS MPS Platform Software and Maintenance Manual* describes the TekServer core platform features and the MPS customization features that make up the Multi-Purpose Server (MPS) platform software. This manual also describes how to perform preventive and corrective maintenance for the MPS.

Previously Released Features

The Previously Released Features Manual briefly describes the features of previous Eagle and IP7 Secure Gateway releases, and it identifies the release number of their introduction.

Provisioning Database Interface Manual

The *Provisioning Database Interface Manual* defines the programming interface that populates the Provisioning Database (PDB) for the Eagle features supported on the MPS/EPAP platform. The manual defines the provisioning messages, usage rules, and informational and error messages of the interface. The customer uses the PDBI interface information to write his own client application to communicate with the MPS/EPAP platform.

Release Documentation

The *Release Documentation* is a release-specific compilation of the following documents.

Feature Notice - Describes the features contained in the specified release; also provides the hardware baseline, describes the customer documentation set, provides information about customer training, and explains how to access the Customer Support website.

Release Notice - Describes the changes made to the system during the lifecycle of a release. The final Release Notice provides a list of Generic Program Load (GPLs) PRs resolved in a build and all known PRs.

> **NOTE: The *Release Notice* is maintained solely on Tekelec's Customer Support Website to provide you with instant access to the most up-to-date release information.**

System Overview - Provides high-level information on SS7, the IP[7] Secure Gateway, system architecture, LNP, and EOAP.

Cross-Reference Index - Lists all first-level headings used throughout the documentation set.

Master Glossary - Contains an alphabetical listing of terms, acronyms, and abbreviations relevant to the system.

How to Find Customer Documentation on the Customer Support Site

Login

1   Go to Tekelec's Customer Support login page at
    https://support.tekelec.com/index.asp

2   Enter your assigned username and chosen password, then click **Login.**

> **Or, if you do not have access to the Customer Support web site, click Request a Support Account**. Follow instructions on the screen or preview the instructions by clicking the links next to the *Getting Started Guide*.
> **NOTE: After 20 minutes of inactivity, you will be logged off, and you must repeat this step to regain access.**

Locating Documentation

After you have successfully logged in to the Customer Support web site, follow this procedure to locate customer documentation.

1   Click the Customer Documentation button to view individual manuals by product and release number.

> **NOTE: If you are prompted to select your certificate before you can access the documentation, click OK.**

A list of products displays. To view the most current Feature or Release Notice, refer to Step 6.

2   Click the name of the product folder, for example, Eagle or Tekelec Signaling Products.

3   Click the name of the release number(s), for example, 29.0 or 29.0/7.0.

4   Click the name of a manual. The folder content displays the manual's part number and revision.

5   Click the Document icon to view the manual (PDF file) online or click the Zip Rendition icon to download the manual to your desk top.

6   Locate the most current Feature or Release Notice using either of these two methods:

    a.   Locate the Release Documentation folder and click on its name. Scroll to the desired document

or

    b.   Click the site's Feature Notice or Release Notice button.

      –Select the product name from the Product(s) drop-down list and click the Search button. The search result displays the most current Feature or Release Notices.

      –Locate your Feature or Release Notice by scrolling to the applicable part number or description.

Customer Training

Tekelec offers a variety of technical training courses designed to provide the knowledge and experience required to properly provision, administer, operate and maintain the Eagle. To enroll in any of the courses or for schedule information, contact the Tekelec Training Center at (919) 460-5591 or E-mail `eagletrain@tekelec.com`.

A complete list and schedule of open enrollment can be found at `www.tekelec.com`.

Tekelec Technical Services

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

Technical Assistance

To receive technical assistance, call the Tekelec Technical Services department at one of the following locations:

- Tekelec, Europe

   Phone +44 7071 232453 *or* +44 1784 437067

- Tekelec, UK

   Phone (within the UK) 07071232453 or 07071 2 EAGLE.
            (outside the UK) +44 7071232453 *or* +44 7084 43 7067.

In case this number does not work, there is a secondary number:

   Phone (within the UK) 01784 467 804
            .... (outside the UK) +44 1784 467 804

- Tekelec, USA

   Phone (within the continental US) 888-367-8552.
            (outside the continental US) +1 919-460-2150.

Or you can request assistance by way of electronic mail at `eaglets@tekelec.com`.

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

If a critical problem exists, Technical Services initiates emergency procedures (see the following topic, "Emergency Response").

Emergency Response

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

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

- Failure in the system that prevents transaction processing
- Reduction in system capacity or in system traffic-handling capability
- Inability to restart the system
- Corruption of the database

- Inability to perform maintenance or recovery operations

- Inability to provide any required critical or major trouble notification

- Any other problem severely affecting service, capacity, traffic, and billing. Maintenance capabilities may be defined as critical by prior discussion and agreement with Tekelec Technical Services.

Acronyms and Terminology

Application Services Module (ASM) card—an aging board with limited functionality when compared with today's modern day processors. The intent of this feature is to remove ASM card support in EAGLE software.

Application Services Module—ASM

ASM—Application Services Module

Called Party Address—CdPA

CdPA—called party address

Database Transport Access—DTA

DEFCC—Default Country Code

Default Country Code—DEFCC

DTA—Database Transport Access

Extended User Data—XUDT

Extended User Data Service—XUDTS

File Transfer Protocol—FTP

FTP—File Transfer Protocol

Gateway Loading Services—GLS

Gateway Screening—GWS

Generic Program Load—GPL

GLS—Gateway Loading Services

GPLs—Generic Program Loads

GWS—Gateway Screening

IMT—Inter-processor Message Transport

Increase System-Wide IP Signaling Connections feature—increases the system-wide number of ASPs from 250 to a number dependent on cards, links, and connections.

Integrated Services Digital Network—ISDN

Inter-processor Message Transport—IMT

International Telecommunications Union—ITU

Internet Protocol—IP

IP—Internet Protocol

IPGWx—SS7IPGW and/or IPGWI GPL

IPGWx IP TPS—implies a true system limit. In addition to the IPGWx system IP TPS, there is a configurable per-linkset IP TPS, which must sum across all linksets to no more than the IPGWx system IP TPS.

IPLIM and/or IPLIMI GPL—IPLIMx

IPLIMx—IPLIM and/or IPLIMI GPL

ISDN—Integrated Services Digital Network

ITU—International Telecommunications Union

ITU Database Transport Access (DTA)—used to divert SS7 traffic to an internal or external SCP process (via SS7, X.25 or IP) for application handling.

LCA—Logic Cell Array

Logic Cell Array—LCA

Long User Data—LUDT

Long User Data Services—LUDTS

LUDT—Long User Data

LUDTS—Long User Data Services

MAP—Mobile Application Part

Measurements Platform IP Security—provides tools to securely pass data across an otherwise non-secure network. Once the Eagle OA&M IP Security Enhancements Feature is turned on, the Eagle will only allow connections from secure clients, and will protect s

Message Transfer Part—MTP

MNP—Mobile Number Portability

Mobile Application Part—MAP

Mobile Number Portability—MNP

Mobile Station Roaming Number—MSRN

Mobile Switching Centers—MSCs

Mobile Switching Integrated Services Digital Network Numbers—MSISDNs

MSCs—Mobile Switching Centers

MSISDNs—Mobile Switching Integrated Services Digital Network Numbers

MSISDN Truncation Support for G-Port—provides an option in G-Port that allows the operator to specify a certain number of digits to be deleted from the beginning of the National MSISDN (MSISDN without Country Code) prior to formulating the MSRN parameter

MSRN—Mobile Station Roaming Number

MTP—Message Transfer Part

PDBA—Provisioning Database Application

PDBI—Provisioning Database Interface

Provisioning Database Application—PDBA

Provisioning Database Interface—PDBI

Real-Time Database—RTDB

RN—Routing Number

RTDB—Real-Time Database

Routing Number—RN

SCCP—Signaling Connection Control Part

SCP—Service Control Point

Service Control Point—SCP

Signaling Connection Control Part—SCCP

SINAP—Stratus Intelligent Network Applications Platform

SS7IPGW and/or IPGWI GPL—IPGWx

Stratus Intelligent Network Applications Platform—SINAP

Stratus Intelligent Network Applications Platform (SINAP)—used as an SCP in the Intelligent Network and Advanced Intelligent Network. The EAGLE is a gateway STP, providing connectivity to the X.25 network, the SS7 network and the SCP

Support of SCCP Extended User Data (XUDT)/Long User Data (LUDT) messages—addresses the processing of Eagle destined XUDT/LUDT messages and in-sequence delivery requirement of SCCP XUDT/LUDT protocol class 1 message.

TDM—Terminal Disk Module

TDM Global Timing Interface—TDM-GTI

TDM Global Timing Interface (TDM-GTI)—the next generation TDM card . It is a backwards compatible TDM card with enhancements that add the ability to gen-

erate high speed master clocks from a recovered E1/T1 clock and also to optionally reload the clock

TDM-GTI—TDM Global Timing Interface

Telephone User Part—TUP

Telephone User Part (TUP) protocol—a predecessor to ISUP, that remains in use for some market areas. TUP is supported forGateway Screening (GWS) by over-loading the ISUP screen function table.

Terminal Disk Module—TDM

TPS—Transactions per Second

Transactions per Second—TPS

TUP—Telephone User Part

UI—User Interface

User Interface—UI

XUDT—Extended User Data

XUDTS—Extended User Data Service