

# *Tekelec EAGLE® 5 Integrated Signaling System*

**Release 38.0**

## **Feature Notice**

909-1317-001 Revision F

July 2008



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U.S. Patent Numbers:

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

Foreign Patent Numbers:

EP1062792; EP1308054; EP1247378; EP1303994; EP1252788; EP1161819; EP1177660; EP1169829; EP1135905; EP1364520; EP1192758; EP1240772; EP1173969; CA2352246

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# Feature Notice

## Feature Content

### *Introduction*

Feature notices are distributed to customers with each new release of software.

This *Feature Notice* includes a brief overview of each feature, 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.

### *Feature Notice Updates*

The following changes have been made to the EAGLE 5 ISS Release 38.0 Feature Notice since Revision E:

- [GR-2878 Compliance](#)
- Updated commands impacted by the [Removal of the TALI Protocol](#) .
- Updated [EAGLE 5 ISS Card Overview Table](#)
- Updated [Error Messages](#)
- Updated IPSPG [Commands](#)
- Updated definitions for IPVHSL Link Registers in [Table 1-2](#)
- [Updated MTPMSCNVTD COMP Linkset Register](#)

### *New Features*

The EAGLE 5 ISS Release 38.0 includes the following new features:

- [96M Database on E5-SM4G card](#)
- [Advanced GT Modification](#)
- [E5-ATM Card](#)
- [G-Flex MAP Layer Routing](#)
- [IP Signaling Gateway \(IPSPG\)](#)
- [MT-Based GSM MMS NP](#)
- [MT-Based GSM SMS NP](#)
- [MT-Based IS41 SMS NP](#)
- [SIGTRAN Measurements Phase 1](#)
- [TINP](#)

## Other Changes

The following non-feature-related changes are included in EAGLE 5 ISS Release 38.0:

- [Addition of EDSM-2G and GPSM-II Cards](#)  
New EDSM-2G and GPSM-II cards are added. A new **bpdcn2** GPL runs on these cards.
- [Configurable SCCP Threshold Alarm Interval](#)  
The **chg/rtrv-th-alm** commands can be used to configure and display the number of minutes during which the SCCP Threshold Level 1 and Level 2 alarms cannot be raised more than once.
- [Deleting Warning Message Text](#)  
The **chg-secu-dflt** command can be used to delete warning message text.
- [Dual-slot DCM Card Obsolescence for IPLIMx and IPGWx](#)  
The Dual-slot DCM cards are obsoleted for all IP signaling applications.
- [GR-2878 Compliance](#)  
The names of all appropriate measurement registers are updated to comply with GR-2878.
- [Managing Prefixed Digits in MO-based GSM SMS and MO-based IS41 SMS Messages](#)  
Common screening lists are added to the MO-based GSM SMS and MO-based IS41 SMS features. These lists are used to manage prefixed digits in the SMS messages processed by these features.
- [Removal of GR-376, EMAP, and EMDC](#)  
The GR-376 feature and associated functionality is removed from the software code and documentation.
- [Removal of LNP OAP](#)  
The LNP OAP database is removed from the software code and documentation.
- [Removal of the TALI Protocol](#)  
The TALI protocol is no longer available for use in the EAGLE 5 ISS. The EAGLE 5 ISS cannot be upgraded to Release 38.0 if the TALI protocol is present in the system.
- [Updated chg-dstn Command](#)  
The **chg-dstn** command can be used to remove the secondary point codes from a destination by provisioning the appropriate parameters with a value of **none**.
- [Updated chg-uaps Command](#)  
The **chg-uaps** command is updated to provide the correct range for the **set** parameter and to allow ASP/AS Notification Options to be configured. The minimum value for Timer 2 is revised to show the correct value of **0** in the **tvalue** parameter.
- [Updated MTPMSCNVTD COMP Linkset Register](#)  
The definition of the MTPMSCNVTD COMP Linkset register is updated.
- [Updated netstat Command](#)  
The **netstat** command can be used to display socket information for all protocols. The Commands Manual is updated to present the **netstat** output in the format of output for E5-based cards and output for non-E5-based cards.

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- [Updated rtrv-gta and rtrv-gtt Commands](#)  
The **rtrv-gta** and **rtrv-gtt** commands can be used to retrieve data for an MRN set.
- [Updated sctp Command](#)  
The **sctp** command can be used to display event logs for an association.

## Operational Changes

The following sections describe the alarms and error messages that are new or changed in EAGLE 5 ISS Release 38.0:

- [Hardware Verification Code](#)
- [Unsolicited Alarm Messages](#)
- [UAM Format Change](#)
- [Unsolicited Information Messages](#)
- [UIM Format Change](#)
- [Error Messages](#)

## 96M Database on E5-SM4G card

The 96M Database on E5-SM4G card feature allows an EPAP user to use E5-SM4G cards to support the same database capacity that is currently supported for DSM cards, using combinations of DN, IMSI, and IMEI entries.

## Feature Control Requirements

There are no feature control requirements identified for this feature.

## Hardware Requirements

This feature requires E5-SM4G or 4G DSM cards with EPAP-based applications.

## Commands

There are no commands associated with this feature.

## Limitations

When this feature is implemented, the capacity limits for combinations of DN/IMSI entries may not support 96M. The limits are as follows.

**Table 1-1. DN/IMSI Capacity Limits**

# DN (millions)	# IMSI (millions)
96	0
90	7.5
84	7.5

# DN (millions)	# IMSI (millions)
78	15
72	22.5
66	30
60	30
54	37.5
48	45
36	52.5
24	67.5
18	75
6	82.5
0	90

This decrease in capacity is based on high-level engineering design for the feature.

## Advanced GT Modification

The Advanced GT Modification feature (AMGTT) allows information in the SCCP calling party address (CgPA) to be modified as part of global title translation (GTT). This information includes the global title address (GTA), translation type (TT), numbering plan (NP), and network address indicator (NAI) parameters.

**NOTE: If the message requires SCCP Conversion, then modification to the called party address (CdPA) occurs even if the AMGTT feature is turned on.**

## Feature Control Requirements

The AMGTT feature has the following feature control requirements:

- The current GT Modification (MGTT) feature bit is removed immediately upon upgrade to the release that contains the AMGTT feature. This feature bit is replaced with a tiered FAK for the following part numbers:
  - FAK for part number 893-0218-01: “Advanced Global Title Modification”. If the MGTT feature is turned off before upgrade, then this FAK is used to enable CdPA and CgPA modification after upgrade.
  - Non-sellable FAK for part number 893-0218-02: "Advanced GT Modification, Called Party Only". If the MGTT feature is turned on before upgrade, then this FAK is used to automatically allow continued use of the CdPA modification functionality after upgrade. This FAK does not allow any CgPA modification.
  - FAK for part number 893-0218-03: “Advanced GT Modification, Calling Party Upgrade”. If the MGTT feature is turned on before upgrade, then this FAK is used enable CdPA and CgPA modification after upgrade.
- If the MGTT feature is turned off before upgrade, then all AMGTT functionalities are disabled after upgrade. The CdPA and CgPA parameters cannot be modified until the “Standard” functionality (893-0218-01), is enabled and turned on.
- The GTT feature must be turned on before the “Standard” functionality (893-0218-01) can be enabled.
- If the "Upgrade" functionality (893-0218-03) is enabled, then the "CdPA Mod Only" functionality (893-0218-02) is disabled.
- The AMGTT feature, including all subsets of AMGTT functionality, cannot be turned off after it has been turned on.

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- The AMGTT feature, including all subsets of AMGTT functionality, cannot be enabled with a temporary FAK.
- The CgPA modification options cannot be used until either the “Standard” (893-0218-01) or “Upgrade” (893-0218-03) AMGTT functionality is enabled and turned on.

## Hardware Requirements

There are no additional hardware requirements for this feature.

## Commands

The following commands are enhanced for the AMGTT feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **chg/rtrv-feat**—Enhanced to remove the MGTT feature bit.
- **enable/rtrv-ctrl-feat**—Enhanced to enable and display the status of the AMGTT feature. The following example displays sample output for the **rtrv-ctrl-feat** command when the AMGTT Upgrade functionality is turned on.

### **rtrv-ctrl-feat**

```
tekelecstp 08-01-29 16:57:00 EST EAGLE 38.0.0
The following features have been permanently enabled:
Feature Name          Partnum   Status   Quantity
HC-MIM SLk Capacity  893012707 on        64
Enhanced Far-End Loopback 893018101 on        ----
Hex Digit Support for GTT 893018501 on        ----
E5-SM4G Throughput Cap  893019101 on        ----
AMGTT CgPA Upgrade     893021803 on        ----
;
```

- **ent/chg/rtrv-gta**—Enhanced to allow CgPA GT modification and display modification data. The following example displays output for the **rtrv-gta** command when the AMGTT feature or the AMGTT CgPA Upgrade feature is turned on.

### **rtrv-gta:gttsn=setans004:cggtmod=yes**

```
tekelecstp 08-01-29 16:57:00 EST EAGLE 38.0.0

GTTSN      NETDOM  NDGT
setans004  ansi    6
GTT TABLE IS 1 % FULL (1 of 269999)

START GTA  END GTA  XLAT  RI    PC
981234    981234  DPCNGT GT    001-001-001
MRNSET=DFLT SSN=--- CCGT=no NTT=10 CGGTMOD=yes
NNP=14 NNAI= NPDD=0 NPDS=
NGTI=
LOOPSET = none
;
```

- **ent/chg/rtrv-gtt**—Enhanced to allow CgPA GT modification and display modified CgPA information. The following example displays output for the **rtrv-gtt** command when the AMGTT feature or the AMGTT CgPA Upgrade feature is turned on.

### **rtrv-gtt:type=4:cggtmod=yes**

```
tekelecstp 08-01-29 16:57:00 EST EAGLE 38.0.0

TYPEA     TTN      NDGT
4         ------ 6
```

```
GTT TABLE IS 1 % FULL (1 of 269999)

START GTA          END GTA          XLAT  RI    PCA
981234            981234            DPC   GT    001-001-001
MRNSET=DFLT  SSN=--- NGT=--- CGGTMOD=yes
NNP=14 NNAI=   NPDD=0  NPDS=
NGTI=
LOOPSET = none
```

- ent/chg/rtrv-ls—Enhanced to allow CgPA GT modification and display modified CgPA information. The following examples display output for the rtrv-ls command when the AMGTT feature or the AMGTT CgPA Upgrade feature is turned on.

Example 1 displays the output that results when information for a specific linkset is requested.

**rtrv-ls:lsn=ls3**

```
tekelecstp 08-01-27 11:56:50 EST EAGLE 38.0.0

LSN          APCA  (SS7)  SCRN  SET  SET  BEI  LST  LNKS  ACT  MES  DIS  SLSCI  NIS
ls3          002-002-003  none  1    1    no  A    0    off  off  off  no    off

          SPCA          CLLI          TFATCABMLQ  MTPRSE  ASL8  GSMSCRN
          -----          -----          1          ---    no    off

IPGWAPC  MATELSN          IPTPS  LSUSEALM  SLKUSEALM  GTTMODE
no          -----          ---          ---          ---          AdvCdPA, CdPA, CgPA

CGGTMOD
yes

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

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

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

LOC  PORT  SLC  TYPE          IPLIML2

LOC  PORT  SLC  TYPE

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

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

Link set table is (3 of 1024) 1% full.
```

Example 2 displays the output that results when information for all linksets with calling party GT modification is requested.

**rtrv-ls:cggmod=yes**

```
tekelecstp 08-01-27 11:56:50 EST EAGLE 38.0.0

LSN          APCA  (SS7)  SCRN  SET  SET  BEI  LST  LNKS  ACT  MES  DIS  SLSCI  NIS
abc14368     330-020-000  SEAS  1    1    yes  a    2    off  off  off  no    off
abc34589     330-030-000  scr1  1    2    no   c    3    on  on  on  yes

LSN          APCA  (SS7)  SCRN  SET  SET  BEI  LST  LNKS  ACT  MES  DIS  SLSCI  NIS
abc32261     330-044-000  scr1  1    1    yes  a    1    off  off  off  ---  off
```

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

Link set table is (114 of 1024) 12% full
;
```

### *Limitations*

There is a limit of 150 characters allowed for the command line input. If the input combination of parameters is greater than 150 characters, then it may be necessary to provide more than one line of input to provision all the desired fields for an entry in the GTT database.

### **E5-ATM Card**

The E5-ATM card supports both ANSI and ITU implementations for SS7 signaling information. This card can be used to replace the LIM-ATM and E1-ATM cards; however, the LIM-ATM and the E1-ATM cards are still supported and can co-exist with the E5-ATM card in the same node.

The E5-ATM card supports a new **atmhc** GPL.

The E5-ATM card can support 2 ATM signaling links, operating at 1 Erlang. The card can be configured for either E1 (ITU) or T1 (ANSI). Both links must be either E1 or T1.

If the B signaling link is provisioned, then the card slot is no longer compatible with the LIM-ATM or E1-ATM cards. Inserting one of these cards after provisioning the B link causes the card to auto-inhibit.

### *Feature Control Requirements*

There are no feature control requirements identified for this feature.

### *Hardware Requirements*

HIPR cards must be installed in the shelf where the E5-ATM card is installed.

The E5-ATM card provides connectivity for two E1/T1 ports on the Port A backplane connector, allowing the two links to be provisioned. These ports can be accessed with a 2-port or 4-port cable. An interface adapter (P/N 830-1342-05) allows the two ports to be physically split to two different cables/patch panels. If it is desired to move the second E1/T1 port to the Port B backplane connector, then an adapter and another cable (1-, 2-, or 4-port) must be used.

### *Commands*

The following commands are enhanced to support the E5-ATM card. For complete descriptions of these commands, refer to the Commands Manual of your EAGLE 5 ISS Release 38.0 documentation set.

- **act/chg/ent/rept-stat/rtrv-gpl**—Enhanced to support the **atmhc** GPL.  
The following examples display output for the **rept-stat-gpl** command when an E5-ATM card is provisioned.

Example 1 displays the output that results when all GPLs for the card are requested.

**rept-stat-gpl**

```
rlghncxa03w 08-01-21 07:01:08 EST EAGLE 38.0.0
GPL      CARD      RUNNING      APPROVED      TRIAL
ATMHC    1103      128-002-000      128-002-000      128-002-000
ATMHC    1107      128-002-000      128-002-000      128-002-000
EOAM     1113      025-002-000      025-002-000      -----
EOAM     1115      025-002-000      025-002-000      -----
SCCP     1212      025-001-000      025-001-000      025-001-000
VSCCP    1103      026-001-000      026-001-000      026-001-000
CCS7ITU  1201      025-001-000      025-001-000      025-001-000
CCS7ITU  1202      025-001-000      025-001-000      025-001-000
ATMANSI  1205      025-001-000      025-001-000      025-001-000
ATMANSI  1211      025-001-000      025-001-000      025-001-000
SS7ANSI  1203      025-001-000      025-001-000      025-001-000
SS7ANSI  1207      025-001-000      025-001-000      025-001-000
IPLIM    1213      025-001-000      025-001-000      025-001-000
SS7IPGW  1215      025-001-000      025-001-000      025-001-000
SS7ML    1105      027-001-000      027-001-000      027-001-000
OAP      A          025-001-000      025-001-000      -----
OAP      B          025-001-001 ALM      025-001-000      -----
Command Completed.
```

;

Example 2 displays the output that results when information for IMT and GPL status is requested.

**rept-stat-gpl:display=all**

```
rlghncxa03w 08-01-15 10:23:93 EST EAGLE5 38.0.0
GPL Auditing ON

GPL      CARD      RUNNING      APPROVED      TRIAL
EOAM     1113      125-002-000 ALM      125-001-000      125-002-000 *
          BPDCM      002-126-000      002-126-000      002-126-000
EOAM     1115      125-002-000 ALM      125-001-000      125-001-000 *
          BPDCM      002-123-020 ALM      002-126-000      002-126-000
ATMHC    1101      013-001-219      013-001-219      013-001-218
          IMTPCI      130-001-000      130-001-000      130-001-000
          BLVXW6      013-003-000      013-003-000      013-003-000
          BLDIAG6      013-003-000      013-003-000      013-003-000
          BLBEPM      013-003-000      013-003-000      013-003-000
          BLCPLD      013-003-000      013-003-000      013-003-000
SS7ANSI  1205      125-001-000      125-001-000      125-002-000
          IMT        125-001-000      125-001-000      125-002-000
GLS      1106      125-001-000      125-001-000      125-002-000
          IMT        125-001-000      125-001-000      125-002-000
UTILITY  1101      125-001-000      125-001-000      -----
          IMT        125-001-000      125-001-000      125-002-000
SS7GX25  1206      125-001-000      125-001-000      125-002-000
          IMT        125-001-000      125-001-000      125-002-000
SS7IPGW  1213      125-001-000      125-001-000      125-002-000
          BPDCM      002-125-002 ALM      002-126-000      002-126-000
VSCCP    1111      125-001-000      125-001-000      125-002-000
          BPDCM      002-125-002 ALM      002-126-000      002-126-000
BPHMUX   1109      125-001-000      125-001-000      125-002-000
BPHMUX   1110      125-001-000      125-001-000      125-002-000
BPHMUX   1209      125-001-000      125-001-000      125-002-000
BPHMUX   1210      125-001-000      125-001-000      125-002-000
MPLGA    1102      125-001-000      125-001-000      125-002-000
          BPMPL      125-001-000      125-001-000      125-002-000
SS7HC    1215      125-001-000      125-001-000      125-002-000
          IMTPCI      125-001-000      125-001-000      125-002-000
          BLBIOS      125-001-000      125-001-000      125-002-000
          BLCPLD      125-001-000      125-001-000      125-002-000
          BLVXW      125-001-000      125-001-000      125-002-000
          BLDIAG      125-001-000      125-001-000      125-002-000
          PLDE1T1      125-001-000      125-001-000      125-002-000
          PLDPMC1      125-001-000      125-001-000      125-002-000
Command Completed.
```

;

Example 3 displays the output that results when information for the atmhc GPL is requested.

**rept-stat-gpl:gpl=atmhc**

## Feature Notice

```
tekelecstp 08-01-06 13:24:56 EST EAGLE 38.0.0
GPL Auditing ON
```

```
GPL      CARD      RUNNING      APPROVED      TRIAL
ATMHC    1103    128-002-000  128-002-000  128-002-000
ATMHC    1107    128-002-000  128-002-000  128-002-000
Command Completed.
```

The following examples display output for the **rtrv-gpl** command when an E5-ATM card is used.

Example 1 displays abridged output that results when information for all GPLs is requested.

### rtrv-gpl

```
rlghncxa03w 08-01-15 11:34:04 EST EAGLE 38.0.0
GPL      CARD      RELEASE      APPROVED      TRIAL      REMOVE TRIAL
EOAM     1114    128-003-000  128-003-000  128-003-000  128-003-000
EOAM     1116    128-003-000  128-003-000  -----      -----
SS7ANSI  1114    128-002-000  128-002-000  128-002-000  128-002-000
SS7ANSI  1116    128-002-000  128-002-000  128-002-000  -----
SCCP     1114    128-002-000  128-002-000  128-002-000  128-002-000
SCCP     1116    128-002-000  128-002-000  128-002-000  -----
ATMHC    1114    128-015-000  128-015-000  128-015-000  128-015-000
ATMHC    1116    128-015-000  128-015-000  128-015-000  -----
STPLAN   1114    128-001-000  128-001-000  125-001-000  128-001-000
STPLAN   1116    128-001-000  128-001-000  125-001-000  -----
BPDCM    1114    128-001-000  128-001-000  128-001-000  128-001-000
BPDCM    1116    128-001-000  128-001-000  128-001-000  -----
IPLIM    1114    128-002-000  128-002-000  128-002-000  128-002-000
IPLIM    1116    128-002-000  128-002-000  128-002-000  -----
IPLIMI   1114    128-002-000  128-002-000  128-002-000  128-002-000
IPLIMI   1116    128-002-000  128-002-000  128-002-000  -----
SS7IPGW  1114    128-002-000  128-002-000  128-002-000  128-002-000
SS7IPGW  1116    128-002-000  128-002-000  128-002-000  -----
VSCCP    1114    128-002-000  128-002-000  128-002-000  128-002-000
VSCCP    1116    128-002-000  128-002-000  128-002-000  -----
IPGWI    1114    128-001-000  128-001-000  128-001-000  128-001-000
IPGWI    1116    128-001-000  128-001-000  128-001-000  -----
IPS      1114    128-001-000  128-001-000  128-001-000  128-001-000
IPS      1116    128-001-000  128-001-000  128-001-000  -----
HIPR     1114    128-001-000  128-005-000  125-005-000  128-005-000
HIPR     1116    128-001-000  128-005-000  125-005-000  -----
BLBIOS   1114    128-001-000  128-001-000  125-001-000  128-001-000
BLBIOS   1116    128-001-000  128-001-000  125-001-000  -----
BLCPLD   1114    128-001-000  128-001-000  125-001-000  128-001-000
BLCPLD   1116    128-001-000  128-001-000  128-001-000  -----
BLDIAG   1114    128-001-000  125-001-000  128-001-000  128-001-000
BLDIAG   1116    128-001-000  125-001-000  128-001-000  -----
BLVXW    1114    128-001-000  125-001-000  128-001-000  128-001-000
BLVXW    1116    128-001-000  125-001-000  128-001-000  -----
OAP*     A      128-001-000  125-001-000  -----      128-002-000
OAP*     B      128-001-000  125-002-000  ALM -----      -----
BLBEPM   1114    126-005-000  126-005-000  126-005-000  126-005-000
BLBEPM   1116    126-005-000  126-005-000  126-005-000  -----
BLVXW6   1114    126-005-000  126-005-000  126-005-000  126-005-000
BLVXW6   1116    126-005-000  126-005-000  126-005-000  -----
BLDIAG6  1114    126-005-000  126-005-000  126-005-000  126-005-000
BLDIAG6  1116    126-005-000  126-005-000  126-005-000  -----
SCCPHC   1114    128-019-000  128-019-000  128-019-000  128-019-000
SCCPHC   1116    128-019-000  128-019-000  128-019-000  -----
```

Example 2 displays the output that results when information for the **atmhc gpl** is requested.

### rtrv-gpl:gpl=atmhc

```
tklc1110501 08-01-12 17:27:27 EST EAGLE5 38.0.0
GPL Auditing ON

GPL      CARD      RELEASE      APPROVED      TRIAL      REMOVE TRIAL
ATMHC    1114    128-015-000  128-015-000  128-015-000  -----
ATMHC    1116    128-015-000  128-015-000  128-015-000  128-015-000
```

- **alw/ent/inh/init/rept-stat/rtrv-card**—Enhanced to support the E5-ATM card. The following examples display output for the **rept-stat-card** command when the E5-ATM card is used. Example 1 displays abridged output that results when status information for all cards is requested.

**rept-stat-card**

```

rlghncxa03w 08-01-04 12:57:21 EST EAGLE5 38.0.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1101  125-020-000    TSM      GLS      IS-NR    Active   -----
1102  128-002-000    LIMATM   ATMHC    IS-NR    Active   -----
1103  125-020-000    DSM      VSCCP    IS-NR    Active   -----
1105  125-020-000    DSM      VSCCP    IS-NR    Active   -----
1113  070-019-002    GPSM     EOAM     IS-NR    Standby  -----
1115  070-019-002    GPSM     EOAM     IS-NR    Active   -----
1205  125-020-000    EDCM     IPGWI    IS-NR    Active   -----
1206  125-020-000    EDCM     SS7IPGW  IS-NR    Active   -----
1207  125-020-000    EDCM     IPLIM    IS-NR    Active   -----
1208  125-020-000    EDCM     IPLIMI   IS-NR    Active   -----
1309  125-017-000    HIPR     HIPR     IS-NR    Active   -----
1310  125-017-000    HIPR     HIPR     IS-NR    Active   -----
1311  125-020-000    STC      EROUTE   IS-NR    Active   -----
1313  125-020-000    DCM      STPLAN   IS-NR    Active   -----
1401  104-002-000    LIMV35   CCS7ITU  IS-NR    Active   -----
1403  128-018-000    DCM      IPLHC    IS-NR    Active   -----
1409  128-016-000    HIPR     HIPR     IS-NR    Active   -----
1410  128-016-000    HIPR     HIPR     IS-NR    Active   -----
1411  128-018-000    STC      ERTHC    IS-NR    Active   -----
Command Completed.

```

Example 2 displays the output that results when a full report for an E5-ATM card is requested.

**rept-stat-card:loc=1102:mode=full**

```

stp9021503 08-01-13 06:14:58 EST EAGLE5 38.0.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1102  013-001-219    LIMATM   ATMHC    IS-NR    Active   -----
ALARM STATUS          = No Alarms.
IMTPCI  GPL version = 130-001-000
BLVXW6  GPL version = 013-003-000
BLDIAG6 GPL version = 013-003-000
BLBEPM  GPL version = 013-003-000
BLCPLD  GPL version = 013-003-000
IMT BUS A          = Conn
IMT BUS B          = Conn
CLOCK A           = Active
CLOCK B           = Idle
CLOCK I           = Idle
HS CLOCK A        = Active
HS CLOCK B        = Idle
HS CLOCK I        = Idle
MBD BIP STATUS    = Valid
MOTHER BOARD ID   = EPM A
DBD STATUS        = Valid
DBD TYPE          = ATM
DBD MEMORY SIZE   = 512M
HW VERIFICATION CODE = ----
CURRENT TEMPERATURE = 34C ( 94F)
PEAK TEMPERATURE:  = 35C ( 95F) [07-14-20 07:23]
SIGNALING LINK STATUS
  SLK   PST           LS           CLLI
  A     IS-NR         lsal10      -----
  B     IS-NR         lsal10      -----
TVG STATUS
SNM     TVG RESULT    = 24 hr: G-----, 5 min: G-----
SLAN    TVG RESULT    = 24 hr: -----, 5 min: -----
SCCP    TVG RESULT    = 24 hr: -----, 5 min: -----
INM     TVG RESULT    = 24 hr: G-----, 5 min: G-----

```

## Feature Notice

Command Completed.

The following examples display output for the **rtrv-card** command when an E5-ATM card is used.

Example 1 displays the output that results when information for all cards in the system is requested.

### **rtrv-card**

```
tekelecstp 08-01-01 10:18:26 EST EAGLE 38.0.0
CARD  TYPE      APPL      LSET NAME  LINK SLC LSET NAME  LINK SLC
1101  LIMATM      ATMANSI   lsa453     A    0    lsa453     B    1
1102  LIME1ATM    ATMITU    lsi453     A    0
1103  LIMATM      ATMANSI   lsa111     A    0
1105  LIMT1       SS7ANSI   lsa444     A    0
1106  LIME1       CCS7ITU   lsa444     A    0
1111  DCM         IPLIM     lsaftp     A    0
1113  GPSM        OAM
1114  TDM-A
1115  GPSM        OAM
1116  TDM-B
1117  MDAL
```

Example 2 displays the output that results when information for an E5-ATM card is requested.

### **rtrv-card:loc=1101**

```
tekelecstp 08-01-01 10:19:14 EST EAGLE 38.0.0
CARD  TYPE      APPL      LSET NAME  LINK SLC LSET NAME  LINK SLC
1101  LIMATM      ATMANSI   lsa453     A    0    lsa453     B    1
```

- **ent/rtrv-slk**—Enhanced to assign and display information for the B signalling link. The following examples show output for the **rtrv-slk** command when an E5-ATM card is used.

Example 1 displays the output that results when information for an E5-ATM card is requested.

### **rtrv-slk:loc=1305**

```
tekelecstp 08-01-14 12:17:00 EST EAGLE 38.0.0
LOC  LINK LSN      SLC TYPE      LP      ATM
1305 A  ls1      0 LIMATM      1      1544000  SET BPS  TSEL  VCI  VPI  LL
1305 B  ls1      1 LIMATM      1      1544000  LINE  LINE  5    0    0
```

Example 2 displays the output that results when information for the B link of an E5-ATM card is requested.

### **rtrv-slk:loc=1302:link=b**

```
tekelecstp 08-01-14 12:17:00 EST EAGLE 38.0.0
LOC  LINK LSN      SLC TYPE      LP      ATM
1302 B  ls1      3 LIMATM      1      1544000  SET BPS  TSEL  VCI  VPI  LL
1302 B  ls1      3 LIMATM      1      1544000  LINE  LINE  5    0    0
```

- **ent-trace**—Enhanced to support the **atmhc GPL**.
- **rept-stat-sys**—Enhanced to support the **atmhc GPL**.
- **rtrv-stp**—Enhanced to support the E5-ATM card. The following examples display output for the **rtrv-stp** command when an E5-ATM card is used.

Example 1 displays abridged output that results when information for the hardware configuration of all provisioned cards is requested.

### **rtrv-stp**

```
tekelecstp 08-01-03 13:19:14 GMT EAGLE 38.0.0
Card  Part Number  Rev Serial Number  Type  DB  APPL  GPL Version
----  -
1101  870-1289-04  K  10206035030  TSM  256M  GLS  128-018-000
1102  870-1872-01  B  10207215045  LIMATM  512M  ATMANSI  053-001-000
```

```

1103 870-2212-02 A 10206385320 DCM 512M IPLIM 128-018-000
1104 Empty
1105 Empty
1106 Empty
1107 Empty
1108 870-2212-02 A 10206365046 DCM 512M STPLAN 128-018-000
1109 MUX HIPR 128-016-000
1110 MUX HIPR 128-016-000
1111 870-2212-02 A 10206275736 STC 512M EROUTE 028-018-000
1112 870-2372-08 D 10206125537 STC - EROUTE 028-018-000
1113 870-2360-06 C 10206255064 GPSPM 1024M EOAM 128-018-000
1114 TDM
1115 870-2360-06 C 10206255165 GPSPM 1024M EOAM 128-018-000
1116 TDM
1117 MDAL
1118 Empty

1201 Empty
1202 Empty
1203 Empty
1204 Empty
1205 Empty
1206 Empty
1207 Empty
1208 Empty DCM STPLAN
1209 MUX HIPR 128-016-000
1210 MUX HIPR 128-016-000
1211 Empty
1212 Empty
1213 Empty
1214 Empty

```

Example 2 displays the output that results when information for all cards running the **atmhc** GPL is requested.

**rtrv-stp:gpl=atmhc**

```

stp9021503 08-01-16 06:58:36 EST EAGLE5 38.0.0

Card Part Number Rev Serial Number Type DB APPL GPL Version
---- -
1102 870-1872-01 B 10207215045 LIMATM 512M ATMANSI 053-001-000

Command Completed.
;

```

**Limitations**

The E5-ATM platform does not preserve memory across boots. The data may not remain intact across card boots.

**G-Flex MAP Layer Routing**

The G-Flex MAP Layer Routing (MLR) feature allows subscriber digits to be obtained from either the SCCP layer or the MAP layer of a message during G-Flex database lookup. This ability resolves the issue of truncation of digits by the mobile switching center (MSC) that may occur in the SCCP layer.

This feature applies to GSM MAP Update\_Location, GSM MAP Send\_Authentication\_Information (SAI), and GSM Send\_Parameters messages. CdPA digits from the SCCP layer are used to route all other MAP messages.

**NOTE: The feature supports Send\_Parameters messages only if the message contains the IMSI parameter.**

As part of this feature, the G-Flex feature is converted from a feature bit to a FAK and part number.

## Feature Notice

### *Feature Control Requirements*

The G-Flex MAP Layer Routing feature has the following feature control requirements:

- The G-Flex feature must be enabled and turned on (FAK for part number 893-0219-01) before the G-Flex MLR feature can be enabled.
- The G-Flex MLR feature requires a FAK for part number 893-0217-01
- If the **ansigflex** option in **chg-stpopts** command is turned on, then the feature cannot be enabled.
- A temporary FAK cannot be used to enable the G-Flex or the G-Flex MLR features.
- If the G-Flex feature is turned on with the feature bit before upgrade occurs, then the feature is automatically enabled and turned on with the FAK after upgrade.
- The G-Flex and G-Flex MLR features cannot be turned off after being turned on.

### *Hardware Requirements*

There are no additional hardware requirements for this feature.

### *Commands*

The following commands are enhanced to support the G-Flex MLR feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **chg/rtrv-feat**—Enhanced to remove the G-Flex feature bit.
- **enable/chg/rtrv-ctrl-feat**—Enhanced to enable, turn on, and display the status of the G-Flex and G-Flex MLR features. The following example displays partial output for the **rtrv-ctrl-feat** command when the G-Flex MLR feature is enabled and turned on.

#### **rtrv-ctrl-feat**

```
rlghncxa03w 08-02-11 16:40:40 EST EAGLE 38.0.0
The following features have been permanently enabled:
Feature Name          Partnum  Status  Quantity
HC-MIM SLK Capacity   893012707 on      64
G-Flex MAP Layer Routing 893021701 on      ----
G-Flex                893021901 on      ----
```

;

- **chg/rtrv-gsmopts**—Enhanced to determine whether the G-Flex MLR feature uses digits from the SCCP or MAP layer for database lookup. The **rtrv-gsmopts** command is enhanced to display the G-Flex MLR status. The following example displays output for the **rtrv-gsmopts** command when the G-Flex MLR feature is enabled and turned on.

#### **rtrv-gsmopts**

```
tekelecstp 08-02-04 20:34:22 EST EAGLE 38.0.0
GSM OPTIONS
-----
DEFMCC          = NONE
DEFMNC          = NONE
SRFADDR         = NONE
MSRNDIG         = RN
DEFMAPVR        = 1
IS412GSM        = NONE
MSISDNTRUNC     = 0
MIGRPFIX        = SINGLE
GSM2IS41        = NONE
```

```
GFLEXMAPLAYERRTG = ON
```

```
;
```

- **chg-stpopts**—Enhanced to prevent the **ansigflex** option from being turned on if the G-Flex MLR feature is enabled.

### *Limitations*

ANSI G-Flex traffic at 1700 TPS per Service Module card and 5000 TPS per E5-SM4G card is not supported by the G-Flex MLR feature. ANSI traffic operates at standard G-Flex TPS rates if the G-Flex MLR feature is turned on.

### **IP Signaling Gateway (IPSG)**

The IP Signaling Gateway (IPSG) feature provides a signaling gateway (SG) application as an alternative to the IPLIM and IPGW applications. However, the IPLIM and IPGW applications continue to be supported.

The IPSG feature can run the M2PA and M3UA protocols simultaneously on the same card. The feature also supports ANSI, ITU-N or ITUN-24, and ITU-I simultaneously on one card and one association.

The IPSG feature runs on the E5-ENET card and introduces an **ipsg** application and GPL. An E5-ENET card running the **ipsg** GPL is referred to as an IPSG card. ISUP screening of MSUs over IP links is supported on IPLIM, IPGW, and IPSG cards.

For the M3UA protocol, the IPSG feature equates a linkset with an application server (AS) and equates a signaling link with an application-server/application server process instance (AS-ASP).

The IPSG feature introduces IPSG-M3UA and IPSG-M2PA signaling links. Up to 16 of each link are supported per IPSG linkset. Up to 32 IPSG-M2PA or IPSG-M3UA links are supported per IPSG card. Up to 16 cards are supported per linkset for either the M2PA or M3UA protocol.

The IPSG-M2PA signaling link can run the ANSI or ITU protocol, but not both simultaneously. ANSI and ITU can run on the same IPSG card on separate IPSG-M2PA signaling links. ANSI and ITU can run on the same IPSG-M3UA signaling link.

A series of three IS-NR link count thresholds are used to control the transition of the IPSG-M3UA links between Allowed, Restricted, and Prohibited states.

M2PA links on IPLIMx and IPSG cards can exist in the same linkset. M3UA links on IPSG and IPGWx cards cannot exist in the same linkset. M2PA and M3UA links cannot exist within the same linkset.

Each IPSG card can host up to 32 SCTP associations. A maximum of 16 M3UA links or 1 M2PA link can be assigned to an association. M3UA and M2PA cannot be mixed on the same association.

The SCTP ADLER-32 or CRC-32 checksum algorithm can be selected for an individual IPLIM, IPGW, or IPSG card.

The adjacent point code (APC) of the IPSG-M3UA linkset is the point code assigned to an AS.

As part of this feature, the IPGWx Signaling TPS FAK is removed.

The IPSG feature works in conjunction with the SIGTRAN Measurements Phase 1 feature. The IPVSHL and the IPVL link classes introduced in the SIGTRAN feature are used for the M2PA and the M3UA links, respectively. See the [SIGTRAN Measurements Phase 1](#) feature description for more information.

## Feature Notice

### *Feature Control Requirements*

There are no feature control requirements identified for this feature.

### *Hardware Requirements*

The IPSG feature requires E5-ENET cards.

### *Commands*

The following commands are enhanced to support the IPSG feature. For a complete description of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **act/chg/copy/rept-stat/rtrv-gpl**—Enhanced to support the **ipsg** GPL. This GPL supports both the ANSI and ITU networks.

The following examples display output for the **rept-stat-gpl** command when an IPSG card is used.

Example 1 displays the output that results when information for all GPLs is requested.

#### **rept-stat-gpl**

```
rlghncxa03w 08-01-04 07:01:08 EST EAGLE 38.0.0
GPL          CARD      RUNNING          APPROVED          TRIAL
EOAM         1113       025-002-000     025-002-000     -----
EOAM         1115       025-002-000     025-002-000     -----
SCCP         1212       025-001-000     025-001-000     025-001-000
VSCCP        1103       026-001-000     026-001-000     026-001-000
CCS7ITU      1201       025-001-000     025-001-000     025-001-000
CCS7ITU      1202       025-001-000     025-001-000     025-001-000
ATMANSI      1205       025-001-000     025-001-000     025-001-000
ATMANSI      1211       025-001-000     025-001-000     025-001-000
SS7ANSI      1203       025-001-000     025-001-000     025-001-000
SS7ANSI      1207       025-001-000     025-001-000     025-001-000
IPLIM        1213       025-001-000     025-001-000     025-001-000
SS7IPGW      1215       025-001-000     025-001-000     025-001-000
SS7ML        1105       027-001-000     027-001-000     027-001-000
OAP           A          025-001-000     025-001-000     -----
OAP           B          025-001-001 ALM  025-001-000     -----
IPSG         1305       040-000-000     040-000-000     040-000-000
Command Completed.
;
```

Example 2 displays the output that results when a full display for all GPLs is requested

#### **rept-stat-gpl:display=all**

```
eagle10110 08-03-15 18:53:54 EST EAGLE 38.0.0
GPL Auditing ON

GPL          CARD      RUNNING          APPROVED          TRIAL
EOAM         1113       078-023-002     078-023-002     078-023-002 *
              BPDCM      130-014-000 ALM  130-023-000     130-023-000
EOAM         1115       078-023-002     078-023-002     078-023-002 *
              BPDCM      130-014-000 ALM  130-023-000     130-023-000
SS7ANSI      1201       078-023-000     078-023-000     130-023-000
              IMT        130-023-000     130-023-000     130-023-000
SS7ANSI      1204       078-023-000     078-023-000     130-023-000
              IMT        130-023-000     130-023-000     130-023-000
SS7ANSI      1205       078-023-000     078-023-000     130-023-000
              IMT        130-023-000     130-023-000     130-023-000
SS7ANSI      1206       078-023-000     078-023-000     130-023-000
              IMT        130-023-000     130-023-000     130-023-000
CCS7ITU      1211       078-023-000     078-023-000     130-023-000
              IMT        130-023-000     130-023-000     130-023-000
CCS7ITU      1212       078-023-000     078-023-000     130-023-000
```

Feature Notice

	IMT	130-023-000		130-023-000	130-023-000
CCS7ITU	1214	078-023-000		078-023-000	130-023-000
	IMT	130-023-000		130-023-000	130-023-000
CCS7ITU	1215	078-023-000		078-023-000	130-023-000
	IMT	130-023-000		130-023-000	130-023-000
CCS7ITU	1216	078-023-000		078-023-000	130-023-000
	IMT	130-023-000		130-023-000	130-023-000
IPLIM	1311	078-023-000		078-023-000	130-023-000
	BPDCM	130-014-000	ALM	130-023-000	130-023-000
IPLIMI	1313	078-023-000		078-023-000	130-023-000
	BPDCM	130-014-000	ALM	130-023-000	130-023-000
SS7IPGW	1107	078-023-000		078-023-000	130-023-000
	BPDCM	130-023-000		130-023-000	130-023-000
SS7IPGW	1307	078-023-000		078-023-000	130-023-000
	BPDCM	130-014-000	ALM	130-023-000	130-023-000
SS7IPGW	1308	078-023-000		078-023-000	130-023-000
	BPDCM	130-016-000	ALM	130-023-000	130-023-000
SS7IPGW	1315	078-023-000		078-023-000	130-023-000
	BPDCM	130-014-000	ALM	130-023-000	130-023-000
SS7ML	1202	078-023-000		078-023-000	130-023-000
	BPMLP	130-014-000	ALM	130-023-000	130-023-000
SS7ML	1203	078-023-000		078-023-000	130-023-000
	BPMLP	130-016-000	ALM	130-023-000	130-023-000
BPHMUX	1110	128-025-000		128-025-000	128-025-000
BPHMUX	1210	128-025-000		128-025-000	128-025-000
IPGWI	1317	078-023-000		078-023-000	130-023-000
	BPDCM	130-014-000	ALM	130-023-000	130-023-000
IPS	1105	130-023-000		130-023-000	130-023-000
	BPDCM	130-014-000	ALM	130-023-000	130-023-000
HIPR	1310	130-004-000	ALM	130-023-000	130-023-000
IPSG	1301	078-023-004		078-023-004	049-023-000
	IMTPCI	130-020-000	ALM	130-023-000	130-023-000
	BLVXW6	028-020-001	ALM	130-022-000	130-022-000
	BLDIAG6	130-018-000	ALM	130-008-000	130-008-000
	BLBEPM	130-018-000	ALM	128-021-000	128-021-000
	BLCPLD	130-018-000	ALM	128-021-000	128-021-000
IPSG	1303	078-023-004		078-023-004	049-023-000
	IMTPCI	130-023-000		130-023-000	130-023-000
	BLVXW6	130-022-000		130-022-000	130-022-000
	BLDIAG6	130-008-000		130-008-000	130-008-000
	BLBEPM	128-021-000		128-021-000	128-021-000
	BLCPLD	128-021-000		128-021-000	128-021-000
IPSG	1304	049-023-000	ALM	078-023-004	049-023-000
	IMTPCI	130-023-000		130-023-000	130-023-000
	BLVXW6	130-022-000		130-022-000	130-022-000
	BLDIAG6	130-008-000		130-008-000	130-008-000
	BLBEPM	128-021-000		128-021-000	128-021-000
	BLCPLD	128-021-000		128-021-000	128-021-000
IPSG	1305	078-023-004		078-023-004	049-023-000
	IMTPCI	130-023-000		130-023-000	130-023-000
	BLVXW6	130-022-000		130-022-000	130-022-000
	BLDIAG6	130-008-000		130-008-000	130-008-000
	BLBEPM	128-021-000		128-021-000	128-021-000
	BLCPLD	128-021-000		128-021-000	128-021-000
IPSG	1314	078-023-004		078-023-004	049-023-000
	IMTPCI	130-023-000		130-023-000	130-023-000
	BLVXW6	130-022-000		130-022-000	130-022-000
	BLDIAG6	130-008-000		130-008-000	130-008-000
	BLBEPM	128-021-000		128-021-000	128-021-000
	BLCPLD	128-021-000		128-021-000	128-021-000

Command Completed.

Example 2 displays the output that results when information for the **ipsg** GPL is requested.

**rept-stat-gpl:gpl=ipsg**

eagle10213 08-02-19 17:21:02 EST EAGLE 38.0.0  
 GPL Auditing ON

GPL           CARD           RUNNING           APPROVED           TRIAL

## Feature Notice

IPSG            1305            040-000-000            040-000-000            040-000-000

Command Completed.

The following examples display output for the **rtrv-gpl** command when an IPSG card is used.

Example 1 displays abridged output that results when information for all GPLs is requested.

### rtrv-gpl

```

righncxa03w 08-02-01 11:34:04 EST EAGLE 38.0.0
GPL        CARD    RELEASE        APPROVED            TRIAL            REMOVE TRIAL
EOAM       1114    128-003-000    128-003-000        128-003-000    128-003-000
EOAM       1116    128-003-000    128-003-000        -----        -----
SS7ANSI    1114    128-002-000    128-002-000        128-002-000    128-002-000
SS7ANSI    1116    128-002-000    128-002-000        128-002-000    -----
SCCP       1114    128-002-000    128-002-000        128-002-000    128-002-000
SCCP       1116    128-002-000    128-002-000        128-002-000    -----
ATMANSI    1114    128-002-000    128-002-000        125-002-000    128-002-000
ATMANSI    1116    128-002-000    128-002-000        128-002-000    -----
IPLIM      1114    128-002-000    128-002-000        128-002-000    128-002-000
IPLIM      1116    128-002-000    128-002-000        128-002-000    -----
IPLIMI     1114    128-002-000    128-002-000        128-002-000    128-002-000
IPLIMI     1116    128-002-000    128-002-000        128-002-000    -----
SS7IPGW    1114    128-002-000    128-002-000        128-002-000    128-002-000
SS7IPGW    1116    128-002-000    128-002-000        128-002-000    -----
IPGWI       1114    128-001-000    128-001-000        128-001-000    128-001-000
IPGWI       1116    128-001-000    128-001-000        128-001-000    -----
HIPR       1114    128-001-000    128-005-000        125-005-000    128-005-000
HIPR       1116    128-001-000    128-005-000        125-005-000    -----
SS7HC      1114    128-001-000    128-001-000        125-001-000    128-001-000
SS7HC      1116    128-001-000    128-001-000        125-001-000    -----
IMTPCI     1114    128-001-000    125-001-000        128-001-000    128-001-000
IMTPCI     1116    128-001-000    125-001-000        128-001-000    -----
OAP*        A     128-001-000    125-001-000        -----        128-002-000
OAP*        B     128-001-000    125-002-000        ALM        -----
SS7EPM     1114    126-005-000    126-005-000        126-005-000    126-005-000
SS7EPM     1116    126-005-000    126-005-000        126-005-000    -----
BLBEPM     1114    126-005-000    126-005-000        126-005-000    126-005-000
BLBEPM     1116    126-005-000    126-005-000        126-005-000    -----
BLVXW6     1114    126-005-000    126-005-000        126-005-000    126-005-000
BLVXW6     1116    126-005-000    126-005-000        126-005-000    -----
BLDIAG6    1114    126-005-000    126-005-000        126-005-000    126-005-000
BLDIAG6    1116    126-005-000    126-005-000        126-005-000    -----
IPSHC      1114    128-001-000    128-001-000        128-001-000    128-001-000
IPSHC      1116    128-001-000    128-001-000        128-001-000    -----
SLANHC     1114    128-002-000    128-002-000        128-002-000    128-002-000
SLANHC     1116    128-002-000    128-002-000        128-002-000    -----
BLBSMG     1114    128-007-000    128-007-000        128-007-000    128-007-000
BLBSMG     1116    128-007-000    128-007-000        128-007-000    -----
IPSG       1114    129-001-000    129-001-000        129-001-000    129-001-000
IPSG       1116    129-001-000    129-001-000        129-001-000    -----

```

Example 2 displays the output that results when information for the **ipsg** GPL is requested.

### rtrv-gpl:gpl=ipsg

```

tekelecstp 08-02-10 11:41:14 EST EAGLE 38.0.0
GPL Auditing ON

GPL        CARD    RELEASE        APPROVED            TRIAL            REMOVE TRIAL
IPSG       1114    128-001-000    129-001-000        129-001-000    -----
IPSG       1116    128-001-000    129-001-000        129-001-000    -----

```

- **act/canc-lpo**—Enhanced to support IPSG signaling links.
- **act/alw/blk/canc/dact/dlt/ent/inh/rept-stat/rtrv/tst/ublk/unhb-slk**—Enhanced to support IPSG links. The following examples display output for the **rtrv-slk** command when an IPSG card is provisioned.

Example 1 displays the output that results when information for all signaling links is requested.

rtrv-slk

eagle10212 08-02-06 16:20:45 EST EAGLE 38.0.0

LOC	LINK	LSN	SLC	TYPE	L2T		L1		ECM	PCR	
					SET	BPS	MODE	TSET		N1	N2
1201	A	e3m1s1	0	LIMDS0	1	56000	---	---	BASIC	---	-----
1201	B	e3m1s2	0	LIMDS0	1	56000	---	---	BASIC	---	-----
1202	A	e3m1s1	1	LIMDS0	1	56000	---	---	BASIC	---	-----
1202	B	e3m1s2	1	LIMDS0	1	56000	---	---	BASIC	---	-----
1203	A	e3m1s1	2	LIMDS0	1	56000	---	---	BASIC	---	-----
1203	B	e3m1s2	2	LIMDS0	1	56000	---	---	BASIC	---	-----
1204	A	e3m1s1	3	LIMDS0	1	56000	---	---	BASIC	---	-----
1204	B	e3m1s2	3	LIMDS0	1	56000	---	---	BASIC	---	-----
1205	A	e3m1s1	4	LIMDS0	1	56000	---	---	BASIC	---	-----
1205	B	e3m1s2	4	LIMDS0	1	56000	---	---	BASIC	---	-----
1206	A	e3m1s1	5	LIMDS0	1	56000	---	---	BASIC	---	-----
1206	B	e3m1s2	5	LIMDS0	1	56000	---	---	BASIC	---	-----
1207	A	e3m1s1	6	LIMDS0	1	56000	---	---	BASIC	---	-----
1207	B	e3m1s2	6	LIMDS0	1	56000	---	---	BASIC	---	-----
1211	A	e3m2s1	0	LIMDS0	11	56000	---	---	BASIC	---	-----
1211	B	e3m2s2	0	LIMDS0	11	56000	---	---	BASIC	---	-----
1212	A	e3m2s1	1	LIMDS0	11	56000	---	---	BASIC	---	-----
1212	B	e3m2s2	1	LIMDS0	11	56000	---	---	BASIC	---	-----
1213	A	e3m2s1	2	LIMDS0	11	56000	---	---	BASIC	---	-----
1213	B	e3m2s2	2	LIMDS0	11	56000	---	---	BASIC	---	-----
1214	A	e3m2s1	3	LIMDS0	11	56000	---	---	BASIC	---	-----
1214	B	e3m2s2	3	LIMDS0	11	56000	---	---	BASIC	---	-----
1215	A	e3m2s1	4	LIMDS0	11	56000	---	---	BASIC	---	-----
1215	B	e3m2s2	4	LIMDS0	11	56000	---	---	BASIC	---	-----
1216	A	e3m2s1	5	LIMDS0	11	56000	---	---	BASIC	---	-----
1216	B	e3m2s2	5	LIMDS0	11	56000	---	---	BASIC	---	-----
1217	A	e3m2s1	6	LIMDS0	11	56000	---	---	BASIC	---	-----
1217	B	e3m2s2	6	LIMDS0	11	56000	---	---	BASIC	---	-----

LOC	LINK	LSN	SLC	TYPE	LP		ATM			
					SET	BPS	TSEL	VCI	VPI	LL
1208	A	e3e4	4	1208 A	LIMATM	1	1544000	LINE	50	0
1218	A	e3e4	5	1218 A	LIMATM	1	1544000	LINE	50	0

LOC	LINK	LSN	SLC	TYPE	ANAME	SLKTPS
1303	A	m2pa12132	0	IPSG	m2pa1303a	1000
1303	B	m3ua333a	0	IPSG	m3ua1303b	500
1303	A1	m3ua323a	0	IPSG	m3ua1303a	1000
1303	B1	m3ua333i	0	IPSG	m3ua1303b	500
1303	B2	m3ua333n	0	IPSG	m3ua1303b	500
1305	A	ls1305a	0	IPSG	sg1305a	1000
1305	B	ls1305i	0	IPSG	sg1305i	500
1305	A1	ls1305a	1	IPSG	a1	1000
1305	B1	ls1305i	1	IPSG	a1	500
1305	B14	lsitunbb	0	IPSG	a1	1000
1305	B15	lsitunaa	0	IPSG	a1	1000

LOC	LINK	LSN	SLC	TYPE	IPLIML2
1301	A	e3e4	0	IPLIM	M2PA
1301	B	e3e4	2	IPLIM	M2PA
1311	A	e3e4a	0	IPLIM	M2PA
1313	A	e3e4i	0	IPLIMI	M2PA

LOC	LINK	LSN	SLC	TYPE
1307	A	ls1307a	0	SS7IPGW
1315	A	ls1315a	0	SS7IPGW
1317	A	ls1317i	0	IPGWI

SLK table is (48 of 1200) 4% full.

;

Example 2 displays the output that results when information for an IPSG card is requested.

## Feature Notice

### **rtrv-slk:loc=1301**

```
e1001501 08-02-03 16:20:45 EST EAGLE 38.0.0

LOC LINK LSN          SLC TYPE   ANAME          SLKTPS
1301 A   SCS1           0  IPSP      sgl301a        500
1301 B   SCS2           0  IPSP      sgl301b        1000
1301 A1  MGC1           0  IPSP      sgl301a1       700
1301 B1  MGC2           0  IPSP      sgl301b1      1200

IPTPS for LOC = 1301 is (3400 of 5000) 68% .
```

;

Example 3 displays the output that results when information for signaling links configured for a specified association is requested.

### **rtrv-slk:aname=m3ua1211a1**

```
e1001501 08-01-23 16:20:45 EST EAGLE 38.0.0

LOC LINK LSN          SLC TYPE   ANAME          SLKTPS
1211 A1  ls1211b        0  IPSP      m3ua1211a1     600
1211 A2  ls1211c        0  IPSP      m3ua1211a1     700
```

;

- **chg/rtrv-ip-lnk**—Enhanced to support the **ipsg** application.
- **chg/rtrv-sg-opts**—Enhanced to allow checksum algorithms to be selected on a per card basis. The following example displays output for the **rtrv-sg-opts** command when the checksum algorithm is provisioned on a percard basis.

### **rtrv-sg-opts**

```
rlghncxa03w 08-02-07 09:50:17 EST EAGLE 38.0.0
SRKQ:          900
SNMPCONT:      tekelec
GETCOMM:       public
SETCOMM:       private
TRAPCOMM:      public
SCTPCSUM:      percard
IPGWABATE:     NO
UAMEASUSEDFTAS: NO
```

;

- **chg-lsopts**—Added to administer the thresholds for IPSP-M3UA linksets.
- **connmgr**— Enhanced to display summary data for IPSP cards in the **-d** report.

**NOTE: The -c and -s options for display of TCP client/server data are not supported for the ipsg application.**

The following examples display output for the **connmgr** command when an IPSP card is used.

Example 1 displays the output that results when the **help** command is requested.

### **pass:loc=1304:cmd="connmgr -h"**

```
eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0
pass:loc=1304:cmd="connmgr -h"
Command entered at terminal #3.

eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0
PASS: Command sent to card

eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0
Usage: CONNMGR [-d] [-h] [-i] [-l] [-n] [-r]
Options:
  -d  Display connection manager data summary
  -h  Displays this message
```

```

-i   Displays instance data
-l   Display the connection manager event log
-n   Display the SCTP notification log
-r   Reset the connection manager logs
;

eagle10110 08-01-15 15:54:07 EST  EAGLE 38.0.0

CONNMGR: command complete
;

```

Example 2 displays the output that results when a summary connection manager data report is requested.

```

pass:loc=1304:cmd="connmgr -d"
eagle10110 08-01-15 16:09:24 EST  EAGLE 38.0.0
pass:loc=1304:cmd="connmgr -d"
Command entered at terminal #3.
;

eagle10110 08-01-15 16:09:24 EST  EAGLE 38.0.0
PASS: Command sent to card
;

eagle10110 08-01-15 16:09:24 EST  EAGLE 38.0.0
CONNMGR: Connection Manager Data Summary

    num_instances:                1
    num_assocs:                   1
    num_established_assocs:       0
    num_cli_assocs:               0
    num_established_cli_assocs:   0
    num_assocs_with_tx_data:      0
    num_full_assocs:             0
    num_assoc_with_rcv_data:      0
    num_times_tx_q_full:         0
    num_assoc_down_notif:        0
    num_assoc_aborted_notif:     0
    num_assoc_restart_notif:     0
    num_intf_up_notif:           0
    num_intf_down_notif:         0
    num_hb_resp_notif:           0
    num_dg_fail_notif:           0
    num_rd_errors:               0
    num_wt_errors:               0
    num_wt_shutdown:             0
    num_wt_empty:                0

CONNMGR: command complete
;

```

- **enable/rtrv-ctrl-feat**—Enhanced to remove the IPGWx Signaling TPS FAK.
- **alw/ent/chg/init/rtrv-ip-card**—Enhanced to support the **ipsg** application and the SCTP checksum for the ADLER and CRC-32 algorithms. The following examples display output for the **rtrv-ip-card** command when the checksum information is provisioned.

Example 1 displays the output that results when IP information is requested for all cards in the system.

```

rtrv-ip-card
rlghncxa03w 08-01-22 15:35:05 EST  EAGLE 38.0.0
LOC 1211
  SRCHORDR  LOCAL
  DNSA      150.1.1.1
  DNSB      -----
  DEFROUTER -----
  DOMAIN    NC.TEKELEC.COM
  SCTPCSUM  adler32

LOC 1213

```

## Feature Notice

```
SRCHORDR LOCAL
DNSA      150.1.1.1
DNSB      -----
DEFROUTER 150.1.1.25
DOMAIN    NC.TEKELEC.COM
SCTPCSUM  crc32c
```

```
LOC 1301
SRCHORDR SRVONLY
DNSA      150.1.1.10
DNSB      150.1.1.28
DEFROUTER -----
DOMAIN    NC.TEKELEC.COM
SCTPCSUM  adler32
```

Example 2 displays the output that results when IP information for a specified card is requested.

### rtrv-ip-card:loc=1211

```
rlghncxa03w 08-01-22 15:35:05 EST EAGLE 38.0.0
LOC 1211
SRCHORDR LOCAL
DNSA      150.123.123.123
DNSB      -----
DEFROUTER -----
DOMAIN    NC.TEKELEC.COM
SCTPCSUM  adler32
```

- **ent-as**—Enhanced to not allow IPSG associations.
- **ent/chg/dlt/rept-stat/rtrv-assoc**—Enhanced to support the **ipsg** application. The **rept-stat-assoc** and **rtrv-assoc** commands are enhanced to display '\*\*' as the LINK for the association if the association is assigned to multiple links, '—' if the association is not assigned to a link, and the appropriate ID if the association is assigned to a single link.

The following examples display output for the **rept-stat-assoc** command when an IPSG card is used.

Example 1 displays the output that results when information for all associations is requested.

### rept-stat-assoc

```
eagle10212 08-01-29 10:41:52 EST EAGLE 38.0.0
CARD IPLNK
ANAME      LOC  PORT  LINK  PST           SST           ASPID
ipg11303a  1303 A      A      OOS-MT        OOS           undefined
ipl11301b  1301 A      B      IS-NR         ESTABLISHED
a1         1305 A      **     OOS-MT-DSBLD OOS           undefined
ipg1308a1  1308 A      A      OOS-MT-DSBLD OOS           undefined
sca        1306 A      A      IS-ANR        CONGESTED
a2         1304 A      A      IS-ANR        EXCESS RETRANS undefined
sca7       1307 A,B    A      IS-NR         ESTABLISHED  undefined
lavern     1305 A      A      IS-NR         ESTABLISHED
ipl11313b  1313 A      B      OOS-MT-DSBLD OOS
ipl11302a  1302 A      A      IS-NR         ESTABLISHED
n          1315 A      A      OOS-MT        CONNECTING
ipg1305a1  1305 A      A      OOS-MT-DSBLD OOS           undefined
ipl11301b3 1301 A      B3     IS-NR         ESTABLISHED
m2pa1107a0 1107 A      --     OOS-MT-DSBLD OOS
m2pa1107a1 1107 A      --     OOS-MT-DSBLD OOS
ipg1215a01 1215 A      **     IS-NR         ESTABLISHED  undefined
ipg1215a02 1215 A      **     IS-NR         ESTABLISHED  undefined
ipg1215a03 1215 A      --     OOS-MT-DSBLD OOS           undefined
ipg1215a04 1215 A      **     OOS-MT        OOS           undefined
ipg1215a05 1215 A      --     OOS-MT-DSBLD OOS           undefined
sg1305a    1305 A      A      IS-NR         ESTABLISHED  undefined
Command Completed.
```

Example 2 displays the output that results when information for an IPSG-M3UA association is requested, and the state is ACTIVE.

### rept-stat-assoc:aname=sg1305a

```
eagle10212 08-02-06 17:00:42 EST EAGLE 38.0.0
CARD IPLNK
ANAME LOC PORT LINK PST SST ASPID
sg1305a 1305 A A IS-NR ESTABLISHED undefined

LSN ANAME ASP STATE
ls1305a sg1305a ACTIVE
```

Command Completed.

Example 3 displays the output that results when information for an IPSPG-M3UA association is requested, and the state is DOWN.

**rept-stat-assoc:aname=a1**

```
eagle10212 08-02-06 17:00:56 EST EAGLE 38.0.0
CARD IPLNK
ANAME LOC PORT LINK PST SST ASPID
a1 1305 A ** OOS-MT OOS undefined

LSN ANAME ASP STATE
ls1305a a1 DOWN
ls1305i a1 DOWN
lsitunbb a1 DOWN
lsitunaa a1 DOWN
```

Command Completed.

The following examples display output for the **rtrv-assoc** command when an IPSPG card is used.

Example 1 displays the output that results when summary information for all associations is requested.

**rtrv-assoc**

```
eagle10212 08-02-06 16:58:31 EST EAGLE 38.0.0
CARD IPLNK
ANAME LOC PORT LINK ADAPTER LPORT RPORT OPEN ALW
ip11301a 1301 A A M2PA 1301 1301 YES YES
ip11301b 1301 A B M2PA 1302 1302 YES YES
sg1305a 1305 A A M3UA 2005 2005 YES YES
ip11311a 1311 A A M2PA 1311 1311 NO YES
m2pa1303a 1303 A A M2PA 3565 3565 YES YES
m3ua1303a 1303 A A1 M3UA 2905 2905 YES YES
m3ua1303b 1303 A ** M3UA 2906 2906 YES YES
sg1305i 1305 A B M3UA 2006 2006 NO NO
a1 1305 A ** M3UA 2001 2001 YES YES
```

IP Appl Sock/Assoc table is (9 of 4000) 1% full

;

Example 2 displays abridged output that results when a full report is requested.

**rtrv-assoc:display=all**

```
eagle10212 08-02-06 17:00:42 EST EAGLE 38.0.0

ANAME ip11301a
LOC 1301 IPLNK PORT A LINK A
ADAPTER M2PA VER M2PA RFC
LHOST e1021201.1301a
ALHOST ---
RHOST e1021301.1301a
LPORT 1301 RPORT 1301
ISTRMS 2 OSTRMS 2 BUFSIZE 200
RMODE LIN RMIN 120 RMAX 800
RTIMES 10 CWMIN 3000 M2PATSET 1
OPEN YES ALW YES RTXTHR 0

ANAME ip11301b
LOC 1301 IPLNK PORT A LINK B
ADAPTER M2PA VER M2PA RFC
LHOST e1021201.1301a
ALHOST ---
```

## Feature Notice

```

RHOST      e1021301.1301a
LPORT      1302          RPORT      1302
ISTRMS     2           OSTRMS     2           BUFSIZE    200
RMODE      LIN         RMIN       120          RMAX       800
RTIMES     10          CWMIN      3000       M2PATSET   1
OPEN       YES         ALW        YES          RTXTHR     0

ANAME      sg1305i
LOC        1305          IPLNK PORT A      LINK        B
ADAPTER    M3UA         VER           M3UA RFC
LHOST      e1021201.1305a
ALHOST     ---
RHOST      e1021301.1305a
LPORT      2006          RPORT      2006
ISTRMS     2           OSTRMS     2           BUFSIZE    200
RMODE      LIN         RMIN       120          RMAX       800
RTIMES     10          CWMIN      3000       UAPS       10
OPEN       NO          ALW        YES          RTXTHR     0

ANAME      ipg1315a1
LOC        1315          IPLNK PORT A      LINK        A
ADAPTER    M3UA         VER           M3UA RFC
LHOST      e1021201.1315a
ALHOST     ---
RHOST      e1021301.1315a
LPORT      1315          RPORT      1315
ISTRMS     2           OSTRMS     2           BUFSIZE    16
RMODE      LIN         RMIN       120          RMAX       800
RTIMES     10          CWMIN      3000       UAPS       10
OPEN       NO          ALW        NO           RTXTHR     0

ANAME      a1
LOC        1305          IPLNK PORT A      LINK        **
ADAPTER    M3UA         VER           M3UA RFC
LHOST      e1021201.1305a
ALHOST     ---
RHOST      labsun10215p0
LPORT      2001          RPORT      2001
ISTRMS     2           OSTRMS     2           BUFSIZE    200
RMODE      LIN         RMIN       120          RMAX       800
RTIMES     10          CWMIN      3000       UAPS       10
OPEN       YES         ALW        YES          RTXTHR     0

ANAME      a2
LOC        1303          IPLNK PORT A      LINK        A2
ADAPTER    M3UA         VER           M3UA RFC
LHOST      e1021201.1303a
ALHOST     ---
RHOST      labsun10215p0
LPORT      2002          RPORT      2002
ISTRMS     2           OSTRMS     2           BUFSIZE    200
RMODE      LIN         RMIN       120          RMAX       800
RTIMES     10          CWMIN      3000       UAPS       10
OPEN       YES         ALW        YES          RTXTHR     0

ANAME      sg1305m
LOC        1303          IPLNK PORT A      LINK        A1
ADAPTER    M2PA         VER           M2PA RFC
LHOST      e1021201.1303a
ALHOST     ---
RHOST      e1021301.1303a
LPORT      1305          RPORT      1305
ISTRMS     2           OSTRMS     2           BUFSIZE    200
RMODE      LIN         RMIN       120          RMAX       800
RTIMES     10          CWMIN      3000       M2PATSET   1
OPEN       YES         ALW        YES          RTXTHR     0

```

IP Appl Sock/Assoc table is (13 of 4000) 1% full

;

Example 3 displays the output that results when information on command associations for an M2PA adapter is requested.

```

rtrv-assoc:aname=sg1305m
e1001501 08-01-23 16:20:47 EST EAGLE 38.0.0

ANAME sg1305m
LOC 1303 IPLNK PORT A LINK A1
ADAPTER M2PA VER M2PA RFC
LHOST e1021201.1303a
ALHOST ---
RHOST e1021301.1303a
LPORT 1305 RPORT 1305
ISTRMS 2 OSTRMS 2 BUFSIZE 200
RMODE LIN RMIN 120 RMAX 800
RTIMES 10 CWMIN 3000 M2PATSET 1
OPEN YES ALW YES RTXTHR 0

LSN;
lsm2pa

IP Appl Sock/Assoc table is (13 of 4000) 1% full
Assoc Buffer Space Used (600 KB of 3200 KB) on LOC = 1303
;

```

Example 4 displays the output that results when information on command associations for an M3UA adapter is requested.

```

rtrv-assoc:aname=a1
e1001501 08-02-23 16:20:50 EST EAGLE 38.0.0

ANAME a1
LOC 1305 IPLNK PORT A LINK **
ADAPTER M3UA VER M3UA RFC
LHOST e1021201.1305a
ALHOST ---
RHOST labsun10215p0
LPORT 2001 RPORT 2001
ISTRMS 2 OSTRMS 2 BUFSIZE 200
RMODE LIN RMIN 120 RMAX 800
RTIMES 10 CWMIN 3000 UAPS 10
OPEN YES ALW YES RTXTHR 0

LSN;
ls1305a ls1305i ls1305a2 lsitunbb

lsitunaa

IP Appl Sock/Assoc table is (13 of 4000) 1% full
Assoc Buffer Space Used (600 KB of 3200 KB) on LOC = 1305
;

```

- **ent/chg/rept-stat/rtrv-ls**—Enhanced to support the **ipsg** application. The following example displays output for the **rept-stat-ls** command when an IPSP-M3UA linkset is specified.

**NOTE: The ASP STATE output is shown for only IPSP-M3UA links.**

```

rept-stat-ls:lsn=ls1305a
tekelecstp 08-01-29 18:15:20 EST EAGLE 38.0.0
LSN APCA PST SST AST
ls1305a 005-213-000 IS-NR Allowed -----
SPCA = -----
ALARM STATUS = No Alarms.
SCRSET = ----
GWSA = ----
GWSM = ----

```

## Feature Notice

```

GWSID      = ----
SLC SLK    SST      ASP STATE  SLC SLK      SST      ASP STATE
0  1305,A  Avail    ACTIVE    8  ----,--- UEQ    -----
1  1305,A1 Unavail   DOWN     9  ----,--- UEQ    -----
2  ----,--- UEQ    -----  10 ----,--- UEQ    -----
3  ----,--- UEQ    -----  11 ----,--- UEQ    -----
4  ----,--- UEQ    -----  12 ----,--- UEQ    -----
5  ----,--- UEQ    -----  13 ----,--- UEQ    -----
6  ----,--- UEQ    -----  14 ----,--- UEQ    -----
7  ----,--- UEQ    -----  15 ----,--- UEQ    -----

```

Command Completed.

The following examples display output for the **rtrv-ls** command when an IPSG card is used.

Example 1 displays the output that results when information for an IPSG-M2PA linkset is requested.

**rtrv-ls:lsn=m2pa12132**

e1001501 08-01-23 16:20:43 EST EAGLE 38.0.0

```

                L3T SLT                GWS GWS GWS
LSN            APCA  (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
m2pa12132     001-213-002  none 1  1  no  A  1  off off off no  off

                SPCA            CLLI            TFATCABMLQ MTPRSE ASL8
                -----            -----            ---
                1                no            no

IPSG  IPGWAPC  GTTMODE                CGGTMOD
yes   no      CdPA                    no

ADAPTER  SLKTPS  LSUSEALM  SLKUSEALM  RCONTEXT  ASNOTIF
m2pa     1000   100%      80%        none      no

LOC  LINK  SLC  TYPE  ANAME
1303 A  0  IPSG  m2pa1303a

```

Link set table is (20 of 1024) 2% full.

Example 2 displays the output that results when information for an IPSG-M3UA linkset is requested.

**NOTE: The NUMSLK parameters are shown for only IPSG-M3UA linksets. If a NUMSLK parameter has a value of 0, and the value is recalculated as per the provisioned links within the linkset, then an indication marker “\*” is printed as a superscript to the value of the corresponding parameter.**

**rtrv-ls:lsn=ipsgm3ua**

e1001501 08-02-10 16:20:42 EST EAGLE 38.0.0

```

                L3T SLT                GWS GWS GWS
LSN            APCA  (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
ipsgm3ua     008-008-004  none 1  1  no  A  3  off off off no  off

                SPCA            CLLI            TFATCABMLQ MTPRSE ASL8
                -----            -----            ---
                ---                ---            no

IPSG  IPGWAPC  GTTMODE                CGGTMOD
yes   no      CdPA                    no

ADAPTER  SLKTPS  LSUSEALM  SLKUSEALM  RCONTEXT  ASNOTIF
m3ua     100    100%      80%        1234567890 yes

NUMSLKALW  NUMSLKRSTR  NUMSLKPROH
2*          1          1

LOC  LINK  SLC  TYPE  ANAME
1102 A2  0  IPSG  ipsgm3ua1102
1202 A3  1  IPSG  ipsgm3ua1202
1302 A4  2  IPSG  ipsgm3ua1302

```

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

- ent/init/rept-stat/rtrv-card—Enhanced to support the IPSP card. The rtrv-card command is enhanced to display the SLKTPS and total card TPS utilized when the links=ipsg parameter is specified.

The following examples display output for the rept-stat-card command when an IPSP card is used.

Example 1 displays abridged output that results when the status of all cards is requested.

**NOTE: If the IPSP card is not seated, then the card type displays as ENET.**

**rept-stat-card**

```
rlghncxa03w 08-03-04 12:57:21 EST EAGLE5 38.0.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1101  125-020-000    TSM      GLS      IS-NR    Active   -----
1103  125-020-000    DSM      VSCCP    IS-NR    Active   -----
1105  125-020-000    DSM      VSCCP    IS-NR    Active   -----
1107  125-020-000    STC      EROUTE   IS-NR    Active   -----
1114  -----        TDM      IS-NR    Active   -----
1115  070-019-002    GPSM     EOAM     IS-NR    Active   -----
1201  125-020-000    LIMDSO   SS7ANSI  IS-NR    Active   -----
1202  -----        LIMCH    SS7ANSI  OOS-MT-DSBLD Manual   -----
1203  125-020-000    LIMCH    SS7ANSI  IS-NR    Active   -----
1205  125-020-000    EDCM     IPGWI    IS-NR    Active   -----
1206  125-020-000    EDCM     SS7IPGW  IS-NR    Active   -----
1207  125-020-000    EDCM     IPLIM    IS-NR    Active   -----
1208  125-020-000    EDCM     IPLIMI    IS-NR    Active   -----
1211  125-020-000    LIMATM   ATMANSI  IS-NR    Active   -----
1301  048-019-022    LIME1    SS7ANSI  IS-NR    Active   -----
1303  125-022-000    LIME1    SS7ANSI  IS-NR    Active   -----
1305  125-022-000    LIME1    CCS7ITU  IS-NR    Active   -----
1309  125-017-000    HIPR     HIPR     IS-NR    Active   -----
1310  125-017-000    HIPR     HIPR     IS-NR    Active   -----
1311  125-020-000    STC      EROUTE   IS-NR    Active   -----
1313  125-020-000    DCM      STPLAN   IS-NR    Active   -----
1401  104-002-000    LIMV35   CCS7ITU  IS-NR    Active   -----
1403  128-018-000    DCM      IPLHC    IS-NR    Active   -----
1407  104-001-000    LIMCH    CCS7ITU  IS-NR    Active   -----
1409  128-016-000    HIPR     HIPR     IS-NR    Active   -----
1410  128-016-000    HIPR     HIPR     IS-NR    Active   -----
1411  128-018-000    STC      ERTHC    IS-NR    Active   -----
1413  053-000-058    E5ENET   IPSP     IS-NR    Active   -----
Command Completed.
```

Example 2 displays the output that results when the status of an IPSP card is requested.

**rept-stat-card:loc=1413**

```
rlghncxa03w 08-02-06 17:01:28 EST EAGLE 38.0.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1413  079-015-001    E5ENET   IPSP     IS-NR    Active   -----
ALARM STATUS          = No Alarms
IMTPCI  GPL version = 130-014-000
BLVXW6  GPL version = 130-015-000
BLDIAG6 GPL version = 130-008-000
BLBEPM  GPL version = 128-021-000
BLCPLD  GPL version = 128-021-000
IMT BUS A          = Conn
IMT BUS B          = Conn
CURRENT TEMPERATURE = 46C (115F)
PEAK TEMPERATURE:  = 47C (117F) [08-02-05 18:40]
SIGNALING LINK STATUS
      SLK      PST      LS      CLLI
      A      IS-NR      ls1305a  -----
      B      OOS-MT      ls1305i  -----
      A1     OOS-MT      ls1305a  -----
```

## Feature Notice

```

B1      OOS-MT          ls1305i      -----
B14     OOS-MT          lsitunbb     -----
B15     OOS-MT          lsitunaa     -----

```

Command Completed.

Example 3 displays the output that results when a full report for an IPSG card is requested.

### rept-stat-card:loc=1105:mode=full

```

rlghncxa03w 08-02-06 14:46:53 EST  EAGLE 38.0.0
CARD  VERSION      TYPE      GPL      PST      SST      AST
1105  131-011-000  E5ENET   IPSG     IS-NR    Active   -----
ALARM STATUS          = No Alarms.
IMTPCI  GPL version = 131-007-000
BLVXW6  GPL version = 131-009-000
BLDIAG6 GPL version = 131-008-000
BLBEPM  GPL version = 128-021-000
BLCPLD  GPL version = 128-021-000
IMT BUS A          = Conn
IMT BUS B          = Conn
CLOCK A           = Active
CLOCK B           = Idle
CLOCK I           = Idle
MBD BIP STATUS    = Valid
MOTHER BOARD ID   = EPM A
DBD STATUS        = Valid
DBD TYPE          = 1G ENET
DBD MEMORY SIZE   = 512M
HW VERIFICATION CODE = ----
CURRENT TEMPERATURE = 43C (110F)
PEAK TEMPERATURE:  = 45C (113F)      [08-07-08 10:18]
SIGNALING LINK STATUS
  SLK   PST          LS          CLLI
  B2    OOS-MT       ipsgl105b2  -----
IPLNK STATUS
  IPLNK IPADDR      STATUS    PST
  A     10.254.101.121  UP       IS-NR
  B     10.254.100.4   UP       IS-NR
ASSOCIATION STATUS
  ANAME          PST          SST
  m3ua1105b2    OOS-MT       CONNECTING
TVG STATUS
  SNM   TVG RESULT  = 24 hr: -----, 5 min: -----
  SLAN  TVG RESULT  = 24 hr: -----, 5 min: -----
  SCCP  TVG RESULT  = 24 hr: -----, 5 min: -----
  INM   TVG RESULT  = 24 hr: -----, 5 min: -----

```

Command Completed.

The following examples display output for the **rtrv-card** command when an IPSG card is used.

Example 1 displays the output that results when information for all cards is requested.

### rtrv-card

```

eagle10110 08-03-15 18:53:18 EST  EAGLE 38.0.0

CARD  TYPE      APPL      LSET NAME  LINK SLC LSET NAME  LINK SLC
1105  IPSM        IPS
1107  DCM         SS7IPGW   lgipgw     A     1
1113  GPSM         OAM
1114  TDM-A
1115  GPSM         OAM
1116  TDM-B
1117  MDAL
1201  LIMDS0       SS7ANSI   e5m5s1     A     0  e5m5s2     B     0
1202  LIMDS0       SS7ANSI   e5m5s1     A     1  e5m5s2     B     1
1203  LIMDS0       SS7ANSI   e5m5s1     A     2  e5m5s2     B     2
1204  LIMDS0       SS7ANSI   e5m5s1     A     3  e5m5s2     B     3
1205  LIMDS0       SS7ANSI   e5m5s1     A     4  e5m5s2     B     4
1206  LIMDS0       SS7ANSI   e5m5s1     A     5  e5m5s2     B     5

```

## Feature Notice

1207	LIMDS0	SS7ANSI	e5m5s1	A	6	e5m5s2	B	6
1208	LIMATM	ATMANSI	e5m5s1	A	14			
1211	LIMDS0	CCS7ITU	e5m6s1	A	0	e5m6s2	B	0
1212	LIMDS0	CCS7ITU	e5m6s1	A	1	e5m6s2	B	1
1213	LIMDS0	CCS7ITU	e5m6s1	A	2	e5m6s2	B	2
1214	LIMDS0	CCS7ITU	e5m6s1	A	3	e5m6s2	B	3
1215	LIMDS0	CCS7ITU	e5m6s1	A	4	e5m6s2	B	4
1216	LIMDS0	CCS7ITU	e5m6s1	A	5	e5m6s2	B	5
1217	LIMDS0	CCS7ITU	e5m6s1	A	6	e5m6s2	B	6
1218	LIMATM	ATMANSI	e5m5s1	A	15			
1301	ENET	IPSG	ls1301a	A	0	ls1301a	B	1
			e5e6b	A4	0	e5e6b	B4	1
			e5e6b	A5	2	e5e6b	B5	3
			e5e6b	A6	4	e5e6b	B6	5
			e5e6b	A7	6	e5e6b	B7	7
			e5e6b	A8	8	e5e6b	B8	9
			e5e6b	A9	10	e5e6b	B9	11
			e5e6b	A10	12	e5e6b	B10	13
			e5e6b	A11	14	e5e6b	B11	15
1303	ENET	IPSG	ls1303a	A	0	ls1303a	B	1
			ls1303a	A1	2	ls1303a	B1	3
			ls1303a	A2	4	ls1303a	B2	5
			ls1303a	A3	6	ls1303a	B3	7
			ls1303c	A4	1	ls1303c	B4	2
			ls1303c	A5	3	ls1303c	B5	4
			ls1303c	A6	5	ls1303c	B6	6
			ls1303c	A7	7	ls1303c	B7	8
1304	ENET	IPSG	e5e6m2pa	A	0	e5e6m2pa	B	1
			e5e6ii	A1	0	m3ua	B1	0
			m3ua	B2	1	m3ua	B3	2
			m3ua	B4	3			
1305	ENET	IPSG	ls1303b	A	0	ls1305a	B	0
			ls1305a	B1	1	ls1305b	B2	0
1306	LIME1	CCS7ITU	ls130601	A	0	ls130602	B	0
1307	DCM	SS7IPGW	ls1307a	A	0			
1308	DCM	SS7IPGW	lgipgw	A	0			
1311	DCM	IPLIM	e5e6a	A	0	e5e6a	B	2
			e5e6a	A1	4	e5e6a	B1	6
			e5e6a	A2	8	e5e6a	B2	10
			e5e6a	A3	12	e5e6a	B3	14
1313	DCM	IPLIMI	e5e6i	A	1	e5e6i	B	3
1314	ENET	IPSG	a	A	0			
1315	DCM	SS7IPGW	ls1315a	A	0			
1316	DCM	IPGWI	lsipgw	A	0			
1317	DCM	IPGWI	ls1317i	A	0			

;

Example 2 displays the output that results when information for all IPSG links is requested.

### **rtrv-card:links=ipsg**

```
e1001501 08-01-23 16:20:42 EST EAGLE 38.0.0
CARD  TYPE      APPL      LSET NAME   LINK SLC   SLKTPS
1105  DCM          IPSG      e1e2sg1    A    0        410
      e1e2sg1    B    4        410
      e1e2sg1    A1   1        410
      e1e2sg1    B1   5        410
      e1e2sg1    A2   2        410
      e1e2sg1    B2   6        410
      e1e2sg1    A3   3        410
      e1e2sg1    B3   7        410
TOTAL SLKTPS is (3280 of 5000) 66%
1211  DCM          IPSG      ls1211a    A    0        500
      ls1211b    A1   0        600
      ls1211b    B1   1        600
      ls1211c    A2   0        700
      lsm3ua1    A3   0        1600
TOTAL SLKTPS is (4000 of 5000) 80%
1213  DCM          IPSG      ls1213a    A    0        800
      ls1213b    A1   0        900
      ls1213c    A2   0        1000
```

## Feature Notice

```

TOTAL SLKTPS is (4300 of 5000) 86%
1215 DCM      IPSP      lsm3ua1  A3  1  1600
                        m3ua01  A  0  10
                        m3ua02  B  0  10
                        m3ua03  A1  0  10
                        m3ua04  B1  0  10
                        m3ua05  A2  0  10
                        m3ua06  B2  0  10
                        m3ua07  A3  0  10
                        m3ua08  B3  0  10
                        m3ua09  A4  0  10
                        m3ua10  B4  0  10
                        m3ua11  A5  0  10
                        m3ua12  B5  0  10
                        m3ua13  A6  0  10
                        m3ua14  B6  0  10
                        m3ua15  A7  0  10
                        m3ua16  B7  0  10
TOTAL SLKTPS is (160 of 5000) 3%

```

;

Example 3 displays the output that results when information for ISPG links on a specified card is requested.

### **rtrv-card:links=ipsg:loc=1105**

```

e1001501 08-01-23 16:20:42 EST EAGLE 38.0.0
CARD  TYPE  APPL  LSET NAME  LINK SLC  SLKTPS
1105  DCM    IPSP    ele2sg1   A    0    410
                        ele2sg1   B    4    410
                        ele2sg1   A1   1    410
                        ele2sg1   B1   5    410
                        ele2sg1   A2   2    410
                        ele2sg1   B2   6    410
                        ele2sg1   A3   3    410
                        ele2sg1   B3   7    410
TOTAL SLKTPS is (3280 of 5000) 66%

```

;

- **linkinfo**—Enhanced to display link information for B links and to support both M2PA and M3UA links.  
**NOTE: For IPSP-M2PA links, the options and output report formats supported by the linkinfo command are the same as those for the existing IPLIMx M2PA links.**

For IPSP-M3UA links, specific enhancements include:

- The **linkinfo -a** option is used to display the UA event log for M3UA associations. This command logs information on an association basis. The **link** parameter is used to obtain this report on IPSP.
- The **-c** option displays congestion tuning information for both M3UA and M2PA links.
- The **-m** measurement report is limited to IPSP-M2PA links. It is not supported for IPSP-M3UA links.
- The **-i** and **-x** options filter options can be used with the ua log and link reports.
- The **-r** option can be used to clear the ua log in addition to link and congestion tuning information.

The following examples display output for the **linkinfo** command when an IPSP card is used.

Example 1 displays the output that results when the **linkinfo** command help is requested.

### **pass:loc=1304:cmd="linkinfo -h"**

```

eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0
Usage: LINKINFO link [-a [-r]] [-c [-r]] [-h] [-i event] [-l [-r]] [-m [-r]] [-s] [-v] [-x
event]
Options:
link      Signaling link: a, b, a1..a15, b1..b15
-a        Display the ALI event log for a signaling link's association
-c        Display Congestion Tuning Information for a signaling link
-h        Displays this message

```

```
-i event  Include (do not filter) an event type in the log
-l        Displays the event log for a signaling link
-m        Display Link Measurements
-r        Resets/clears the specified measurements for a signaling link
-s        Displays the state information for a signaling link
-v        View the link event filter configuration
-x event  Exclude (filter) an event type from the log
```

```
Valid 'event' for link event log is ali, all, data, 1213, 1312, m2pa, state
Valid 'event' for ALI event log is ua, service
```

;

Example 2 displays the output that results when the **linkinfo** filter is set to include **ua** events in the UA log report for signaling link **a**.

```
pass:loc=1304:cmd="linkinfo a -i ua"
eagle10110 08-01-15 15:54:07 EST  EAGLE 38.0.0

Link event type (ua) is logged for link A

end of report
```

;

Example 3 displays the output that results when the **linkinfo** filter is set to include service events in the **ua** log report for signaling link **a**.

```
pass:loc=1304:cmd="linkinfo a -i service"
eagle10110 08-01-15 15:54:07 EST  EAGLE 38.0.0

Link event type (service) is logged for link A

end of report
```

;

Example 4 displays the output that results when the UA log report for signaling link **a** is requested.

```
pass:loc=1304:cmd="linkinfo a -a"
eagle10110 08-01-15 15:54:07 EST  EAGLE 38.0.0

Adapter Layer Events for Link A

UALOG:  UA event history log
        UA Version: 01
        ASP ID: undefined
        User Adapter Implemented: M3UA RFC
        Current settings: -i service ua

Date      Time          Event
-----
08-01-16  15:51:45.890  IP Conn Established
08-01-16  15:51:45.890  Transition to SERVER_DOWN
                    (RC=0000000004)
08-01-16  15:53:02.660  ASPUP PDU Received (ASP ID=undefined)
08-01-16  15:53:02.660  Transition to SERVER_INACTIVE
                    (RC=0000000004)
08-01-16  15:53:02.660  ASP to SLK Up
08-01-16  15:53:02.660  Link Activated
08-01-16  15:53:02.660  ASPUPACK PDU Transmitted
08-01-16  15:53:02.660  AS INACTIVE NTFY PDU Transmitted (RC=0000000004)
08-01-16  16:19:45.755  ASPACTIVE PDU Received (RC=none)
08-01-16  16:19:45.755  ASPACTIVEACK PDU Transmitted (RC=0000000004)
08-01-16  16:19:45.755  Transition to SERVER_ACTIVE  LOADSHARE
                    (RC=0000000004)
08-01-16  16:19:45.755  ASP to SLK Active
08-01-16  16:19:45.780  AS Active
08-01-16  16:19:45.780  AS ACTIVE NTFY PDU Transmitted (RC=0000000004)

end of report
```

## Feature Notice

;

Example 5 displays the output that results when the UA log report for signaling link **a** is cleared.

```
pass:loc=1304:cmd="linkinfo a -a -r"  
eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0  
LINKINFO: Command Complete
```

;

Example 6 displays the output that results when state information for an IPSPG-M3UA link is requested and the server is down.

```
pass:loc=1301:cmd="linkinfo a -s "  
eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0  
  
IP7 Layer 2 Link State Information for Link A  
  
LINK_STATE_ALIGNED          ASP_STATE_SERVER_DOWN  
  
end of report
```

;

Example 7 displays the output that results when state information for an IPSPG-M3UA link is requested.

```
pass:loc=1301:cmd="linkinfo a -s "  
eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0  
  
IP7 Layer 2 Link State Information for Link A  
  
LINK_STATE_INS              ASP_STATE_SERVER_ACTIVE  
  
end of report
```

;

Example 8 displays the output that results when state information for an IPSPG-M2PA link is requested.

```
pass:loc=1314:cmd="linkinfo b2 -s"  
eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0  
  
IP7 Layer 2 Link State Information for Link B2  
  
LINK_STATE_INS              IP_CONN_STATE_ESTABLISHED  
  
end of report
```

;

Example 9 displays the output that results when state information for an IPSPG-M2PA link with no association is requested.

```
pass:loc=1314:cmd="linkinfo b3 -s"  
eagle10110 08-01-15 15:54:07 EST EAGLE 38.0.0  
  
IP7 Layer 2 Link State Information for Link B3  
  
LINK_STATE_NO_ASSOC         IP_CONN_STATE_OOS  
  
end of report
```

;

Example 10 displays the output that results when the signaling link event log for an IPSPG-M3UA link is requested.

```

pass:loc=1314:cmd="linkinfo a -1"
Command Accepted - Processing

eagle10110 08-01-16 16:52:59 EST EAGLE 38.0.0
pass:loc=1304:cmd="linkinfo a -1"
Command entered at terminal #3.
;

eagle10110 08-01-16 16:52:59 EST EAGLE 38.0.0
PASS: Command sent to card
;

eagle10110 08-01-16 16:52:59 EST EAGLE 38.0.0

IP7 Layer 2 Link Events for Link A

08-01-16 15:03:37.080 LINK_STATE_INHIBITED
08-01-16 15:05:23.510 L3_L2_EMERGENCY_Cease
08-01-16 15:05:23.510 L3_L2_START
08-01-16 15:05:23.510 LINK_STATE_NOT_ALIGNED
08-01-16 15:53:02.660 ASP_UP
08-01-16 15:53:02.660 LINK_STATE_ALIGNED_READY
08-01-16 16:19:45.755 ASP_ACTIVE
08-01-16 16:19:45.755 LINK_STATE_INS
08-01-16 16:19:45.755 L2_L3_IN_SERVICE
08-01-16 16:19:45.780 L3_L2_LINKSET_ALLOWED

end of report
;

```

Example 11 displays the output that results when the signaling link event log for an IPSG-M2PA link is requested.

```

pass:loc=1314:cmd="linkinfo b2 -1"
eagle10110 08-01-16 16:52:59 EST EAGLE 38.0.0

IP7 Layer 2 Link Events for Link B2

08-01-16 16:45:26.050 L3_L2_START
08-01-16 16:45:26.050 L2_L3_OUT_OF_SERVICE
08-01-16 16:45:26.060 RETRIEVAL_COMPLETE
08-01-16 16:45:26.860 L3_L2_EMERGENCY
08-01-16 16:45:26.860 L3_L2_START
08-01-16 16:45:26.860 L2_L3_OUT_OF_SERVICE
08-01-16 16:45:26.870 RETRIEVAL_COMPLETE
08-01-16 16:45:27.215 IP_CONN_OPENED
08-01-16 16:45:27.215 LINK_STATE_CONNECTING
08-01-16 16:45:27.215 IP_CONN_ALLOWED
08-01-16 16:45:27.225 IP_CONN_CONNECTED
08-01-16 16:45:27.225 M2PA_LSO_TRANSMITTED
08-01-16 16:45:27.225 LINK_STATE_CONNECTED
08-01-16 16:45:27.230 M2PA_LSO_RECEIVED
08-01-16 16:45:27.670 L3_L2_EMERGENCY
08-01-16 16:45:27.670 L3_L2_START
08-01-16 16:45:27.670 M2PA_LSA_TRANSMITTED
08-01-16 16:45:27.670 LINK_STATE_NOT_ALIGNED
08-01-16 16:45:27.680 M2PA_LSA_RECEIVED
08-01-16 16:45:27.680 M2PA_LSPE_TRANSMITTED
08-01-16 16:45:27.680 LINK_STATE_ALIGNED
08-01-16 16:45:27.685 M2PA_LSPE_RECEIVED
08-01-16 16:45:27.685 LINK_STATE_PROVING
08-01-16 16:45:27.890 M2PA_T16_EXPIRED
08-01-16 16:45:28.085 M2PA_T16_EXPIRED
08-01-16 16:45:28.185 M2PA_T4_EXPIRED
08-01-16 16:45:28.185 M2PA_LSR_TRANSMITTED
08-01-16 16:45:28.185 LINK_STATE_ALIGNED_READY
08-01-16 16:45:28.195 M2PA_LSR_RECEIVED
08-01-16 16:45:28.195 L2_L3_IN_SERVICE
08-01-16 16:45:28.195 M2PA_LSR_TRANSMITTED

```

## Feature Notice

```
08-01-16 16:45:28.195 LINK_STATE_INS
08-01-16 16:45:28.200 M2PA_LSR_RECEIVED
```

```
end of report
```

```
;
```

```
eagle10110 08-01-16 16:46:05 EST EAGLE 38.0.0
```

```
LINKINFO: Command Complete
```

```
;
```

Example 12 displays the output that results when congestion tuning information for an IPSG-M3UA link is requested.

```
pass:loc=1314:cmd="linkinfo a -c"
```

```
eagle10110 08-01-16 16:46:05 EST EAGLE 38.0.0
Congestion Tuning Information for Link A
```

```
RETX Queue Depth threshold : 0
```

```
High-Water Mark           : 0
```

```
High-Water Mark Date & Time : 00-00-00 00:00:00.000
```

```
HMCG Congestion Threshold Values
```

```
Danger of Congestion Onset : 1200
Abatement Level-1         : 1201
Onset Level-1             : 2400
Abatement Level-2         : 2401
Discard Level-1           : 3000
Onset Level-2             : 3001
Abatement Level-3         : 3002
Discard Level-2           : 3600
Onset Level-3             : 3601
Discard Level-3           : 4200
Maximum allowed buffers for L2 : 4800
```

```
end of report
```

```
;
```

Example 13 displays the output that results when congestion tuning information for an IPSG-M2PA link is requested.

```
pass:loc=1314:cmd="linkinfo b2 -c"
```

```
RETX Queue Depth threshold : 600
```

```
High-Water Mark           : 3
```

```
High-Water Mark Date & Time : 08-01-16 18:22:17.995
```

```
HMCG Congestion Threshold Values
```

```
Danger of Congestion Onset : 600
Abatement Level-1         : 601
Onset Level-1             : 1200
Abatement Level-2         : 1201
Discard Level-1           : 1500
Onset Level-2             : 1501
Abatement Level-3         : 1502
Discard Level-2           : 1800
Onset Level-3             : 1801
Discard Level-3           : 2100
Maximum allowed buffers for L2 : 2400
```

```
end of report
```

```
;
```

Example 14 displays the output that results when link measurement information for an IPSPG-M2PA link is requested.

```
pass:loc=1301:cmd="linkinfo b2 -m"
eagle10110 08-01-16 16:46:05 EST EAGLE 38.0.0
M2PA Measurements Information for Link B2
```

```
Measured M2PA Traffic Acknowledgement Times
```

```
Minimum acknowledge time      : 16
Maximum acknowledge time      : 44
Weighted Average acknowledge time: 16
Last recorded acknowledge time : 16
```

```
end of report
```

```
;
```

- **msucount**—Enhanced to display counts for IPSPG signaling links. Specific enhancements are as follows:
  - The **-d**, **-k**, **-t** and **-s** options are not supported for IPSPG.
  - The **msucount** reports do not display discard pegs associated with routing keys, normalization, SUA, TALI, and the IPGWx Virtual APC.
  - The **-b** option displays the link bytes report for all equipped signaling links on the card.
  - The **msucount** link reports support display of link statistics for up to 32 links per card.
  - The "**msucount -l -f**" and "**msucount -f**" reports (with no link specified) are not supported for IPSPG.
  - The **-a** option for includes receive and transmit counts for M3UA SSNMs (DAUD messages and M3UA SSNM PDUs)and replicated M3UA PDUs.
  - The **-l** option displays the link report for all equipped signaling links on the card.
  - The **-l <link>** option displays the link report for a specific signaling link. The M2PA link report is the same as the IPLIMx M2PA report. The M3UA link report contains an additional detail line line for non-discard pegs for SS7 SNM and Replicated M3UA PDU counts.
  - The **-l <link> -f** option displays the full link report. For IPSPG-M2PA links this displays the same report as the **-l <link>** option. For IPSPG-M3UA links the report includes the data from the **-l <link>** report and includes transmitted and received discards counts and discard data.
  - The **-x <rcontext>** option displays counts for IPSPG-M3UA signaling links on the card which are members of the linkset containing the specified routing context.

The following examples display output for the **msucount** command when an IPSPG card is used.

Example 1 displays the output that results when the help command is requested.

```
pass:loc=1304:cmd="msucount -h"
Command Accepted - Processing

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0
pass:loc=1304:cmd="msucount -h"
Command entered at terminal #3.
```

```
;
```

## Feature Notice

```

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0
PASS: Command sent to card
;

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

Usage: msucount [ [-l [link]] | [-b [link]] | [-l link -f ] ] |
               [ [-a aname] ]
               [ [-x rc] ]
               [-r] [-h]

Options: -l display signaling link report
         -b display signaling link bytes report
         -a display association report
         -x display routing context report
         -f display full report
         -r resets the specified counts
         -h display command help
;

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

MSUCOUNT: command complete
;

```

Example 2 displays the output that results when a link report is requested.

**pass:loc=1303:cmd="msucount -l"**

```

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0
pass:loc=1303:cmd="msucount -l"

```

MSUCOUNT: MSU Count Report

SLK Transmit counts				SLK Receive counts		
slk	rate	msus	bytes	rate	msus	bytes
A	0	3	72	0	0	0
B	0	62	1916	0	62	1916
A1	0	2	48	0	0	0
A2	0	1	24	0	0	0
A3	0	0	0	0	0	0
A4	0	0	0	0	0	0
-----				-----		
	0	68	2060	0	62	1916
-----				-----		

MSUCOUNT: command complete

Example 3 displays the output that results when a report for an IPSP-M3UA link is requested.

**pass:loc=1303:cmd="msucount -l a"**

```

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0
MSUCOUNT: MSU Count Report

```

SLK Transmit counts				SLK Receive counts		
slk	rate	msus	bytes	rate	msus	bytes
A	0	3	72	0	0	0

Replicated M3UA PDU counts

-----  
sent           rcvd

SS7 SNM counts

-----  
sent

```

-----
0           0           3

```

Example 4 displays the output that results when a report for an IPSP-MP2A link is requested.

**pass:loc=1303:cmd="msucount -l b"**

```

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0
MSUCOUNT: MSU Count Report

```

```

SLK Transmit counts          SLK Receive counts
-----
slk  rate  msus      bytes    rate  msus      bytes
---  -
B    0     62       1916    0     62       1916

```

MSUCOUNT: command complete

Example 5 displays the output that results when a full report for an IPSP-M3UA link is requested.

**pass:loc=1303:cmd="msucount -l a -f"**

```

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

```

MSUCOUNT: MSU Count Report

```

SLK Transmit counts          SLK Receive counts
-----
slk  rate  msus      bytes    rate  msus      bytes
---  -
A    0     3        72      0     0         0

```

```

Replicated M3UA PDU counts    SS7 SNM counts
-----
sent      rcvd          sent
-----
0         0           3

```

```

Transmit Discard Counts      Receive Discard Counts
-----
reason          count          reason          count
-----
M3UA conversion error 2    no receive discard counts

```

```

Stored Transmit Discard Data
-----
b0 04 04 04 00 d4 01 1b 61 00 00 bb a9 02 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

b0 04 04 04 00 d4 01 16 61 00 00 27 b8 02 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

```

```

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

```

MSUCOUNT: command complete

Example 6 displays the output that results when a full link report is requested for an IPSP-M3UA link when discard counts exist.

**pass:loc=1304:cmd="msucount -l a -f"**

```

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0
MSUCOUNT: MSU Count Report

```

```

SLK Transmit counts          SLK Receive counts

```

## Feature Notice

```

-----
slk  rate  msus      bytes      rate  msus      bytes
---  ---  ---      ---      ---  ---  ---
A    0    58        3380      0    5        292

Replicated M3UA PDU counts      SS7 SNM counts
-----
sent      rcvd      sent
-----
1          1          13

Transmit Discard Counts      Receive Discard Counts
-----
reason          count      reason          count
-----
M3UA conversion error  3      M3UA PDU Error      1
management blocking    1
lrg BICC not supported  1

Stored Transmit Discard Data
-----
b0 04 04 04 00 6e 01 18 51 01 00 0f 49 02 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

80 04 04 04 00 d2 01 00 23 05 05 05 02 1f 61 02
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

80 04 04 04 00 d2 01 00 13 20 19 02 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Stored Receive Discard Data
-----
01 00 04 01 00 00 00 18 00 0b 00 08 02 00 00 00
00 06 00 08 00 00 00 04 00 00 00 00 00 00 00 00

01 00 01 01 00 00 00 3c 00 06 00 08 00 00 00 04
02 10 00 2b 00 04 04 04 00 05 05 05 0d 02 00 96

01 00 00 10 00 00 00 1c 00 0c 00 08 00 00 00 06
00 07 00 0c 01 00 02 02 00 00 00 18 00 00 00 00

MSUCOUNT: command complete

```

;

Example 7 displays the output that results when a signaling link bytes report is requested.

**pass:loc=1303:cmd="msucount -b"**

```

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0
MSUCOUNT: MSU Count Report

```

```

SLK Transmit counts      SLK Receive counts
-----
slk      bytes/  avg  max  max  bytes/  avg  max  max
      sec   msu  avg msu  msu  sec   msu  avg msu  msu
-----
A        0      0   24  24   0      0   0   0   0
B       62     31  31  31  62     31  31  31  31
A1       0      0   24  24   0      0   0   0   0
A2       0      0   24  24   0      0   0   0   0
A3       0      0   0   0   0      0   0   0   0
A4       0      0   0   0   0      0   0   0   0

-----
          62     31  31  31  62     31  31  31

```

-----  
 MSUCOUNT: MSU Count Report

Example 8 displays the output that results when a signaling link bytes report is requested for a specified link.

**pass:loc=1305:cmd="msucount -b a"**

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0  
 MSUCOUNT: MSU Count Report

SLK Transmit counts					SLK Receive counts				
slk	bytes/ sec	avg msu	max avg msu	max msu	bytes/ sec	avg msu	max avg msu	max msu	
A	0	0	24	24	0	0	0	0	
	0	0	24	24	0	0	0	0	

MSUCOUNT: MSU Count Report

Example 9 displays the output that results when a routing context report is requested.

**pass:loc=1303:cmd="msucount -x 74565"**

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0  
 MSUCOUNT: MSU Count Report

-----  
 Routing Context Measurements  
 -----

SLK Transmit counts				SLK Receive counts		
slk	rate	msus	bytes	rate	msus	bytes
A	0	3	72	0	0	0
	0	3	72	0	0	0

MSUCOUNT: command complete

Example 10 displays the output that results when an IP connection statistic report is requested.

**pass:loc=1303:cmd="msucount -a a1303a"**

eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0  
 MSUCOUNT: MSU Count Report

-----  
 IP Association Measurements  
 -----

Transmit PDUs		Receive PDUs	
pdu	bytes	pdu	bytes
3	72	0	0

SS7 SNM counts  
 -----  
 sent           rcvd

## Feature Notice

```
-----
0          0

Receive Discard Counts
-----
reason          count
-----
M3UA PDU error      3

Stored Receive Discard Data
-----
01 00 00 00 00 00 00 1c 00 0c 00 08 00 00 00 06
00 07 00 0c 01 00 02 02 00 00 00 18 00 00 00 00

01 00 00 00 00 00 00 1c 00 0c 00 08 00 00 00 06
00 07 00 0c 01 00 02 02 00 00 00 18 00 00 00 00

01 00 00 00 00 00 00 1c 00 0c 00 08 00 00 00 06
00 07 00 0c 01 00 02 02 00 00 00 18 00 00 00 00

MSUCOUNT: command complete

;
```

- **msutrace**—Enhanced to support the **ipsg** GPL. The following examples display output for the **msutrace** command when an IPSP card is used. Example 1 displays the output that results for the full help command.

```
pass:loc=1304:cmd="msutrace -h full "
eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

Usage: msutrace [-a action_cmd] [-g get_cmd]
               [ [-x rc] | [-k [rtkey] [-p pctype] [-t keytype]] ]
               [-m mode] [-h [full]]

Options:
-a  action_cmd: an Action Command
-g  get_cmd: a Get Command
-x  routing key report using routing context
-k  routing key report using MTP3 parameters
    rtkey :: ([dpc][:si][:opc | :ssn][:cics][:cice])
-p  pctype :: (ANSI, ITUI, ITUN, ITUN24, ITUIS, ITUNS)
-t  routing key type
    keytype :: (<full>, partial, default)
-m  mode: mode for qualifying MSUs captured = [normerr | all]
-h  displays this message (brief or full)

get_cmd:      [config | trace]
config       Display the current MSUTRACE settings:
              trace On/Off status, filter settings, and
              trace buffers used/available.
              ex: msutrace -g config

trace        Display content of trace buffers containing captured
              MSU data
              ex: msutrace -g trace

action_cmd:  [acttrace | chgfilter | clrtrace | dacttrace ]
acttrace     Activate (turn-on) MSU-tracing.
              ex: msutrace -a acttrace

chgfilter    Change filter used to qualify which MSUs are placed in
              trace buffers:
              ex: To only trace MSUs with Normalization errors.
                  msutrace -a chgfilter -m normerr
              ex: To trace all MSUs regardless of error conditions:
                  msutrace -a chgfilter -m all
              ex: To trace MSUs based on MSU content:
```

```

msutrace -a chgfilter <fltrkey>

clrtrace    Clear all data from trace buffers.
ex: msutrace -a clrtrace

dacttrace   Deactivate (turn-off) MSU-tracing.
ex: msutrace -a dacttrace

```

-k option details:

Use the -p option along with -k to specify the SS7 network domain and point code format for the network. The SS7IPGW and IPLIM default pctype is ANSI. The IPGWI and IPLIMI default pctype is ITUI.

For IPSP both ANSI and ITU network point code formats are eligible for trace when the default filter or an SI only filter is specified. The IPSP default pctype is ANSI when the filter contains OPC or DPC and the -p option is not specified.

Network	PC Format	Notes
ANSI	N-C-M	
ITUN	N	Non-Spare ITU National, no group code
ITUN	N-GC	Non-Spare ITU National with group code
ITUI	Z-A-I	Non-Spare ITU International
ITUN24	N-C-M	Non-Spare ITU National, 24-bits
ITUNS	N	Spare ITU National, no group code
ITUNS	N-GC	Spare ITU National with group code
ITUIS	Z-A-I	Spare ITU International

Use the -t option along with -k to specify certain MTP3 and user part MSU fields as wildcards for the routing key or LS.

SS7 Traffic Partition	RTKEY/MTP3	Parameter	Example
Any User Part to DPC 1-1-1	-k 1-1-1	-t partial	
SCCP to DPC 1-1-1	-k 1-1-1:3	-t partial	
ISUP to DPC 1-1-1	-k 1-1-1:5	-t partial	
TUP to DPC 1-1-1	-k 1-1-1:4	-t partial	
QBICC to DPC 1-1-1	-k 1-1-1:13	-t partial	
SI [0-2,6-12,14,15] to DPC 1-1-1	-k 1-1-1:SI		
SCCP SSN 5 to DPC 1-1-1	-k 1-1-1:3:5		
ISUP to DPC 1-1-1 from OPC 2-2-2	-k 1-1-1:5:2-2-2	-t partial	
TUP to DPC 1-1-1 from OPC 2-2-2	-k 1-1-1:4:2-2-2	-t partial	
QBICC to DPC 1-1-1 from OPC 2-2-2	-k 1-1-1:13:2-2-2	-t partial	
ISUP CIC 1 to 1-1-1 from 2-2-2	-k 1-1-1:5:2-2-2:1		
TUP CIC 1 to 1-1-1 from 2-2-2	-k 1-1-1:4:2-2-2:1		
QBICC CIC 1 to 1-1-1 from 2-2-2	-k 1-1-1:13:2-2-2:1		
ISUP CIC 0-5 to 1-1-1 from 2-2-2	-k 1-1-1:5:2-2-2:0:5		
TUP CIC 0-5 to 1-1-1 from 2-2-2	-k 1-1-1:4:2-2-2:0:5		
QBICC CIC 0-5 to 1-1-1 from 2-2-2	-k 1-1-1:13:2-2-2:0:5		
Default Routing Key	-k	-t default	
Any User Part to DPC=LS APC	-x LS RCONTEXT		(IPSP Only)

MSUTRACE command complete

Example 2 displays the output that results when a filter key is set using the routing context.

```

pass:loc=1304:cmd="msutrace -a chgfilter -x 4"
eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

MSUTRACE command complete

```

Example 3 displays the output that results when information for the filters is requested.

```

pass:loc=1304:cmd="msutrace -g config "

```

## Feature Notice

```
eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

MSUTRACE: Configurations

MSU Tracing is off

Trace buffers: 0 of 3 USED

MSUTRACE: filter settings

      DPCA      SI SSN      OPCA      CICS      CICE      MODE
      004-004-004 ** *** ****      ****      ****      all
;

```

Example 4 displays the output that results when the trace is activated with a DPC-only filter key.

**pass:loc=1304:cmd="msutrace -a acttrace"**

```
eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

MSUTRACE command complete
;

```

Example 5 displays the output that results when the captured trace buffer is retrieved.

**pass:loc=1304:cmd="msutrace -g trace "**

```
eagle10212 08-01-09 11:50:49 EST EAGLE 38.0.0

-----
BUFFER: 0
-----
Filter used:

      DPCA      SI SSN      OPCA      CICS      CICE      MODE
      004-004-004 ** *** ****      ****      ****      all

Timestamp: 08-01-21 16:06:17.420
Direction: Tx
Error Code: 0

PSTN DATA
-----
85 04 04 04 05 05 05 00 00 00 00 6e 01 00 f9 e3      .....n...
33 c7 00 00 1d 00 00 00 00 10 00 12 00 14 00 16      3.....
00 18 00 1a 00 1c 00 1e 00      .....

IP DATA
-----
01 00 01 01 00 00 00 44 00 06 00 08 00 00 00 04      .....D.....
02 10 00 31 00 05 05 05 00 04 04 04 05 02 00 00      ...1.....
00 00 00 6e 01 00 f9 e3 33 c7 00 00 1d 00 00 00      ...n....3....
00 10 00 12 00 14 00 16 00 18 00 1a 00 1c 00 1e      .....
00 00 00 00      ....

MSUTRACE command complete
;

```

- **rept-stat-iptps**—Enhanced to report IPSG-M3UA linkset information. For IPSG cards, the Number of IS-NR links \* SLKTPTS is used in place of the IPTPS setting for all calculations and alarms. The following examples display output for the **rept-stat-iptps** command when IPSG-M3UA linksets are used. Example 1 displays the output that results when status for all of the linksets is requested.

**rept-stat-iptps**

```
rlghncxa03w 08-02-23 16:20:46 EST EAGLE 38.0.0

IP TPS USAGE REPORT

```

```

-----
                THRESH  CONFIG          TPS      PEAK      PEAKTIMESTAMP
-----
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.

Example 2 displays the output that results when information for an IPSG-M3UA linkset is requested.

**rept-stat-iptps:lsn=lsgw1101**

rlghncxa03w 08-02-06 09:49:20 EST EAGLE 38.0.0

IP TPS USAGE REPORT

```

-----
                THRESH  CONFIG          TPS      PEAK      PEAKTIMESTAMP
-----
LSN
LSGW1101     100%    4000 TX:   800     800  03-05-06 09:49:19
                RCV:   800     800  03-05-06 09:49:19
-----
LOC LINK
1101  A     80%    2000 TX:   400     400  03-05-06 09:49:19
                RCV:   400     400  03-05-06 09:49:19
1103  A     80%    2000 TX:   400     400  03-05-06 09:49:19
                RCV:   400     400  03-05-06 09:49:19
-----

```

Command Completed.

- **rept-stat-sys**—Enhanced to report the status for IPSG cards. The following example displays abridged output for the **rept-stat-sys** command when an IPSG card is used.

**rept-stat sys**

eagle10212 08-02-06 17:00:42 EST EAGLE 38.0.0

MAINTENANCE STATUS REPORT

Maintenance Baseline established.

Routing Baseline established.

SCCP Baseline established.

```

ALARMS:      CRIT=   10   MAJR=  46   MINR=  18   INH=   0
OAM 1113     IS-NR           Standby           INH=   0
OAM 1115     IS-NR           Active           INH=   0
LIM  CARD   IS-NR=  17   Other=           2   INH=   0
IPGWI  CARD  IS-NR=   1   Other=           0   INH=   0
IPLIM  CARD  IS-NR=   2   Other=           0   INH=   0
IPLIMI  CARD IS-NR=   1   Other=           0   INH=   0
IPSG  SS    CARD IS-NR=   2   Other=           0   INH=   0
HMUX  CARD  IS-NR=   2   Other=           3   INH=   0
HIPR  CARD  IS-NR=   1   Other=           0   INH=   0
SS7 DPC     IS-NR=  22   Other=          11   INH=   0
X25 DPC     IS-NR=   0   Other=           0   INH=   0
DPC  SS     Actv =   0   Other=           0
SEAS SS     IS-NR=   0   Other=           0
SEAS X25    IS-NR=   0   Other=           0   INH=   0
LSMS SS     IS-NR=   0   Other=           0
LSMS Conn  IS-NR=   0   Other=           0   INH=   0
TERMINAL    IS-NR=   9   Other=          15   INH=   0
MPS         IS-NR=   0   Other=           0
ELPORT     IS-NR=   0   Other=           0   INH=   0
T1PORT     IS-NR=   0   Other=           0   INH=   0
RTD  SS     IS-NR=   1   Other=           0

```

Command Completed.

## Feature Notice

- **rtrv-stp**—Enhanced to support the IPSP card. The following examples display output for the **rtrv-stp** command when an IPSP card is used.

Example 1 displays abridged output that results when hardware configuration for all cards is requested.

### rtrv-stp

eagle10213 08-04-18 16:37:04 EST EAGLE 38.0.0

Card	Part Number	Rev	Serial Number	Type	DB	APPL	GPL Version
1101	850-0415-01	E	98325824				
1102	Empty						
1103	Empty						
1104	Empty						
1105	870-2371-02	A	10202362040	IPSM	1024M	IPS	130-030-000
1106	Empty						
1107	850-0361-04	B	98365682				
1108	Empty						
1109	MUX					BPHMUX	128-004-000
1110	MUX					BPHMUX	128-004-000
1111	Empty						
1112	Empty						
1113	870-2360-01	J	10202302424	GPSM	1024M	EOAM	130-030-000
1114	TDM						
1115	870-2360-01	J	10202302491	GPSM	1024M	EOAM	130-030-000
1116	TDM						
1117	MDAL						
1118	Empty						
1201	850-0549-01	A	00135493	LIMDS0	-	SS7ANSI	130-030-000
1202	850-0484-01	E	98375665	LIMDS0	-	SS7ANSI	130-030-000
1203	850-0484-01	E	98375174	LIMDS0	-	SS7ANSI	130-030-000
1204	850-0484-01	D	98221727	LIMDS0	-	SS7ANSI	130-030-000
1205	850-0549-01	A	00115715	LIMDS0	-	SS7ANSI	130-030-000
1206	850-0361-03	B	97504988	LIMDS0	4M	SS7ANSI	130-030-000
1207	850-0484-01	E	98375670	LIMDS0	-	SS7ANSI	130-030-000
1208	850-0419-01	A	97373955	LIMATM	8M	ATMANSI	130-030-000
1209	MUX					BPHMUX	128-004-000
1210	MUX					BPHMUX	128-004-000
1211	850-0484-01	E	98356014	LIMDS0	-	CCS7ITU	130-030-000
1212	850-0361-01	5	6010110	LIMDS0	4M	CCS7ITU	130-030-000
1213	850-0484-01	E	98375482	LIMDS0	-	CCS7ITU	130-030-000
1214	850-0361-01	A	6020278	LIMDS0	4M	CCS7ITU	130-030-000
1215	850-0484-01	E	98355640	LIMDS0	-	CCS7ITU	130-030-000
1216	870-1014-3	C	1707364172	LIMDS0	4M	CCS7ITU	130-030-000
1217	Empty			LIMDS0		CCS7ITU	
1218	Empty			LIMATM		ATMANSI	
1301	870-2372-01	C	10201322587	DCM	-	IPLIM	130-030-000
1302	Empty						
1303	870-2212-03	D	10207115230	ENET	512M	IPSP	049-030-002
1304	850-0712-01	A	061050016	ENET	512M	IPSP	049-029-005
1305	870-2212-02	A	10206385279	ENET	512M	IPSP	079-030-008
1306	Empty						
1307	870-2372-01	J	10203292455	DCM	-	SS7IPGW	130-030-000
1308	Empty						
1309	MUX					HIPR	128-025-000
1310	MUX					HIPR	128-025-000
1311	870-2372-01	G	10203132580	DCM	-	IPLIM	130-030-000
1312	Empty						
1313	870-2372-01	J	10203292358	DCM	-	IPLIMI	130-030-000
1314	Empty						
1315	870-2372-01	C	10201322579	DCM	-	SS7IPGW	079-030-001
1316	Empty						
1317	870-2212-03	D	10207115229	DCM	512M	IPGWI	130-030-000
1318	Empty						
2101	Empty						
2102	Empty						
2103	Empty						
2104	Empty						

```
2105 Empty
2106 Empty
2107 Empty
2108 Empty
```

Example 2 displays the output that results when hardware configuration information for all cards that are running the **ipsg** gpl.

**rtrv-stp:gpl=ipsg**

```
stp9021503 08-01-16 06:58:36 EST EAGLE5 38.0.0
```

Card	Part Number	Rev	Serial Number	Type	DB	APPL	GPL Version
1303	870-2212-03	D	10207115230	ENET	512M	IPSG	049-030-002

Command Completed.

- **rtrv-uaps**—Enhanced to support the IP SG application. The following example displays output for the **rtrv-uaps** command.

**rtrv-uaps:set=1**

```
eagle10213 08-04-17 14:01:00 EST EAGLE 38.0.0
```

SET	TIMER	TVALUE	PARAM	PVALUE
1	1	0	1	3
1	2	3000	2	0
1	3	10000	3	0
1	4	5000	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 2: False IP Connection Congestion Timer, max time an association can be congested before failing due to false congestion. SS7IPGW and IPGWI applications enforce 0-30000(ms). Not supported on IP SG application.

TVALUE : Valid range = 32-bits

TIMER 3: UA HeartBeat Period Timer T(beat), time (ms) between sending of BEAT msgs by NE. IP SG, SS7IPGW and IPGWI applications enforce 100(ms)-60000(ms).

TVALUE : Valid range = 32-bits

TIMER 4: UA HeartBeat Received Timer T(beat ack), timeout period for response BEAT ACK msgs by NE. IP SG, SS7IPGW and IPGWI applications enforce 100(ms)-10000(ms).

TVALUE : Valid range = 32-bits

PARAM 1: ASP SNM options. Each bit is used as an enabled/disabled flag for a particular ASP SNM option. Not supported on IP SG application.

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	

PARAM 2: ASP/AS Notification options. Each bit is used as an enabled/disabled flag for a particular ASP/AS Notification option. Not supported on IP SG application.

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

## Feature Notice

3-31=Reserved

PARM 3: UA Serviceability Options. Each bit is used as an enabled/disabled flag for a particular UA Serviceability option. Supported on IPSPG, SS7IPGW, and IPGWI applications.

PVALUE : Valid range = 32-bits

BIT	BIT VALUE
0=UA Heartbeats	0=Disabled , 1=Enabled
1-31=Reserved	

- **sctp**—Enhanced to display the active SCTP checksum algorithm when the **-a** option is entered. The following example displays output for the **sctp** command when the SCTP checksum algorithm is selected for a card.

**pass:loc=1307:cmd="sctp -a assoc1"**

```
rlghncxa03w 08-01-22 15:35:05 EST EAGLE 38.0.0
4546.1083 SYSTEM INFO REPT COND: system alive
Report Date:08-01-20 Time:12:49:02
;
```

```
rlghncxa03w 08-01-22 15:35:05 EST EAGLE 38.0.0
Aname LocalLocal Primary Remote
IP AddressPort Address Port
assoc1 192.168.110.12 2222 192.168.112.4 5555
192.168.112.12
```

```
Configuration State
Retransmission Mode = LIN State = OPEN
Min. Retransmission Timeout = 10 ULP association id = 18
Max. Retransmission Timeout = 800 Number of nets = 2
Max. Number of Retries = 10 Inbound Streams = 1
Min. Congestion Window = 3000 Outbound Streams = 2
Inbound Streams = 2
Outbound Streams = 2
Checksum Algorithm = crc32c
```

### Nets Data

IP Address	192.168.112.4	State	Reachable
Port	5555	Primary	YES
MTU	1500	cwnd	16384
ssthresh	16384	RTO	120
IP Address	192.168.112.5	State	Reachable
Port	7777	Primary	NO
MTU	1500	cwnd	16384
ssthresh	16384	RTO	120

```
Last Net Sent To = 192.168.112.4
Last Net Rcvd From = 192.168.112.4
Over All Error Count = 0
Peers Rwnd = 13880
My Rwnd = 16384
Max Window = 16384
Initial Seq Number = 24130
Next Sending Seq Number = 124686
Last Acked Seq Number = 124669
Maximum Outbound Char Count = 16384
Current Outbound Char Count = 2112
Number Unsent Char Count = 0
Outbound Data Chunk Count = 16
Number Unsent = 0
Number To Retransmit = 0
```

```
ip datagrams rcvd = 155402
ip datagrams with data chunks rcvd = 120844
data chunks rcvd = 367908
```

```

        data chunks read = 367900
          dup tsns rcvd = 8
            sacks rcvd = 38734
          gap ack blocks rcvd = 3
        heartbeat requests rcvd = 135
          heartbeat acks rcvd = 52
        heartbeat requests sent = 52
          ip datagrams sent = 129254
        ip datagrams with data chunks sent = 73084
          data chunks sent = 396330
        retransmit data chunks sent = 135
          sacks sent = 64872
          send failed = 0
        retransmit timer count = 0
        consecutive retransmit timeouts = 0
        RTT between RMIN and RMAX inclusive = 6
          RTT greater than RMAX = 0
        fast retransmit count = 135
          recv timer count = 0
          heartbeat timer count=244
          none left tosend = 0
          none left rwnd gate = 5
          none left cwnd gate = 8
;

    rlgncxa03w 08-01-22 15:35:05 EST  EAGLE 38.0.0
    SCTP command complete
;

```

### ***Limitations***

The IPSG feature has the following limitations:

- The SUA protocol is not supported.
- All associations for a card must be brought down before the checksum can be changed for the card.
- Only one checksum can be supported for a card.

### **MT-Based GSM SMS NP**

The Mobile Terminated (MT)-Based GSM SMS NP feature allows number portability (NP) database lookup to be performed on SRI\_SM messages. These messages are normally generated from the short message service center (SMSC) to determine the destination for a short message service (SMS) message.

The MT-Based GSM SMS NP feature allows the EAGLE 5 ISS to intercept non-call related messages and reply with routing information for out-of-network destination subscribers using the following process:

1. An SRI\_SM message is intercepted from the SMSC before the message reaches the home location register (HLR).
2. The message destination address (SCCP Called Party GTA), is extracted, the digits are conditioned, and lookup is performed in the NP database.
3. If the destination address/subscribers belongs to a foreign network, then a reply message is sent to the SMSC with routing information. If the destination address/subscribers belongs to a local network, then the SRI\_SM message is relayed to the HLR.

## Feature Notice

The feature provides configurable options for controlling processing of SRI\_SM messages and the content of the response:

- Selecting the SMSC response message type and digit format
- Specifying when an NP database lookup is considered to be successful
- Specifying the format of digits encoded in the response message.

### *Feature Control Requirements*

The MT-Based GSM SMS NP feature has the following control requirements:

- The **defcc** parameter in the **chg-stpopts** command must be set to a value other than **none** before the feature can be turned on.
- The **defmcc** parameter in the **chg-gsmopts** command must be set to a value other than **none** before the feature can be turned on.
- A FAK for part number 893-0200-01
- The G-Port feature must be enabled before the MT-Based GSM SMS NP feature can be enabled.
- The G-Port feature must be turned on before the MT-Based GSM SMS NP feature can be turned on.
- The MT-Based GSM SMS NP feature cannot be enabled if the LNP feature is enabled.
- A temporary FAK cannot be used to enable the feature.
- The feature cannot be turned off after it has been turned on.

### *Hardware Requirements*

The MT-Based GSM SMS NP feature cannot be enabled if TSM cards running the **sccp** application are present in the system. A TSM card that is running the **sccp** application cannot be provisioned when this feature is enabled.

### *Commands*

The following commands are enhanced to support the MT-Based GSM SMS NP feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **enable/chg/rtrv-ctrl-feat**—Enhanced to enable, turn on, and display the status of the MT-Based GSM SMS NP feature. The following example displays sample output for the **rtrv-ctrl-feat** command when the MT-Based GSM SMS NP feature is enabled and turned on.

#### **rtrv-ctrl-feat**

```
rlghncxa03w 08-02-09 16:40:40 EST EAGLE 38.0.0
The following features have been permanently enabled:
Feature Name          Partnum   Status   Quantity
HC-MIM SLK Capacity  893012707 on        64
GPORT                 893017201 on         ----
MT-based GSM SMS NP  893020001 on         ----
```

- **chg-stpopts**—Enhanced to not allow the **defcc=none** parameter to be specified if the MT-Based GSM SMS NP feature is turned on.

- **eng/chg/rtrv-gsmopts**—Enhanced to support the MT-Based GSM SMS NP feature. The following example displays output for the **rtrv-gsmopts** command when the MT-Based GSM SMS NP feature is enabled and turned on.

**rtrv-gsmopts**

```
tekelecstp 08-02-08 19:38:30 EST EAGLE 38.0.0
GSM OPTIONS
-----
DEFMCC      = 253
SRFADDR     = NONE
MSRNDIG     = RN
DEFMAPVR    = 1
SRIDN       = TCAP
IS412GSM    = NONE
MSISDNTRUNC = 0
MIGRPFIX    = SINGLE
GSM2IS41    = NONE
MTSMSIMSI   = MCCRNDN
MTSMSNNI    = RN
MTSMSTYPE   = RN
MTSMSACKN   = ACK
MTSMSDLTR   = NO
MTSMSDLTRV  = NONE
MTSMSNAKERR = 1
MTSMSCHKSRC = NO
```

;

- **ent-card**—Enhanced to not allow a TSM card that is running the **sccp** application to be installed if the MT-Based GSM SMS NP feature is enabled.
- **ent/dlt/rtrv-home-smsc**—Enhanced to support the MT-Based GSM SMS NP feature.

### *Measurements*

The following new measurements are added to the SYSTOT report to support the MT-Based GSM SMS NP feature:

- **GPSRSMREP**—Number of SRI\_SM messages received that result in SRI\_SM\_ACK or SRI\_SM\_NACK responses
- **GPSRSMERR**—Number of SRI\_SM messages received that result in error
- **GPSRSMRCV**—Number of SRI\_SM messages received

The following new measurements are added to the SSP report to support the MT-Based GSM SMS NP feature:

- **GPSRSMREP**—Number of SRI\_SM messages received from a specific SSP that result in SRI\_SM\_ACK or SRI\_SM\_NACK responses
- **GPSRSMERR**—Number of SRI\_SM messages received from a specific SSP that result in error
- **GPSRSMRCV**—Number of SRI\_SM messages received from a specific SSP

Measurements for the MT-Based GSM SMS NP feature are supported on both the User Interface and the Measurements Platform.

## Feature Notice

### *Limitations*

The 150-character limit on command line length may prevent a single **chg-gsmopts** command from being entered on a single line. If the command does not fit on one line, then the command must be broken into multiple commands.

### **MT-Based GSM MMS NP**

The Mobile Terminated (MT)-Based GSM MMS NP feature allows number portability (NP) database lookup to be performed on multimedia message service (MMS) messages that are routed from a multimedia message service center (MMSC).

**NOTE: The MT-Based GSM MMS NP feature can be used only in conjunction with the MT-Based GSM SMS NP feature.**

The MT-Based GSM MMS NP feature allows the EAGLE 5 ISS to intercept non-call related messages and reply with routing information for out-of-network destination subscribers using the following process:

1. An SRI\_SM message is intercepted from the MMSC before the message reaches the home location register (HLR).
2. The message destination address (SCCP Called Party GTA), is extracted, the digits are conditioned, and lookup is performed in the NP database.
3. If the destination address/subscribers belongs to a foreign network, then a reply message is sent to the MMSC with routing information. If the destination address/subscribers belongs to a local network, then the SRI\_SM message is relayed to the HLR.

The feature provides the following configurable options for controlling processing of SRI\_SM messages and the content of the response:

- Selecting the MMSC response message type and digit format
- Specifying when an NP database lookup is considered to be successful
- Specifying the format of digits encoded in the response message.

### *Feature Control Requirements*

The MT-Based GSM MMS NP feature has the following control requirements:

- The MT-Based GSM SMS NP feature must be enabled and turned on.
- A FAK for part number 893-0241-01
- The feature cannot be turned off after it has been turned on.
- A temporary FAK cannot be used to enable the feature.

### *Hardware Requirements*

There are no additional hardware requirements for this feature.

## Commands

The following commands are enhanced to support the MT-Based GSM MMS NP feature. For a complete description of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **enable/chg/rtrv-ctrl-feat**—Enhanced to enable, turn on, and display the status of the MT-Based GSM MMS NP feature. The following example displays sample output for the **rtrv-ctrl-feat** command when the MT-Based GSM MMS NP feature is turned on.

### rtrv-ctrl-feat

```
rlghncxa03w 08-01-29 16:40:40 EST EAGLE 38.0.0
The following features have been permanently enabled:
Feature Name          Partnum  Status  Quantity
HC-MIM SLK Capacity   893012707 on      64
Command Class Management 893005801 on      ----
Origin Based SCCP Routing 893014301 on      ----
Hex Digit Support for GTT 893018501 on      ----
E5-SM4G Throughput Cap  893019101 on      ----
MT-Based GSM SMS NP    893020001 on      ----
MT-Based GSM MMS NP    893024101 on      ----
```

- **chg/rtrv-gsmopts**—Enhanced to support the MT-Based GSM MMS NP feature. The following example displays output for the **rtrv-gsmopts** command when the MT-Based GSM MMS NP feature is enabled and turned on.

### rtrv-gsmopts

```
tekelecstp 08-02-08 19:38:30 EST EAGLE 38.0.0
GSM OPTIONS
-----
DEFMCC      = 253
SRFADDR     = NONE
MSRNDIG     = RN
DEFMAPVR    = 1
SRIDN       = TCAP
IS412GSM    = NONE
MSISDNTRUNC = 0
MIGRPFIX    = SINGLE
GSM2IS41    = NONE
MTSMSIMSI   = MCCRNDN
MTSMSNNI    = RN
MTSMSSTYPE  = RN
MTSMSACKN   = ACK
MTSMSDLTR   = NO
MTSMSDLTRV  = NONE
MTSMSNAKERR = 1
MTSMSCHKSRC = NO
MTMMSGTA    = NONE
MTMMSTYPE   = RN
MTMMSACKN   = ACK
```

;

## Limitations

The 150-character limit on command line length may prevent a single **chg-gsmopts** command from being entered on a single line. If the command does not fit on one line, then the command must be broken into multiple commands.

## Feature Notice

### MT-Based IS41 SMS NP

The Mobile Terminated (MT)-Based IS41 SMS NP feature enhances the A-Port feature to allow wireless operators to route short message service (SMS) messages within a number portability (NP) environment. If the MT-Based IS41 SMS NP feature is not enabled and turned on, then messages are processed by the A-Port feature.

This feature provides the following configurable options for controlling processing of SMS routing request messages and the content of the response:

- Selecting the short message service center (SMSC) response message type and digit format
- Specifying when an NP database lookup is considered to be successful
- Specifying the format of digits encoded in the response message.

The MT-Based IS41 SMS NP feature acts as follows:

1. Intercepts an SMSREQ message from the SMSC before the message reaches the home location register (HLR).
2. Extracts the message destination address (SCCP Called Party GTA), conditions the digits, and performs lookup in the NP database.
3. If the destination address/subscribers belongs to a foreign network, then a reply message is sent to the SMSC with routing information. If the destination address/subscribers belongs to a local network, then the SMSREQ message is relayed to the HLR.

### *Feature Control Requirements*

The MT-Based IS41 SMS NP feature has the following control requirements:

- The **defcc** parameter in the **chg-stpopts** command must be set to a value other than **none** before the feature can be turned on.
- A FAK for part number 893-0199-01
- The A-Port feature must be enabled before the MT-Based IS41 SMS NP feature can be enabled.
- The A-Port feature must be turned on before the MT-Based IS41 SMS NP feature can be turned on.
- The feature cannot be enabled if the LNP feature is enabled.
- A temporary FAK cannot be used to enable the feature.
- The feature cannot be turned off after it has been turned on.

### *Hardware Requirements*

The MT-Based IS41 SMS NP feature cannot be enabled if TSM cards running the **sccp** application are present in the system. A TSM card that is running the **sccp** application cannot be provisioned after the feature is enabled.

### *Commands*

The following commands are enhanced to support the MT-Based IS41 SMS NP feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **enable/chg/rtrv-ctrl-feat**—Enhanced to enable, turn on, and display the status of the MT-Based IS41 SMS NP feature. The following example displays sample output for the **rtrv-ctrl-feat** command when the MT-Based IS41 SMS NP feature is enabled and turned on.

**rtrv-ctrl-feat**

```
rlghncxa03w 08-02-09 16:40:40 EST EAGLE 38.0.0
The following features have been permanently enabled:
Feature Name          Partnum   Status   Quantity
HC-MIM SLK Capacity  893012707 on        64
APORT                 893016601 on        ----
MT-based IS41 SMS NP 893019901 on        ----
```

- **chg-stpopts**—Enhanced to not allow the **defcc=none** parameter to be specified if the MT-Based IS41 SMS NP feature is turned on.
- **eng/chg/rtrv-is41opts**—Enhanced to support the MT-Based IS41 SMS NP feature. The following example displays output for the **rtrv-is41opts** command if the MT-Based IS41 SMS NP feature is enabled and turned on.

**rtrv-is41opts**

```
tekelecstp 08-01-21 13:11:39 EST EAGLE 38.0.0
```

```
IS41 OPTIONS
-----
SMSREQBYPASS      = NO
LOCREQDN         = TCAP
IEC              = 0
NEC              = 00
RSPCGPARI        = FRMSG
RSPCGPAPCP       = FRMSG
RSPCDPARI        = FRMSG
RSPCDPAPCP       = FRMSG
RSPCGPANAI       = 0
RSPCGPANP        = 0
RSPCGPATT        = 0
MTPLOCREQNAI     = SUB
RSPPARM          = DDIGIT
RSPDIG           = RN
RSPNON           = 0
RSPNP            = 0
RSPMIN           = NOTHOMERN
MSCMKTID         = 32300
MSCSWITCH        = 20
ESNMFG           = 0
ESNSN            = 0
RSPDIGTYPE       = 0
LOCREQRMHRN      = NO
TCAPSNAI         = SUB
MTSMSDNFMT       = RNDN
MTSMSSTYPE       = RN
MTSMSSPARM       = DIGIT
MTSMSDLTR        = NO
MTSMSDLTRV       = NONE
MTSMSACKN        = ACK
MTSMSSESN        = NO
MTSMSSSN         = 0
MTSMSNAKERR      = 5
MTSMSDIGTYPE     = 6
MTSMSCHKSRC      = NO
```

;

- **ent-card**—Enhanced to not allow a TSM card that is running the **sccp** application to be installed if the MT-Based IS41 SMS NP feature is enabled.
- **ent/dlt/rtrv-home-smsc**—Enhanced to support the MT-Based IS41 SMS NP feature.

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### *Measurements*

The following new measurements are added to the SYSTOT report to support the MT-Based IS41 SMS NP feature:

- APSMRQREP—Number of SMSREQ messages received that result in SMSREQ ACK or SMSREQ NACK responses
- APSMRQERR—Number of SMSREQ messages received that result in error

The following new measurements are added to the SSP report to support the MT-Based IS41 SMS NP feature:

- APSMRQREP—Number of SMSREQ messages received from a specific SSP that result in SMSREQ ACK or SMSREQ NACK responses
- APSMRQERR—Number of SMSREQ messages received from a specific SSP that result in error

Measurements for the MT-Based IS41 SMS NP feature are supported on both the User Interface and the Measurements Platform.

### *Limitations*

The 150-character limit on command line length may prevent a single **chg-is41opts** command from being entered on a single line. If the command does not fit on one line, then the command must be broken into multiple commands.

## **SIGTRAN Measurements Phase 1**

The SIGTRAN Measurements Phase 1 (SIGTRAN) feature allows measurements for the IPGWx and IPLIMx cards that are currently obtained using the EAGLE 5 ISS **pass** commands to be obtained through EAGLE 5 ISS measurement collection and reporting mechanisms. The SIGTRAN feature also obtains measurements for the IPSG cards that are introduced in Release 38.0.

**NOTE: The **pass** commands continue to be supported as a separate means of displaying the associated data.**

On-demand measurement reports can be obtained through the User Interface or the Measurements Platform. Scheduled measurement reports must be obtained through the Measurements Platform.

The SIGTRAN feature provides measurement capabilities for the following protocols.

- UA  
The UA protocol consists of a combination of the M3UA and SUA protocols. UA measurements are collected for IPGWx and IPSG cards per association (ASSOC) on the application server (AS).

**NOTE: IPSG cards support only M3UA protocols.**

Measurements for UA messages that are received without a routing context or with multiple routing context values are pegged to the default AS value and the appropriate ASSOC. The RXMLRCMS register is used to indicate the number of messages received with multiple routing context values. This register is always pegged using the default AS value. The AS value can also be set to the default AS for all UA data.

All UA data for IPSG cards is pegged against the default AS.

- SCTP  
SCTP measurements are collected for IPGWx, IPLIMx, and IPSG cards per CARD and ASSOC.

- M2PA  
M2PA measurements are collected on IPLIMx and IPSG cards per LINK.

### ***Feature Control Requirements***

There are no feature control requirements identified for this feature.

### ***Hardware Requirements***

The SIGTRAN feature requires SSEDCCM or E5-ENET cards.

**NOTE: The `iplim` and `ss7ipgw` GPLs run on SSEDCCM cards. The `iplhc`, `ipghc`, and `ipsg` GPLs run on E5-ENET cards.**

### ***IP Network Cards***

The following guidelines apply to provisioning network cards in the EAGLE 5 ISS for collecting SIGTRAN measurements:

- Each EAGLE 5 ISS has a provisioning limit of 4000 associations.
- The EAGLE 5 ISS can have up to 64 IPGWx, 100 IPLIMx cards, and 100 IPSG cards.
- The EAGLE 5 ISS can have a maximum of 250 application servers.
- Each IPGWx card can support 50 associations: each IPLIMx card can support 16 associations: and each IPSG card can support 32 associations.
- Each IPGWx card can host up to 50 application servers. These can all be on a single association, or distributed over multiple associations.
- Each SCTP association can have a single adapter type (M3UA, SUA, or M2PA).
- Each SCTP association is associated with a single SS7 SLK.
- IPLIMx and IPSG cards have a single M2PA SCTP association for each SS7 SLK.
- IPLIMx cards do not support UA associations.
- IPGWx cards can have multiple M3UA or SUA SCTP associations for each SS7 SLK (only 1 SS7 SLK per IPGW card). IPGWx cards do not support M2PA associations.
- IPSG cards can support M3UA or M2PA associations. IPSG cards do not support SUA associations.
- For IPSG using the M3UA application, the M3UA Application Server is configured using an SS7 linkset. The IPSG does NOT use the Eagle AS table.
- IPSG cards can support multiple SLKs (up to 16) per M3UA Association.
- Each M3UA or SUA association (IPGWx only) can be associated with up to 50 application servers.
- Each application server can be associated with up to 16 associations.

### ***Link and Linkset Classes***

The following new link classes are used to provide LINK measurements for the UA and M2PA protocols.

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- IPVHSL: M2PA links (IPLIMx and IPSG cards)
- IPVLGW: M3UA and SUA links (IPGWx cards)
- IPVL: M3UA links (IPSG cards)

These new link classes apply to the existing COMP-LINK, MTCO-LINK, and MTCOTH-LINK reports.

Linkset class is derived from the classes of the individual links contained within the linkset. Any linkset that contains IPVHSL class links (with or without classes of links) has linkset class IPVHSL. A linkset that contains IPVL or IPVLGW class links has linkset class IPVL. The additional linkset classes impact the register content of the COMP-LNKSET report.

The IPVL link class uses existing registers. New registers are provided for the IPVSHL link class. These registers are shown in the following table.

**Table 1-2. IPVHSL Link Registers**

Register	Data
ECLNKCB	Number of times the link performed ChangeBack procedures, including time-controlled ChangeBacks
ECLNKEXO	Number of times the link performed Extended ChangeOver, including time-controlled ChangeOvers
M2PLKNIS	Duration the link was not in the in-service state at the M2PA layer (in seconds)
M2PUDMRC	Number of M2PA UDMs received
M2PUDMTR	Number of M2PA User Data Messages transmitted
M2PUDOCR	Number of M2PA User Data Message octets received.
M2PUDOCT	Number of M2PA User Data Message octets transmitted

## Commands

The following commands are enhanced to support the SIGTRAN feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **chg/rept-meas**—Enhanced to provide 30-minute measurement reports for the SCTP and UA protocols. The following examples display output for the **rept-meas** command. Example 1 displays component SCTP per card measurements for a card located in slot 2215.

**rept-meas:type=comp:enttype=sctpcard:loc=2215**

```
stdcfg2b 08-02-15 01:00:04 EST EAGLE 38.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON SCTPCARD
REPORT PERIOD: LAST
REPORT INTERVAL: 08-02-15 00:30:00 THRU 00:59:59
```

SCTPCARD-COMP MEASUREMENTS: LOC: 2215

These measurements are from 08-02-15, 00:30:00 through 00:59:59.

```
SCPKTSNT = 20, SCPKTRCV = 20, SCPKTRER = 0,
UNASCTPK = 0, SCOCTSNT = 0, SCOCTRCV = 0,
CNTLCHKS = 400, ORDCHKSN = 400, CNTLCHKR = 0,
ORDCHKRC = 0, DATCHKSN = 0, DATCHKRC = 0,
RTXCHNKS = 0, ASOCABTD = 0, ASOCSHTD = 0
```

;

Example 2 displays daily UA measurements for a specified AS/ASSOC.

**rept-meas:type=mtcd:enttype=ua:aname=appsrvr01:aname=assoc01**

```
stdcfg2b 08-02-15 06:07:04 EST EAGLE 38.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON UA
REPORT PERIOD: LAST
```

REPORT INTERVAL: 08-02-15 00:00:00 THRU 23:59:59

UA-MTCD MEASUREMENTS: AS: appsvr01 ASSOC: assoc01

These measurements are from 07-11-14, 00:00:00 through 23:59:59.

RXDATAMS	=	100	, TXDATAMS	=	200	, RXDATAOC	=	4000	,
TXDATAOC	=	8000	, RXMLRCMS	=	0	, UAASPMRX	=	0	,
UAASPMTX	=	0	, UAASPNAC	=	0	, UAASPNAT	=	0	,
UACNGCNT	=	10	, UACNGTIM	=	20	, UAMGMTRX	=	0	,
UAMGMTTX	=	0	, UANMOCTR	=	0	, UANMOCTT	=	50	,
UANMMSGR	=	0	, UANMSGT	=	0	, UASSNMRX	=	0	,
UASSNMTX	=	140							

Example 3 displays day-to-hour SCTP per ASSOC measurements.

**rept-meas:type=mtcdth:enttype=sctpasoc:aname=assoc02**

stdcfg2b 08-02-15 06:07:04 EST EAGLE 38.0.0  
 TYPE OF REPORT: DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON SCTPASOC  
 REPORT PERIOD: LAST  
 REPORT INTERVAL: 08-02-15 00:00:00 THRU 05:59:59

SCTPASOC-MTCDTH MEASUREMENTS: ASSOC: assoc02

These measurements are from 08-02-15, 00:00:00 through 05:59:59.

SCPKTSNT	=	2000	, SCPKTRCV	=	4000	, SCOCTSNT	=	800000	,
SCOCTRCV	=	3400000	, CNTLCHKS	=	40000	, ORDCHKSN	=	430000	,
DATCHKSN	=	34000	, CNTLCHKR	=	28730	, ORDCHKRC	=	83890	,
DATCHKRC	=	832890	, RTXCHNKS	=	0	, GAPACKSR	=	0	,
ACTVESTB	=	0	, PASVESTB	=	0	, ASOCABTD	=	0	,
ASOCSHTD	=	0	, PEERFAIL	=	0	, ASMAXRTO	=	0	,
DURASNEST	=	0	, ECASNEST	=	0				

Example 4 displays a linkset report containing the IPVL linkset class.

**NOTE: The IPVL linkset is used for both IPVLGW and IPVL link classes. The register set used in the linkset reports is identical for both classes of links.**

**rept-meas:type=comp:enttype=lnkset:lsn=lsn1**

eagle10706 08-02-15 10:30:11 EST EAGLE 38.0.0  
 TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET  
 REPORT PERIOD: LAST  
 REPORT INTERVAL: 08-02-15 10:00:00 THRU 10:29:59

eagle10706 08-02-15 10:30:12 EST EAGLE5 38.0.0  
 LNKSET-COMP MEASUREMENTS: lsn1 (IPVL)

MSGSTRAN	=	120740	, MSGSRCVD	=	147196	, MOCTTRAN	=	2414790	,
MOCTRCVD	=	2943920	, MSGSRGTT	=	0	, MOCTRGTT	=	0	,
TDLSINAC	=	0	, MSGWSDSLIM	=	0	, ZTTMAPO	=	0	,
ZTTMAPI	=	0	, MTPMSCNVTD	=	0	, GTTMSCNVTD	=	0	,
SCCPLOOP	=	0							

;

Example 5 displays a linkset report that contains the IPVHSL linkset class.

**rept-meas:type=comp:enttype=lnkset:lsn=lsn2**

eagle10706 08-02-15 10:30:11 EST EAGLE 38.0.0  
 TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET  
 REPORT PERIOD: LAST  
 REPORT INTERVAL: 08-02-15 10:00:00 THRU 10:29:59

eagle10706 08-02-15 10:30:13 EST EAGLE5 38.0.0  
 LNKSET-COMP MEASUREMENTS: lsn2 (IPVHSL)

MSGSTRAN	=	120740	, MSGSRCVD	=	147196	, MOCTTRAN	=	2414790	,
MOCTRCVD	=	2943920	, MSGSRGTT	=	0	, MOCTRGTT	=	0	,
TDLSINAC	=	0	, MSGWSDSLIM	=	0	, ZTTMAPO	=	0	,
ZTTMAPI	=	0	, MTPMSCNVTD	=	0	, GTTMSCNVTD	=	0	,
SCCPLOOP	=	0							

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Example 6 displays a link report for a linkset that contains the IPVL link class.

### **rept-meas:type=comp:enttype=link:lsn=ls1201a0**

```
stdcfg2b 08-01-15 01:00:05 EST EAGLE 38.0.0
LINK-COMP MEASUREMENTS: LOC: 1204, PORT: A , LSN: ls1201a0 (IPVL)
```

These measurements are from 07-06-15, 00:30:00 through 00:59:59.

MSGSTRAN	=	20	, MSGSRCVD	=	20	, MOCTTRAN	=	400	,
MOCTRCVD	=	400	, MTCEUSG	=	0	, DURLKOTG	=	0	,
MSGSRGTT	=	0	, MOCTRGTT	=	0	, TDCNGLV1	=	0	,
TDCNGLV2	=	0	, TDCNGLV3	=	0	, ECCNGLV1	=	0	,
ECCNGLV2	=	0	, ECCNGLV3	=	0	, MSGDISC0	=	0	,
MSGDISC1	=	0	, MSGDISC2	=	0	, MSGDISC3	=	0	,
LNKAVAIL	=	183	, NMGWSDSABL	=	0	, ECLNKCB	=	0	,
ECLNKEXO	=	0							

;

Example 7 displays a link report for a linkset that contains the IPVHSL link class.

### **rept-meas:type=comp:enttype=link:lsn=ipls02**

```
stdcfg2b 08-02-15 01:00:05 EST EAGLE 38.0.0
LINK-COMP MEASUREMENTS: LOC: 1205, PORT: A , LSN: ipls02 (IPVHSL)
```

These measurements are from 08-02-15, 00:30:00 through 00:59:59.

MSGSTRAN	=	20	, MSGSRCVD	=	20	, MOCTTRAN	=	400	,
MOCTRCVD	=	400	, MTCEUSG	=	0	, DURLKOTG	=	0	,
MSGSRGTT	=	0	, MOCTRGTT	=	0	, TDCNGLV1	=	0	,
TDCNGLV2	=	0	, TDCNGLV3	=	0	, ECCNGLV1	=	0	,
ECCNGLV2	=	0	, ECCNGLV3	=	0	, MSGDISC0	=	0	,
MSGDISC1	=	0	, MSGDISC2	=	0	, MSGDISC3	=	0	,
LNKAVAIL	=	183	, LMSUTRN	=	5	, LMSURCV	=	3	,
LMSUOCTTRN	=	2035	, LMSUOCTRCV	=	1248	, LMSUTRNDSC	=	0	,
LMSURCV	=	1	, NMGWSDSABL	=	0	, M2PUDMTR	=	0	,
M2PUDMTR	=	0	, M2PUDMRC	=	0	, M2PUDOCR	=	0	,
M2PUDOCR	=	0	, M2PLKNIS	=	0	, ECLNKCB	=	0	,
ECLNKCB	=	0	, ECLNKEXO	=	0				

;

Example 8 displays a link report for a linkset that contains the IPVLGW link class.

### **rept-meas:type=comp:enttype=link:lsn=ipgwls01**

```
stdcfg2b 08-01-31 01:00:05 EST EAGLE 38.0.0
LINK-COMP MEASUREMENTS: LOC: 2204, LINK: A5 , LSN: ipgwls01 (IPVLGW)
```

These measurements are from 07-12-31, 00:30:00 through 00:59:59.

MSGSTRAN	=	20	, MSGSRCVD	=	20	, MOCTTRAN	=	400	,
MOCTRCVD	=	400	, MTCEUSG	=	0	, DURLKOTG	=	0	,
MSGSRGTT	=	0	, MOCTRGTT	=	0	, TDCNGLV1	=	0	,
TDCNGLV2	=	0	, TDCNGLV3	=	0	, ECCNGLV1	=	0	,
ECCNGLV2	=	0	, ECCNGLV3	=	0	, MSGDISC0	=	0	,
MSGDISC1	=	0	, MSGDISC2	=	0	, MSGDISC3	=	0	,
LNKAVAIL	=	183	, NMGWSDSABL	=	0	, LMSUTRN	=	5	,
LMSURCV	=	3	, LMSUOCTTRN	=	2035	, LMSUOCTRCV	=	1248	,
LMSUTRNDSC	=	0	, LMSURCV	=	1	, ECLNKCB	=	0	,
ECLNKCB	=	0							

;

- **chg/rtrv-measopts**—Enhanced to support generation of the measurement reports for the SCTP protocol. The following example displays abridged output for the **rtrv-measopts** command when the SIGTRAN measurement reports are included.

### **rtrv-measopts**

```
rlghncxa03w 08-02-07 00:57:31 EST EAGLE 38.0.0
PLATFORMENABLE = on
```

```

COLLECT15MIN      = off
CLLIBASEDNAME     = on
-----
SYSTOTSTP        = on
SYSTOTTT         = off
SYSTOTSTPLAN     = on
COMPLINK         = off
COMPLNKSET       = on
COMPSCTPASOC     = on
COMPSCTPCARD     = off
COMPUPA          = off
GTWYSTP          = on
GTWYLNKSET       = on
GTWYORIGNI       = on
MTCHLNP          = on
MTCHNP           = off
MTCHMAP          = off
MTCHEIR          = off
MTCNSTP          = on
MTCNLINK         = off
MTCNLINKSET      = off
MTCNSTPASOC      = off
MTCNSTPCARD      = on
MTCNDA           = off
MTCNSTPLAN       = on
MTCNLNK          = on
AVLSTPLAN        = on
AVLDLINK         = on
;

```

- **chg/rtrv-sg-opts**—Enhanced to support pegging of UA protocol data against the default association. The **rtrv-sg-opts** command is enhanced to report whether the UA protocol data is pegged against the default AS. The following example displays output for the **rtrv-sg-opts** command.

#### **rtrv-sg-opts**

```

rlghncxa03w 08-02-07 09:50:17 EST EAGLE 38.0.0
SRKQ:                250
SNMPCONT:            john doe 555-123-4567
GETCOMM:              public
SETCOMM:              private
TRAPCOMM:             public
SCTPCSUM:             adler32
IPGWABATE:           NO
IPLIMABATE:           NO
IPTPSALMTHRESH:     100%
UAMEASUSEDFTAS:     YES
;

```

- **chg/rtrv-stpopts**—Enhanced to no longer support the **gr2878rg1b1** parameter.
- **rept-ftp-meas**—Enhanced to support generation of SCTP reports.

## ***Measurement Reports***

New Component (COMP), Day-to-Hourly Maintenance (MTCDTH) and Daily Maintenance (MTCD) reports are created to report data for the SCTP and UA protocols.

Data for the M2PA protocol is reported on existing LINK reports. New link classes are created for these reports and apply to the UA and M2PA protocols.

### ***SCTP Measurement Reports***

The following new reports are used to provide measurements for the SCTP protocol. These reports can provide information either per ASSOC or per card (CARD).

**Feature Notice**

- COMP-SCTPASOC
- MTCB-SCTPASOC
- MTCBTH-SCTPASOC
- COMP-SCTPCARD
- MTCB-SCTPCARD
- MTCBTH-SCTPCARD

The COMP ASSOC report uses the registers shown in the following table:

**Table 1-3. Sctp Association Registers**

Register	Data
ASMAXRTO	Maximum observed value of the Sctp state variable Retransmission Timeout in milliseconds for Sctp packets transmitted (but not retransmitted) to the remote peer endpoint's destination transport address during the measurement interval
ASOCABTD	Number of times Sctp associations made a direct transition to the CLOSED state from any state using the primitive "Abort", conveying an ungraceful termination of the association
ASOCSHTD	Number of times Sctp associations made a direct transition to the CLOSED state from the SHUTDOWN-SENT or SHUTDOWN-ACK-SENT states, conveying graceful termination of the association
CNTLCHKR	Number of Sctp control chunks received from the remote peer (excluding duplicates)
CNTLCHKs	Number of Sctp control chunks sent to the remote peer (excluding retransmissions)
DATCHKRC	Number of Sctp DATA chunks received from the remote Sctp peer (excluding duplicates and discards)
DATCHKSN	Number of Sctp DATA chunks sent to the remote Sctp peer (excluding retransmissions)
DURASNEST	Duration the association was not in the Established state
ECASNEST	Number of times the association transitioned out of the Established state
GAPACKSRSTP	Number of Gap Acknowledgement blocks in Selective Acknowledgement control chunks received from the remote Sctp peer
ORDCHKRC	Number of Sctp ordered data chunks received from the remote peer (excluding duplicates)
ORDCHKSN	Number of Sctp ordered data chunks sent to the remote peer (excluding retransmissions)
PEERFAIL	Number of peer endpoint failure detection events for the association as triggered by the crossing of threshold Assoc. Max. Retrans
RTXCHNKS	Number of Sctp data chunks retransmitted to the remote Sctp peer
SCOCTRCV	Number of octets comprising valid Sctp packets received from the remote peer
SCOCTSNT	Total number of octets comprising Sctp packets submitted to the IP layer for transmittal to the remote peer
SCPKTRCV	Total number of Sctp packets received from the remote peer that had a valid checksum (including duplicates)
SCPKTSNT	Total number of Sctp packets sent to the remote peer, (including retransmissions)
STATUS	Indication of data validity – "K" indicates good data; "I" indicates incomplete interval; "N" indicates data not current

The COMP CARD report uses the registers shown in the following table:

**Table 1-4. Sctp Card Registers**

Register	Data
ASOCABTD	Number of times that Sctp associations made a direct transition to the CLOSED state from any state using the primitive "Abort", conveying an ungraceful termination of the association
ASOCSHTD	Number of times that Sctp associations made a direct transition to the CLOSED state from the SHUTDOWN-SENT or SHUTDOWN-ACK-SENT states, conveying graceful termination of the association
CNTLCHKR	Number of Sctp control chunks received from the remote peer (excluding duplicates)
CNTLCHKs	Number of Sctp control chunks sent to the remote peer (excluding retransmissions)

Register	Data
DATCHKRC	Number of SCTP DATA chunks received from the remote SCTP peer (excluding duplicates and discards)
DATCHKSN	Number of SCTP DATA chunks sent to the remote SCTP peer (excluding retransmissions)
ORDCHKRC	Number of SCTP ordered data chunks received from the remote peer (excluding duplicates)
ORDCHKSN	Number of SCTP ordered data chunks sent to the remote peer (excluding retransmissions)
RTXCHNKS	Number of SCTP data chunks retransmitted to the remote SCTP peer
SCOCTRCV	Number of octets comprising valid SCTP packets received from the remote peer
SCOCTSNT	Total number of octets comprising SCTP packets submitted to the IP layer for transmittal to the remote peer
SCPKTRCV	Total number of SCTP packets received from the remote peer that had a valid checksum (including duplicates)
SCPKTRER	Number of SCTP packets received from remote peers with an invalid checksum
SCPKTSNT	Total number of SCTP packets sent to the remote peer, (including retransmissions)
STATUS	Indication of data validity – “K” indicates good data; “I” indicates incomplete interval; “N” indicates data not current
UNASCTPK	Number of “out-of-the-blue” SCTP packets received by the host, i.e., SCTP packets correctly formed with the correct checksum value, but for which the receiver (local SCTP) cannot identify the association to which the packet belongs.

The MTCPTH and MTPD reports use the same registers as the SCTP Association and Card COMP reports provided above, with the following additions:

- ACTVESTB: Number of times SCTP associations made a direct transition to the ESTABLISHED state from the COOKIEECHOED state.
- PASVESTBSCTP: Number of times SCTP associations made a direct transition to the ESTABLISHED state from the CLOSED state.

### *UA Measurement Reports*

The following new reports are used to provide AS-ASSOC measurements for the UA protocol.

- COMP-UA
- MTPD-UA
- MTPPTH-UA

All of the reports use the same registers. These registers are shown in the following table.

**Table 1-5. UA Report Registers**

Register	Data
RXDATAMS	M3UA: Number of DATA messages received from the ASP SUA: Total CLDT and CLDR messages received from the ASP
RXDATAOC	M3UA: Number of DATA octets received from the ASP SUA: Total CLDT and CLDR octets received from the ASP
RXMLRCMS	Number of messages received with multiple routing contexts (always pegged against the default AS)
STATUS	Indication of data validity
TXDATAMS	M3UA: Number of DATA messages sent to the ASP SUA: Total of CLDT and CLDR messages sent to the ASP
TXDATAOC	M3UA: The number of DATA octets sent to the ASP

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Register	Data
	SUA: Total of CLDT and CLDR octets sent to the ASP
UAASPMRX	Total ASPM messages received from the ASP (including ASPSM and ASPTM messages)
UAASPMTX	Total ASPM messages sent to the ASP (including ASPSM and ASPTM messages)
UAASPNAC	The number of times the ASP transitioned out of the ASP-Active state
UAASNAT	The duration that the ASP was not in the ASP-Active state
UACNGCNT	The number of times an AS-ASSOC experienced congestion (may include the AS entering congestion as a result of the ASSOC entering congestion)
UACNGTIM	The duration that an AS-ASSOC experienced congestion (may include the AS entering congestion as a result of the ASSOC entering congestion)
UAMGMTRX	Total MGMT messages received from the ASP
UAMGMTTX	Total MGMT messages sent to the ASP
UANMOCTR	Total Network Management octets received from the ASP - The total number of non-DATA UA octets received from the ASP
UANMOCTT	Total Network Management octets sent to the ASP - The total number of non-DATA UA octets sent to the ASP
UANMMSGR	The total number of non-DATA UA messages received from the ASP
UANMMSGT	The total number of non-DATA UA messages sent to the ASP
UASSNMRX	Total SSNM messages received from the ASP
UASSNMTX	Total SSNM messages sent to the ASP

### *Limitations*

The SIGTRAN Measurements Phase 1 feature has the following limitations:

- No new scheduled reports are available on the EOAM.
- SCTP measurements are not supported on the SEAS interface.
- If the active MASP boots during EAOM based measurement collection, then data for that period is lost.
- 120K LNP NPANxx, and 80K LNP LRN may not have the CPU bandwidth to collect additional measurements.
- The format of the existing COMP-LINK, MTC-DLINK, and MTC-DTH-LINK reports on both the EOAM and the MCP has been modified. If these reports are passed to additional computer systems for automated parsing and analysis, then the software may have to be modified on the target systems to adjust to the changes.
- If an AS with the name default exists before upgrade, then accurate collection of measurement data for that AS cannot be guaranteed.
- The ACTIVE period for UI reports is not supported for any reports that are generated for the IPSG card.

### **TINP**

The Triggerless ISUP Number Portability (TINP) feature allows the EAGLE 5 ISS to perform number portability database (NPDB) lookup on selected ISUP IAM messages to determine whether a called party number (CdPN) is ported. Gateway screening is used to determine which messages receive NPDB lookup. After NPDB lookup is performed, the EAGLE 5 ISS can relay the IAM message or generate a release message to inform the user that the CdPN is ported.

The TINP feature can be used to provision the EAGLE 5 ISS to determine whether the CdPN contains a Home Routing Number (HOMERN) and to remove the number if it is located.

The TINP feature co-exists with all EAGLE 5 ISS features requiring EPAP and is mutually exclusive with all EAGLE 5 ISS features requiring ELAP. Turning on the TINP feature overrides the ISUP NP with EPAP feature.

### *Feature Control Requirements*

The TINP feature has the following feature control requirements:

- The GTT and GWS features must be turned on before the TINP feature can be enabled.
- A FAK for part number 893-0189-01
- A temporary FAK cannot be used to enable the feature.
- The feature cannot be turned off after it has been turned on.

### *Hardware Requirements*

The TINP feature requires E5-SM4G cards or DSM cards. The feature cannot be enabled if TSM cards running the **sccp** application are present in the system.

### *Commands*

The following commands are added or enhanced for the TINP feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **enable/chg/rtrv-ctrl-feat**—Enhanced to enable, turn on, and display the status of the TINP feature. The following example displays sample output for the **rtrv-ctrl-feat** command when the TINP feature is enabled and turned on.

#### **rtrv-ctrl-feat**

```
rlghncxa03w 08-01-20 16:40:40 EST EAGLE5 38.0.0
The following features have been permanently enabled:
Feature Name          Partnum  Status  Quantity
HC-MIM SLk Capacity   893012707 on        64
Weighted GTT Load Sharing 893018901 on        ----
Intermed GTT Load Sharing 893006901 on        ----
Flexible GTT Load-Sharing 893015401 on        ----
Origin Based SCCP Routing 893014301 on        ----
TINP                  893018901 on        ----
```

;

- **ent/chg/dlt/rtrv-csl**—Enhanced to add, modify, delete and retrieve all Common Screening List (CSL) entries for the TINP feature. The following example displays output for the **rtrv-csl** command when information for the TINP feature is requested.

#### **rtrv-csl:feature="TINP"**

```
rlghncxa03w 08-01-20 16:40:40 EST EAGLE5 38.0.0
TINP
TINP AcsCode List
DS          Type
-----
a           none
aa          none
123         none
1234        none
12345       none
abcf1       none
123456      none
223456      none
```

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```
223457          none
a23def          release
abcd9f          release
abcdel         none
abcdef          none
abcf10         none
bacd9f          release
```

TINP AcsCode List table is (15 of 50) 30% full

```
TINP
TINP EscCode List
DS
```

```
-----
11
fa
abcf1
123456
123457
223456
223457
abcdel
abcde2
fedcba
ffffff
```

TINP EscCode List table is (11 of 20) 55% full

```
TINP
TINP NPFlgRst List
PC
```

```
-----
PCA
001-001-001
001-001-002
006-100-255
200-002-002

PCI
1-100-1

PCN
00101

PCA
006-*-*
001-002-*

PCN24
100-101-001
100-101-101
```

TINP NPFlgRst List table is (10 of 50) 20% full

;

- **chg/rtrv-tinpopts**—Added to change and retrieve the current values of the TINP option indicators from the TINP Options table. The following example displays output for the **rtrv-tinpopts** command when the TINP feature is enabled.

### **rtrv-tinpopts**

```
rlghncxa03w 08-01-20 16:40:40 EST  EAGLE5 38.0.0
TINP OPTIONS
-----
IAMACT          relay
DNFMT           rn
DNNAI           none
IAMCGPN         none
NPType         sprn
SNAI            iamnai
NPFLG           nm
```

```
RCAUSENP                127
RCAUSEFFX                0
DLTHOMERN                always
```

- **chg/rtrv-gws-actset**—Enhanced to define and display the **tinp** stop action value for gateway screening stop action sets when the TINP feature is enabled and turned on. The following example displays output for the **rtrv-gws-actset** command when information for all gateway screening stop actions is requested.

**rtrv-gws-actset**

```
rlghncxa03w 08-01-20 16:40:40 EST EAGLE5 38.0.0
ACT ACT
ID NAME 1 2 3 4 5 6 7 8 9 10
-----
1 copy copy
2 rdct rdct
3 cr copy rdct
4 crcncf copy cncf rdct
5 cncf cncf
6 cfrd cncf rdct
7 tinp tinp

GWS action set table is (7 of 16) 44% full
;
```

- **chg-stpopts**—Enhanced to support the TINP feature.
- **ent-card**—Enhanced to prevent adding TSM cards that are running the **sccp** application when the TINP feature is enabled.
- **ent/dlt/rtrv-homern**—Enhanced to support the TINP feature. The following example displays output for the **rtrv-homern** command when the TINP feature is enabled and turned on.

**rtrv-homern**

```
rlghncxa03w 08-01-20 16:40:40 EST EAGLE5 38.0.0
RN
-----
216780909087654
76345098
abc
abc1234
c10234567
cabade

HOMERN table is (6 of 100) 6% full
```

- **rept-stat-sccp**—Enhanced to display the TINP queries report in the MNP statistics. The following examples display output for the **rept-stat-sccp** command when the TINP feature is enabled and turned on.

Example 1 displays the output that results when all of the status is requested.

**rept-stat-sccp**

```
tekelecstp 08-01-07 11:53:16 EST EAGLE 38.0.0
SCCP SUBSYSTEM REPORT IS-NR Active -----
SCCP ALARM STATUS = No Alarms

SCCP Cards Configured= 1 Cards IS-NR= 1
System Daily Peak SCCP Load 0 TPS 07-01-07 00:00:00
System Overall Peak SCCP Load 0 TPS 00-00-00 00:00:00
System Total SCCP Capacity 850 TPS (850 max SCCP Capacity)
System SCCP Capacity Calc. Method (N)
System TPS Alarm Threshold 680 TPS ( 80% System N SCCP Capacity)

CARD VERSION PST SST AST MSU CPU
USAG Usage Usage
-----
1107 P 016-001-010 IS-NR Active ----- 4% 4%
```

## Feature Notice

```
-----  
SCCP Service Average MSU Capacity = 0% Average CPU Capacity = 4%  
  
AVERAGE CPU USAGE PER SERVICE:  
GTT = 0% MNP = 3%  
  
TOTAL SERVICE STATISTICS:  
  
SERVICE SUCCESS ERRORS FAIL REROUTE\ FORWARD TOTAL  
GTT: 0 0 0% WARNINGS TO GTT  
MNP: 12 0 0% - - 0
```

Example 2 displays the output that results when statistics for a particular card are requested, and the TINP feature has an active MNP Alarm status.

### **rept-stat-sccp:loc=1107**

```
tekelecstp 08-01-11 19:39:20 EST EAGLE 38.0.0  
  
CARD VERSION TYPE PST SST AST  
1107 074-001-005 DSM IS-NR Active -----  
  
CARD ALARM STATUS = No Alarms.  
GTT: STAT = ACT CPU USAGE = 0%  
GFLEX: STAT = ACT CPU USAGE = 0%  
MNP: STAT = ACT CPU USAGE = 3%  
-----  
TOTAL = 3%  
  
CARD SERVICE STATISTICS  
  
SERVICE SUCCESS ERRORS WARNINGS FORWARD TO GTT TOTAL  
GTT: 0 0 - - 0  
GFLEX: 0 0 0 0 0  
MNP: 12 0 0 0 12  
  
Command Completed.
```

;

## *Measurements*

The TINP feature introduces new measurement pegs, which can be measured using either the User Interface or the Measurements Platform. These pegs track TINP events on both a system total (SYSTOT) and service switching point (SSP) basis. The TINP pegs are part of the NP measurements entity.

The following SYSTOT measurement pegs are introduced for the TINP feature:

- TINPMRCV—Total number of IAM messages received that require TINP processing
- TINPMGEN—Total number of IAM message received that require TINP processing and cause the modification of the IAM message or the generation of a REL message.
- TINPERR—Total number of IAM messages received that require TINP processing and cause the an error case

The following SSP measurement pegs are introduced for the TINP feature:

- TINPMRCV—Total number of IAM messages received from a specific SSP that require TINP processing.
- TINPMGEN—Total number of IAM message received from a specific SSP that require TINP processing and cause the modification of the IAM message or the generation of a REL message.
- TINPERR—Total number of IAM messages received from a specific SSP that require TINP processing and cause an error case.

## Limitations

The TINP feature has the following limitations:

- The collection of digits from SAM is not supported. If SAM is part of the call setup, it is assumed that the SAM is for international calls which are not ported.
- Outgoing digits that are longer than 21 digits are truncated.
- Splitting of digits between IAM and SAM is not supported.
- If an IAM is relayed to a different network type, then ISUP information is not converted to the new network type.
- IAMs larger than 253 bytes (ANSI/ITU-N24) and 256 (ITU-I/ITU-N14) bytes are not supported.
- If the TINP feature and the ISUP NP with EPAP feature are both enabled, the TINP feature overrides the ISUP NP with EPAP feature.

## Other Changes

The following core enhancement is included in Release 39.2:

### Addition of EDSM-2G and GPSM-II Cards

New EDSM-2G (Part Number 870-2372-15) and GPSM-II (Part Number 870-2360-09) cards are added. A new **bpdc2** GPL runs on these cards.

### Commands

The following commands are enhanced to support the new EDSM-2G and GPSM-II cards. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

**NOTE: The output for the cards that support the bpdc2 GPL is identical to the output for the cards that support the bpdc GPL, except for the GPL name. Refer to the *Commands Manual* for examples of output that contains the bpdc GPL.**

- **act/init-flash**—Enhanced to support the **bpdc2** GPL.
- **act/chg/rept-stat/rtrv-gpl**—Enhanced to support the **bpdc2** GPL.

The following example displays output for the **rept-stat-gpl** command when a card supporting the **bpdc2** GPL is used.

```
rept-stat-gpl:display=all
rlghncxa03w 08-04-07 10:23:93 EST EAGLE 38.0.0
GPL      CARD      RUNNING      APPROVED      TRIAL
EOAM     1113      027-002-000  027-002-000  -----
          BPD2M2    027-001-000  027-001-000  210-001-003
EOAM     1115      027-002-000  027-002-000  -----
          BPD2M2    027-001-000  027-001-000  210-001-003
SCCP     1212      027-001-000  027-001-000  027-001-000
          IMT      027-001-000  027-001-000  210-001-003
CCS7ITU  1201      027-001-000  027-001-000  027-001-000
          IMT      027-001-000  027-001-000  210-001-003
ATMANSI  1203      027-001-000  027-001-000  027-001-000
          BPHCAP   027-001-000  027-001-000  210-001-003
SS7ML*   1105      027-001-000  027-001-000  027-001-000
          B2MPL    230-001-001  230-001-001  230-001-001
IPLIM    1213      027-001-000  027-001-000  027-001-000
          B2M2M    027-001-000  027-001-000  210-001-003
```

## Feature Notice

```

SS7IPGW 1215      027-001-000      027-001-000      027-001-000
      BPCM      210-001-003 ALM+ 027-001-000      210-001-003
BPHMUX 1109      027-005-000      027-005-000      027-005-000
BPHMUX 1110      027-005-000      027-005-000      027-005-000
BPHMUX 1209      027-005-000      027-005-000      027-005-000
BPHMUX 1210      027-005-000      027-005-000      027-005-000
OAP**      A      027-001-000      027-001-000      -----
OAP**      B      027-001-001 ALM 027-001-000      -----
Command Completed.

```

The following example displays abridged output for the **rtrv-gpl** command when information for all GPLs in the system is requested.

### rtrv-gpl

```

e1080402 08-04-22 15:16:33 EST EAGLE 38.0.0
GPL Auditing ON

```

GPL	CARD	RELEASE	APPROVED	TRIAL	REMOVE TRIAL
EOAM	1114	130-031-000	130-031-000	130-031-000	130-031-000
EOAM	1116	130-031-000	130-031-000	130-031-000	-----
SS7ANSI	1114	130-031-000	130-031-000	130-031-000	130-031-000
SS7ANSI	1116	130-031-000	130-031-000	130-031-000	-----
SCCP	1114	130-031-000	130-031-000	130-031-000	130-031-000
SCCP	1116	130-031-000	130-031-000	130-031-000	-----
CCS7ITU	1114	130-031-000	130-031-000	130-031-000	130-031-000
CCS7ITU	1116	130-031-000	130-031-000	130-031-000	-----
SS7GX25	1114	130-031-000	130-031-000	130-031-000	130-031-000
SS7GX25	1116	130-031-000	130-031-000	130-031-000	-----
STPLAN	1114	130-031-000	130-031-000	130-031-000	130-031-000
STPLAN	1116	130-031-000	130-031-000	130-031-000	-----
ATMANSI	1114	130-031-000	130-031-000	130-031-000	130-031-000
ATMANSI	1116	130-031-000	130-031-000	130-031-000	-----
BPDCM	1114	130-029-000	130-029-000	130-029-000	130-029-000
BPDCM	1116	130-029-000	130-029-000	130-029-000	-----
VXWSLAN	1114	130-031-000	130-031-000	130-031-000	130-031-000
VXWSLAN	1116	130-031-000	130-031-000	130-031-000	-----
IPLIM	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPLIM	1116	130-031-000	130-031-000	130-031-000	-----
IPLIMI	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPLIMI	1116	130-031-000	130-031-000	130-031-000	-----
SS7IPGW	1114	130-031-000	130-031-000	130-031-000	130-031-000
SS7IPGW	1116	130-031-000	130-031-000	130-031-000	-----
VSCCP	1114	130-031-000	130-031-000	130-031-000	130-031-000
VSCCP	1116	130-031-000	130-031-000	130-031-000	-----
ATMITU	1114	130-031-000	130-031-000	130-031-000	130-031-000
ATMITU	1116	130-031-000	130-031-000	130-031-000	-----
BPMP	1114	130-029-000	130-029-000	130-029-000	130-029-000
BPMP	1116	130-029-000	130-029-000	130-029-000	-----
SS7ML	1114	130-031-000	130-031-000	130-031-000	130-031-000
SS7ML	1116	130-031-000	130-031-000	130-031-000	-----
IPGWI	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPGWI	1116	130-031-000	130-031-000	130-031-000	-----
IPS	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPS	1116	130-031-000	130-031-000	130-031-000	-----
BPDCM2	1114	130-029-000	130-029-000	130-029-000	130-029-000
BPDCM2	1116	130-029-000	130-029-000	130-029-000	-----
EROUTE	1114	130-031-000	130-031-000	130-031-000	130-031-000
EROUTE	1116	130-031-000	130-031-000	130-031-000	-----
BPMP	1114	130-029-000	130-029-000	130-029-000	130-029-000
BPMP	1116	130-029-000	130-029-000	130-029-000	-----
MCP	1114	130-031-000	130-031-000	130-031-000	130-031-000
MCP	1116	130-031-000	130-031-000	130-031-000	-----
BPHCAPT	1114	130-029-000	130-029-000	130-029-000	130-029-000
BPHCAPT	1116	130-029-000	130-029-000	130-029-000	-----
HIPR	1114	130-027-000	130-027-000	130-027-000	130-027-000
HIPR	1116	130-027-000	130-027-000	130-027-000	-----
SS7HC	1114	130-031-000	130-031-000	130-031-000	130-031-000
SS7HC	1116	130-031-000	130-031-000	130-031-000	-----
BLBIOS	1114	128-021-000	128-021-000	128-021-000	128-021-000
BLBIOS	1116	128-021-000	128-021-000	128-021-000	-----

BLDIAG	1114	130-008-000	130-008-000	130-008-000	130-008-000
BLDIAG	1116	130-008-000	130-008-000	130-008-000	-----
BLVXW	1114	130-022-000	130-022-000	130-022-000	130-022-000
BLVXW	1116	130-022-000	130-022-000	130-022-000	-----
IPLHC	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPLHC	1116	130-031-000	130-031-000	130-031-000	-----
IPGHC	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPGHC	1116	130-031-000	130-031-000	130-031-000	-----
SS7EPM	1114	130-031-000	130-031-000	130-031-000	130-031-000
SS7EPM	1116	130-031-000	130-031-000	130-031-000	-----
BLVXW6	1114	130-026-000	130-026-000	130-026-000	130-026-000
BLVXW6	1116	130-026-000	130-026-000	130-026-000	-----
BLDIAG6	1114	130-008-000	130-008-000	130-008-000	130-008-000
BLDIAG6	1116	130-008-000	130-008-000	130-008-000	-----
PKTGEN	1114	130-031-000	130-031-000	130-031-000	130-031-000
PKTGEN	1116	130-031-000	130-031-000	130-031-000	-----
SCCPHC	1114	130-031-000	130-031-000	130-031-000	130-031-000
SCCPHC	1116	130-031-000	130-031-000	130-031-000	-----
ERTHC	1114	130-031-000	130-031-000	130-031-000	130-031-000
ERTHC	1116	130-031-000	130-031-000	130-031-000	-----
IPSHC	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPSHC	1116	130-031-000	130-031-000	130-031-000	-----
ATMHC	1114	130-031-000	130-031-000	130-031-000	130-031-000
ATMHC	1116	130-031-000	130-031-000	130-031-000	-----
IPSG	1114	130-031-000	130-031-000	130-031-000	130-031-000
IPSG	1116	130-031-000	130-031-000	130-031-000	-----

;

- **ent/alw/inh/init/rept-stat/rtrv-card**—Enhanced to support the new EDSM-2G and GPSM-II cards.
- **rtrv-stp**—Enhanced to support the **bpdcm2** GPL.

### *Configurable SCCP Threshold Alarm Interval*

The number of minutes during which the SCCP Threshold Level 1 and Level 2 alarms cannot be raised more than once can be provisioned.

#### *Commands*

The **chg/rtrv-th-alm** commands are enhanced to allow configuration of the interval during which the SCCP Level 1 and Level 2 alarms cannot be raised more than once. The **rtrv-th-alm** command is enhanced to display the threshold configuration parameters. For complete descriptions of the commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 Documentation set. The following example displays output for the **rtrv-th-alm** command when the SCCP alarm intervals are configured.

#### **rtrv-th-alm**

```
tekelecstp 08-02-23 13:14:44 EST EAGLE 38.0.0
Thermal Alarm Level 1:          92%
Thermal Alarm Level 2:          99%
SCCP TPS Threshold:             80%
SCCP Calculation Method:        N
LNP TN DB Alarm Level 1:        80%
LNP TN DB Alarm Level 2:        95%
GTT SCCP Service Alarm Level 1: 10%
GTT SCCP Service Alarm Level 2: 20%
Non-GTT SCCP Service Alarm Level 1: 10%
Non-GTT SCCP Service Alarm Level 2: 20%
SCCP Service Alarm Level 1 Interval: 15
SCCP Service Alarm Level 2 Interval: 50
RTRV-TH-ALM: MASP A - COMPLTD.
```

;

## Feature Notice

### *Deleting Warning Message Text*

The **chg-secu-dflt** command is enhanced allow the user to delete one or more lines of warning message text. For a complete description of the command, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

### *Dual-slot DCM Card Obsolescence for IPLIMx and IPGWx*

Dual-slot DCM (870-1945-xx) card support for the IP Signaling applications (SS7IPGW, IPGWI, IPLIM, IPLIMI) is obsolete. The SSEDCCM card or the E5-ENET card can be used as a replacement. This obsolescence impacts the following commands:

- **act/chg/rept-stat/rtrv-gpl**
- **act/canc-lpo**
- **alw/blk/canc/dact/dlt/ent/inh/rept-stat/rtrv/tst/ublk/unhb-slk**
- **ent/chg/dlt-appl-rtkey**
- **ent/chg-assoc**
- **ent/init/rept-stat-card**
- **ent-dlk**
- **chg/rtrv-sg-opts**
- **ent/dlt/rtrv-ip-rte**
- **rtrv-stp**

For complete descriptions of these commands, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 documentation set.

### *GR-2878 Compliance*

All appropriate measurement register names are revised to comply with *Generic Requirements for CCS Nodes Supporting ATM High-Speed Signaling Links, Issue 4, December 1999*, Telcordia. The compliant names appear in all measurement reports (EOAM, MCP, and SEAS).

The names that are impacted are listed in the following table.

**Table 1-6. GR-2878 compliant register labels for the LINK and LINKSET entities**

Non-compliant name	Compliant name	Description
ATMNDRCRV	INCELLS	Total incoming NDC-valid ATM cells on the HSL's VCL, including UI and OAM cells but excluding idle/unassigned cells
ATMNDCTRN	OUTCELLS	Total outgoing NDC-valid ATM cells on the HSL's VCL, including UI and OAM cells but excluding idle/unassigned cells
MSUDISC0	MSGDISC0	Total number of priority 0 MSUs discarded due to congestion
MSUDISC1	MSGDISC1	Total number of priority 1 MSUs discarded due to congestion
MSUDISC2	MSGDISC2	Total number of priority 2 MSUs discarded due to congestion
MSUDISC3	MSGDISC3	Total number of priority 3 MSUs discarded due to congestion
MSURECVD	MSGSRCVD	Total number of MSUs received, including those for which retransmission has been requested.

Non-compliant name	Compliant name	Description
		For SAAL, IPVL, IPVHSL, and IPVLGW class linksets, this register applies to MTP level 3 messages
MSUSRGTT	MSGSRGTT	Total number of incoming MSUs requiring GTT
MSUTRAN	MSGSTRAN	Total number of MSUs transmitted to the far-end, including retransmissions.  For MTP2 class linksets, this register measures MSUs transmitted AND acknowledged by level 2.  For SAAL, IPVL, IPVHSL, and IPVLGW class linksets, this register measures MTP level 3 messages offered for transmission after any required conversion from their respective M2PA, M3UA, or SUA formats
OCTRCGTT	MOCTRGTT	Total number of octets received associated with incoming MSUs requiring GTT
OCTRECVD	MOCTRCVD	Total number of octets associated with MSUs received, including those removed for MTP level 2 processing and those for which retransmission has been requested.  For SAAL, IPVL, IPVHSL, and IPVLGW class linksets this register applies to MTP level 3 message bytes
OCTTRAN	MOCTTRAN	Total number of octets associated with MSUs transmitted to the far-end  For MTP2 class linksets, this register measures octets associated with MSUs transmitted and acknowledged by level 2. MTP level 3 SIO and SIF octets and MTP level 2 flag, BSN/BIB, FSN/BIB, LI, and CRC octets are included.  For SAAL, IPVL, IPVHSL, and IPVLGW class linksets, this register measures bytes or octets associated with MTP level 3 messages offered for transmission after any required conversion from their respective M2PA, M3UA, or SUA formats. MTP3 level 3 SIO and SIF octets are included
SDURECVD	SDPDURCV	Number of SSCOP SD PDUs received during the indicated interval
SDURETRN	SDPDURTR	Number of SSCOP sequenced Data PDUs that were retransmitted
SDUSTRAN	SDPDUTRN	Number of SSCOP sequenced Data PDUs that were transmitted, including retransmissions

### *Managing Prefixed Digits in MO-based GSM SMS and MO-based IS41 SMS Messages*

Common screening lists (CSLs) are added to the MO-based GSM SMS NP and the MO-based IS41 SMS NP features. These lists are used to manage prefixed digits in the directory numbers (DNs) of the SMS messages that are processed by these features.

The MO-based GSM SMS NP and MO-based IS41 SMS NP features treat all non-international nature address indicator (NAI) numbers as national. For national numbers, the country code (CC) is added to the number before lookup is performed. If an international number has an NAI value of unknown, or if a 0 is added to a nationally formatted number with an NAI value of unknown, then the number is treated as a national number. Adding the CC in these cases results in an incorrect format and causes the lookup to fail.

For the MO-based GSM SMS NP feature, the **mosmsnai** parameter in the **chg-gsmopts** command is used to determine the number conditioning that is performed on the SMS message destination address before lookup is performed. If the value specified for the **mosmsnai** parameter is **nai**, and the value of the NAI in the message is **unknown**, or if the value specified for the **mosmsnai** parameter is **unknown**, then the CSL is used to remove the digits from the DN. This removal places the number in national format and allows lookup to be successfully performed after the CC is added.

For the MO-based IS41 SMS NP feature, the **mosmsnai** parameter in the **chg-is41opts** command is used to determine the number conditioning that is performed on the SMS message destination address before lookup is performed. If the value specified for the **mosmsnai** parameter is **unknown**, then the CSL is used to remove the

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digits from the DN. This removal places the number in national format and allows lookup to be successfully performed after the CC is added.

### Commands

The following commands are enhanced to support CSLs on the MO-based GSM SMS NP and MO-based IS41 SMS NP features. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

- **ent/chg/dlt/rtrv-csl**—Enhanced to allow CSL lists to be configured for the MO-based GSM SMS NP and MO-based IS41SMS NP features. The **rtrv-csl** command is enhanced to display CSL data for the features. The following examples display output for the **rtrv-csl** command when CSLs are provisioned for the MO-based GSM SMS NP and MO-based IS41SMS NP features. Example 1 displays abridged output that results when information for all entries in all CSLs is requested.

#### rtrv-csl

```
tekelecstp 08-01-21 15:18:41 EST EAGLE 38.0.0
Prepaid IDP Query Relay
SK+BCSM List
DS
-----
3104
3212
4323
5434
6545
7566

SK+BCSM List table is (6 of 25) 24% full

Prepaid IDP Query Relay
CC+NC List
DS
-----
7848
24574
67547
224723
656354
546535

CC+NC List table is (6 of 20) 30% full

IDP Screening for Prepaid
SK+TS List
DS
-----
1233
1234

SK+TS List table is (2 of 25) 8% full

IDP Screening for Prepaid
INSL List
DS
-----
1233
1235

INSL List table is (3 of 50) 6% full

MO-based GSM SMS NP
Delete Prefix List
DS
-----
00
09
```

```

090

Delete Prefix List table is (3 of 20) 15% full

MO-based IS41 SMS NP
Delete Prefix List
DS
-----
00
09
090

Delete Prefix List table is (3 of 20) 15% full

```

;

Example 2 displays the output that results when CSL information for the MO-based GSM SMS NP feature is requested.

```

rtrv-csl:feature="MO-based GSM SMS NP"
tekelecstp 08-01-28 17:16:45 EST EAGLE 38.0.0

MO-based GSM SMS NP
Delete Prefix List
DS
-----
0
9
90
990

Delete Prefix List table is (4 of 20) 20% full

```

;

Example 3 displays the output that results when CSL information for the MO-based IS41 SMS NP feature is requested.

```

rtrv-csl:feature="MO-based IS41 SMS NP"
tekelecstp 08-01-21 21:51:58 EST EAGLE 38.0.0

MO-based IS41 SMS NP
Delete Prefix List
DS
-----
00
09
090

Delete Prefix List table is (3 of 20) 15% full

```

;

- **chg/rtrv-gsmopts**—Enhanced to allow a value of **unknown** to be specified for the **mosmsnai** parameter. The following example displays output for the **rtrv-gsmopts** command when the MO-based GSM SMS NP feature is enabled, and the **mosmsnai** parameter has a value of **unknown**.

```

rtrv-gsmopts

tekelecstp 08-01-28 17:01:57 EST EAGLE 38.0.0

GSM OPTIONS
-----
SRFADDR      = NONE
MSRNDIG     = RN
DEFMAPVR    = 1
SRIDN       = TCAP
IS412GSM    = NONE
MSISDNTRUNC = 0
MIGRPFXX    = SINGLE

```

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```
GSM2IS41      = NONE
MOSMSDNFMT    = RNDN
MOSMSTYPE     = SPRN
MOSMSNAI      = UNKNOWN
MOSMSSA       = NO
MOSMSDNNAI    = NONE
MOSMSFWD      = NO
MOSMSGTA      = NONE
```

;

- **chg/rtrv-is41opts**—Enhanced to allow a value of **unknown** to be specified for the **mosmsnai** parameter. The following example displays output for the **rtrv-is41opts** command when the MO-based IS41 SMS NP feature is enabled, and the **mosmsnai** parameter has a value of **unknown**.

### **rtrv-is41opts**

```
tekelecstp 08-01-28 17:10:51 EST  EAGLE 38.0.0
```

```
IS41 OPTIONS
-----
SMSREQBYPASS   = NO
LOCREQDN       = SCCP
IEC            = NONE
NEC           = NONE
RSPCGPARI      = FRMSG
RSPCGPAPCP     = FRMSG
RSPCDPARI      = FRMSG
RSPCDPAPCP     = OFF
RSPCGPANAI    = NONE
RSPCGPANP     = NONE
RSPCGPATT     = NONE
MTPLOCREQNAI  = FRMSG
RSPPARM       = TLIST
RSPDIG        = RNDN
RSPNON        = NONE
RSPNP         = 2
RSPMIN        = HOMERN
MSCMKTID      = 0
MSCSWITCH     = 0
ESNMFG        = 0
ESNSN         = 0
RSPDIGTYPE    = 6
LOCREQRMHRN   = NO
TCAPSNAI      = FRMSG
MOSMSDNFMT    = RNDN
MOSMSTYPE     = SPRN
MOSMSNAI      = UNKNOWN
MOSMSDNNAI    = NONE
```

;

## ***Removal of GR-376, EMAP, and EMDC***

Support for the GR-376 feature and the EMAP platform is discontinued. All references to the feature or platform are completely removed from the software code and documentation. These references include all references to the **emdc** and **emap** GPLs and card references. The **rept-stat-ndc** command is obsoleted and the following commands are impacted:

- **chg-db**
- **inh-card**
- **rept-stat-gpl**
- **rept-stat-sys**

- `rept-stat-trbl`

For complete descriptions of these commands, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 documentation set.

### ***Removal of LNP OAP***

Support for the LNP OAP database is discontinued. All references to the **ebdablm** and **ebdadcm** GPLs are removed. These removals impact the following commands:

- `act/chg/rept-stat/rtrv-gpl`
- `chg/rtrv-cmd`
- `chg-db`
- `chg/rtrv-oap-config`
- `chg-trm`
- `chg/rtrv-user`
- `copy-disk`
- `dlt-lnp-serv`
- `dlt-lnp-sp`
- `ent/init/rept-stat/rst-card`
- `ent-user`
- `inh-map-ss`
- `init-sys`
- `rtrv-cmdclass`
- `rtrv-secu-trm`
- `rtrv-secu-user`
- `rtrv-stp`
- `rtrv-trm`

The following LNP commands are obsoleted:

- `canc/rtrv-lnp-tnrpt`
- `canc/rtrv-lnp-dpcer`
- `ent/chg/rtrv-lnp-lrn`
- `ent/chg/rtrv-lnp-npanxx`
- `ent/chg-lnp-serv`
- `ent/chg/dlt/rtrv-lnp-sub`
- `chg-lnp-ttmap`
- `chg-lnpopts`
- `ent/dlt/rtrv-split-npa`

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- ent/rtrv-lnp-sp
- rept-stat-lsms
- rtrv-lnp-dbts
- rtrv-lnp-ttmap
- rtrv-mem

For complete descriptions of these commands, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 Documentation set.

### *Removal of the TALI Protocol*

Support for the TALI protocol support is discontinued. The SIGTRAN RFC protocol is used as an industry standard replacement for all existing TALI applications.

**NOTE: If any TALI links are configured in the system, then the act-upgrade command cannot be entered.**

Removal of the TALI protocol includes removal of the ISUP Normalization feature and Dynamic Routing Key feature information. As part of this removal, the **ent/chg/rtrv-applsock**, **chg/rtrv-dcmps**, **chg/rtrv-isupvar-attrib**, and **ent/chg/dlt/rtrv-pstn-pres** commands are obsoleted. The following commands are also updated to reflect the removal of TALI and the associated information:

- **chg/enable/rtrv-ctrl-feat**
- **chg/rtrv-feat**
- **chg/rtrv-sg-opts**
- **connmgr**
- **ent/act/alw/blk/canc/dact/dlt/inh/rept-stat/rtrv/tst/ublk/unhb-slk**
- **ent/chg/dlt/rtrv-appl-rtkey**

For complete descriptions of these commands, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 Documentation set.

### *Updated chg-dstn Command*

The **chg-dstn** command is updated to allow **none** to be specified as a value for the **spc/spca/spci/spcn/spcn24** parameters. Specifying **none** as a value for one of these parameters removes the secondary point code from the destination. For a complete description of this command, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 Documentation set.

### *Updated chg-uaps Command*

The **set** parameter for the **chg-uaps** command is updated to reflect the correct range from **1 - 9**.

The **chg-uaps** command is also updated to allow ASP/AS Notification Options to be configured. The minimum value for Timer 2 is revised to show the correct value of 0 in the **tvalue** parameter. For a complete description of this command, refer to the *Commands Manual* of your EAGLE 5 ISS Release 38.0 documentation set.

### *Updated MTPMSCNVTD COMP Linkset Register*

The MTPMSCNVTD COMP Linkset register is updated to measure the total MTP Routed SCCP MSUs for which SCCP conversion is performed.

### *Updated netstat Command*

The **-a** option of the **netstat** command is used to display socket information for all protocols. This option is enhanced to display all of the digits for the port number.

**NOTE: The description of the netstat command in the *Commands Manual* is also updated to separate the output between output that appears for E5-based cards and non E5-based cards. For a complete description of this command, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 documentation set.**

The following example displays updated output for the **netstat** command.

```
pass:cmd="netstat -a":loc=1111
tekelecstp 08-01-19 04:45:32 IST EAGLE5 38.0.0
SDS Shell Output

-> tklc_inetstatShow
Active Internet connections (including servers)
PCB      Proto Recv-Q Send-Q Local Address      (state)
Foreign Address
-----
2344440  TCP        0      0 192.168.55.203.102 ESTABLISHED
192.168.55.211.102
2343720  TCP        0      0 0.0.0.0.23        LISTEN
0.0.0.0.0
231bd60  UDP        0      0 0.0.0.0.1027
0.0.0.0.0
231bc20  UDP        0      0 127.0.0.1.1026
127.0.0.1.17185
231bae0  UDP        0      0 0.0.0.0.17185
0.0.0.0.0
231b9a0  UDP        0      0 0.0.0.0.68
0.0.0.0.0
231b5e0  UDP        0      0 127.0.0.1.1024
0.0.0.0.0
231b220  UDP        0      0 127.0.0.1.1025
127.0.0.1.1024
value = 1 = 0x1
;

tekelecstp 08-01-19 04:45:32 IST EAGLE5 38.0.0
;

tekelecstp 08-01-19 04:45:32 IST EAGLE5 38.0.0
NETSTAT command complete
;
```

### *Updated rtrv-gta and rtrv-gtt Commands*

The **rtrv-gta** and **rtrv-gtt** commands are enhanced to allow data to be retrieved for a specified MRN set when the Flexible GTT Load Sharing feature is enabled. For complete descriptions of these commands, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 documentation set.

Example 1 displays output for the **rtrv-gta** command when information for a specific MRN set is requested.

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### **rtrv-gta:gttsn=setans006:mrnset=1**

```
tekelecstp 08-01-03 13:03:16 EST EAGLE 38.0.0
GTTSN      NETDOM  NDGT
setans006  ansi    10
GTT TABLE IS 1 % FULL (8 of 269999)

START GTA  END GTA  XLAT  RI  PCA
1818510090 1918511241 DPC   GT   001-001-003
MRNSET=1   SSN=--- CCGT=no NTT=---
```

;

Example 2 displays output for the **rtrv-gtt** command when information for a specific MRN set is requested.

### **rtrv-gtt:ttn=tbla:mrnset=1**

```
tekelecstp 08-01-03 12:41:25 EST EAGLE 38.0.0
TYPEPA    TTN      NDGT
2         tbla     4
GTT TABLE IS 1 % FULL (4 of 269999)

START GTA          END GTA          XLAT  RI  PCA
2133             2133             DPC   GT   001-001-003
MRNSET=1         SSN=--- NGT=---
```

;

## **Updated sctp Command**

The **sctp** pass command is enhanced to display logging details for associations, using a new **-l** option. The **-r** option is enhanced to reset measurements and event logs for all ports and associations. For a complete description of this command, refer to the *Commands Manual* for your EAGLE 5 ISS Release 38.0 documentation set. The following examples display output for the **sctp** command.

Example 1 displays the output that results when a brief help report is requested.

### **pass:loc=1307:cmd="sctp -h"**

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0

Usage: [ [[[-a aname] | [-p port] | [-l [aname]]] [-r [-s]]] | [-m] | [-h [full]] ]

Options:
(no parameters)  display list of SCTP ports
-a aname         display association report
-p port         display SCTP port report
-r              reset specified SCTP measurements
-m              display IO header usage report
-l aname        display association event log
-l             display all event logs
-r -l          reset all SCTP event logs
-r -s         reset all SCTP measurements and pegs
-h            displays command help (brief or full)
```

;

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0

SCTP command complete
```

;

Example 2 displays the output that results when the full help report is requested.

### **pass:loc=1307:cmd="sctp -h full"**

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0

Usage: sctp [[[-a aname] | [-p port] | [-l [aname]]] [-r [-s]]] | [-m] | [-h [full]]]
```

Options:

```
(no parameters)  display list of SCTP ports
-a aname         display association report
-p port          display SCTP port report
-r              reset specified SCTP measurements
-m              display IO header usage report
-l aname         display association event log
-l              display all event logs
-r -l           reset all SCTP event logs
-r -s           reset all SCTP measurements and pegs
-h              displays command help (brief or full)
```

no parameters option  
 Summary list of all SCTP instances. To list all the SCTP ports issue the following command:  

```
sctp
```

-a aname option details  
 Retrieves detailed information and measurements for a specific association. For example the following SCTP command will get the measurements and detailed information for the association with association name = assoc1.  

```
sctp -a assoc1
```

-p port option details  
 Retrieves detailed information for a specified SCTP port. For example the following SCTP command will get the detailed information for the SCTP port with a local port of 200.  

```
sctp -p 200
```

-r option details  
 Resets specified SCTP Measurements. See examples below.  
 Resets measurements for specified association:  

```
sctp -r -a assoc
```

  
 Resets measurements for all associations on port 2000:  

```
sctp -r -p 2000
```

  
 Resets measurements and event logs for all ports/associations:  

```
sctp -r
```

  
 Resets event logs for specified association:  

```
sctp -r -l assoc
```

  
 Resets event logs for all associations:  

```
sctp -r -l
```

  
 Resets measurements for all associations:  

```
sctp -r -s
```

-m  
 This option displays SCTP IO header audit report for common and dedicated IO header pools. The report shows total, currently available and minimum (low water mark) IO header counts for common and each association's dedicated pool.  
 IO header is a TSN control block used in processing SCTP chunks. Common pool is IO header pool shared by all associations. Dedicated pool is a per-association IO header pool.  

```
sctp -m;
```

-l option details  
 This option displays logging details for associations. The logging independent of the association state (close or open). details are See examples below:  
 The following SCTP command will get the logging details for all associations on the specified card.  

```
sctp -l
```

  
 The following SCTP command will get the logging details for the association with association name = assoc1.  

```
sctp -l assoc1
```

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0
```

SCTP command complete

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;

Example 3 displays the output that results when the measurements and event logs for all ports/associations are reset.

```
pass:loc=1307:cmd="sctp -r"  
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
All measurements and logs have been reset.
```

;

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
SCTP command complete
```

;

Example 4 displays the output that results when the event logs for a specified association are reset.

```
pass:loc=1307:cmd="sctp -r -l assoc1"  
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
All event logs for specified association have been reset.
```

;

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
SCTP command complete
```

;

Example 5 displays the output that results when the event logs for all associations are reset.

```
pass:loc=1307:cmd="sctp -r -l"  
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
All association event logs have been reset.
```

;

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
SCTP command complete
```

;

Example 6 displays the output that results when the measurements for all ports and associations are reset.

```
pass:loc=1307:cmd="sctp -r -s"  
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
All measurements have been reset.
```

;

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0  
  
SCTP command complete
```

;

Example 7 displays the output that results when event logs for a specified association are requested.

```
pass:loc=1307:cmd="sctp -l assoc1"  
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0
```

```
SCTP Event Log  
Time          Event          Reason          Ripaddr          Rport
```

```
-----
01:19:04.165 SACK send fail      None      192.168.63.235 10001
01:19:04.175 Ck echo ack snd fail None      192.168.63.235 10001
01:19:04.180 Assoc UP           Unknown   192.168.63.235 10001
01:19:04.180 Assoc Down        Shutdown Rcv 192.168.63.235 10001
01:19:04.180 Shutdown ack send   None      192.168.63.235 10001
01:19:06.425 INIT Rcv         None      192.168.63.142 10002
01:19:06.425 Datagram Ignored  No Assoc Found 192.168.63.142 10002
01:19:16.500 INIT tmr expr         None      192.168.63.235 10001
01:19:16.500 SACK send fail      None      192.168.63.235 10001
01:19:17.500 INIT tmr expr         None      192.168.63.235 10001
01:19:17.500 SACK send fail      None      192.168.63.235 10001

SCTP: command complete

;

tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0

SCTP command complete

;
```

Example 8 displays the output that results when event logs for all associations for a specified card location are requested.

**pass:loc=1307:cmd="sctp -l"**

```
tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0

SCTP Event Log
Time      Event                Reason      Ripaddr      Rport
-----
01:19:04.165 SACK send fail      None      192.168.63.235 10001
01:19:04.175 Ck echo ack snd fail None      192.168.63.235 10001
01:19:04.180 Assoc UP           Unknown   192.168.63.235 10001
01:19:04.180 Assoc Down        Shutdown Rcv 192.168.63.235 10001
01:19:04.180 Shutdown ack send   None      192.168.63.235 10001
01:19:06.425 INIT Rcv         None      192.168.63.142 10002
01:19:06.425 Datagram Ignored  No Assoc Found 192.168.63.142 10002
01:19:16.500 INIT tmr expr         None      192.168.63.235 10001
01:19:16.500 SACK send fail      None      192.168.63.235 10001
01:19:17.500 INIT tmr expr         None      192.168.63.235 10001
01:19:17.500 SACK send fail      None      192.168.63.235 10001

SCTP: command complete

;

tekelecstp 08-01-18 17:34:53 EST EAGLE 38.0.0

SCTP command complete

;
```

## Operational Changes

The following operational changes are generated for the features and other changes in Release 38.0.

### *Hardware Verification Code*

#### *E5-ATM Card*

The following hardware verification code is added for the E5-ATM card.

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**Table 1-7. Hardware Verification Code - IPS GPL on E5 Assembly**

H/W Code	136	Associated UAM	Card or Application
Action	Added for the E5-ATM card		
Old data	Available		
New data	Single Port ATM card with SLK provisioned on link B	297	E5-ATM

### *Unsolicited Alarm Messages*

New or changed unsolicited alarm messages (UAMs) for the features that are available in Release 38.0 are shown below.

### *IPSG*

**Table 1-8. IPSG**

UAM	114	Format	Output Group
Action	Deleted as part of the IPSG feature		
Old data	System IP TPS threshold exceeded	IP TPS SYSTEM	SYS_MAINT
New data			
UAM	117		
Action	Deleted as part of the IPSG feature		
Old data	System IP TPS normal	IP TPS SYSTEM	SYS_MAINT
New data			
UAM	571	Format	Output Group
Action	Added for the IPSG feature		
Old data			
New data	Sentinel socket is inactive	SLK	MON
UAM	572	Format	Output Group
Action	Added for the IPSG feature		
Old data			
New data	Sentinel socket is active	SLK	MON

### *Non-feature UAMs*

The following UAM changes are not associated with a feature.

**Table 1-9. Non-feature UAMs**

UAM	104	Format	Output Group
Action	Deleted		
Old data	Card temperature exceeds high threshold	CARD	Card
New data			
UAM	105	Format	Output Group
Action	Deleted		
Old data	Card temperature within high threshold	CARD	Card
New data			

## UAM Format Change

### SLK

Added to support the IPSPG feature:

```

1         2         3         4         5         6         7         8
1234567890123456789012345678901234567890123456789012345678901234567890
      xxxx.yyyy zz SLK cccc,ppp [lnkset] text
      SLC=## FECLLI=@***** CLASS=@@@ (optional)
      Restart Delay(sec)=##### (optional)
      ALARM INHIBIT LEVEL: XXXX (optional)
      ALARM INHIBIT LEVEL: XXXX Expires: yy/mm/dd hh:mm (optional field)
  
```

## Unsolicited Information Messages

New or changed unsolicited information messages (UIMs) for the features that are available in Release 38.0 are shown below.

### AMGTT

**Table 1-10. New or Changed UIMs - AMGTT**

UIM	1297	Format	Output Group
Action	Revised for the AMGTT feature		
Old data	Invalid length of prefix/suffix digits		
New data	Invalid prefix/suffix digit length	I43	APSS
UIM	1388	Format	Output Group
Action	Added for the AMGTT feature		
Old data			
New data	Invalid prefix/suffix digit len for CdPA	I43	GTT
UIM	1389	Format	Output Group
Action	Revised for the AMGTT feature		
Old data	LSS: No INAP CalledPartyNumber param		
New data	Invalid prefix/suffix digit len for CgPA	I43	GTT

### G-Flex MLR

**Table 1-11. G-Flex MLR**

UIM	1384	Format	Output Group
Action	Added for the G-Flex MAP Layer Routing feature		
Old data			
New data	G-Flex MLR: Op without IMSI erroneous	I1	APSS
UIM	1385	Format	Output Group
Action	Added for the G-Flex MAP Layer Routing feature		
Old data			
New data	G-Flex MLR: Op without IMSI skipped	I1	APSS
UIM	1386	Format	Output Group
Action	Added for the G-Flex MAP Layer Routing feature		
Old data			

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New data	G-Flex MLR: Op with bad TCAP skipped	I1	APSS
UIM	1387	Format	Output Group
Action	Added for the G-Flex MAP Layer Routing feature		
Old data			
New data	G-Flex MLR: Op with bad IMSI skipped	I1	APSS

## IPSG

**Table 1-12. IPSG UIMs**

UIM	1333	Format	Output Group
Action	Revised for the IPSG feature		
Old data	IPGW RCVD MSG DISCARDED		
New data	UA RCVD MSG DISCARDED	I62, I66	SYS_MAINT
UIM	1334		
Action	Revised for the IPSG feature		
Old data	IPGW TX MSG DISCARDED		
New data	UA TX MSG DISCARDED	I15, I62, I63, I64, I66	SYS_MAINT
UIM	1336		
Action	Revised for the IPSG feature		
Old data	IPGW UA MSG RECEIVED		
New data	UA ERROR MSG RECEIVED	I67	SYS_MAINT

## Non-feature UIMs

The following UIMs are added to the EAGLE 5 ISS as part of Release 38.0. However, they are not associated with a feature.

**Table 1-13. Non-feature UIMs**

UIM	1394	Format	Output Group
Action	Added as part of Release 38.0		
Old data			
New data	Flushing undelivered MSUs	I19	LINK

## UIM Format Change

### I19

Added to support UIM 1394

```

1          2          3          4          5          6          7          8
1234567890123456789012345678901234567890123456789012345678901234567890
      xxxx.xxxxx  CARD cccc  INFO  'text'
      DATA=xx xx xx xx xx xx xx xx xx xx
      DATA=xx xx xx xx xx xx xx xx xx xx
      LSN=[lnkset]
```

## Error Messages

New or enhanced error messages for the features introduced in Release 38.0 are shown below.

**AMGTT****Table 1-14. Error Messages - AMGTT**

Response ID Code	Error Message	New?	Used by Command
E2789	NNP,NNAI,NPDD/S,NSDD/S,NGTI,RMGTT invalid if AMGTT is OFF	N	ent/chg-gta ent/chg-gtt
E4789	Either AMGTT or AMGTT CgPA Upgrade feature must be ON	Y	ent/chg/rtrv-gta ent/chg/rtrv-gtt ent/chg/rtrv-ls
E4790	AMGTT CdPA Only feature cannot be enabled	Y	enable-ctrl-feat
E4791	AMGTT CdPA Only must be ON	Y	enable-ctrl-feat
E4792	AMGTT CdPA Only/AMGTT CgPA Upgrade feature must not be ON	Y	enable-ctrl-feat

**E5-ATM****Table 1-15. Error Messages - E5-ATM**

Response ID Code	Error Message	New?	Used by Command
E4759	Max number of ATM links already exists	Y	ent-slk
E4768	Link must be A or B if hardware type is E5ATM	Y	rtrv-slk

**G-Flex Map Layer Routing****Table 1-16. Error Messages - G-Flex Map Layer Routing**

Response ID Code	Error Message	New?	Used by Command
E3500	GFLEX feature must be on	N	enable-ctrl-feat
E4164	G-Flex MAP Layer Routing feature must be ON	Y	chg-gsmopts ent/chg-gtt

**IP Signaling Gateway****Table 1-17. Error Messages - IPSG**

Response ID Code	Error Message	New?	Used by Command
E2103	Failed reading the link table	N	chg-ls
E2125	Links on specified linkset are in-service	N	chg-ls
E2169	Point code out of range	N	ent/chg-ls
E2342	Links assigned to linkset	N	chg-ls
E2373	Link is unequipped in the database	N	chg-ls
E2601	Command aborted due to system error	N	chg-ls
E3447	IPLIMx and IPSG connections cannot be resident in AS	N	ent-as
E3695	Command supported only for IPGWx and IPSG linksets	N	rept-stat-iptps
E3781	MTP restart option invalid for IPGWx and IPSG-M3UA linksets	N	ent/chg-ls

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Response ID Code	Error Message	New?	Used by Command
E3860	Link not valid for card or application type	N	<b>ent/chg-assoc</b>
E4003	MULTGC=YES requires IPSPG-M2PA, IPGWI, or IPLIMI links	N	<b>chg-ls</b> <b>ent-slk</b>
E4045	Linkset with MULTGC=YES requires IPGWI/IPLIMI/IPSPG GPL	N	<b>ent-slk</b>
E4077	Parameters incompatible with adapter type	N	<b>alw/inh/tst/unhb-slk</b>
E4093	Too many associations per card	N	<b>ent/chg-assoc</b>
E4099	Association name not found	N	<b>ent-slk</b>
E4252	IPTPS not allowed for non-IPGWx linksets	Y	<b>chg-ls</b>
E4253	LSUSEALM allowed only for IPGWx and IPSPG linksets	N	<b>ent/chg-ls</b>
E4254	SLKUSEALM allowed only for IPGWx and IPSPG linksets	N	<b>ent/chg-ls</b>
E4255	Total system TPS limit exceeded	N	<b>ent/chg-ls</b> <b>ent-slk</b>
E4256	TPS must be divisible by 10	N	<b>chg-ls</b>
E4632	Max linksets to same APC exceeded	Y	<b>ent/chg-ls</b>
E4651	Invalid adapter for specified association	Y	<b>chg-assoc</b>
E4657	IPGWAPC and IPSPG cannot both be YES	Y	<b>ent/chg-ls</b>
E4658	ADAPTER can only be specified when IPSPG=YES	Y	<b>ent/chg-ls</b>
E4659	RCONTEXT prohibited unless IPSPG=YES and ADAPTER=M3UA	Y	<b>ent/chg-ls</b>
E4666	ASNOTIF prohibited unless IPSPG=YES and ADAPTER=M3UA	Y	<b>ent/chg-ls</b>
E4667	IPSPG=YES and ADAPTER=M3UA requires LST=A	Y	<b>ent/chg-ls</b>
E4801	Association is still assigned to a link	Y	<b>chg/dlt-assoc</b>
E4802	Association ADAPTER type doesn't match linkset ADAPTER type	Y	<b>ent-slk</b>
E4803	Association and LOC must reference same card	Y	<b>ent-slk</b>
E4804	ANAME is prohibited for a non-IPSPG link	Y	<b>ent-slk</b>
E4805	ANAME is required for an IPSPG link	Y	<b>ent-slk</b>
E4806	Card does not support more than 32 links	Y	<b>ent-slk</b>
E4807	TPS exceeded for card	Y	<b>chg-ls</b> <b>ent-slk</b>
E4809	GPL type IPSPG requires linkset with IPSPG=YES	Y	<b>ent-slk</b>
E4810	All links must be OOS-MT-DISABLED to modify RCONTEXT	Y	<b>chg-ls</b>
E4811	SLKTPS is prohibited for non-IPSPG linksets	Y	<b>ent/chg-ls</b>
E4812	SLKTPS is required for IPSPG linksets	Y	<b>ent/chg-ls</b>
E4826	MULTGC is prohibited on IPSPG-M3UA linksets	Y	<b>ent/chg-ls</b>
E4827	Correct RCONTEXT value is required to delete	Y	<b>chg-ls</b>
E4828	Unique RCONTEXT required if associations in multiple lsets	Y	<b>chg-ls</b> <b>ent-slk</b>
E4829	Multiple links w/in same linkset cannot share an association	Y	<b>chg-ls</b>
E4835	Limit 1 SLK per IPSPG-M2PA association	Y	<b>ent-slk</b>
E4836	Limit 16 SLKs per IPSPG-M3UA association	Y	<b>ent-slk</b>
E4847	SAPC is prohibited on IPSPG-M3UA linksets	Y	<b>chg-ls</b>
E4849	Linkset must not contain any IPSPG type links	Y	<b>chg-ls</b>

Response ID Code	Error Message	New?	Used by Command
E4870	NUMSLKPROH must be less than or equal to NUMSLKRSTR	Y	chg-lsopts
E4871	NUMSLKRSTR must be less than or equal to NUMSLKALW	Y	chg-lsopts
E4873	NUMSLK thresholds allowed only for IPSPG M3UA linksets	Y	chg-lsopts
E4874	NUMSLK value exceeds number of links in the linkset	Y	chg-lsopts
E4875	TFATCABMLQ not allowed for IPSPG M3UA linksets	Y	chg-ls
E4943	Number of links in the linkset falls below NUMSLK value	Y	dlt-slk

### *MT-Based GSM SMS NP*

**Table 1-18. Error Messages - MT-Based GSM SMS NP**

Response ID Code	Error Message	New?	Used by Command
E4618	STPOPTS DefCC must not be NONE	Y	chg-ctrl-feat
E4662	GSMOPTS DefMCC must not be NONE	Y	chg-ctrl-feat
E4701	MT-Based GSM SMS NP must be enabled	Y	chg-gsmopts enable-ctrl-feat
E4702	MO SMS must be ON or MO/MT-Based SMS NP must be enabled	N	ent-home-smsc
E4703	MO SMS or MO/MT-Based SMS NP must be enabled	Y	dlt/rtrv-home-smsc
E4709	Cannot set DefCC to NONE if MT-Based GSM SMS NP is ON	Y	chg-stpopts
E4718	DefMCC can't be NONE if MT-Based GSM SMS NP feature is ON	Y	chg-gsmopts
E4720	MTSMSDLTRV must not be NONE in database	Y	chg-gsmopts
E4740	MT-Based GSM SMS NP must be ON	Y	chg-ctrl-feat
E4771	GFLEX/GPORT must be ON or MT-Based GSM SMS NP must be enabled	Y	chg-gsmopts

### *MT-Based GSM MMS NP*

**Table 1-19. MT-Based GSM MMS NP**

Response ID Code	Error Message	New?	Used by Command
E4655	MT-Based GSM MMS NP must be enabled	Y	chg-gsmopts

### *MT-Based IS41 SMS NP*

**Table 1-20. Error Messages - MT-based IS41 SMS NP**

Response ID Code	Error Message	New?	Used by Command
E3631	Invalid feature key(s) status	N	rtrv-is4lopts
E4618	STPOPTS DefCC must not be NONE	Y	chg-ctrl-feat
E4650	MT-Based IS41 SMS NP must be enabled	Y	chg-is4lopts
E4702	MO SMS must be ON or MO/MT-Based SMS NP must be enabled	N	ent-home-smsc
E4703	MO SMS or MO/MT-Based SMS NP must be enabled	Y	dlt/rtrv-home-smsc

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Response ID Code	Error Message	New?	Used by Command
E4720	MTSMSDLTRV must not be NONE in database	Y	<b>chg-is41opts</b>
E4831	Cannot set DefCC to NONE if MT-Based IS41 SMS NP is ON	Y	<b>chg-stpopts</b>

**SIGTRAN Measurements Phase 1**

**Table 1-21. Error Messages - SIGTRAN Measurements Phase 1**

Response ID Code	Error Message	New?	Used by Command
E2101	Card location is unequipped	N	<b>rept-meas</b>
E2297	TT parameter valid only when ENTTYPE=TT	N	<b>rept-meas</b>
E2298	LOC parameter not valid for this ENTTYPE	N	<b>rept-meas</b>
E2299	LINK parameter valid only when ENTTYPE=LINK	N	<b>rept-meas</b>
E2301	LSN parameter not valid for type-enttype combination	N	<b>rept-meas</b>
E2366	LOC must be specified	N	<b>rept-meas</b>
E2706	APPL is invalid for report or entity	N	<b>rept-meas</b>
E3397	ANAME is invalid for type-enttype combo	N	<b>rept-meas</b>
E3398	ASNAME is invalid for type-enttype combo	N	<b>rept-meas</b>
E3399	Association is not assigned to AS	Y	<b>rept-meas</b>
E3403	Association name must be specified	Y	<b>rept-meas</b>
E3416	NI is invalid for type-enttype combo	Y	<b>rept-meas</b>
E3417	NC is invalid for type-enttype combo	Y	<b>rept-meas</b>
E3420	'Default' is an invalid ASNAME	Y	<b>ent-as</b>
E3471	Application server name must be specified	Y	<b>rept-meas</b>
E4079	Specified AS name not found	Y	<b>rept-meas</b>

**TINP**

**Table 1-22. Error Messages - TINP**

Response ID Code	Error Message	New?	Used by Command
E2136	At least one optional parameter is required.	N	<b>chg-tinpopts</b>
E2155	Invalid parameter combination specified.	N	<b>ent/chg/dlt/rtrv-cs1</b>
E3356	TINP feature is mutually exclusive with LNP	Y	<b>enable-ctrl-feat</b>
E3357	TINP feature must be enabled	Y	<b>chg-gws-actset</b> <b>chg-tinpopts</b>
E3366	Failed reading TINP Options table	Y	<b>chg-cs1</b> <b>chg-tinpopts</b>
E3932	GFLEX/INP must be ON or GPORT/IDPR/TINP must be enabled	N	<b>chg-stpopts</b>
E4005	Either INP/AINPQ/GPORT must be on or TINP must be enabled	N	<b>ent/dlt/rtrv-homern</b>
E4163	ACSCODE of release type provision requires IAMACT=release	Y	<b>ent/chg-cs1</b>
E4271	TLNP and TINP cannot be in the same action set	Y	<b>chg-gws-actset</b>
E4324	TINP and RDCT cannot be in the same action	Y	<b>chg-gws-actset</b>

Response ID Code	Error Message	New?	Used by Command
E4336	TINP and CNCF cannot be in the same action set	Y	chg-gws-actset

### Non-feature Error Messages

**Table 1-23. Error Messages - Non-feature Specific**

Response ID Code	Error Message	New?	Used by Command
E2105	Invalid card TYPE and APPL load type combination	N	act-upgrade
E2144	Location invalid for hardware configuration	N	ent/dlt/rtrv-ip-rte inh-slk
E2155	Invalid parameter combination specified	N	chg-secu-dflt ent-trace
E2212	Invalid card type for this command	N	tst/unhb-slk
E2859	Destination address must be a full point code	N	ent/chg/dlt/rtrv-rtx
E3340	GFLEX, GPORT, PPSMS, or INP feature must be ON	N	rtrv-data-rtddb
E3420	'Default' is an invalid ASNAME"	Y	ent-as
E3710	APPL not valid for command	N	init/rept-stat-card
E3754	Command is not supported for IPGW(x) links	N	canc-lpo
E3837	Command not valid for SS7IPGW	N	blk/tst-slk
E3875	Command not valid for IPGWI	N	tst/unhb-slk
E3959	Invalid combination of parameters for a default routing key	N	dlt-appl-rtkey
E4078	Conflicting parameters specified	N	chg-appl-rtkey
E4171	SCCP Conversion feature must be enabled	N	chg-sccpopts
E4186	Required feature(s) must be enabled or ON	N	rtrv-srvsel
E4240	GFLEX or GPORT feature must be ON	N	chg-gsmopts
E4479	MRNSET must be specified (only) if FGTTLS feature is enabled	N	rtrv-gta rtrv-gtt
E4480	Specified MRNSET does not exist	N	rtrv-gta rtrv-gtt
E4579	MTPLPRST option must be enabled	N	chg-stpopts
E4600	Must specify either ASNAME or RC	N	dlt-appl-rtkey
E4814	Linkset referenced by exception route ILSN	Y	dlt-ls
E4832	CLRWRNTX=YES only valid with WRNLN parameter	Y	chg-secu-dflt
E4837	MAPSET and MRNSET cannot be specified together	Y	rtrv-gta rtrv-gtt
E4857	WRNLN must be specified with WRNTX CLRWRNTX=yes	Y	chg-secu-dflt
E4931	TALI link configured in the system	Y	act-upgrade
E4932	TALI socket configured in the system	Y	act-upgrade
E4933	ISUP Normalization configuration present in the database	Y	act-upgrade
E4972	If specified, NSNP/NSNAI must be none for requested service	Y	chg-srvsel

## Feature Notice

### Related Publications

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

### Locate Product Documentation on the Customer Support Site

To view or download product documentation, log into the Tekelec Customer Support site at:

<https://support.tekelec.com/index.asp>

1. Log in with your user name and password. (Click on **Need an Account?** if you need to register).
2. Select **EAGLE** from the Product Support menu.
3. Select the release number from the Release menu.
4. Locate the Notices section to view the latest Feature Notice.
5. Locate the Manuals section to view all manuals applicable to this release.

The documentation is listed in alphabetical order by the manual name. Only the first three manuals display. Click **more...** to see the remaining manuals.

6. Locate the latest revision of the manual name.

Confirm the release number and last available revision.

Select the 936-xxxx-x01 part number to download the complete documentation set with all linked files.

**NOTE: The electronic file for this part number is quite large.**

7. To view a manual, double-click the manual name.
8. To download a manual, right-click and select **Save Target As**.

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

### 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 5 ISS. To enroll in any of the courses or for schedule information, contact the Tekelec Training Center at (919) 460-3064 or E-mail [eagletrain@tekelec.com](mailto:eagletrain@tekelec.com).

A complete list and schedule of open enrollment can be found at [www.tekelec.com](http://www.tekelec.com).

### Customer Care Center

The Tekelec Customer Care Center offers a point of contact for product and service support through highly trained engineers or service personnel. The Tekelec Customer Care Center is available 24 hours a day, 7 days a week at the following locations:

- Tekelec, USA

Phone:

+1 888 367 8552 (US and Canada only)

+1 919 460 2150 (international)

Email: [support@tekelec.com](mailto:support@tekelec.com)

- Tekelec, Europe  
 Phone: +44 1784 467804  
 Email: *ecsc@tekelec.com*

When a call is received, a Customer Service Report (CSR) is issued to record the request for service. Each CSR includes an individual tracking number.

After a CSR is issued, the Customer Care Center determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, information regarding the serial number of the system, COMMON Language Location Identifier (CLLI), initial problem symptoms (includes outputs and messages) is recorded. A primary Customer Care Center engineer is also assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

**EAGLE 5 ISS Card Overview Table**

The EAGLE 5 ISS Card Overview table is a resource table that provides an overview of information for cards that can be provisioned in the EAGLE 5 ISS. For a detailed description of all hardware supported by Release 38, see the [Hardware Baseline](#) .

This table lists the following card information:

- The name of the card on the card label
- The card part number
- The provisioned card type
- The number of shelf slots that the card occupies (1 or 2)
- The number of physical ports on the card
- The maximum number of links that can be assigned to the card
- The GPLs and applications that can run on the card

**Table 1-24. EAGLE 5 ISS Card Overview Table**

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
ACM	870-1008-02	acmenet	2	1	1 IP Service	stplan imt	stplan
	870-1008-03						
	870-1008-04						
	870-1008-05						
DCM	870-1945-01	dcm	2	2	1 IP Service	bpdc vwslan	stplan
	870-1945-02	stc	2	2	2 IP Service	bpdc	eroute
	870-1945-03						

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Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications						
	870-1984-01 (DCMX)					eroute							
EDCM (SSEDCM)	870-2372-01 870-2372-08 870-2372-13^	dcm	1	2	1 IP Service	bpdcm vwxslan	stplan						
					8	bpdcm iplim iplimi	iplim iplimi						
					1	bpdcm ss7ipgw ipgwi	ss7ipgw ipgwi						
	870-2372-01	stc	1	2	2 IP Service	bpdcm eroute	eroute						
EDCM-A (SSEDCM)	870-2508-01	dcm	1	2	1 IP Service	bpdcm vwxslan	stplan						
	870-2508-02^	stc	1	2	2 IP Service	bpdcm eroute	eroute						
DSM†	1 GB MEM 870-1984-02 870-1984-08 870-1984-09 870-1984-15^ 870-1984-17^	dsm	2	2	2 IP service	bpdcm vsccp gls	vsccp gls						
	2 GB MEM 870-1984-03 4 GB MEM 870-1984-05 870-1984-06 870-1984-07 870-1984-13^ 870-1984-16^												
	870-2371-02							ipsm	1	2 (use only A)	1 IP service	bpdcm	ips
	870-2371-06 870-2371-08												

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Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-2371-13^					ips	
EDSM-2G*	870-2372-03 870-2372-07 870-2372-09 870-2372-14^ 870-2372-15^	mcpm	1	2 (use only A)	1 IP service	bpdcm bpdcm2 mcp	mcp
E1/T1 MIM††	870-2198-01 870-2198-02 870-2198-03 870-2198-04 870-2198-07^	lime1 limt1 limch	1	2	8	ss7ml bpmp1t	ss7ansi ccs7itu
E1-ATM	870-2455-01 870-2455-02 870-2455-03 870-2455-05^	lime1atm	1	2	1	atmitu bphcap bphcapt	atmitu
E5-ATM	870-1872-01^ 870-1872-02^	limatm lime1atm	2	2	2	atmhc blbepm blcpld bldiag6 blvxw6 imtpci	atmansi atmitu
E5-E1T1	870-1873-02 870-1873-03^ 870-1873-04^	lime1 limt1	1	8	32	ss7epm blbepm	ss7ansi ccs7itu
		lime1 (for SE-HSL)	1	8	1	bldiag6 blvxw6 imtpci pldpmc1 blcpld	ccs7itu
E5-ENET	870-2212-02 870-2212-03^ 870-2212-04^	dcm	1	2	16	bldiag6 blbepm iplhc imtpci blvxw6	iplim

Feature Notice

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
						blcpld	iplimi
	870-2212-05^		1	2	1	bldiag6 blbepm ipghc imtpci blvxw6 blcpld	ss7ipgw ipgwi
			1	2	2 IP Service	slanhc bldiag6 blbepm blvxw6 blcpld imtpci	stplan
		stc	1	2	2 IP Service	erthc bldiag6 blbepm blvxw6 imtpci blcpld	eroute
		enet	1	2	32	ipsg bidiag6 blbepm blvxw6 blcpld imtpci	ipsg
E5-IPSM	870-2877-01^ 870-2877-02^	ipsm	1	2 (use only A)	1 IP service	ipshc imtpci blcpld blvxw6 bldiag6 blbepm	ips
E5-SM4G	870-2860-01^	dsm	2	2	2 IP Service	sccphc imtpci	vseccp

Feature Notice

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-2860-02^					blcpld blvxw6 bldiag6 bpbsmg	
EILA	870-2049-01 870-2049-02	limds0 limocu limv35	1	2	2	ss7ansi ss7gx25 ccs7itu imt	ss7ansi ss7gx25 ccs7itu
EILA-T	870-2049-03	limds0 limocu limv35	1	2	2	ss7ansi ss7gx25 ccs7itu imt	ss7ansi ss7gx25 ccs7itu
GPSSM-II	870-2360-01 870-2360-05 870-2360-06 870-2360-08^ 870-2360-09^	N/A	1	N/A	N/A	eoam bpdcml bpdcml2	oam
HC-MIM††	870-2671-01	lime1 limt1	2	8	64	ss7hc blbios blcpld	ss7ansi ccs7itu
	870-2671-02 870-2671-03^	lime1 (for SE-HSL)		8	2	blvxw bldiag pldpml imtpci	ccs7itu
HIPR	870-2574-01 870-2574-02^	N/A	1	N/A	N/A	hipr	hipr
HMUX	870-1965-01 870-1965-03^	N/A	1	N/A	N/A	bphmux	bphmux
LIM-AINF**	870-1014-01 870-1014-02 870-1014-03 870-1014-04 870-1014-05 870-1014-06	limds0 limocu	1	2	1	ss7ansi ss7gx25 ccs7itu	ss7ansi ss7gx25

Feature Notice

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-1488-01 870-1488-02 870-1488-03 870-1488-04 870-1488-05 870-1488-06	limv35				imt	ccs7itu
LIM-ATM	870-1293-02 870-1293-03 870-1293-06 870-1293-07 870-1293-08 870-1293-10 870-1293-13^	limatm	1	2	1	atmansi bphcap bphcapt	atmansi
LIM-DS0	870-1009-02 870-1009-03 870-1009-04 870-1485-01 870-1485-02 870-1485-03	limds0	1	2	2 1 2	ss7ansi ss7gx25 ccs7itu imt	ss7ansi ss7gx25 ccs7itu
LIM-E1††	870-1379-01	lime1 limch	1	2	2	ss7ansi ccs7itu imt	ss7ansi, ccs7itu
LIM-ILA	870-1484-01 870-1484-02	limds0 limocu limv35	1	2	1	ss7ansi ss7gx25 ccs7itu imt	ss7ansi ss7gx25 ccs7itu
LIM-OCU	870-1010-03 870-1010-04 870-1010-05 870-1486-02 870-1486-03 870-1486-04	limocu	1	2	2	ss7ansi ss7gx25 ccs7itu imt	ss7ansi ss7gx25 ccs7itu
LIM-V.35	870-1012-02	limv35	1	2	2	ss7ansi	ss7ansi

## Feature Notice

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-1012-03 870-1012-04 870-1487-01 870-1487-02 870-1487-03					ss7gx25 ccs7itu imt	ss7gx25 ccs7itu
MDAL	870-0773-04 870-0773-05 870-0773-06 870-0773-08 870-0773-09^	N/A	2	N/A	N/A	N/A	N/A
MPL	870-2061-01 870-2061-03 870-2061-04 870-2061-06^	limds0	1	2	8	bpmpl ss7ml	ss7ansi
TDM	870-0774-10 870-0774-11	N/A	1	N/A	N/A	N/A	N/A
TDM-GTI	870-0774-15 870-0774-18^	N/A	1	N/A	N/A	N/A	N/A
TSM-256	870-1289-02 870-1289-03 870-1289-04 870-1289-06^	tsm	1	N/A	N/A	sccp gls imt	sccp gls
TSM-512	870-1290-02 870-1290-03 870-1290-04	tsm	1	N/A	N/A	sccp gls imt	sccp gls
TSM-768	870-1291-02 870-1291-03 870-1291-04	tsm	1	N/A	N/A	sccp gls imt	sccp gls
TSM-1024	870-1292-02 870-1293-03 870-1294-04	tsm	1	N/A	N/A	sccp gls imt	sccp gls
*Though the system allows 250 MCPM cards, practical usage is 2.							

## Feature Notice

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports	Links per Card	Card GPLs	Card Applications
<p>**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.</p> <p>†DSMs are required for the LNP, 50,000 GTT, G-Port, G-Flex, EIR, or INP feature. For more information about turning these features on, refer to the appropriate manual.</p> <p>††For the E1 or T1 interface, SS7 application (SS7ANSI or CCS7ITU) can be assigned to these cards.</p> <p>For more information on the E1 or T1 interface go to Chapter 3 “System Administration Procedures” in the Database Administration Manual - SS7.</p> <p>^This part number is the ROHS equivalent of the immediately preceding part number.</p>						

## Feature Restrictions

The following table lists features that are not supported on certain cards. The cards are listed by the name that appears on the card label. For more information on the cards, such as card type, associated GPLs, etc, please see the [EAGLE 5 ISS Card Overview Table](#) .

**NOTE: For the purposes of this table, the following conventions apply:**

- **The TSM-256, TSM-268, TSM-512, and TSM-1024 cards are collectively referred to as TSM cards.**
- **Restrictions on TSM cards apply only to TSM cards that are running the sccp application. There are no restrictions on TSM cards running the gls application.**
- **The 2-port EILA, EILA-T, ILA, LIM-AINF, LIM-DS0, LIM-E1, LIM-OCU, and LIM-V.35 cards are collectively referred to as 2-port LIM cards.**

**Table 1-25. Feature Restrictions**

Feature Name	Part Number	Restricted on Card...
AINPQ	893-0178-01	DSM (less than 4G), TSM
A-Port	893-0166-01	DSM (less than 4G), TSM
EIR	893-0123-01	TSM
Flexible GTT Loadsharing	893-0154-01	TSM
G-Flex	893-0219-01	TSM
G-Flex MLR	893-0217-01	TSM
G-Port	893-0172-01	TSM
GTT Loadsharing to 32 Destinations	N/A	TSM
Hex Digit Support for GTT	893-0185-01	TSM
IDP Screening for Prepaid	893-0155-01	TSM
INP	893-0179-01	TSM
IS41 GSM Migration	893-0173-01	DSM (less than 4G), TSM
Large System # Links, Quantity 2000	893-0059-01	2-port LIM
LNP Ported TNs (204 million, 216 million, 228 million)	893-0110-21 - 893-0110-23	DSM (less than 4G), TSM, E5-SM4G
MO-based GSM SMS NP	893-0194-01	TSM
MO-based IS41 SMS NP	893-0195-01	DSM (less than 4G), TSM
MT-Based GSM SMS NP	893-0200-01	TSM

Feature Name	Part Number	Restricted on Card...
MT-Based GSM MMS NP	893-0241-01	TSM
MT-Based IS41 SMS NP	893-0199-01	DSM (less than 4G), TSM
MTP Messages for SCCP Apps	893-0174-01	DSM (less than 4G), TSM
Multiple Linkset to Single APC	893-0181-01	2-port LIM
Origin Based MTP Routing	893-0142-01	2-port LIM
Origin Based SCCP Routing	893-0143-01	TSM
Prepaid IDP Query Relay	893-0160-01	TSM
Prepaid SMS Intercept Ph1	893-0067-01	TSM
Proxy Point Code	893-0187-01 - 893-0187-10	2-port LIM
SCCP Loop Detection	893-0165-01	TSM
SCCP Service Re-route	N/A	TSM
TINP	893-0189-01	TSM
Transaction-based GTT Loadsharing	893-0171-01	TSM
Weighted GTT Loadsharing	893-0170-01	TSM

## Hardware Baseline

The Hardware Baseline for EAGLE 5 ISS Release 38.0 is shown in the following table.

**Table 1-26. Release 38.0 Hardware Baseline**

Component	Part Number	ROHS Number (if applicable)	Required for
Control Shelf	870-2321-02 Rev A	870-2321-08 Rev A	HMUX
	870-2321-04 Rev A		HMUX, Standard Frame
	870-2377-01 Rev A	870-2377-02 Rev A	HMUX, Heavy Duty Frame
Control Shelf Backplane	870-0775-03 Rev E		
Extension Shelf	870-2378-01 Rev A	870-2378-02 Rev A	Heavy Duty Frame
	870-0776-02 Rev C		Standard Frame
	870-0776-03 Rev D		
	870-0776-06 Rev A		
	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		
	870-1008-03 Rev A or		
	870-1008-04 Rev A or		
	870-1008-05 Rev A		
Air Management Card	870-1824-01 Rev A	870-1824-02 Rev A	Shelves with Fan Assembly
DCM	870-1945-01 Rev A or		
	870-1945-02 Rev A or		
	870-1945-03 Rev A		
DCMX	870-1984-01 Rev A		

## Feature Notice

Component	Part Number	ROHS Number (if applicable)	Required for
EDCM (single slot)	870-2372-01 Rev E or		
	870-2372-08 Rev A	870-2372-13 Rev A	
EDCM-A (single slot)	870-2508-01 Rev A	870-2508-02 Rev A	
DSM, 1GB MEM	870-1984-02 Rev A or		
	870-1984-08 Rev A or		
	870-1984-09 Rev A	870-1984-15 Rev A 870-1984-17 Rev A	
DSM, 2GB MEM	870-1984-03 Rev A		
DSM, 4GB MEM	870-1984-05 Rev A		Heavy Duty Frame
	870-1984-06 Rev A or		
	870-1984-07 Rev A	870-1984-13 Rev A 870-1984-16 Rev A	
DSM-1G	870-2371-02 Rev A		
	870-2371-06 Rev A		
	870-2371-08 Rev A or	870-2371-13 Rev A	
EDSM-2G (MCPM)	870-2372-03 Rev A		
	870-2372-07 Rev A		
	870-2372-09 Rev A or	870-2372-14 Rev A	
		870-2372-15 Rev A	
E1/T1 MIM	870-2198-01 Rev G or		
	870-2198-02 Rev A or		
	870-2198-03 Rev A or		
	870-2198-04 Rev A	870-2198-07 Rev A	
E1-ATM	870-2455-01 Rev B		
	870-2455-02 Rev B		
	870-2455-03 Rev A	87-02455-05 Rev A	
E5-ATM		870-1872-01 Rev A	
		870-1872-02 Rev A	
E5-ATM Adapter		830-1342-05	
E5-E1T1	870-1873-02 Rev A	870-1873-03 Rev A	
		870-1873-04 Rev A	
E5-ENET	870-2212-02 Rev A	870-2212-03 Rev A	
		870-2212-04 Rev A	
		870-2212-05 Rev A	
E5-IPSM		870-2877-01 Rev A	
		870-2877-02 Rev A	
E5-SM4G		870-2860-01 Rev F	
		870-2860-02 Rev A	
EILA	870-2049-01 Rev A		
EILA w/ DIMM	870-2049-02 Rev A		
EILA-T	870-2049-03 Rev A		

Feature Notice

Component	Part Number	ROHS Number (if applicable)	Required for
FAP	870-1606-01 Rev A or		Standard frame or standard frame with HC-MIMs
	870-1606-02 Rev A	870-1606-05 Rev A	
	870-2320-01 Rev A	870-2320-03 Rev A	Heavy duty frame or heavy duty frame with HC-MIMs
	870-1823-01 Rev B		
		870-2804-01 Rev B	
FAP-CF/EF	870-0243-08 Rev C		
FAP-MISC	870-0243-09 Rev C		
FAP Fuse and Alarm Panel	870-2804-01 Rev A		
GPSM-II	870-2360-01 Rev E		
	870-2360-05 Rev A		
	870-2360-06 Rev A	870-2360-08 Rev A	
		870-2360-09 Rev A	
HC-MIM	870-2671-01 Rev P or		
	870-2671-02 Rev B	870-2671-03 Rev A	
HIPR	870-2574-01 Rev D	870-2574-02 Rev A	
HMUX	870-1965-01 Rev A	870-1965-03 Rev A	
LIM-AINF	870-1014-01 Rev D or		
	870-1014-02 Rev A or		
	870-1014-03 Rev B or		
	870-1014-04 Rev A or		
	870-1014-05 Rev A or		
	870-1014-06 Rev A		
LIM-AINF w/ DIMM	870-1488-01 Rev A or		
	870-1488-02 Rev A or		
	870-1488-03 Rev A or		
	870-1488-04 Rev A or		
	870-1488-05 Rev A or		
	870-1488-06 Rev A		
LIM-ATM	870-1293-02 Rev A or		
	870-1293-03 Rev A or		
	870-1293-06 Rev A or		
	870-1293-07 Rev A or		
	870-1293-08 Rev B or		
	870-1293-10 Rev A or	870-1293-13 Rev A	
LIM-DS0 or	870-1009-02 Rev D or		
	870-1009-03 Rev A or		
	870-1009-04 Rev A		
LIM-DS0 w/ DIMM	870-1485-01 Rev A or		
	870-1485-02 Rev A or		
	870-1485-03 Rev A		
LIM-E1	870-1379-01 Rev A		
LIM-ILA or	870-1484-01 Rev E		
LIM-ILA w/ DIMM	870-1484-02 Rev C		

**Feature Notice**

<b>Component</b>	<b>Part Number</b>	<b>ROHS Number (if applicable)</b>	<b>Required for</b>
LIM-OCU or	870-1010-03 Rev D or		
	870-1010-04 Rev A or		
	870-1010-05 Rev A or		
LIM-OCU w/ DIMM	870-1486-02 Rev A or		
	870-1486-03 Rev A or		
	870-1486-04 Rev A		
LIM-V.35 or	870-1012-02 Rev D or		
	870-1012-03 Rev A or		
	870-1012-04 Rev A		
LIM-V.35 w/ DIMM	870-1487-01 Rev A or		
	870-1487-02 Rev A or		
	870-1487-03 Rev A		
MDAL	870-0773-04 Rev B or		
	870-0773-05 Rev A or		
	870-0773-06 Rev A or		
	870-0773-08 Rev A	870-0773-09 Rev A	
MPL	870-2061-01 Rev A or		
	870-2061-03 Rev A or		
	870-2061-04 Rev A	870-2061-06 Rev A	
MPS DC Frame Assembly	890-1843-01 Rev C	890-1843-02 Rev A	
MPS in Heavy Duty Frame	890-1801-01 Rev E	890-1801-02 Rev A	
TDM	870-0774-10 Rev A or		
	870-0774-11 Rev A		Rev C required if installed in a system with more than 11 shelves
TDM GTI	870-0774-15 Rev B	870-0774-18 Rev A	
TSM-256	870-1289-02 Rev A or		
	870-1289-03 Rev A or		
	870-1289-04 Rev A	870-1289-06 Rev A	
TSM-512	870-1290-02 Rev A or		
	870-1290-03 Rev A or		
	870-1290-04 Rev A		
TSM-768	870-1291-02 Rev A or		
	870-1291-03 Rev A or		
	870-1291-04 Rev A		
TSM-1024	870-1292-02 Rev A or		
	870-1292-03 Rev A or		
	870-1292-04 Rev A		
Single EOAP	890-1050-03 Rev H		
Dual EOAP	890-1050-01 Rev K		
Kit, E1	890-1037-01 Rev A	890-1037-06 Rev A	
Kit, Holdover Clock Assy	890-1013-01 Rev A		
Fan Assy (Standard Frame)	890-1038-01 Rev D		
Fan Assy (Shelves with HC-MIM cards)	890-0001-01 Rev A or		
	890-0001-02 Rev A	890-0001-04 Rev A	

**Feature Notice**

<b>Component</b>	<b>Part Number</b>	<b>ROHS Number (if applicable)</b>	<b>Required for</b>
T1000 Application Server	870-2640-01 Rev F	870-2640-03 Rev A	
Dual Port G-Bit E-Net Card	870-2706-02 Rev B	870-2706-04 Rev A	
Modem Card	870-2707-01 Rev B	870-2707-02 Rev A	
Quad Serial Exp. Card	870-2708-01 Rev B	870-2708-02 Rev A	
120 GB Hard Drive Assy	870-2721-02 Rev B	870-2721-04 Rev A	
T1100 (Application Server - DC)	870-2754-01 Rev P or		
	870-2807-01 Rev A	870-1893-03 Rev A	
Dual Port Ethernet	870-2706-02 Rev A	870-2706-04 Rev A	
Hard Disc Drive - 250 GB SATA	870-2787-01 Rev B	870-2787-02 Rev A	
2 GB RAM Kit	870-2833-01 Rev C	870-2833-02 Rev A	

# Glossary

## A

ACM	Address Complete Message <i>Application Communications Module</i>
AINF	Application Interface Appliqué
APC	Adjacent Point Code Application Processing Chassis
AS	Application Server
ATM	Asynchronous Transfer Mode

## C

CCS7ITU	The generic program load and application for the ITU SS7 signaling links that is used with card types <b>limds0</b> , <b>limch</b> , <b>limocu</b> , <b>limv35</b> , <b>lime1</b> , and <b>limt1</b> .
CdPA	Called Party Address
CgPA	Calling Party Address
CLLI	Common Language Location Identifier
CSL	Common Screening List
CSR	Customer Service Request

## D

Database	All data that can be administered by the user, including cards, destination point codes, gateway screening tables, global title translation tables, links, LNP services, LNP service providers, location routing numbers, routes, shelves, subsystem applications, and 10 digit telephone numbers.
DCM	Database Communication Module The DCM provides IP connectivity for applications. Connection to a host is achieved through an ethernet LAN using the TCP/IP protocol.
DN	Directory number A DN can refer to any mobile or wireline subscriber number, and can include MSISDN, MDN, MIN, or the wireline Dialed Number.
DS0A	Digital Signal Level - 0
DSM	Database Service Module.

## E

E1	The European equivalent of T1 that transmits digital data over a telephone network at 2.048 Mbps.
E5-E1T1	EPM-based E1/T1 Multi-Channel Interface Module An EPM-based card that provides E1 and T1 connectivity. The E5 indicates the card is for existing EAGLE 5 control and extension shelves. E1T1 is an abbreviation for the ITU E1

and ANSI T1 interfaces. Thus the nomenclature defines the shelves where the card can be used and the physical interface that it provides.

E5-ENET	EPM-based Ethernet card A high capacity single-slot IP signaling card (EPM card plus Gig Ethernet PMC cards).
E5-IPSM	Ethernet Card w/ 2GB of main memory
EDCM	Enhanced DCM Enhanced Database Communication Module
EILA	Enhanced Integrated LIM Appliqué
EIR	Equipment Identity Register

## G

GB	Gigabyte — 1,073,741,824 bytes
G-Flex	GSM Flexible numbering A feature that allows the operator to flexibly assign individual subscribers to HLRs and route signaling messages, based on subscriber numbering, accordingly.
G-Port	GSM Mobile Number Portability A feature that provides mobile subscribers the ability to change the GSM subscription network within a portability cluster, while retaining their original MSISDN(s).
GPSM-II	General Purpose Service Module
GTA	Global Title Address
GTT	Global Title Translation.

## H

HC-MIM	High Capacity Multi-Channel Interface Module
HIPR	High-Speed IMT Packet Router
HLR	Home Location Register
HMUX	High-Speed Multiplexer
HOMERN	Home Network Routing Number Prefix

## I

ILA	Integrated LIM Appliqué
INP	INAP-based Number Portability Intelligent Network (IN) Portability
IP	Intelligent Peripheral Internet Protocol
IP <sup>7</sup>	Tekelec's Internet Protocol to SS7 Interface
ISS	Integrated Signaling System

## L

LIM	Link Interface Module
LIM-AINF	A link interface module (LIM) with the AINF interface.
LIM-ATM	A link interface module (LIM) with the ATM interface.

## Feature Notice

LIM-DS0	A link interface module (LIM) with the DS0A Appliqué.
LIM-E1	A link interface module (LIM) with the E1 Appliqué.
LIM-OCU	A link interface module (LIM) with the OCU Appliqué.
LIM-OCU	LIM-Office Channel Unit Applique
LNP	Local Number Portability

## M

M2PA	SS7 MTP2-User Peer-to-Peer Adaptation Layer
M3UA	SS7 MTP3-User Adaptation Layer
MCPM	Measurement Collection and Polling Module
MDAL	Maintenance Disk and Alarm Card
MIM	Multi-Channel Interface Module
MPL	Multi-port LIM
MSC	Mobile Switching Center
MT	Mobile Terminated

## N

NAI	Nature of Address Indicator
NP	Number Plan Numbering Plan Number Portability
NPDB	Number Portability Database

## S

SE-HSL	Synchronous E1 High Speed Link
SG	Secure Gateway
SMS	Short Message Service
SMSC	Short Message Service Center
SS7	Signaling System #7
SS7ANSI	SS7 ANSI An application used by the LIM cards and the E1/T1 MIM card for the MTP functionality.
SSEDCM	Single Slot Enhanced Data Communications Module
SUA	SCCP User Adaptation Layer SS7 SCCP-User Adaptation Layer A protocol for the transport of any SCCP-User signaling over IP using the SCTP. The protocol is designed to be modular and symmetric, to allow it to work in diverse architectures

## T

T1	Transmission Level 1 A T1 interface terminates or distributes T1 facility signals for the purpose of processing the SS7 signaling links carried by the E1 carrier. A leased-line connection capable of carrying data at 1,544,000 bits-per-second.
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TDM	Terminal Disk Module. Time Division Multiplexing.
TDM-GTI	TDM Global Timing Interface
TSM	Translation Services Module
TT	Translation Type.

**V**

V.35	ITU Interface Recommendation, V.35 The interface used with the LIMV35 card.
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