Tekelec EAGLE® 5 Integrated Signaling System

Release 37.5

Feature Notice

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This product is covered by one or more of the following U.S. and foreign patents:

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

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 37.5 Feature Notice since Revision B:

- Added a Hardware Verification Code for the IPS GPL on E5 Assembly feature.
- Added an Unsolicited Information Message Format Change for the MO-based GSM SMS NP and MO-based GSM IS41 SMS NP features.
- Configurable Digit Length for MTP routed IS41 Message
  Allows users to extract a configurable number of terminating called party digits from a LOCREQ message.
- Removal of Restrictions on the E5-SM4G Throughput Capacity Feature
  Various restrictions on enabling the E5-SM4G Throughput Capacity feature are removed or updated.
- Removal of UIMs for the SEAS Over IP feature.
- The init-sys Command is not Required to Change a Capability Point Code
  If the **chg-sid** command is used only to change a capability point code, then the **init-sys** command does not have to be issued before the change becomes enabled.
- Update to the chg-dstn Command
  A caution appears in the output if the **chg-dstn** command is used to change a secondary point code.
- Update to the ent-csl and chg-csl Commands
  The value of the **p1** parameter is updated.
- Update to the ent-dstn command
  The **aliasa** and **spc** parameters do not allow the user to select a value of **none**.
- Update to the ent-homern, dlt-homern, and rtrv-homern Commands
  Feature control requirements are removed.
- Update to the ent-trace Command
  An error message is added, a default value is changed, and the output is updated.

- Update to the EAGLE 5 ISS Card Overview Table .
- Update to output groups for the Unsolicited Information Messages for the MO-based GSM SMS NP and MO-based IS41 SMS NP features.

All changes are marked with revision bars.

New Features

The EAGLE 5 ISS Release 37.5 contains the following features:

- Auto Point Code Recovery
  The Auto Point Code Recovery feature enhances the ability of the EAGLE 5 ISS to handle circular routing that is caused by far-end loopback and automatically resets destination point codes that have been prohibited by circular route detection.

- IPS GPL on E5 Assembly
  The IPS GPL on E5 Assembly feature allows the E5-IPSM card to support the IPS application, which is currently implemented on the DSM-1G card. This feature allows the IP User Interface to be used to provide IP connectivity to the SEAS platform.

- MO-based GSM SMS NP
  The MO-based GSM SMS NP feature provides network information to the short message service center for subscribers using the GSM network.

- MO-based IS41 SMS NP
  The MO-based IS41 SMS NP feature provides network information to the short message service center for subscribers using the IS41 network.

- Multiple Linksets to Single Adjacent PC
  The Multiple Linksets to Single Adjacent PC (MLS) feature allows linksets to be established from multiple point codes on the EAGLE 5 ISS to an adjacent node, even if that node supports only a single point code.

- Proxy Point Code
  The Proxy Point Code feature allows the EAGLE 5 ISS to assume the point codes of other nodes. This ability provides seamless migration from direct connection between SS7 networks to connection through an EAGLE 5 ISS STP.

- SCCP Loop Detection
  The SCCP Loop Detection feature allows the EAGLE 5 ISS to detect SCCP looping of UDT/XUDT and UDTS/XUDTS messages for all concerned signaling transfer points.

- SEAS Over IP
  The SEAS Over IP feature provides a TCP/IP-based interface for SEAS. The SEAS interface provides a path between the EAGLE 5 ISS and a Common Channel Signaling Message Router.

Other Changes

The following enhancements or PR-based changes are added to the EAGLE 5 ISS for Release 37.5:

- EAGLE Inter-card Message Integrity

The EAGLE Inter-card Message Integrity enhancement adds internal data verification for messages transferred between EAGLE 5 ISS cards.

- EAGLE OA&M IP Security Enhancements SSHv2 Upgrade
  The EAGLE OA&M IP Security Enhancements SSHv2 Upgrade enhancement upgrades the Secure Shell product OpenSSH from version 3.0.2 to version 4.2 to provide security improvements.

- Update to the chg-inpopts and rtrv-inpopts Commands
  The **chg-inpopts** command is updated to allow the home routing number to be selected as a destination routing address.

- IP7 Ethernet and SCTP Alarming
  The IP^7 Ethernet and SCTP Alarming enhancement provides alarm notifications on the EAGLE 5 ISS for low level Ethernet errors or excessive SCTP retransmissions on IPLIMx and IPGWx cards.

- Update to the rtrv-dstn Command
  The output for the **rtrv-dstn** command is updated to have the secondary point code header reflect the point code type in the command output.

Operational Changes

The following sections describe UAMs, UIMs, formats, and error messages that are new or changed in EAGLE 5 ISS Release 37.5:

- Unsolicited Alarm Messages
- Unsolicited Information Messages
- Unsolicited Alarm Message Format Change
- Unsolicited Information Message Format Change
- Error Messages

Auto Point Code Recovery

The Auto Point Code Recovery feature enhances the ability of the EAGLE 5 ISS to handle circular routing that is caused by far-end loopback. The feature also automatically resets a destination point code (DPC) that has been marked as prohibited due to circular route detection (CRD).

The EAGLE 5 ISS detects far-end loopback in a link through the signaling link test control (SLTC) procedure. The originating point code (OPC) sends a signaling link test message (SLTM) across a link to the STP and expects a signaling link test acknowledgement (SLTA) from the STP. If far-end loopback occurs in the connecting link, then the OPC receives the same SLTM instead of an SLTA. The OPC marks the link as failed as soon as it receives the SLTM.

The circular route caused by the loopback can cause multiple MSUs to be returned to the OPC, which can increase the congestion level on the link and invoke CRD processing. CRD marks the link as failed and marks the DPCs as CRD-prohibited. After a link has been marked, the link cannot be used until the DPC is cleared.

The Auto Point Code Recovery feature consists of two separate features. Each feature addresses an aspect of far-end loopback and CRD.

- Enhanced Far-End Loopback Detection

The Enhanced Far-End Loopback Detection feature significantly decreases the time required to take a link out of service by failing a link as quickly as possible when an SLTM is received. The rapid failure prevents the EAGLE 5 ISS from marking DPCs as CRD-prohibited.

- Circular Route Auto-Recovery
  The Circular Route Auto-Recovery feature automatically clears CRD when far-end loopback is detected, and the failing link is part of the linkset that detected the circular route. If the Circular Route Auto-Recovery feature is not enabled, the user must clear CRD manually by executing the **rst-dstn** command.

Feature Control Requirements

The Auto Point Code Recovery feature has the following feature control requirements:

- Separate FAKs are required to enable the Circular Route Auto-recovery and Enhanced Far-End Loopback Detection features.
  - — Circular Route Auto-Recovery feature: FAK for part number 893-0176-01
  - — Enhanced Far-End Loopback Detection feature: FAK for part number 893-0181-01
- The Enhanced Far-End Loopback Detection and Circular Route Auto-Recovery features can be enabled separately.
- The Enhanced Far-End Loopback Detection and Circular Route Auto-Recovery features can be turned on and off.
- Temporary FAKs cannot be used to enable the Enhanced Far-End Loopback Detection or Circular Route Auto-Recovery features.
- SLTMs must be enabled (**chg-slt** command) before the Enhanced Far-End Loopback Detection or Circular Route Auto-Recovery feature can operate.

Hardware Requirements

There are no additional hardware requirements for this feature.

Commands

The **enable/chg/rtrv-ctrl-feat** commands are enhanced to enable, turn on and off, and display the status of the Enhanced Far-End Loopback Detection and Circular Route Auto-Recovery features. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

The following example displays sample output for the **rtrv-ctrl-feat** command when the Enhanced Far-End Loopback Detection and Circular Route Auto-Recovery features are enabled and on.

rtrv-ctrl-feat

```
    The following features have been permanently enabled:
    Feature Name                     Partnum    Status  Quantity
    IPGWx Signaling TPS              893012805    on     2000
    ISUP Normalization               893000201    on     ----
    Command Class Management         893005801    on     ----
    Prepaid SMS Intercept Ph1        893006701    on     ----
    MNP Circ Route Prevent           893007001    on     ----
    Circ Route Auto-Recovery         893017601    on     ----
    Enhanced Far-End Loopback        893018101    on     ----
```

;

Limitations

There are no limitations identified for this feature.

IPS GPL on E5 Assembly

The IPS GPL on E5 Assembly feature supports the **ips** application on the E5-IPSM card, in addition to the current implementation on the DSM-1G card.

The E5-IPSM card runs the **ipshc** GPL, which supports the **ips** application.

Thermal management and alarming provisions are provided for the E5-IPSM card.

Feature Control Requirements

There are no feature control requirements identified for this feature.

Hardware Requirements

The IPS GPL on E5 Assembly feature has the following hardware requirements:

- Two HIPR cards must be installed on each shelf where an E5-IPSM card is installed.
- A maximum of 3 E5-IPSM cards, IPSM cards, or a combination of both cards is supported for a single EAGLE 5 ISS node, on any shelf or combination of shelves.
- Backplane cable adaptors

Commands

The following commands are enhanced to support the IPS GPL on E5 Assembly feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **`act/chg/copy/rept-stat/rtrv-gpl`**—Enhanced to support the **ipshc** GPL.
  The following examples display output for the **`rept-stat-gpl`** command.

  Example 1 displays the output that results when the **loc** parameter is specified for an E5-IPSM card.

  `rept-stat-gpl:loc=1103`

```
    tekelecstp 07-02-01 09:30:12 EST  EAGLE 37.5.0
    GPL Auditing  ON

    GPL        CARD      RUNNING           APPROVED      TRIAL
    IPSHC      1103      -----------       -----------   -----------
           IMTPCI        128-001-000       128-001-000   128-001-000
           BLVXW6        128-001-000       128-001-000   128-001-000
           BLDIAG6       128-001-000       128-001-000   128-001-000
           BLBEPM        128-001-000       128-001-000   128-001-000
           BLCPLD        128-001-000       128-001-000   128-001-000

                                           ACTIVE        INACTIVE
           IMTPCI        128-001-000       128-001-000 * -----------
           BLVXW6        128-001-000       128-001-000 * -----------
           BLDIAG6       128-001-000       128-001-000 * -----------
```

```
          BLBEPM        128-001-000        128-001-000 * -----------
          BLCPLD        128-001-000        128-001-000 * -----------

    Command Completed.
;
```

Example 2 displays the output that results when the status of the **ipshc** GPL is requested.

rept-stat-gpl:gpl=ipshc

```
    tekelecstp 07-02-01 13:24:56 EST  EAGLE 37.5.0
    GPL Auditing  ON

    GPL        CARD      RUNNING           APPROVED      TRIAL
    IPSHC      1103      128-001-000       128-001-000   128-001-000
    IPSHC      1107      128-001-000       128-001-000   128-001-000
    Command Completed.
;
```

The following examples display output for the **rtrv-gpl** command.

Example 1 displays partial output that results when all GPLs are requested.

rtrv-gpl

```
    rlghncxa03w 07-02-01 11:34:04 EST  EAGLE 37.5.0
    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      -----------  -----------
    IPSHC     1114  128-001-000  128-001-000      128-001-000  -----------
    IPSHC     1116  128-001-000  128-001-000      128-001-000  128-001-000

;
```

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

rtrv-gpl:gpl=ipshc

```
    tekelecstp 07-02-01 11:41:14 EST  EAGLE 37.5.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    IPSHC     1114  128-001-000  128-001-000      128-001-000  -----------
    IPSHC     1116  128-001-000  128-001-000      128-001-000  -----------
```

- **act/init-flash**—Enhanced to support the E5-IPSM card.
- **alw/flash/inh/init/rept-stat/rmv/rst/rtrv-card**—Enhanced to support the E5-IPSM card.

  The following example displays output for the **rept-stat-card** command for an E5-IPSM card.

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

```
    tekelecstp 07-02-01 19:15:28 EST  EAGLE  37.5.0
    CARD   VERSION      TYPE      GPL        PST            SST        AST
    1105   128-001-000  IPSM      IPSHC      IS-NR          Active     -----
      ALARM STATUS       =  No Alarms.
      IMTPCI  GPL version = 128-001-000
      BLVXW6  GPL version = 128-001-000
      BLDIAG6 GPL version = 128-001-000
      BLBEPM  GPL version = 128-001-000
      BLCPLD  GPL version = 128-001-000
      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     = 2048M
      HW VERIFICATION CODE = ----
      CURRENT TEMPERATURE   =  44C (112F)
```

```
      PEAK TEMPERATURE:     =  44C (112F)     [06-12-13 19:10]

    Command Completed.
;
```

- **alw-trm**—Enhanced to prevent a telnet terminal from being allowed if a critical thermal alarm is raised against the E5-IPSM card.
- **chg/rtrv-th-alm**—Enhanced to support the E5-IPSM card.
- **chg/rtrv-ip-lnk**—Enhanced to support the **ipshc** GPL.
- **chg/rtrv-ip-card**—Enhanced to support the **ipshc** GPL.
- **disp/dlt/ent-bp**—Enhanced to support the **ipshc** GPL.
- **disp/set-mem**—Enhanced to support the **ipshc** GPL.
- **rept-stat-db**—Enhanced to support the E5-IPSM card.
- **rtrv-stp**—Enhanced to support the E5-IPSM card.
  The following example displays output for the **rtrv-stp** command that results when information for all cards that are running the **ipshc** GPL is requested.

  rtrv-stp:gpl=ipshc

```
    tekelecstp 07-07-04 01:34:32 EST  EAGLE 37.5.0

    Card  Part Number  Rev Serial Number  Type     DB     APPL     GPL Version
    ----  -----------  --- -------------  ----     --     ----     -----------
    1107  870-2877-01  A   10207185553    IPSM     2048M  IPS      128-021-000

    Command Completed.
;
```

Limitations

The IPS GPL on E5 Assembly feature has the following limitations:

- The E5-IPSM card does not preserve memory across card boots: therefore, the application does not remain intact across card boots.
- The E5-IPSM card does not have persistent memory; therefore, SSH keys must be regenerated on every reboot.

MO-based GSM SMS NP

The MO-based GSM SMS NP feature provides network information to the short message service center (SMSC) for subscribers using the GSM network. This information allows the SMSC to select a protocol to deliver SMS messages to the called party.

The MO-based GSM SMS NP feature:

- Intercepts SMS messages after they have undergone Prepaid SMS (PPSMS) and Portability Check for Mobile Originated SMS (MNPSMS) processing and before they reach the SMSC.

  NOTE: The MO-based GSM SMS NP feature does not require the PPSMS or MNPSMS features to be enabled.

- Decodes the TCAP/MAP message destination address and performs lookup in the number portability (NP) database

- Modifies the destination address in the TCAP message with directory number (DN) porting information, and
- Relays the message to the SMSC

The SMSC uses the DN porting information to determine whether to forward the message to other operators or to process the message for an in-network subscriber.

The MO-based GSM SMS NP feature applies to ForwardSM SMS MSUs with ITU TCAP/MAP for either ITU or ANSI MTP messages.

Operations

The MO-based GSM SMS NP feature provides the following configurable options for controlling the processing of GSM SMS messages:

- Modifying SMS destination address information for processing
- Outbound digit format
- When an NP DB lookup is considered to be successful
- Handling of sub address field in destination address

Feature Control Requirements

The MO-based GSM SMS NP feature has the following feature control requirements:

- A FAK for part number 893-0194-01
- The G-Port feature must be enabled and turned on before the feature can be enabled and turned on.
- The feature cannot be enabled if LNP 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

There are no additional hardware requirements for this feature.

Measurement Reports

The following measurements are added to the existing SYSTOT and SSP reports to support the MO-based GSM SMS NP feature:

- SMSMOGRCV: Total number of MO-SMS messages received that resulted in a modification of the outgoing MO-SMS.
- SMSMOGERR: Total number of MO-SMS messages received that resulted in an error.

Commands

The following commands are enhanced to support the MO-based GSM SMS NP feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **chg/rtrv-gsmopts**—Enhanced to support SMS message handling. The **rtrv-gsmopts** command is enhanced to report the new system options for SMS messages.
  The following example displays the output for the **rtrv-gsmopts** command that results when the MO-based GSM SMS NP feature is enabled.

  rtrv-gsmopts

```
    tekelecstp 07-04-16 11:49:33 EST  EAGLE 37.5.0
    GSM OPTIONS
    ----------------------
    SRFADDR     = NONE
    MSRNDIG     = RN
    DEFMAPVR    = 1
    SRIDN       = TCAP
    IS412GSM    = NONE
    MSISDNTRUNC = 0
    MIGRPFX     = SINGLE
    GSM2IS41    = NONE
    MOSMSDNFMT  = CCRNDN
    MOSMSTYPE   = ALL
    MOSMSNAI    = NAT
    MOSMSSA     = YES
    MOSMSDNNAI  = 7
    MOSMSFWD    = YES
    MOSMSGTA    = 1234abcdef567890efabe

;
```

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

  rtrv-ctrl-feat

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE 37.5.0
    The following features have been permanently enabled:
    Feature Name              Partnum    Status  Quantity
    IPGWx Signaling TPS       893012805  on          2000
    HC-MIM SLk Capacity       893012707  on            64
    GPORT                     893017201  on          ----
    MO-based GSM SMS NP       893019401  on          ----
;
```

- **ent/dlt-home-smsc**—Enhanced to add the MO-based GSM SMS NP feature to the list of features that can be used to allow the command to be entered.
- **rept-stat-db**—Enhanced to add the MO-based GSM SMS NP feature to the list of features that can be used to allow the command to be entered.
- **rept-stat-mps**—Enhanced to add the MO-based GSM SMS NP feature to the list of features that can be used to allow the command to be entered.

Limitations

There are no limitations identified for this feature.

MO-based IS41 SMS NP

The MO-based IS41 SMS NP feature provides network information to the short message service center (SMSC) for subscribers using the IS41 network. This information allows the SMSC to select a protocol to deliver Short Message Service Delivery Point-to-Point (SMDPP) messages to the called party.

The MO-based IS41 SMS NP feature:

- Intercepts SMDPP messages after they have undergone Prepaid SMS (PPSMS) and Portability Check for Mobile Originated SMS (MNPSMS) processing and before they reach the SMSC.

  NOTE: The MO-based IS41 SMS NP feature does not require the PPSMS or MNPSMS features to be enabled.

- Decodes the TCAP/MAP message destination address and performs lookup in the number portability (NP) database
- Modifies the destination address in the TCAP message with directory number (DN) porting information, and
- Relays the message to the SMSC

The SMSC uses the DN porting information to determine whether to forward the message to other operators or to process the message for an in-network subscriber.

The MO-based IS41 SMS NP feature applies to ANSI TCAP/MAP and ANSI transport (MTP and SCCP) messages.

Operations

The MO-based IS41 SMS NP feature provides configurable options for controlling the processing of SMDPP messages:

- How to consider SMDPP destination address for processing
- Outbound digit format
- When an NP DB lookup is considered to be successful
- Handling of sub address field in destination address

Feature Control

The MO-based IS41 SMS NP feature has the following feature control requirements:

- A FAK for part number 893-0195-01
- The A-Port feature must be enabled and turned on before the feature can be enabled and 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

There are no additional hardware requirements for this feature.

Measurement Reports

The following measurements are added to the existing SYSTOT and SSP reports to support the MO-based IS41 SMS NP feature:

- SMSMOIRCV: Total number of SMDPP messages received that result in a modification of the outgoing SMDPP.
- SMSMOIERR: Total number of SMDPP messages received that result in an error.

Commands

The following commands are enhanced to support the MO-based IS41 SMS NP feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **chg/rtrv-is41opts**—Enhanced to support SMDPP message handling. The **rtrv-is41opts** command is enhanced to report the system options for the MO-based IS41 SMS NP feature.
  The following example displays the output that results for the **rtrv-is41opts** command when the MO-based IS41 SMS NP feature is enabled.

  rtrv-is41opts

```
    tekelecstp 07-06-15 10:33:44 EST  EAGLE 37.5.0

    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
    MOSMSDNFMT      = RN
    MOSMSTYPE       = ALL
    MOSMSNAI        = NAI
    MOSMSDNNAI      = 15

;
```

- **ent/chg-srvsel**—Enhanced to add the MO-based IS41 SMS NP feature to the list of features that can be used to allow the **nserv=mnpsms** parameter to be specified.
- **enable/chg/rtrv-ctrl-feat**—Enhanced to enable, turn on, and display the status of the MO-based IS41 SMS NP feature.

The following example displays sample output for the **rtrv-ctrl-feat** command that results when the MO-based IS41 SMS NP feature is enabled and on.

```
rtrv-ctrl-feat
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE 37.5.0
    The following features have been permanently enabled:
    Feature Name              Partnum    Status  Quantity
    IPGWx Signaling TPS       893012805  on          2000
    HC-MIM SLk Capacity       893012707  on            64
    APORT                     893016601  on          ----
    MO-based IS41 SMS NP      893019501  on          ----
;
```

- **ent/dlt-home-smsc**—Enhanced to add the MO-based IS41 SMS NP feature to the list of features that can be used to allow the command to be entered.
- **rept-stat-db**—Enhanced to add the MO-based IS41 SMS NP feature to the list of features that can be used to allow the command to be entered.
- **rept-stat-mps**—Enhanced to add the MO-based IS41 SMS NP feature to the list of features that can be used to allow the command to be entered.

Limitations

There are no limitations identified for this feature.

Multiple Linksets to Single Adjacent PC

The Multiple Linksets to Single Adjacent PC (MLS) feature allows linksets to be established from up to 6 point codes on the EAGLE 5 ISS to a single point code on an adjacent node.

NOTE: Multiple linksets involving IPGW links to an adjacent point code are not supported.

SLSCI Extension to ITU MSUs

With or without the MLS feature, only two linksets can have the same routing cost, which is used to loadshare across those two linksets. Even distribution of the load over all 32 links (16 links in each linkset) requires a minimum of 5 bits. ANSI MSUs have either 5-bit or 8-bit signaling link selector (SLS) values and meet the minimum requirements. However, ITU MSUs have 4 bit SLS values.

In order to use all 32 links in two ITU linksets, the 5-to-8 bit SLS conversion algorithm used for ANSI MSU traffic is extended to support 4-to-8 bit SLS conversion for ITU MSUs. The extended 8-bit value is used only for traffic distribution and is not included in the outgoing MSU for ITU messages.

Feature Control Requirements

The MLS feature has the following feature control requirements:

- A FAK for part number 893-0197-01
- After the feature is turned on, it cannot be turned off.
- A temporary FAK cannot be used to enable the feature.
- The Multiple Point Code (MPC) feature must be turned on at the EAGLE 5 ISS where the linksets originate before the feature can be enabled. It is NOT necessary for the MPC feature to be turned on at the adjacent node.

Hardware Requirements

The MLS feature does not have specific hardware requirements. However, the feature cannot be enabled if any of the following cards is present in the system:

- LIMDS0
- LIMV35
- LIMOCU
- ILA/EILA
- LIM-E1
- Dual-Slot DCM

If one of these cards is inserted after the feature is enabled, then the card will auto-inhibit.

Commands

The following commands are enhanced to support the MLS feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **chg-dstn**—Enhanced to ensure that a secondary point code that is being used for a linkset to a specified destination is not also used as a secondary point code for that destination.
- **dlt-spc**—Enhanced to prevent the deletion of a secondary point code that is being used by a linkset.
- **enable/chg/rtrv-ctrl-feat**—Enhanced to enable, turn on, and display the status of the MLS feature.
  The following example displays sample output for the **rtrv-ctrl-feat** command that results when the MLS feature is enabled and on.

  rtrv-ctrl-feat

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    The following features have been permanently enabled:
    Feature Name              Partnum    Status  Quantity
    IPGWx Signaling TPS       893012805  on          2000
    HC-MIM SLK Capacity       893012707  on            64
    Multiple Linksets (MLS)   893019701  on          ----
;
```

- **ent-card**—Enhanced to not support LIMV35 and LIMOCU cards if the MLS feature is turned on.
- **ent/chg/rept-stat/rtrv-ls**—Enhanced to support multiple linksets to a single adjacent point code.
  The **rept-stat-ls** and **rtrv-ls** commands are enhanced to display the status of all of the linksets that map to a specified adjacent point code. The **rtrv-ls** command displays all linksets that map to a specified secondary point code.

  The following examples display output for the **rept-stat-ls** command when the MLS feature is enabled and turned on.

  Example 1 displays the output for the **rept-stat-ls** command.

  rept-stat-ls

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    LSN           APCA          PST           SST       AST
    ls11234567    001-001-002   OOS-MT        Prohibit  GWS
    ls11345678    001-001-002   OOS-MT        Prohibit  -----
```

```
    ls11345679    001-001-004   OOS-MT        Idle      -----
    ls1134567     001-001-005   OOS-MT        Prohibit  -----
    ls113456      001-001-002   OOS-MT        Prohibit  -----
    ls11345     p-001-001-007   OOS-MT        Prohibit  GWS
    ls113467      001-001-008   OOS-MT        Prohibit  -----
    ls1134      p-001-001-009   OOS-MT        Prohibit  -----
    ls987         009-008-007   OOS-MT        Idle      -----
    z             009-008-009   OOS-MT        Idle      -----
    cap8          008-008-008   OOS-MT        Idle      -----
    LSN           APCN          PST           SST       AST
    lsnational  s-09-14-05-3-ab OOS-MT        Idle      -----
    LSN           APCN24        PST           SST       AST
    LSN           APCI          PST           SST       AST
;
```

Example 2 displays the output that results when the status of an adjacent point code is requested.

rept-stat-ls:apc=1-1-2

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    APCA   =   001-001-002
    LSN           SPCA          PST           SST       AST
    ls11234567    001-005-003   OOS-MT        Prohibit  GWS
    ls11345678    004-008-002   OOS-MT        Prohibit  -----
    ls113456      014-012-094   OOS-MT        Prohibit  -----
    Command Completed.
 ;
```

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

rept-stat-ls:lsn=lsnstpa

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    LSN         APCA         PST           SST       AST
    lsnstpa     110-15-08    IS-NR         Allowed   -----
      SPCA  =   120-10-01
      ALARM STATUS       = No Alarms.
      SCRSET  = ----
      GWSA    = ----
      GWSM    = ----
      GWSD    = ----
      SLC SLK     SST          SLC SLK     SST
      0   1207,A  Avail        8   ----,-  UEQ
      1   1203,A  Avail        9   ----,-  UEQ
      2   1103,B  LPBK        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 the MLS feature is enabled and turned on.

Example 1 displays the output that results when multiple linksets are created against the same adjacent point code.

rtrv-ls

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
                                     L3T SLT              GWS GWS GWS
    LSN           APCA   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    lsa1            001-001-002   none 1   1   no  A   0    off off off no    off
    lsa2          p-001-002-004   none 1   1   no  A   0    off off off no    off
    lsa3          p-001-002-005   none 1   1   no  A   0    off off off no    off
    rtp4            001-001-002   none 1   1   no  A   0    off off off no    off
    dur16           001-001-002   none 1   1   no  A   0    off off off no    off
    morv12          001-001-002   none 1   1   no  A   0    off off off no    off
    lsa22           001-001-002   none 1   1   no  A   0    off off off no    off

                                     L3T SLT              GWS GWS GWS
   LSN           APCA   (X25)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
```

```
                                  L3T SLT              GWS GWS GWS
   LSN           APCI   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
   lsn1        s-1-002-3       none 1   2   no  A   1    off off off no    off
   lsn2          2-100-1       none 1   2   no  A   1    off off off no    off
   lsn3        s-3-134-1       none 1   2   no  A   1    off off off no    off

                                  L3T SLT              GWS GWS GWS
   LSN           APCN   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
   lsn410234  ps-1-1-1-2047-aa none 1   2   no  B   0    off off off no    off
   lsn410235   p-1-1-1-0059-aa none 1   2   no  B   0    off off off no    off

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

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

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

   Link set table is (12 of 1024) 1% full.
;
```

Example 2 displays the output that results when information for an adjacent point code is requested.

rtrv-ls:apc=1-1-2

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    APCA = 001-001-002
                                  L3T SLT              GWS GWS GWS
    LSN           SPCA          SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    lsa1          002-002-002   none 1   1   no  A   0    off off off no    off
    rtp4          001-002-005   none 1   1   no  A   0    off off off no    off
    dur16         002-007-042   none 1   1   no  A   0    off off off no    off
    morv12        012-009-005   none 1   1   no  A   0    off off off no    off
    lsa22         004-002-022   none 1   1   no  A   0    off off off no    off

    Link set table is (12 of 1024) 1% full.
;
```

Example 3 displays the output that results when information for a secondary point code is requested.

rtrv-ls:spc=2-2-2

```
    homenetwork 07-05-19 17:05:04 EST  EAGLE 37.5.0

    SPCA   =    002-002-002

                                   L3T SLT              GWS GWS GWS
    LSN           APCA   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    lsa1          001-001-002   none 1   1   no  A   0    off off off no    off
    lsa2        p-001-002-004   none 1   1   no  A   0    off off off no    off

    Link set table is (12 of 1024) 1% full.

;
```

Example 4 displays the output that results when detailed information for a linkset is requested.

rtrv-ls:lsn=lsa1

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    LSN           APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    lsa1          001-001-002   none  1   1   no  A   15   on  on  on  yes   off

                  SPCA          CLLI         TFATCABMLQ MTPRSE ASL8
                 002-002-002   -----------  7          ---    no

              IPGWAPC MATELSN  IPTPS   LSUSEALM  SLKUSEALM
              no      ---------- ---     ---        ---

                                L2T         L1              PCR  PCR
               LOC  LINK SLC TYPE     SET  BPS    MODE TSET  ECM   N1   N2
               1101 A     0  LIMDS0   1    56000  ---  ---   BASIC ---  -----
```

```
1201 A     5  IPLIM

                         LP            ATM
LOC  LINK SLC TYPE       SET  BPS      TSEL      VCI    VPI   LL
1102 A     2  LIMATM     1    1544000  EXTERNAL  5      0     0

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

                         L2T               PCR  PCR   E1   E1
LOC  LINK SLC TYPE       SET  BPS    ECM   N1   N2    LOC  PORT TS
1205 A     6  LIME1      1    56000  BASIC ---  ----- 1205 1    1

                        L2T               PCR  PCR   T1   T1
LOC  LINK SLC TYPE       SET  BPS    ECM   N1   N2    LOC  PORT TS
1206 A     10 LIMT1     1    56000  BASIC ---  ----- 1206 1    1


    Link set table is (12 of 1024) 1% full.
;
```

Limitations

The MLS feature does not support multiple IPGW linksets to the same adjacent point code.

Proxy Point Code

The Proxy Point Code (PPC) feature allows the EAGLE 5 ISS to assume the point codes of other nodes. This ability provides seamless migration from direct connection between SS7 networks to connection through an EAGLE 5 ISS STP.

The PPC feature is used when an STP is first brought into a network. If an EAGLE 5 ISS is introduced into a network that directly connects to a separate or 'foreign' SS7 network, and if the PPC feature is enabled and turned on, then a user can specify the point code of the home network as a proxy point code, which is then assumed by the EAGLE 5 ISS.

After the point code is assumed, the SS7 node in the home network is connected to the EAGLE 5 ISS instead of directly connected to the SS7 node in the foreign network. The EAGLE 5 ISS provides routing connectivity in the home network to the foreign node and allows the foreign node to connect to the home network. The node in the foreign network continues to function as if it is connected to the original node in the home network.

The proxy point code is used as the originating point code for all EAGLE 5 ISS generated messages that are routed to the adjacent node of the linkset (referred to as the proxy linkset). The proxy point code can be reached by all nodes in the home network and can access all STP routing functionality in the foreign network. The EAGLE 5 ISS routes SS7 messages coming from the foreign network SS7 node into the home network based on the destination point code. A maximum of 100 point codes can be designated as proxy point codes.

NOTE: IPGWx linksets cannot be assigned a proxy point code as an adjacent point code: therefore, M3UA links and SUA links are excluded.

The proxy point code must be a full point code and can be any of the following network types:

- ANSI
- ITU-N
- ITU-I
- ITU-N Spare
- ITU-I Spare

- ITU-N24

Feature Control

The PPC feature has the following feature control requirements:

- The PPC feature is a quantity feature. The FAK that is used to enable the feature determines the maximum number of point codes that can be specified as proxy point codes. The allowed maximum ranges from 10 to 100, increasing in increments of 10. Each increment has a separate part number as shown:
  - 10: 893-0187-01
  - 20: 893-0187-02
  - 30: 893-0187-03
  - 40: 893-0187-04
  - 50: 893-0187-05
  - 60: 893-0187-06
  - 70: 893-0187-07
  - 80: 893-0187-08
  - 90: 893-0187-09
  - 100: 893-0187-10

  A FAK for the part number corresponding to the desired quantity is required.
- The PPC feature is both enabled and turned on by the **`enable-ctrl-feat`** command. The **`chg-ctrl-feat`** command is not used.
- Once a feature quantity is entered, the quantity value cannot be decreased.
- After the feature is enabled and on, it cannot be turned off.
- A temporary FAK cannot be used to enable the feature.
- The Multiple Point Code (MPC) feature must be turned on at the EAGLE 5 ISS before the PPC feature can be enabled. It is not necessary for the MPC feature to be turned on at the adjacent node.

Hardware Requirements

The PPC feature does not have specific hardware requirements. However, the feature cannot be enabled if any of the following cards are present in the system:

- LIMDS0
- LIMV35
- LIMOCU
- ILA/EILA
- LIM-E1
- Dual-Slot DCM

If one of these cards is inserted after the feature is enabled, then the card will auto-inhibit.

Commands

The following commands are enhanced to support the PPC feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **act/canc-lpo**—Enhanced to not support proxy linksets.
- **blk-slk**—Enhanced to not support proxy linksets.
- **enable/rtrv-ctrl-feat**—Enhanced to enable and display the status of the PPC feature. The PPC is a quantity feature: therefore, the FAK used to enable the feature varies depending on the quantity purchased by the user.
  The following example displays output for the **rtrv-ctrl-feat** command that results when the PPC feature is enabled and on.

  rtrv-ctrl-feat

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    The following features have been permanently enabled:
    Feature Name              Partnum    Status  Quantity
    IPGWx Signaling TPS       893012805  on          2000
    HC-MIM SLK Capacity       893012707  on            64
    Proxy Point Code          893018710  on           100
;
```

- **ent-card**—Enhanced to not support LIMV35 and LIMOCU cards if the PPC feature is enabled.
- **ent/chg-gsmmap-scrn**—Enhanced to prevent a point code from being assigned a proxy destination point code in the destination table if the action is **forward**, **duplicate**, or **dupdisc**.
- **ent/chg-gsms-opcode**—Enhanced to prevent a point code from being assigned a proxy point code in the destination table if the value of the **dfltact** parameter is **forward**, **duplicate**, or **dupdisc**.
- **ent/chg-gta**—Enhanced to prevent a point code from being assigned a proxy point code in the destination table.
- **ent/chg-gtt**—Enhanced to prevent a point code from being assigned a proxy point code in the destination table.
- **ent/chg-map**—Enhanced to prevent a proxy destination from being assigned for the referenced point code.
- **ent/chg-mrn**—Enhanced to prevent a proxy destination from being assigned for the referenced point code.
- **ent/chg/dlt-rte**—Enhanced to support proxy linksets and point codes.
- **ent/chg/dlt/rept-stat/rtrv-dstn**—Enhanced to support proxy point codes. The **dlt-dstn** command is enhanced to prevent a destination point code from being deleted if it is used or referenced as a proxy point code. The **rtrv-dstn** command is enhanced to display proxy point code information when requested.
  The following examples display output for the **rtrv-dstn** command when the PPC feature is enabled and on.

  Example 1 displays the summary output that results when proxy point code destinations exist in the table.

  rtrv-dstn

```
    homenetwork 07-05-19 17:03:05 EST  EAGLE 37.5.0

       DPCA          CLLI        BEI ELEI   ALIASI          ALIASN/N24    DOMAIN

       002-002-002   ----------- no  ---  ----------      --------------   SS7
       001-001-001   ----------- no  ---  ----------      --------------   SS7
       001-001-002   ----------- no  ---  ----------      --------------   SS7
```

```
   001-001-003   ----------- no  --- ----------      --------------   SS7
   001-001-004   ----------- no  --- ----------      --------------   SS7
   001-001-005   ----------- no  --- ----------      --------------   SS7
   001-001-006   ----------- no  --- ----------      --------------   SS7
   001-001-007   ----------- no  --- ----------      --------------   SS7
   001-001-008   ----------- no  --- ----------      --------------   SS7
   001-001-009   ----------- no  --- ----------      --------------   SS7
   001-001-010   ----------- no  --- ----------      --------------   SS7

   DPCI          CLLI        BEI ELEI   ALIASA          ALIASN/N24    DOMAIN


   DPCN          CLLI        BEI ELEI   ALIASA          ALIASI        DOMAIN


   DPCN24        CLLI        BEI ELEI   ALIASA          ALIASI        DOMAIN


    Destination table is (11 of 2000) 1% full
    Alias table is (0 of 12000) 0% full
    PPC table is (1 of 10) 10% full
;
```

Example 2 displays the output that results when information for a destination that references a proxy point code is requested.

rtrv-dstn:dpc=1-1-1

```
    tekelecstp 07-03-05 17:49:16 EST  EAGLE 37.5.0

    DPCA          CLLI        BEI  ELEI   ALIASI      ALIASN/N24    DOMAIN

    001-001-001   ----------- no   --- ----------      -------------- SS7

    PPCA           NCAI   PRX
    002-002-002    ----   no

    Destination table is (30 of 2000) 2% full
    Alias table is (0 of 12000) 0% full
    PPC table is (1 of 100) 10% full
;
```

Example 3 displays the output that results when information for destinations that use a proxy point code is requested.

rtrv-dstn:ppc=2-2-2

```
    homenetwork 07-05-19 17:05:04 EST  EAGLE 37.5.0

       PPCA   =    002-002-002

       DPCA          CLLI        BEI ELEI   ALIASI          ALIASN/N24    DOMAIN

       001-001-001   ----------- no  --- ----------      --------------   SS7
       001-001-002   ----------- no  --- ----------      --------------   SS7
       001-001-003   ----------- no  --- ----------      --------------   SS7
       001-001-004   ----------- no  --- ----------      --------------   SS7
       001-001-005   ----------- no  --- ----------      --------------   SS7
       001-001-006   ----------- no  --- ----------      --------------   SS7
       001-001-007   ----------- no  --- ----------      --------------   SS7
       001-001-008   ----------- no  --- ----------      --------------   SS7
       001-001-009   ----------- no  --- ----------      --------------   SS7
       001-001-010   ----------- no  --- ----------      --------------   SS7


    Destination table is (11 of 2000) 1% full
    Alias table is (0 of 12000) 0% full
    PPC table is (1 of 10) 10% full
;
```

Example 4 displays the output that results when information for all of the proxy destinations is requested.

rtrv-dstn:prx=yes

```
    homenetwork 07-05-19 17:05:04 EST  EAGLE 37.5.0

    PRX = yes

       DPCA          CLLI        BEI ELEI   ALIASI          ALIASN/N24    DOMAIN

       001-001-001   ----------- no  ---  ----------      --------------   SS7
       001-001-002   ----------- no  ---  ----------      --------------   SS7
       001-001-003   ----------- no  ---  ----------      --------------   SS7
       001-001-004   ----------- no  ---  ----------      --------------   SS7

       DPCI          CLLI        BEI ELEI   ALIASA          ALIASN/N24    DOMAIN


       DPCN          CLLI        BEI ELEI   ALIASA          ALIASI        DOMAIN


       DPCN24        CLLI        BEI ELEI   ALIASA          ALIASI        DOMAIN


    Destination table is (17 of 2000) 1% full
    Alias table is (0 of 12000) 0% full
    PPC table is (4 of 10) 40% full
;
```

Example 5 displays the output that results when information for a destination point code that refers to a secondary point code is requested.

rtrv-dstn:dpc=3-3-3

```
    homenetwork 07-07-31 16:05:12 EST  EAGLE 37.5.0

       DPCA          CLLI        BEI ELEI   ALIASI          ALIASN/N24    DOMAIN

       003-003-003   ----------- no  ---  ----------      --------------   SS7

       SPCA          NCAI           PRX
       009-009-009   ----           no

    Destination table is (4 of 2000) 1% full
    Alias table is (0 of 12000) 0% full
    PPC table is (2 of 10) 20% full
;
```

- **ent/dlt/rept-stat/rtrv-ls**—Enhanced to support proxy linksets.

  The following examples display output for the **rept-stat-ls** command when the PPC feature is enabled and on.

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

  rept-stat-ls:lsn=lsnstpa

```
    tekelecstp 07-03-29 11:05:47 EST  EAGLE 37.5.0

    LSN           APCA          PST           SST       AST
    lsnstpa       110-15-08     IS-NR         Allowed   -----
      PPCA   =    100-12-04
      ALARM STATUS       = No Alarms.
      SCRSET  = ----
      GWSA    = ----
      GWSM    = ----
      GWSD    = ----
      SLC SLK     SST          SLC SLK     SST
      0   1207,A  Avail        8   ----,-  UEQ
      1   1203,A  Avail        9   ----,-  UEQ
      2   1103,B  LPBK        10   ----,-  UEQ
      3   ----,-  UEQ         11   ----,-  UEQ
      4   ----,-  UEQ         12   ----,-  UEQ
      5   ----,-  UEQ         13   ----,-  UEQ
      6   ----,-  UEQ         14   ----,-  UEQ
      7   ----,-  UEQ         15   ----,-  UEQ
```

```
;
```

Example 2 displays the output that results when information for an adjacent point code is requested.

NOTE: The MLS feature must also be turned on in order to retrieve information for an adjacent point code.

rept-stat-ls:apc=1-1-2

```
    tekelecstp 07-03-29 11:05:47 EST  EAGLE 37.5.0

    APCA   =   001-001-002
    LSN           PPCA          PST           SST       AST
    ls11234567    001-005-003   OOS-MT        Prohibit  GWS
    ls11345678    004-008-002   OOS-MT        Prohibit  -----
    ls113456      014-012-094   OOS-MT        Prohibit  -----

;
```

The following examples display output for the **rtrv-ls** command when the PPC feature is enabled and on.

Example 1 shows the proxy point codes used by linksets.

rtrv-ls

```
    homenetwork 07-05-19 17:03:37 EST  EAGLE 37.5.0

                                    L3T SLT              GWS GWS GWS
    LSN           APCA   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    x1            001-001-001   none 1   1   no  PRX 0    off off off no    off
    x2            001-001-002   none 1   1   no  PRX 0    off off off no    off
    x3            001-001-003   none 1   1   no  PRX 0    off off off no    off
    x4            001-001-004   none 1   1   no  PRX 0    off off off no    off
    x5            001-001-005   none 1   1   no  PRX 0    off off off no    off
    x6            001-001-006   none 1   1   no  PRX 0    off off off no    off
    x7            001-001-007   none 1   1   no  PRX 0    off off off no    off
    x8            001-001-008   none 1   1   no  PRX 0    off off off no    off
    x9            001-001-009   none 1   1   no  PRX 0    off off off no    off
    x10           001-001-010   none 1   1   no  PRX 0    off off off no    off
    y             002-002-002   none 1   1   no  A   0    off off off no    off

                                    L3T SLT              GWS GWS GWS
    LSN           APCA   (X25)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS

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

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

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

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

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


    Link set table is (11 of 1024) 1% full.

;
```

Example 2 displays the output that results when information for the linksets using a specified proxy point code is requested.

rtrv-ls:ppc=2-2-2

```
    homenetwork 07-05-19 17:05:04 EST  EAGLE 37.5.0

    PPCA   =    002-002-002
```

```
                                  L3T SLT              GWS GWS GWS
LSN           APCA   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
x1            001-001-001   none 1   1   no  PRX 0    off off off no    off
x2            001-001-002   none 1   1   no  PRX 0    off off off no    off
x3            001-001-003   none 1   1   no  PRX 0    off off off no    off
x4            001-001-004   none 1   1   no  PRX 0    off off off no    off
x5            001-001-005   none 1   1   no  PRX 0    off off off no    off
x6            001-001-006   none 1   1   no  PRX 0    off off off no    off
x7            001-001-007   none 1   1   no  PRX 0    off off off no    off
x8            001-001-008   none 1   1   no  PRX 0    off off off no    off
x9            001-001-009   none 1   1   no  PRX 0    off off off no    off
x10           001-001-010   none 1   1   no  PRX 0    off off off no    off


    Link set table is (11 of 1024) 1% full.

;
```

Example 3 displays the output that results when information for all of the proxy linksets is requested.

rtrv-ls:lst=prx

```
    homenetwork 07-05-19 17:05:40 EST  EAGLE 37.5.0

                                  L3T SLT              GWS GWS GWS
LSN           APCA   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
x1            001-001-001   none 1   1   no  PRX 0    off off off no    off
x2            001-001-002   none 1   1   no  PRX 0    off off off no    off
x3            001-001-003   none 1   1   no  PRX 0    off off off no    off
x4            001-001-004   none 1   1   no  PRX 0    off off off no    off
x5            001-001-005   none 1   1   no  PRX 0    off off off no    off
x6            001-001-006   none 1   1   no  PRX 0    off off off no    off
x7            001-001-007   none 1   1   no  PRX 0    off off off no    off
x8            001-001-008   none 1   1   no  PRX 0    off off off no    off
x9            001-001-009   none 1   1   no  PRX 0    off off off no    off
x10           001-001-010   none 1   1   no  PRX 0    off off off no    off

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

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

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

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

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


    Link set table is (11 of 1024) 1% full.

;
```

Example 4 displays the output that results when information for a specified linkset is requested.

rtrv-ls:lsn=x1

```
    tekelecstp 07-03-05 17:32:59 EST  EAGLE 37.5.0

                          L3T SLT                  GWS GWS GWS
LSN           APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
x1            001-001-001   none  1   1   no  PRX 0    on  on  on  yes   off
              PPCA          CLLI          TFATCABMLQ MTPRSE ASL8
              002-002-002   ----------  7          ---    no

            IPGWAPC MATELSN    IPTPS  LSUSEALM SLKUSEALM GTTMODE
            no      ---------- ----   ---      ---       CdPA

                                  L2T         L1              PCR  PCR
```

```
                LOC  LINK SLC TYPE     SET  BPS    MODE TSET  ECM   N1   N2

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

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

                LOC  PORT SLC TYPE     IPLIML2

                LOC  PORT SLC TYPE

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

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

    Link set table is (11 of 1024) 1% full.

;
```

Example 5 displays the output that results when information for a specified adjacent point code is requested.

NOTE: The MLS feature must also be turned on in order to retrieve information for an adjacent point code.

`rtrv-ls:apc=1-1-1`

```
    tekelecstp 07-03-05 17:32:59 EST  EAGLE 37.5.0

    APCA   =    001-001-001

                                  L3T SLT              GWS GWS GWS
    LSN           PPCA          SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
    x1            002-002-002   none 1   1   no  PRX   0    off off off no    off

    Link set table is (11 of 1024) 1% full.
;
```

Limitations

The PPC feature has the following limitations:

- Only ‘A’ link types are supported on a linkset using a proxy point code.
- Secondary adjacent point codes are not supported on a proxy linkset.
- M3UA links and SUA links are excluded for proxy point codes.
- If the routeset from the EAGLE 5 ISS to the proxy node is prohibited, then all links in any proxy linkset using the proxy point code are unavailable for traffic.
- If more than 50% of the links in the linkset are down, then congestion may occur.
- Only one linkset to an adjacent point code is supported by the EAGLE 5 ISS unless the Multiple Linksets to Single Adjacent PC feature is enabled and turned on.
- Configurations where the same proxy point code is a member of both the foreign and home networks are not supported.
- Global title translation (GTT) to a proxy node is not supported.

SCCP Loop Detection

The SCCP Loop Detection feature allows the EAGLE 5 ISS to detect SCCP looping of UDT/XUDT and UDTS/XUDTS messages for all concerned signaling transfer points (STPs).

An STP sends GTT messages to the capability point codes (CPCs) of mated nodes for load sharing; however, SCCP looping can result if the destination point code (DPC) is the same as either the originating point code (OPC) or the point code of any intermediate in the network. The CPC cannot be omitted because it is used in other functionality.

The SCCP Loop Detection feature allows a correlation to be made between true/secondary point codes and CPCs for all concerned STPs. This correlation allows the EAGLE 5 ISS to compare the OPC of an incoming MSU to the post-GTT DPC to determine the possibility of looping.

A Loopset table is provisioned to define the correlation between the true/secondary point codes and the CPCs.

The SCCP Loop Detection feature operates in the Notify and Discard modes. In the Notify (default) mode, the SCCP Loop Detection feature generates a UIM when it detects SCCP looping and does not discard the MSU. This UIM allows the user to capture and verify MSUs throughout the system for SCCP looping. In the Discard mode, the SCCP Loop Detection feature generates the same UIM when it detects SCCP looping and discards the MSU.

Feature Control Requirements

The SCCP Loop Detection feature has the following feature control requirements:

- A FAK for part number 893-0165-01
- The feature cannot be turned off after it has been turned on.
- A temporary FAK cannot be used to enable the feature.

Hardware Requirements

The SCCP Loop Detection feature requires DSM (4 GB) or higher cards. TSM cards are not supported.

Measurement Reports

The SCCPLOOP register is added to the following existing reports to record messages that have been discarded due to SCCP loop detection.

- SYSTOT-STP
- MTCD-STP
- MTCDTH-STP
- COMP-LNKSET
- MTCD-LNKSET
- MTCDTH-LNKSET

Commands

The following commands or command families are added or enhanced to support the SCCP Loop Detection feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

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

  rtrv-ctrl-feat

```
    rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
    The following features have been permanently enabled:
    Feature Name              Partnum    Status  Quantity
    IPGWx Signaling TPS       893012805  on          2000
    HC-MIM SLk Capacity       893012707  on            64
    SCCP Loop Detection       893016501  on          ----
;
```

- **ent-card**—Enhanced to prevent the provisioning of TSM cards in the EAGLE 5 ISS if the SCCP Loop Detection feature is enabled.
- **ent/chg/dlt/rtrv-loopset**—Added to update and retrieve data in the Loopset table. The Loopset table allows 12 point codes per loopset; however, the **ent-loopset** command can be used to enter only up to six point codes. The **chg-loopset** command is used to add up to six additional point codes to an existing loopset for a maximum of 12 point codes per loopset.
  The following examples display output for the **rtrv-loopset** command.

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

  rtrv-loopset:name=rtp1

```
    rlghncxa03w 07-02-10 08:52:38 EST  EAGLE Rel 37.5.0

    LoopSet   Mode     Point Codes
    ========================================================================
    RTP1      Discard  005-005-005       007-007-007       (ANSI)
                       003-007-003       005-007-005
                       005-004-005
;
```

  Example 2 displays the output that results when detailed information for multiple loopsets is requested.

  rtrv-loopset:num=100:force=yes

```
    rlghncxa03w 07-02-10 08:59:18 EST  EAGLE Rel 37.5.0

    LoopSet   Mode     Point Codes
 ========================================================================
    Cary2     Notify   005-015-005       007-007-007       (ANSI)
                       033-007-003       005-027-005

    Cary4     Notify   005-012-005       007-026-007       (ANSI)
                       033-002-003       005-008-055

    Apex3     Discard  005-017-008       007-017-009       (ANSI)
                       005-014-005       005-017-005
                       033-002-043       005-038-005
                       033-003-043       005-012-005

    Apex4     Discard  005-007-008       027-007-009       (ANSI)
                       005-004-055       027-001-007
                       033-007-003       005-003-055

    RAL5      Notify   005-005-005       007-007-007       (ANSI)
                       003-001-003       005-007-005
```

```
                    003-002-003       005-008-005
                    003-003-003       005-002-005

    RAL6      Notify   005-007-008       007-007-009       (ANSI)
                       003-007-003

    DUNN1     Discard  005-002-055       007-051-007       (ANSI)

    RTP9      Discard  005-002-005       007-001-007       (ANSI)
                       003-007-003       005-003-005
                       005-004-005
;
```

Example 3 displays the output that results when summary information for multiple loopsets is requested.

rtrv-loopset:force=yes:num=100:disp=list

```
    rlghncxa03w 07-02-10 09:03:27 EST  EAGLE Rel 37.5.0

    LoopSet   Mode      ||  LoopSet   Mode       ||  LoopSet   Mode
    ======================================================================
    Cary2     Notify    ||  Cary4     Notify     ||  Apex3     Discard
    Apex4     Discard   ||  RAL5      Notify     ||  RAL6      Notify
    DUNN1     Discard   ||  RTP9      Discard    ||  RTP5      Discard
    RTP1      Discard   ||  RTP2      Notify
;
```

Example 4 displays the output that results when information on loopsets that contain the **mode=notify** parameter is requested.

rtrv-loopset:force=yes:num=100:mode=notify:disp=list

```
    rlghncxa03w 07-02-10 09:10:07 EST  EAGLE Rel 37.5.0

    LoopSet   Mode      ||  LoopSet   Mode       ||  LoopSet   Mode
    ======================================================================
    Cary2     Notify    ||  Cary4     Notify     ||  RAL5      Notify
    RAL6      Notify    ||  RTP2      Notify
;
```

- **ent/chg/dlt/rtrv-gta**—Enhanced to allow the modification and retrieval of global title address information for a loopset entry.
  The following example displays the output for the **rtrv-gta** command when the SCCP Loop Detection feature is enabled and an associated loopset exists.

  rtrv-gta:gttsn=setssn:mapset=6

```
    tekelecstp 07-02-10 09:50:42 EST  EAGLE 37.5.0
    GTTSN      NETDOM  NDGT
    setssnn    ansi    10
    GTT TABLE IS   1 % FULL (42 of 269999)

    START GTA  END GTA    XLAT   RI     PCA          LOOPSET
    1111111111 1111111122 DPCSSN SSN    001-001-003  RALEIGH1
         MAPSET=6     SSN=2   CCGT=no  NTT=---
;
```

- **ent/chg/dlt/rtrv-gtt**—Enhanced to allow the modification and retrieval of global title translation information for a loopset entry.
  The following example displays the output for the **rtrv-gtt** command when the SCCP Loop Detection feature is enabled and an associated loopset entry exists.

  rtrv-gtt:ttn=setssn:mapset=6

```
    tekelecstp 07-02-10 09:49:42 EST  EAGLE 37.5.0
    TYPEA    TTN        NDGT
    1        setssn     10
    GTT TABLE IS   1 % FULL (45 of 269999)

    START GTA  END GTA    XLAT   RI     PCA          LOOPSET
    1111111111 1111111122 DPCSSN SSN    001-001-003  RALEIGH1
```

```
            MAPSET=6     SSN=2   CCGT=no  NTT=---
;
```

- **rept-meas**— Enhanced to generate measurement reports on demand. The reports display on the UI terminal, and are not transferred to the customer FTP server when the Measurements Platform feature is enabled.

Limitations

There are no limitations identified for this feature.

SEAS Over IP

The SEAS Over IP (SOIP) feature provides a TCP/IP-based interface for SEAS. The SEAS interface constitutes the path between the EAGLE 5 ISS and the Common Channel Signaling Message Router (CCS MR).

After the SEAS Over IP feature is enabled and turned on, the EAGLE 5 ISS acts as a client and connects to the CCS MR, which acts as the server. Data is passed between the EAGLE 5 ISS and the CCS MR using the SR-5129 protocol.

The SEAS Over IP feature can be used to replace the current EOAP in the EAGLE 5 ISS and will be used as the sole solution for future SEAS interface installations. However, the EOAP feature is still supported. If the EOAP is correctly provisioned, then EOAP functionality resumes automatically when the SEAS Over IP feature is turned off. The EOAP and SEAS Over IP features cannot operate at the same time.

The SEAS Over IP feature is integrated into the **ipshc** GPL on the E5-IPSM card. The E5-IPSM card allows one of eight IP terminals to be configured as the SEAS terminal to provide connectivity between the CCS MR and the EAGLE 5 ISS. The E5-IPSM card provides the EAGLE 5 ISS with generic IP-based services, such as Telnet and FTP, on the remaining 7 IP terminals.

The SEAS Over IP feature must be configured on both the EAGLE 5 ISS and the CCS MR. EAGLE 5 ISS commands are used to configure CCS MR information on the EAGLE 5 ISS. The CCS MR is configured directly. Refer to *Telcordia Configuration Specification "Telcordia Technologies System Documentation", BD-SNAM-ADMIN-4 Issue 14, November 2006* for information on configuring the CCS MR.

The SEAS Over IP feature supports the configurations shown in the following table:

Table 1-1. SEAS Over IP Configurations

SOIP Configuration	Description
Dual E5-IPSM with Single CCS MR	Consists of two E5-IPSM cards with one SEAS terminal connection to a single CCS MR. Up to 3 E5-IPSM cards can be provisioned per system: however, the SEAS terminal is supported on only two out of the three E5-IPSM cards. The connection to the CCS MR is dedicated to SEAS; however the E5-IPSM card can be used for other IP-based operations. The E5-IPSM cards operate redundantly, allowing two active connections to the CCS MR. Different SEAS information can be transmitted and received separately over each connection to the CCS MR.
Dual E5-IPSM with Dual CCS MR (loosely coupled)	Consists of two E5-IPSM cards connected to a loosely coupled pair of CCS MRs. The CCS MRs operate in a round robin manner if they each have an active connection to an E5-IPSM card.
Simplex E5-IPSM	Consists of one SEAS terminal configured on one E5-IPSM card to create a connection to one CCS MR. This configuration does not provide redundant connections to the CCS MR and is intended to serve as a restricted mode until another E5-IPSM card can be returned to service.

SOIP Configuration	Description
	The connection to the CCS MR is dedicated to SEAS: however, the E5-IPSM card can be used for other IP-based operations. All SEAS information is transmitted over the single IP connection to the CCS MR. The SEAS system is in an IS-ANR/Restricted state if the system is in Simplex E5-IPSM SEAS operation, and a Major alarm is present on the SEAS system. **NOTE: Simplex SEAS operation is not recommended.**

Feature Control Requirements

The SEAS Over IP feature has the following feature control requirements:

- A FAK for part number 893-0188-01
- The feature is an On/Off feature.
- A temporary FAK cannot be used to enable the feature.
- The IPUI feature must be enabled before the SEAS Over IP feature can be enabled. The IPUI feature must be turned on before the SEAS Over IP feature can be turned on.

Hardware Requirements

At least one E5-IPSM card must must be provisioned in the EAGLE 5 ISS.

NOTE: Two E5-IPSM cards are recommended for redundant connectivity to the CCS MR.

Measurements

The Hourly Maintenance Report is enhanced to show the status (if not IS-NR) of the SEAS terminals and SEAS SYSTEM when the SEAS Over IP feature is turned on. RS-232-based SEAS data is not shown if the SEAS Over IP feature is turned on.

Commands

The following commands are enhanced to support the SEAS Over IP feature. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **`act-oap-config`**—Enhanced to be rejected if the SEAS Over IP feature is on.
- **`alw/chg/inh/rept-stat/rmv/rst/rtrv-trm`**—Enhanced to support SEAS terminals.

  NOTE: The `-trm` commands are rejected if an E5-IPSM card is not provisioned in the corresponding location.

  The following example displays output for the **`rtrv-trm`** command when the SEAS Over IP feature is enabled and on.

```
rtrv-trm:trm=30
    tekelecstp 07-12-16 22:37:01 IST  EAGLE 37.5.0
    TRM  TYPE    LOC              TMOUT MXINV DURAL     SECURE
    30   SEAS    1102             30    5     00:01:00  no

    TRM  TRAF LINK SA  SYS PU  DB  UIMRD
    30   NO   NO   NO  NO  NO  NO  NO
```

```
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
30   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
;
```

- **alw/dlt/inh/init/rept-stat/rmv/rst/rtrv-card**—Enhanced to support the E5-IPSM card.
- **chg-sid**—Enhanced to display a warning that the CCS MR must be configured if the SEAS Over IP feature is on and the **clli** parameter is changed.
- **chg/rtrv-seas-config**—Added to provision the EAGLE 5 ISS with CCS MR information. The **rtrv-seas-config** command displays CCS MR configuration information.

  The following example displays output for the **rtrv-seas-config** command.

  rtrv-seas-config

```
tekelecstp 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI      AUTHMODE
----------------------
DEVEAGLE001   Password

CONN     TERM  IPADDR            PORT   LOGIN           HNAME
------------------------------------------------------------------------
IPMR1     25   128.96.75.45      4010   ccscoor         tcpipmr1
IPMR2     33   128.96.75.46      4011   ccscoor         tcpipmr2
```

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

  rtrv-ctrl-feat

```
rlghncxa03w 07-05-29 16:40:40 EST  EAGLE5 37.5.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
IPGWx Signaling TPS       893012805  on          2000
HC-MIM SLk Capacity       893012707  on            64
SEAS over IP              893018801  on          ----
;
```

- **init-oap**—Enhanced to be rejected if the SEAS Over IP feature is on.
- **rept-stat-seas**—Enhanced to display the status of the CCS MR connections when the SEAS Over IP feature is turned on.
  The following example displays output for the **rept-stat-seas** command when the SEAS Over IP feature is on.

  rept-stat-seas

```
tekelecstp 07-01-11 16:47:51 EST  EAGLE 37.5.0


    SEAS SYSTEM                          PST         SST          AST
------------------------------------------------------------------------
                                        IS-NR       Avail        -----
    ALARM STATUS = No Alarms

    TERM         IPADDR           PORT    PST         SST          AST
------------------------------------------------------------------------
    18           120.30.10.11     15      IS-NR       Active       -----
    ALARM STATUS = No Alarms

    40           128.30.15.12     16      IS-NR       Active       -----
    ALARM STATUS = No Alarms
```

- **rept-stat-sys**—Enhanced to display the status of the SEAS terminals (SOIP) if the SEAS Over IP feature is enabled and on.
  The following example displays output for the **rept-stat-sys** command.

  rept-stat-sys

```
    rlghncxa03w 07-06-27 16:53:22 EST  EAGLE5 37.5.0
    MAINTENANCE STATUS REPORT
       Maintenance Baseline established.
       Routing Baseline established.
       SCCP Baseline established.
       ALARMS:     CRIT=    9     MAJR=  10   MINR=   3     INH=    2
       OAM 1113     IS-NR         Active                   INH=    0
       OAM 1115     IS-NR         Standby                  INH=    0
       LIM     CARD IS-NR=   3    Other=        0          INH=    0
       X25     CARD IS-NR=   0    Other=        0          INH=    0
       SCCP    CARD IS-NR=   3    Other=        0          INH=    0
       GLS     CARD IS-NR=   0    Other=        0          INH=    0
       SLAN    CARD IS-NR=   0    Other=        0          INH=    0
       VXWSLAN CARD IS-NR=   0    Other=        0          INH=    0
       EMDC    CARD IS-NR=   0    Other=        0          INH=    0
       SS7IPGW CARD IS-NR=   0    Other=        0          INH=    0
       IPGWI   CARD IS-NR=   0    Other=        0          INH=    0
       IPLIM   CARD IS-NR=   0    Other=        0          INH=    0
       IPLIMI  CARD IS-NR=   0    Other=        0          INH=    0
       HMUX    CARD IS-NR=   0    Other=        0          INH=    0
       HIPR         IS-NR=   2    Other=        0          INH=    0
       IMT          IS-NR=   2    Other=        0
       SLK          IS-NR=   0    Other=        6          INH=    0
       DLK          IS-NR=   0    Other=        0          INH=    0
       LINK SET     IS-NR=   0    Other=        4          INH=    0
       NDC IP LK    IS-NR=   4    Other=        0          INH=    0
       DSM IP LK    IS-NR=   0    Other=        0          INH=    0
       MCPM    CARD IS-NR=   0    Other=        0          INH=    0
       EROUTE  CARD IS-NR=   0    Other=        0          INH=    0
       CLOCK        IS-NR=   2    Other=        0          INH=    0
       HS CLOCK     IS-NR=   2    Other=        0          INH=    0
       MCPM IP LK   IS-NR=   2    Other=        0          INH=    0
       APPLSOCK     IS-NR=   0    Other=        0          INH=    0
       SCTP ASSOC   IS-NR=   0    Other=        0          INH=    0
       APPL SERVER  IS-NR=   0    Other=        0          INH=    0
       SS7 DPC      IS-NR=   0    Other=        6          INH=    0
       X25 DPC      IS-NR=   0    Other=        0          INH=    0
       CLUST DPC    IS-NR=   0    Other=        1          INH=    0
       RTX          IS-NR=   2    Other=        1          INH=    0
       XLIST DPC    IS-NR=   0    Other=        0
       DPC  SS      Actv =   0    Other=        0
       SEAS SS      IS-NR=   1    Other=        0
       SOIP         IS-NR=   2    Other         0          INH=    0
       LSMS SS      IS-NR=   0    Other=        2
       LSMS Conn    IS-NR=   0    Other=        2          INH=    0
       TERMINAL     IS-NR=   2    Other=       14          INH=    0
       MPS          IS-NR=   2    Other=        0
       SECURITY SS  IS-NR=   1    Other=        0
       EIR SS       IS-NR=   1    Other=        0
;
```

- **rtrv-seculog**—Enhanced to display "SEAS" as the User ID for commands and responses that are issued through the SEAS terminal.
  The following example displays output for the **rtrv-seculog** command when the SEAS Over IP feature is enabled and on.

  rtrv-seculog:uid=seas:num=10

```
Command Accepted - Processing

    tekelecstp 07-03-09 11:57:50 IST  EAGLE 37.5.0
    Reporting parameters:
        uid     = seas
        num     = 10
```

```
uid               trm date   time   st cmd
----------------  --- ------ ------ -- -----------------------------------
SEAS              17  070902 124846 RJ ASGN-SLK::LS111-00:AJP6OD:50,SOM::1+
SEAS              17  070902 124856 OK ASGN-SLK::LS111-02:AJP6OD:50,SOM::1+
SEAS              17  070902 124944 OK ASGN-SLK::LS111-03:AJP6OD:50,SOM::1+
SEAS              17  070902 125238 OK ASGN-SLK::LS111-11:AJP6OD:50,SOM::1+
SEAS              17  070902 125245 OK ASGN-SLK::LS111-05:AJP6OD:50,SOM::1+
SEAS              17  070902 125257 OK ASGN-SLK::LS111-13:AJP6OD:50,SOM::1+
SEAS              17  070902 130331 OK ASGN-SLK::LS111-02:AJP6OD:50,SOM::1+
SEAS              17  070902 130539 OK ASGN-SLK::LS111-02:AJP6OD:50,SOM::1+
SEAS              25  070902 131327 OK ASGN-SLK::LS111-03:AJP6OD:50,SOM::1+
SEAS              25  070902 184758 OK ASGN-SLK::LS111-02:AJP6OD:50,SOM::1+

Report terminated -- output length limitation (NUM=) reached

10 records reported of 240 records scanned.
END OF SECURITY LOG REPORT.
```

- **`soipdata`**—Added to display the SEAS Over IP operational data captured for the last 24 hours. This command allows the user to perform the following functions:

  — Display the help for this command

  — Display a specific error type

  — Display the full data for the command

  — Reset a specified count

  The following examples display output for the **`soipdata`** command.

  Example 1 displays command help.

  `pass:loc=1305:cmd= “soipdata –h”`

```
Usage: soipdata [[-f ] |
                          [[-s] [-d] [-v] [-g] [–e] [-u] [-t]
                          [-r][-h]]

    Options:
             -f  Display Full Operational data (all the counts)
             -s  Display number of SR-5129 Messages received with Bad Source
             -d  Display number of SR-5129 Messages received with Bad Destination
             -v  Display number of SR-5129 Messages received with Bad Version
             -g  Display number of Good Day Messages Received.
             -e  Display number of error messages sent (Sum of BadVersion, BadSource and
BadDestination)
             -u  Display number of Number of UPL messages received
             -t   Display number of Number of UPL messages transmitted.
             -r   Reset the Specified Error Count
             -h  display command help
```

  Example 2 displays a full report.

  `pass:loc=1305:cmd=” soipdata –f”`

```
SOIPDATA: SR-5129 Operational Data Report


Operational Data
_____________________________________________________________________
reason                                    count
----------------------------             -----------
Message Recived with Bad Source              1
Message Recived with Bad Destination         2
Message Recived with Bad Version             0
Number of Goodday Messages Received          1
Number of Error Messages Sent                10
```

```
Number of UPL Messages Received               12000
Number of UPL Messages Sent                   19000
```

Example 3 resets all operational data.

pass:loc=1305:cmd=" soipdata –r"

```
 SOIPDATA  : All SOIP Operational data has been reset
```

Example 4 resets the number of UPL messages received.

pass:loc=1305:cmd=" soipdata –r –u"

```
SOIPDATA: Number of UPL Messages Received has been reset.
```

Example 5 displays the number of UPL messages received.

pass:loc=1305:cmd=" soipdata –u"

```
SOIP Operational Data
_____________________________________________________________________
reason                                 count
----------------------------        -----------
Number of UPL Messages Received           0
```

- **soiplog**—Added to display the logs for SEAS Over IP data (SR-5129 messages). This command allows the user to perform the following:
  - — Display the help for this command
  - — Enable/disable logging
  - — Display live message logs
  - — Display the last X number of messages

The following examples display output for the **soiplog** command.

Example 1 displays the help for the command.

pass:loc=1305:cmd= "soiplog –h"

```
Usage: SOIPLOG [[-l option] |
                [-d] [-n] [-h]]

Options:
  -l  <enable/disable> Enable/Disable the logs
  -d                   Display live message logs
  -n  <num>            Display last <num> number of messages. Range=1..2000
  -h                   Display Command Help
```

NOTE: The following commands, used to enable logging and display, must be entered one after the other:

Example 2 enables real-time logging and display:

pass:cmd="soiplog -l enable":loc=XXXX: Starts real-time logging

pass:cmd="soiplog -d":loc=XXXX: Starts displaying real-time logs

The command with the **–d** option displays live messages as they arrive.

The command can be entered from any serial or telnet terminal, and the SEAS data will be visible on that terminal. The terminal then acts as a DEBUG terminal. These commands can be entered from the same terminal for both E5-IPSM locations, allowing data from both SEAS terminals to be displayed on a single DEBUG terminal.

Example 3 enables logging and displays the last N number of logged messages.

pass:cmd="soiplog -l enable":loc=XXXX: Starts logging

pass:cmd="soiplog -n N":loc=XXXX : Displays the last N messages that were logged.

The command with the **-n** option displays the last N messages or available number of messages (which ever is less) from the log in reverse chronological order.

```
[mm/dd/yy:hour:min:sec ] Message Received.
 0353 SR5129  Rcvd 064 bytes, trm=17
7E 7E 7E 7E 00 00 00 38    02 01 01 02 01 50 04 0A     *~~~~   8     P  *
41 42 43 44 45 46 47 48    49 50 04 0B 53 45 41 53     *ABCDEFGHIJ  SEAS*
4E 4A 43 43 53 4D 31 04    11 50 49 53 43 4E 4A 53     *NJCCSM1  PISCNJS*
4E 44 38 31 58 49 46 30    31 41 02 01 00 02 01 01     *ND81XIF01A      *
[mm/dd/yy:hour:min:sec ] Message Received.
 0354 SR5129  Rcvd 133 bytes, trm=17
7E 7E 7E 7E 00 00 00 7D    02 01 01 02 01 50 04 0A     *~~~~   }     P  *
41 42 43 44 45 46 47 48    49 50 04 0B 53 45 41 53     *ABCDEFGHIJ  SEAS*
4E 4A 43 43 53 4D 31 04    11 50 49 53 43 4E 4A 53     *NJCCSM1  PISCNJS*
4E 44 38 31 58 49 46 30    31 41 02 01 00 02 01 13     *ND81XIF01A      *
04 43 03 41 41 42 44 45    46 47 48 49 50 51 53 45     *   ABCDEFGHIJKSE*
41 53 4E 4A 43 43 53 4D    31 00 56 52 46 00 2A 56     *ASNJCCSM1 VFY *V*
46 59 2D 47 54 54 3A 3A    30 31 30 2C 2A 2A 2D 2A     *FY-GTT::010,**-**
2A 2D 2A 2A 2C 2A 2A 3A    31 32 33 34 35 36 3A 35     **-**,**:123456:5*
30 2C 56 52 46                                         *0,VRF           *
```

Limitations

The SEAS Over IP feature has the following limitations:

- MMI messages are not supported.
- The CCS MR node name is not configurable by the EAGLE 5 ISS. The CCS MR must be assigned a name by Telcordia.
- The only supported Authentication Mode in EAGLE 5 ISS for Client Authentication for communication with the CCS MR with the Security Feature ON is Password Authentication.

Other Changes

The following changes and core enhancements are included in Release 37.5.

Configurable Digit Length for MTP routed IS41 Message

The **chg-is41opts** command is updated to allow users to configure the number of terminating called party digits that are extracted from a LOCREQ message. Users can also specify to use the extracted digits to interpret the called party from the TCAP layer of an MTP-routed LOCREQ message.

The **rtrv-is41opts** message is updated to display the terminating called party digit information if it is selected in the **chg-is41opts** command. The following example displays output for the **rtrv-is41opts** command if the terminating called party digits are extracted from the LOCREQ message.

rtrv-is41opts

```
    tekelecstp 07-06-15 10:33:44 EST  EAGLE 37.5.0

    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    = LOCREQLEN
    RSPPARM         = DDIGIT
    RSPDIG          = RN
    RSPNON          = 0
    RSPNP           = 0
    RSPMIN          = NOTHOMERN
    MSCMKTID        = 32300
    MSCSWITCH       = 20
    ESNMFG          = 0
    ESNSN           = 0
    RSPDIGTYPE      = 0
    LOCREQRMHRN     = NO
    TCAPSNAI        = SUB
    MOSMSDNFMT      = RN
    MOSMSTYPE       = ALL
    MOSMSNAI        = NAI
    MOSMSDNNAI      = 15
    MTPLOCREQLEN    = 15

;
```

EAGLE Inter-card Message Integrity

The EAGLE Inter-card Message Integrity enhancement adds internal data verification for messages transferred between EAGLE 5 ISS cards. This enhancement increases the potential for detection of message corruption due to hardware related causes and provides alarm capability and maintenance reporting to assist with problem determination.

Measurements

The MSULOST6 measurement register is added to the following existing reports to support the EAGLE Inter-card Message Integrity enhancement:

- SYSTOT-STP
- MTCD-STP
- MTCDTH-STP

The MSULOST6 register represents the total number of MSUs that were received from other EAGLE 5 ISS cards and discarded due to checksum failure during internal integrity checks.

Commands

The following commands are added or enhanced to support the EAGLE Inter-card Message Integrity enhancement. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **rept-meas**—Enhanced to generate measurement reports on demand. The reports display on the UI terminal, and are not transferred to the customer FTP server when the Measurements Platform feature is enabled.
  The following example displays output for the **rept-meas** command.

  rept-meas:type=systot:enttype=stp

  ```
      eagle10706 07-01-01 10:30:09 EST  EAGLE5 37.5.0
      TYPE OF REPORT: STP SYSTEM TOTAL MEASUREMENTS ON STP
  ```

```
    REPORT PERIOD: LAST
    REPORT INTERVAL:  07-01-01  10:00:00 THRU 10:29:59

    STP-SYSTOT MEASUREMENTS

    ORIGMSUS   =       425, TRMDMSUS   =       420, THRSWMSU   =    730980,
    ORMSUOCT   =      8490, TRMSUOCT   =      8400, TSMSUOCT   =  14619600,
    DURINTFL   =         0, DTAMSULOST =         0, MSINVDPC   =         5,
    MSINVSIO   =         0, OMSINVDPC  =         0, MSINVLNK   =         0,
    MSINVSIF   =         0, MSNACDPC   =         5, MSINVSLC   =         0,
    GTTPERFD   =         0, GTTUN0NS   =         0, GTTUN1NT   =         0,
    MSSCCPFL   =         0, MSULOST1   =         0, MSULOST2   =         0,
    MSULOST3   =         0, MSULOST4   =         0, MSULOST5   =         0,
    CRSYSAL    =         1, MASYSAL    =         2, MISYSAL    =         9,
    XLXTSPACE  =         0, XLXTELEI   =         0, MSUDSCRD   =         0,
    OVSZMSG    =         0, GFGTMATCH  =         0, GFGTNOMCH  =         0,
    GFGTNOLKUP =         0, MSUSCCPFLR =         0, NMSCCPMH   =      4567,
    PKSCCPMH   =     38495, MSSCCPDISC =        23, IDPRMSERR  =         2,
    IDPRMSFAIL =        12, IDPRMSRCV  =      8374, IDPRMSSUCC =      8360,
    MSIDPNOMCH =         0, MSIDPMATCH =         0, MSULOST6   =         0,

;

    eagle10706 07-01-01 10:30:10 EST  EAGLE5 37.5.0
    END OF HALF-HOURLY STP-SYSTOT MEASUREMENT REPORT
;
```

- **rept-stat-rtd**—Added to report the status of internal integrity checks and Run-Time Diagnostics (RTD) for EAGLE 5 ISS cards. The report includes message validation statistics from the internal integrity checks and the status of the RTD subsystem and alarms.
  The following examples display the output for the **rept-stat-rtd** command.

  Example 1 displays the overall summary status for the RTD subsystem and RTD alarm status and reports the message validation statistics for all LIM and SCCP cards in the system.

  rept-stat-rtd

```
    eagle10212 07-06-17 13:44:57 EST  EAGLE 37.5.0
    Retrieving data from the cards...

    RTD  SUBSYSTEM REPORT IS-ANR         Active     -----
    RTD  ALARM STATUS = 541 cksum error threshold exceeded

              MSU Validation Statistics
            ============================
            Total Rx   Total Rx      Total
    CARD    Error      Validated        Tx
    1101         275         275       710
    1102           0         200       200
    1103           0         200      1000
    1105           0        1360       275
    1107           0         200       100
    1108           0         100       100
```

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

  rept-stat-rtd:loc=1101

```
    eagle10212 07-06-01 EST  EAGLE 37.5.0
    Retrieving data from card 1101

    CARD SUMMARY: 1101     Last Alarm Timestamp: 06-08-01 14:20:22

            MSU Validation statistics for 1101
            ==================================================

                          Total Rx     Total Rx    Total Tx
            SRC/DEST       Error    Validated
            CARD
            1102              100          100         100
            1103                0            0           0
            1105               75           75         360
```

```
1107              100          100         200
1108                0           50          50
```

Example 3 displays the output that results when MSU validation statistics are reset for one card or for all cards in the system.

rept-stat-rtd:loc=1101:reset=yes

```
eagle10212 07-06-17 13:44:57 EST  EAGLE 37.5.0
Reset all RTD statistics sent to card 1101
```

- **rept-stat-trbl**—Enhanced to display the Run-Time Diagnostic (RTD) subsystem device alarms for EAGLE 5 ISS cards.
  The following example displays output for the **rept-stat-trbl** command.

rept-stat-trbl

```
eagle10110 07-02-09 17:09:51 EST EAGLE 37.5.0
SEQN UAM   AL  DEVICE       ELEMENT  TROUBLE TEXT
0002.0143  *   CARD 1113    EOAM     System release GPL(s)not approved
0134.0107  *   IMT BUS A             Minor IMT failure detected
               Card 1111, 1113
0854.0048  *   TERMINAL     1        Terminal failed
0855.0048  *   TERMINAL     4        Terminal failed
0859.0002  *   GPL SYSTEM BPDCM      Card is not running approved GPL
0860.0176  *   SECULOG 1116          Stdby security log - upload required
0877.0236 **   SLK 1101,A   e1e2     REPT-LKF: not aligned
0878.0236 **   SLK 1101,B   e1m1s1   REPT-LKF: not aligned
0892.0313 *C   DPC    002-101-001    DPC is prohibited
0915.0541 *C   RTD SYSTEM            MSU cksum error threshold exceeded
Command Completed
```

Limitations

The EAGLE Inter-card Message Integrity enhancement has the following limitations:

- Integrity checks are not supported on 2-port Low Speed LIM, EILA, ILA, LIM-E1, LIM-DS0, LIM-OCU, or LIM-V35 cards.
- The rate of validations performed during the integrity checks is determined by the rate of MSU traffic between individual cards: therefore, the time to detect validation errors varies.
- Integrity checks are performed only on cards that are in-service.
- Validation statistics reported by the **rept-stat-rtd** command are dynamic and are not maintained when a card is re-initialized. The individual statistics re-start at zero after the maximum values are reached.

EAGLE OA&M IP Security Enhancements SSHv2 Upgrade

The EAGLE OA&M IP Security Enhancements SSHv2 Upgrade enhancement upgrades the Secure Shell product OpenSSH from version 3.0.2 to SShield 2.0 to provide security improvements.

IP^7 Ethernet and SCTP Alarming

The IP^7 Ethernet and SCTP Alarming enhancement provides alarm notifications on the EAGLE 5 ISS for low level Ethernet errors or excessive SCTP retransmissions on IPLIMx and IPGWx cards.

IP^7 Ethernet and SCTP Alarming increases the potential for detection of message corruption due to hardware related causes and enhances serviceability by providing alarm capability and maintenance reporting to assist with problem determination.

This enhancement adds an alarm to the IP Connection device to indicate an excessive retransmission rate. The device includes both TALI sockets and SCTP associations; however, the alarm is provided only for SCTP associations. An alarm is also added to the physical Ethernet device to indicate unexpected errors in the physical layer.

Commands

The following commands are added or enhanced to support the IP^7 Ethernet and SCTP Alarming enhancement. For complete descriptions of these commands, refer to the *Commands Manual* of your EAGLE 5 1SS Release 37.5 documentation set.

- **chg/rept-stat/rtrv-assoc**—Enhanced to add a retransmit threshold parameter for the IP Connection Excess Retransmits alarm. The **rept-stat-assoc** command is enhanced to support the Excess Retrans secondary status. The **rtrv-assoc** command is enhanced to display the retransmit threshold parameter.
  The following examples display output for the **rept-stat-assoc** command.

  Example 1 displays the status of all associations.

  rept-stat-assoc

```
    eagle10213 07-06-17 13:44:57 EST  EAGLE 37.5.0

                   CARD IPLINK
    ANAME          LOC  PORT   LINK PST             SST             ASPID
    ipgi1303a      1303 A      A    OOS-MT          OOS             0
    ipl1301b       1301 A      B    IS-NR           ESTABLISHED     0
    a1             1305 A      A    OOS-MT-DSBLD    OOS             0
    ipg1308a1      1308 A      A    OOS-MT-DSBLD    OOS             0
    sca            1306 A      A    IS-ANR          CONGESTED       0
    a2             1304 A      A    IS-ANR          EXCESS RETRANS  0
    sca7           1307 A,B    A    IS-NR           ESTABLISHED     0
    lavern         1305 A      A    IS-NR           ESTABLISHED     0
    ipl1313b       1313 A      B    OOS-MT-DSBLD    OOS             0
    ipl1302a       1302 A      A    IS-NR           ESTABLISHED     0
    n              1315 A      A    OOS-MT          CONNECTING      0
    ipg1305a1      1305 A      A    OOS-MT-DSBLD    OOS             0
    ipl1301b3      1301 A      B3   IS-NR           ESTABLISHED     0

    Command Completed.
;
```

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

  rept-stat-assoc:aname=a2

```
    eagle10213 07-06-17 13:47:33 EST  EAGLE 37.5.0
                   CARD IPLINK
    ANAME          LOC  PORT   LINK PST             SST             ASPID
    a2             1304 A      A    IS-ANR          EXCESS RETRANS  0

    ALARM STATUS = *  0536 IP Connection Excess Retransmits

    ASNAME           ANAME            ASP STATE
    as1              a2               ASP-UP

    Command Completed.
;
```

  The following example displays output for the **rtrv-assoc** command.

  rtrv-assoc:aname=m3ua03

```
    eagle10110 07-06-13 17:21:29 EST  EAGLE 37.5.0
    ANAME m3ua03
          LOC      1307          IPLNK PORT A          LINK     A
          ADAPTER  M3UA          VER        M3UA RFC
          LHOST    e1011001.1307a
          ALHOST   ---
```

```
          RHOST    e1011501.1307a
          LPORT    1309          RPORT      1309
          ISTRMS   2             OSTRMS     2           BUFSIZE  80
          RMODE    LIN           RMIN       140         RMAX     800
          RTIMES   10            CWMIN      9000        UAPS     10
          OPEN     YES           ALW        YES         RTXTHR   65535

          ASNAMES
          as01

    IP Appl Sock/Assoc table is (7 of 4000) 1% full
    Assoc Buffer Space Used (320 KB of 3200 KB) on LOC = 1307

;
```

- **inh/unhb/rept-stat-alm**—Enhanced to make the ENET device alarms inhibitable and to include ENET devices when the **dev=inhb** parameter is specified.
  The following example displays output for the **rept-stat-alm** command.

  rept-stat-alm:display=inhb

```
    tekelecstp 07-06-24 14:42:30 EST  EAGLE 37.5.0
    ALARM  TRANSFER= RMC
    ALARM  MODE      CRIT= AUDIBLE     MAJR= SILENT      MINR= SILENT
    ALARM  FRAME 1     CRIT=   2         MAJR=   8         MINR=   0
    ALARM  FRAME 2     CRIT=   0         MAJR=   0         MINR=   0
    ALARM  FRAME 3     CRIT=   0         MAJR=   0         MINR=   0
    ALARM  FRAME 4     CRIT=   0         MAJR=   0         MINR=   0
    ALARM  FRAME 5     CRIT=   0         MAJR=   0         MINR=   0
    ALARM  FRAME 6     CRIT=   0         MAJR=   0         MINR=   0
    ALARM  FRAME OAP   CRIT=   0         MAJR=   0         MINR=   0
    PERM. INH. ALARMS  CRIT=   0         MAJR=   1         MINR=   0
    TEMP. INH. ALARMS  CRIT=   0         MAJR=   1         MINR=   0
    TIMED INH. ALARMS  CRIT=   0         MAJR=   0         MINR=   0
    ACTIVE ALARMS      CRIT=   2         MAJR=   6         MINR=   0
    TOTAL ALARMS       CRIT=   2         MAJR=   8         MINR=   0


    ALARM INHIBIT REPORT
    --------------------
    DEVICE  DEVICE IDENTIFIER  DURATION  INH LVL  ALM LVL   DATE  TIME
    ------   --------------  --------  -------  ------  ----   ---
    CARD     1101                PERM     MINR     MAJR+      ---    ---
    ENET     1201,A              PERM     MAJR     MAJR       ---    ---
    ENET     1201,B              TEMP     MAJR     MAJR       ---    ---
    ENET     1101,A              PERM     MINR     MAJR+      ---    ---

   Command Completed.
;
```

- **rept-stat-card**—Enhanced to display the Ethernet interface errors for IP[7] cards when the **mode=full** parameter is specified.
  The following example displays output for the **rept-stat-card** command.

  rept-stat-card:loc=1301:mode=full

```
    eagle10213 06-08-17 13:53:22 EST  EAGLE 37.5.0
    CARD   VERSION      TYPE      GPL        PST            SST        AST
    1301   078-025-000  EDCM      IPLIM      IS-NR          Active     -----
      ALARM STATUS       =  *  0022 Clock B for card failed, Clock A normal
      BPDCM   GPL version = 126-016-000
      IMT BUS A           = Conn
      IMT BUS B           = Conn
      CLOCK A             = Active
      CLOCK B             = Fault
      CLOCK I             = Idle
      MBD BIP STATUS      = Valid
      MOTHER BOARD ID     = SS EDCM
      DBD STATUS          = Valid
      DBD TYPE            = None
      DBD MEMORY SIZE     = 0M
```

```
    HW VERIFICATION CODE = ----
    SIGNALING LINK STATUS
        SLK    PST               LS            CLLI
        A      IS-NR             e3e4          -----------
        B      IS-NR             e3e4          -----------
        A1     IS-NR             e3e4          -----------
        B1     IS-NR             e3e4          -----------
        A2     IS-NR             e3e4          -----------
        B2     IS-NR             e3e4          -----------
        A3     IS-NR             e3e4          -----------
        B3     IS-NR             e3e4          -----------
    IPLINK STATUS
        IPLNK  IPADDR            STATUS     PST
        A      10.254.111.45     UP         IS-NR
        B      192.168.5.37      ERRORS     IS-ANR
    ASSOCIATION STATUS
        ANAME              PST             SST
        ipl1301b           IS-NR           ESTABLISHED
        ipl1301a           IS-NR           ESTABLISHED
        ipl1301a1          IS-NR           ESTABLISHED
        ipl1301b1          IS-NR           ESTABLISHED
        ipl1301a2          IS-NR           ESTABLISHED
        ipl1301b2          IS-NR           ESTABLISHED
        ipl1301a3          IS-NR           ESTABLISHED
        ipl1301b3          IS-NR           ESTABLISHED
    TVG STATUS
        SNM     TVG RESULT   = 24 hr: G-----, 5 min: ------
        SLAN    TVG RESULT   = 24 hr: ------, 5 min: ------
        SCCP    TVG RESULT   = 24 hr: ------, 5 min: ------
        INM     TVG RESULT   = 24 hr: G-----, 5 min: ------

    Command Completed.
;
```

- **rept-stat-enet**—Added to provide a summary of the Ethernet status for all configured Ethernet interfaces on IP[7] cards in the system. An interface is considered configured if the card is an IPGWx or an IPLIMx and the **rtrv-ip-lnk** command shows a non-zero IP address.
  The following examples display output for the **rept-stat-enet** command.

  Example 1 displays displays output when IP cards are used.

  rept-stat-enet

```
    tekelecstp 07-06-24 13:08:32 EST  EAGLE 37.5.0
    LOC   PORT IPADDR           PST          SST      AST
    1101  A    1.1.1.1          OOS-MT       Fault    ALMINH
    1101  B    123.234.222.111  IS-ANR       Active   -----
    1201  A    111.1.24.200     IS-NR        Active   -----
    1201  B    2.31.234.1       OOS-MT       Fault    -----

    Command Completed.
;
```

  Example 2 displays the output for ENET cards in the IS-ANR state. Additional information, including the alarm, is obtained by specifying the **loc** and **port** parameters.

  rept-stat-enet:loc=1101:port=b

```
    eagle10110 07-06-14 14:54:23 EST  EAGLE 37.5.0
    LOC   PORT IPADDR           PST          SST      AST
    1101  B    123.234.222.111  IS-ANR       Active   -----
    ALARM STATUS       = **  0537 Ethernet error threshold exceeded

    Command Completed.
;
```

- **rept-stat-trbl**—Enhanced to display the ENET device and SCTP retransmit alarms.
  The following example displays output for the **rept-stat-trbl** command.

  rept-stat-trbl

```
eagle10110 07-06-13 16:36:33 EST  EAGLE 37.5.0
SEQN UAM  AL DEVICE    ELEMENT       TROUBLE TEXT
0002.0143  * CARD 1113 EOAM          System release GPL(s) not approved
3661.0048  * TERMINAL    1           Terminal failed
3674.0155  * DLK 1107,A   STPLAN     STPLAN connection unavailable
3677.0312  * DPC    001-115-001      DPC is restricted
3678.0002  * GPL SYSTEM BPDCM        Card is not running approved GPL
3683.0176  * SECULOG 1116            Stdby security log -- upload required
3684.0013 ** CARD 1305 SS7IPGW       Card is isolated from the system
3688.0236 ** SLK 1203,A   lslg2      REPT-LKF: not aligned
3692.0318 ** LSN e5e6                REPT-LKSTO: link set prohibited
3697.0539 ** ENET 1305,A            Ethernet Interface Down
3698.0539 ** ENET 1305,B            Ethernet Interface Down
3699.0539 ** ENET 1307,B            Ethernet Interface Down
3700.0536  * IP7 assoc1234567890     IP Connection Excess Retransmits

Command Completed.
```

Removal of Restrictions on the E5-SM4G Throughput Capacity Feature

In Release 37.0, the following conditions were required before the E5-SM4G Throughput Capacity feature (893-0191-01) could be enabled:

- HIPR cards must be installed in all shelves of the EAGLE 5 ISS.
- The E5IS feature must be turned off.
- The **ansigflex** system option cannot be enabled.

These restrictions are now removed. The E5-SM4G Throughput Capacity feature can be enabled if HIPR cards are not installed on all shelves of the EAGLE 5 ISS, if the E5IS feature is turned on, and if the **ansigflex** system option is enabled.

NOTE: HIPR cards must be installed on the shelf where the E5-SM4G card is installed.

The `init-sys` Command is not Required to Change a Capability Point Code

If the **`chg-sid`** command is used to only change a capability point code (CPC), then the system does not have to be initialized (i.e. the **`init-sys`** command does not have to be entered) for the change to become enabled.

Update to the `chg-dstn` Command

The **`chg-dstn`** command is updated to display a caution that instructs the user to verify the route of the remote node when the command is used to change the secondary point code.

The following example displays the output that results when the **`chg-dstn`** command is used to change the secondary point code.

`chg-dstn:dpc:1-1-1:spc=144-23-48`

```
tekelecstp 07-03-05 17:34:18 EST  EAGLE 37.5.0
CAUTION: Dstn's SPC has changed - verify remote node's route.
DESTINATION ENTRIES ALLOCATED:   2000
    FULL DPC(s):                   27
    EXCEPTION DPC(s):               0
    NETWORK DPC(s):                 1
    CLUSTER DPC(s):                 1
    PROXY DPC(s):                   1
    TOTAL DPC(s):                  30
    CAPACITY (% FULL):              2%
ALIASES ALLOCATED:               12000
    ALIASES USED:                   0
    CAPACITY (% FULL):              0%
```

```
    X-LIST ENTRIES ALLOCATED:         500
    CHG-DSTN: MASP A - COMPLTD
;
```

Update to the ***chg-inpopts*** *and* ***rtrv-inpopts*** *Commands*

The **chg-inpopts** command is updated to allow the home routing number to be selected as a value for the destination routing address (**dra**) parameter.

The **rtrv-inpopts** command is updated to display the home routing number if applicable.

The following example displays output for the **rtrv-inpopts** command when the home routing number value is selected.

rtrv-inpopts

```
    tekelecstp 07-07-11 13:44:38 EST  EAGLE 37.5.0
    rtrv-inpopts
    Command entered at terminal #4.

    INP OPTIONS
    -----------------------
    NEC         = 1234
    DRANAIV     = 126
    DRANP       = E164
    DRA         = HOMERNDN
    SPRESTYPE   = CONTINUE

    CDPNPFX            DLTPFX
    ---------------    ---

    CDPNNAI            SNAI
    ---                ----

;
```

Update to the ***ent-csl*** *and* ***chg-csl*** *Commands*

The **ent-csl** and **chg-csl** commands are updated to display the correct value for the p1 parameter. This parameter was originally described as having a value of **0** for National or **1** for International. The correct value is **1** for National or **2** for International.

Update to the ***ent-dstn*** *command*

The **ent-dstn** command is updated to remove the option to enter a value of **none** from the **aliasa** and **spc** parameters.

Update to the ***ent-homern, dlt-homern,*** *and* ***rtrv-homern*** *Commands*

The **ent-homern**, **dlt-homern**, and **rtrv-homern** commands are not feature controlled. The ability to issue these commands to revise or view the contents of the HOMERN table is not dependent on whether a particular feature is enabled.

Update to the ***ent-trace*** *Command*

The **ent-trace** command is updated as follows:

- The **ipgwi** application is added to the list of applications that are supported by the **ent-trace** command.
- The default value for the **error** parameter is changed to **no**.
- Error message "E3342 Cmd Rej:GFLEX/INP/AINPQ/GPORT/PPSMS/IGM/APORT/IDPR feature must be ON" is added.
- The output is updated to include information on total MSU size and MSU data size.
  The following examples display the updated output for the **ent-trace** command.

  Example 1 displays output for an MTP trace.

ent-trace:loc=1101:dpc=7-1-0

```
    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e1:  Card=1101   RX - Link B0
    Trace Condition:
    LOC=           1101
    DPC=           007-001-000

    MSU info:
    TOTAL MSU SIZE=  12 Bytes
    MSU DATA SIZE =  4 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  85 00 01 07 01 65 01 16

    DATA: 00 00 09 00
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e1:  Card=1101   Use RTE:   007-001-000:H'0001
    Trace Condition:
    LOC=          1101
    DPC=          007-001-000

    MSU info:
    TOTAL MSU SIZE=  12 Bytes
    MSU DATA SIZE =  4 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  85 00 01 07 01 65 01 16

    DATA: 00 00 09 00
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e1:  Card=1101   Sending to 1103:B1
    Trace Condition:
    LOC=          1101
    DPC=          007-001-000

    MSU info:
    TOTAL MSU SIZE=  12 Bytes
    MSU DATA SIZE =  4 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  85 00 01 07 01 65 01 0b

    DATA: 00 00 09 00
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e1:  Card=1103   MSU Received from 1101
    Trace Condition:
    LOC=          1101
    DPC=          007-001-000
```

```
    MSU info:
    TOTAL MSU SIZE=  12 Bytes
    MSU DATA SIZE =  4 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  85 00 01 07 01 65 01 0b

    DATA: 00 00 09 00
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e1:  Card=1103   MSU sent to L2 - B1
    Trace Condition:
    LOC=          1101
    DPC=          007-001-000

    MSU info:
    TOTAL MSU SIZE=  12 Bytes
    MSU DATA SIZE =  4 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  85 00 01 07 01 65 01 0b

    DATA: 00 00 09 00
    TRACE OUTPUT COMPLETE.
;
```

Example 2 displays output for an SCCP trace.

ent-trace:loc=1101:gt=9194605500

```
    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e2:  Card=1101   RX - Link B0
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  90 Bytes
    MSU DATA SIZE =  82 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 01 01 65 01 02

    SCCP: 09 80 03 0e 13 0b 8b 8c 28 04 01 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e2:  Card=1101   TVG: Sending to SCCP 1107
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  90 Bytes
    MSU DATA SIZE =  82 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 01 01 65 01 02

    SCCP: 09 80 03 0e 13 0b 8b 8c 28 04 01 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00
```

```
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e2:  Card=1107   MSU Received from 1101
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  90 Bytes
    MSU DATA SIZE =  82 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 01 01 65 01 02

    SCCP: 09 80 03 0e 13 0b 8b 8c 28 04 01 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e2:  Card=1107   SCCP: Before SS7 Trans Encod
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  97 Bytes
    MSU DATA SIZE =  89 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 01 01 65 01 02

    SCCP: 09 80 03 0e 13 0b 8b 8c 28 04 01 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00 02
          08 01 65 01 00 04
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e2:  Card=1107   SCCP: After SS7 Trans Encode
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  97 Bytes
    MSU DATA SIZE =  89 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 07 00 01 01 02

    SCCP: 09 80 03 0e 13 0b cb 10 00 01 07 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00 02
          08 01 65 01 00 04
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
```

```
    MSU TRACE H'00e2:  Card=1107   Use RTE 007-001-000:H'0009
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  97 Bytes
    MSU DATA SIZE =  89 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 07 00 01 01 02

    SCCP: 09 80 03 0e 13 0b cb 10 00 01 07 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00 02
          08 01 65 01 00 04
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'00e2:  Card=1107   Sending to 1103:B1
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  97 Bytes
    MSU DATA SIZE =  89 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 07 00 01 01 01

    SCCP: 09 80 03 0e 13 0b cb 10 00 01 07 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00 02
          08 01 65 01 00 04
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'0000:  Card=1103   MSU Received from 1107
    Trace Condition:
    LOC=          1101
    GT=           9194605500

    MSU info:
    TOTAL MSU SIZE=  97 Bytes
    MSU DATA SIZE =  89 Bytes

          0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
    MTP:  83 00 01 07 00 01 01 01

    SCCP: 09 80 03 0e 13 0b cb 10 00 01 07 0a 19 49 06 55 00 05 c3 0a
          04 05 06

    TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
          f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
          0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00 02
          08 01 65 01 00 04
    TRACE OUTPUT COMPLETE.
;

    stdcfg1b 07-08-10 15:51:33 EST  EAGLE 37.5.0
    MSU TRACE H'0000:  Card=1103   MSU sent to L2 - B1
    Trace Condition:
    LOC=          1101
```

```
          GT=           9194605500

          MSU info:
          TOTAL MSU SIZE=  90 Bytes
          MSU DATA SIZE =  82 Bytes

                0  1  2  3  4  5  6  7  8  9  0  1  2  3  4  5  6  7  8  9
          MTP:  83 00 01 07 00 01 01 01

          SCCP: 09 80 03 0e 13 0b cb 10 00 01 07 0a 19 49 06 55 00 05 c3 0a
                04 05 06

          TCAP: 3a e2 38 c7 04 e5 04 61 80 e8 30 e9 2e cf 01 00 d0 02 83 01
                f2 25 aa 0b 84 09 01 00 11 0a 19 49 06 12 19 84 09 02 00 11
                0a 19 39 88 41 63 84 07 07 00 01 03 21 03 00 df 45 01 00
          TRACE OUTPUT COMPLETE.
     ;
```

Update to the ***rtrv-dstn*** *Command*

The **rtrv-dstn** command is updated to have the secondary point code header reflect the point code type in the command output. The following examples display the revised output for the **rtrv-dstn** command

Example 1 displays the output that results when information for a single SPC assigned to an ANSI destination point code is requested.

rtrv-dstn:spc=1-56-2

```
    rlghncxa03w 07-08-17 16:02:05 EST  EAGLE 37.5.0
    SPCA   =    001-056-005

       DPCA          CLLI        BEI ELEI  ALIASI       ALIASN/N24    DOMAIN
       001-056-002   ----------- no  ---   1-056-2      16000          SS7

    Destination table is (12 of 2000) 1% full
    Alias table is (4 of 12000) 1% full
    RTRV-DSTN: MASP A - COMPLTD
;
```

Example 2 displays the output that results when information for a single cluster is requested, and the **ncai=yes** parameter is specified.

rtrv-dstn:dpc=010-010-*

```
    rlghncxa03w 07-08-17 16:02:05 EST  EAGLE 37.5.0
       DPCI          CLLI        BEI ELEI  ALIASA       ALIASN/N24    DOMAIN
       010-010-*     ----------- no  no    ------       -----------    SS7

                   SPCI         NCAI
                   -----------  yes

    Destination table is (11 of 2000) 1% full
    Alias table is (4 of 12000) 1% full
    RTRV-DSTN: MASP A - COMPLTD
;
```

Example 3 displays the output that results when information for all ITU national group codes is requested by duplicate point code.

rtrv-dstn:dpcn=2050-*

```
    rlghncxa03w 07-08-17 16:02:05 EST  EAGLE 37.5.0
       DPCN          CLLI        BEI   ELEI    ALIASA      ALIASI        DOMAIN
       2050-AA       -----       no     ---    ------     -----------     SS7
                     SPCN           NCAI
                     ------         ----

       2050-AF       -----       yes     ---    ------     -----------     SS7
                     SPCN           NCAI
                     4081-AF         ----
```

```
      2050-FR       -----       no     ---    ------     -----------     SS7
                    SPCN           NCAI
                    4083-FR        ----

    Destination table is (11 of 2000) 1% full
    Alias table is (4 of 12000) 1% full
    RTRV-DSTN: MASP A - COMPLTD
;
```

Example 4 displays the output that results when information for a 24-bit ITU-N destination point code with an assigned 24-bit ITU-N secondary point code is requested.

rtrv-dstn:dpcn24=12-12-12

```
    rlghncxa03w 07-08-17 16:02:05 EST  EAGLE 37.5.0
       DPCN24        CLLI        BEI ELEI               ALIASI        DOMAIN
       012-012-012   ----------- no  ---                -------        SS7

                   SPCN24         NCAI
                   099-099-099    ----

    Destination table is (1 of 2000) 1% full
    Alias table is (0 of 12000) 0% full
    RTRV-DSTN: MASP A - COMPLTD
;
```

Operational Changes

The following operational changes are generated for the features and other changes in Release 37.5.

Unsolicited Alarm Messages

New or changed unsolicited alarm messages (UAMs) for the features that are available in Release 37.5 are shown below.

EAGLE Inter-card Message Integrity

Table 1-2. New or Changed UAMs - EAGLE Inter-card Message Integrity

UAM	541	Format	Output Group
Action	Added for EAGLE Inter-card Message Integrity		
Old data			
New data	MSU cksum error threshold exceeded	RTD SYSTEM	SYS_MAINT
UAM	542	Format	Output Group
Action	Added for EAGLE Inter-card Message Integrity		
Old data			
New data	MSU cksum error threshold cleared	RTD SYSTEM	SYS_MAINT

IP^7 Ethernet and SCTP Alarming

Table 1-3. New or Changed UAMs - IP^7 Ethernet and SCTP Alarming

UAM	536	Format	Output Group
Action	Added for IP^7 Ethernet and SCTP Alarming		
Old data			
New data	IP Connection Excess Retransmits	IP^7	LINK_MAINT

UAM	537	Format	Output Group
Action	Added for IP^7 Ethernet and SCTP Alarming		
Old data			
New data	Ethernet error threshold exceeded	ENET	LINK_MAINT
UAM	538	Format	Output Group
Action			
Old data			
New data	Ethernet Interface Up	ENET	LINK_MAINT
UAM	539	Format	Output Group
Action	Added for IP^7 Ethernet and SCTP Alarming		
Old data			
New data	Ethernet Interface Down	ENET	LINK_MAINT
UAM	540	Format	Output Group
Action	Added for IP^7 Ethernet and SCTP Alarming		
Old data			
New data	Ethernet Interface Up	ENET	LINK_MAINT

SEAS Over IP

Table 1-4. New or Changed UAMs - SEAS over IP

UAM	545	Format	Output Group
Action	Added for the SEAS Over IP feature		
Old data			
New data	SEAS Terminal Available	TERMINAL	SEAS_MAINT
UAM	546	Format	Output Group
Action	Added for the SEAS Over IP feature		
Old data			
New data	SEAS Terminal Unavailable	TERMINAL	SEAS_MAINT

Unsolicited Information Messages

New or changed unsolicited information messages (UIMs) for the features that are available in Release 37.5 are shown below.

Auto Point Code Recovery

Table 1-5. New or Changed UIMs - Auto Point Code Recovery

UIM	1345	Format	Output Group
Action	Added for the Auto Point Code Recovery feature		
Old data			
New data	CRD Auto-Clear sent to All MTP Cards	I68	LINK_MAINT

EAGLE Inter-Card Message Integrity

Table 1-6. New or Changed UIMs - EAGLE Inter-Card Message Integrity

UIM	1335	Format	Output Group
Action	Added for Eagle Inter-card Message Integrity		
Old data			
New data	Card Integ Chk: MSU cksum err	I70	SYS_MAINT

MO-based GSM SMS NP and MO-based IS41 SMS NP

Table 1-7. New or Changed UIMs - MO-based GSM SMS NP and MO-based IS41 SMS NP

UIM	1035	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rsp did not route – invalid GTI		
New data		I43	GTT
UIM	1036	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rsp did not route – invalid TT		
New data		I43	GTT
UIM	1037	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rsp did not route – bad Xlation		
New data		I43	GTT
UIM	1038	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rsp did not route – SSP not True PC		
New data		I43	GTT
UIM	1039	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rsp did not route – bad Selectors		
New data		I43	GTT
UIM	1040	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	ITU <-> ANSI translation not supported		
New data		I43	GTT
UIM	1041	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route –no SSN in msg or DB		
New data		I43	GTT
UIM	1042	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rcvd inv GT – invalid Trans. Type		
New data		I43	GTT
UIM	1043	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		

Old data	SCCP did not route – bad translation		
New data		I16	GTT
UIM	1044	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – DPC OOS		
New data		I17	GTT
UIM	1045	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – DPC congested		
New data		I17	GTT
UIM	1046	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – DPC not in MAP tbl		
New data		I44	GTT
UIM	1047	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – SS OOS		
New data		I17	GTT
UIM	1048	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – SS congested		
New data		I17	GTT
UIM	1049	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – SS not in MAP tbl		
New data		I17	GTT
UIM	1051	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP-CNV: Unable to convert ANSI CGPA GT		
New data		I43	GTT
UIM	1052	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP-CNV: Unable to convert ITU CDPA GT		
New data		I43	GTT
UIM	1054	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rcvd inv LSS – bad SSN		
New data		I16	GTT
UIM	1107	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP XUDT(S) msg: Hop Counter violation		
New data		I43	GTT
UIM	1129	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		

Old data	Ported subs SMSC matches Home SMSC Addr		
New data		I43	GTT
UIM	1130	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	LOCREQ rcvd – IS412GSM not provisioned		
New data		I43	GTT
UIM	1179	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Cnvrsn Discard: CGPA PC alias undefined		
New data		I43	GTT
UIM	1189	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route: DPC not in RTE table		
New data		I44	GTT
UIM	1190	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rcvd inv Clg Party – bad GT ind		
New data		I43	GTT
UIM	1191	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rcvd inv Clg Party – bad Selectors		
New data		I43	GTT
UIM	1192	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP translation found: XLAT=UDTS		
New data		I44	GTT
UIM	1193	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP translation found: XLAT=DISC		
New data		I44	GTT
UIM	1195	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route: DPC/SS not in Mapset		
New data		I44	GTT
UIM	1219	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rcvd inv Cld Party – bad GT ind		
New data		I43	GTT
UIM	1221	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP rcvd inv Cld Party – no SSN		
New data		I43	GTT
UIM	1231	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		

Old data	SCCP Encode Failure 2		
New data		I43	GTT
UIM	1232	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP Encode Failure		
New data		I16	GTT
UIM	1242	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Conv to intl num – Dflt CC not found		
New data		I43	Application Subsystem
UIM	1243	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Conv to intl num – Dflt NC not found		
New data		I43	Application Subsystem
UIM	1246	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Invalid length of conditioned digits		
New data		I43	Application Subsystem
UIM	1256	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	MNP Circular Route detected		
New data		I43	Application Subsystem
UIM	1280	Format	Output Group
Action	Added for the MO-based GSM SMS NP and MO-based IS41 SMS NP features		
Old data			
New data	LSS: Unsupported SCCP msg type	I13, I 43	SYS_MAIN
UIM	1294	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Invalid digits in MAP MSISDN parameter		
New data		I43	Application Subsystem
UIM	1295	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Translation PC is Eagle’s		
New data		I43	Application Subsystem
UIM	1296	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Translation PC type is ANSI		
New data		I43	Application Subsystem
UIM	1297	Format	Output Group

Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	Invalid length of prefix/suffix digits		
New data		I43	Application Subsystem
UIM	1338	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – no PC in CgPA		
New data		I43	GTT
UIM	1339	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP did not route – no dflt Clg PC Set		
New data		I43	GTT
UIM	1341	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SRI rcvd - GSM2IS41not provisioned		
New data		I43	GTT
UIM	1344	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	MSU discarded: In-Service Thresholding		
New data		I44	GTT
UIM	1359	Format	Output Group
Action	Format enhanced if the MO-based GSM SMS NP or MO-based IS41 SMS NP feature is turned on.		
Old data	SCCP Looping Detected		
New data		I13, I43	GTT
UIM	1374	Format	Output Group
Action	Added for the MO-based GSM SMS NP and MO-based IS41 SMS NP features		
Old data			
New data	SMS NP Destination address decode failed	I13	Application Subsystem
UIM	1375	Format	Output Group
Action	Added for the MO-based GSM SMS NP and MO-based IS41 SMS NP features		
Old data			
New data	SMS NP Failed to modify TCAP message	I13	Application Subsystem
UIM	1376	Format	Output Group
Action	Added for the MO-based GSM SMS NP and MO-based IS41 SMS NP features		
Old data			
New data	SMS NP outbound digits length exceed limit	I13	Application Subsystem

SCCP Loop Detection

Table 1-8. New or Changed UIMs - SCCP Loop Detection

UIM	1359	Format	Output Group
Action	Added for the SCCP Loop Detection feature		
Old data			

New data	SCCP Looping Detected	I16, I43	SYS_MAINT

SEAS Over IP

Table 1-9. New or Changed UIMs - SEAS over IP

UIM	1360	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	Inv SR-5129 msg rcvd, Bad Src.	I73	SEAS_MAINT
UIM	1361	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	Inv SR-5129 msg rcvd, Bad Dst.	I73	SEAS_MAINT
UIM	1362	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	Inv SR-5129 msg rcvd, Bad Ver.	I73	SEAS_MAINT
UIM	1363	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	SR-5129 Err Msg rcvd Err Code 1(Bad Src)	I73	SEAS_MAINT
UIM	1364	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	SR-5129 Err Msg rcvd Err Code 2(Bad Dst)	I73	SEAS_MAINT
UIM	1365	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	SR-5129 Err Msg rcvd Err Code 3(Bad Ver)	I73	SEAS_MAINT
UIM	1366	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	SR-5129 Err Msg rcvd Err Code Other.	I73	SEAS_MAINT
UIM	1367	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	SOIP connection failed.	I74	SEAS_MAINT
UIM	1368	Format	Output Group
Action	Added for the SEAS over IP feature		
Old data			
New data	Inv SR-5129 msg rcvd, Other.	I73	SEAS_MAINT

Hardware Verification Code

The following hardware verification code is added for the IPS GPL on E5 Assembly feature.

Table 1-10. Hardware Verification Code - IPS GPL on E5 Assembly

H/W Code	145	Associated UAM	Card or Application
Action	Added for the IPS GPL on E5 Assembly feature		
Old data	Available		
New data	Daughterboard type is not a GIGEPCI	99	E5-IPSM

Unsolicited Alarm Message Format Change

Unsolicited Alarm Message (UAM) formats that are new or enhanced for Release 37.5 are shown below.

ENET

The ENET UAM format is enhanced to support the IP[7] Ethernet and SCTP Alarming enhancement.

```
       1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.yyyy zz ENET cccc,p             text
```

RTD SYSTEM

The RTD SYSTEM UAM format is enhanced to support the EAGLE Inter-card Message Integrity enhancement.

```
        1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.yyyy zz RTD SYSTEM              text
```

Unsolicited Information Message Format Change

The following Unsolicited Information Message (UIM) formats are new or enhanced for Release 37.5.

I16

An alternate version of UIM format I16 appears if the MO-based GSM SMS NP or the MO-based IS41 SMS NP feature is enabled.

```
        1         2         3         4         5         6         7         8

12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.xxxx    CARD cccc,ppp INFO      'text'
                 SIO=xx   OPC=###-###-###    DPC=###-###-###
                 CDPA LENGTH=###   MSG TYPE=##
                    GTT on CdPA used MOSMSGTA=######################
                 CDPA: AI=xx PC=###-###-###   SSN=### TT=###
                       ADDR=######################
                 LSN=[lnkset]
```

I17

An alternate version of UIM format I17 appears if the MO-based GSM SMS NP or the MO-based IS41 SMS NP feature is enabled.

```
       1         2         3         4         5         6         7         8

12345678901234567890123456789012345678901234567890123456789012345678901234567890

    xxxx.xxxx    CARD cccc,ppp INFO      'text'
                 SIO=xx   OPC=###-###-###    DPC=###-###-###
                 CDPA LENGTH=###   MSG TYPE=##
                    GTT on CdPA used MOSMSGTA=######################
```

```
                CDPA: AI=xx PC=###-###-###   SSN=### TT=###
                      ADDR=######################
                LSN=[lnkset]
```

I43

An alternate version of UIM format I43 appears if the MO-based GSM SMS NP or the MO-based IS41 SMS NP feature is enabled.

```
          1         2         3         4         5         6         7         8

12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.xxxx     CARD cccc,ppp INFO      'text'
                  SIO=xx   OPC=###-###-###    DPC=###-###-###
                  CDPA LENGTH=###   MSG TYPE=##
                     GTT on CdPA used MOSMSGTA= ######################
                  CDPA: AI=xx PC=###-###-###   SSN=### TT=###
                        ADDR=######################
                  LSN=[lnkset]
```

I44

An alternate version of UIM format I44 appears if the MO-based GSM SMS NP or the MO-based IS41 SMS NP feature is enabled.

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.xxxx     CARD cccc,ppp INFO      'text'
                  TRANSLATED PC=&&-###-###-###    TRANSLATED SS=###
                     GTT on CdPA used MOSMSGTA= ######################
                  CDPA:  NI=#  RI=@  GTI=##  SSNI=@  PCI=@
                         TT=###  NP=##  NAI=###  ADDR=######################
                         PC=&&-###-###-###    SSN=###
                  CGPA:  NI=#  RI=@  GTI=##  SSNI=@  PCI=@
                         TT=###  NP=##  NAI=###  ADDR=######################
                         PC=&&-###-###-###    SSN=###
                  LSN=[lnkset]   GTTSET=# (#)
```

I70

UIM format I70 is enhanced to support the EAGLE Inter-Card Message Integrity enhancement.

```
         1         2         3         4         5         6         7         8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.xxxx      CARD cccc,pppp INFO   "TEXT"
                   SIO=xx   OPC=&&-###-###-###    DPC=&&-###-###-###
                   DATA=xx xx xx xx xx xx xx xx xx xx xx xx
                        xx xx xx xx xx xx xx xx xx xx xx xx
                   Source Loc: cccc                   Destination loc:
cccc
```

I73

UIM format I73 is enhanced to support the SEAS Over IP feature.

```
         1         2         3         4         5         6         7         8

12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.xxxx     SYSTEM        INFO     'text'
                  Terminal = ##
                  Name =  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  (optional)
                  Ver = xxxx   (optional)
```

I74

UIM format I74 is enhanced to support the SEAS Over IP feature.

```
       1         2         3         4         5         6         7         8

12345678901234567890123456789012345678901234567890123456789012345678901234567890
    xxxx.xxxx    SYSTEM        INFO     'text'
                 Terminal = ##
                 IPADDR = xxxxxxxxxxxxxxx
                 PORT = xxxx
```

Error Messages

New or enhanced error messages for the features that are available in Release 37.5 are shown below.

EAGLE Inter-card Message Integrity

Table 1-11. Error Messages - EAGLE Inter-card Message Integrity

Response ID Code	Error Message	New?	Used by Command
E2017	<parm_desc> is out of range, <min>..<max> - <parm>	N	**rept-stat-rtd**
E2025	Invalid card location	Y	**rept-stat-rtd**
E2044	<parm_desc> value is undefined - <parm>	N	**rept-stat-rtd**
E2051	Incorrect information unit, expecting number - <parm>	Y	**rept-stat-rtd**
E2144	Location invalid for hardware configuration	N	**rept-stat-rtd**
E2212	Invalid card type for this command	N	**rept-stat-rtd**
E2387	Card is not in service	N	**rept-stat-rtd**
E3799	FORCE=YES must be specified	N	**rept-stat-rtd**

IP^7 Ethernet and SCTP Internet Alarming

Table 1-12. Error Messages - IP^7 Ethernet and SCTP Internet Alarming

Response ID Code	Error Message	New?	Used by Command
E2131	Parameters not valid for card type	Y	**inh/unhb-alm**
E2903	LOC and PORT parameter combination must be specified	N	**inh/unhb-alm**
E2950	PORT parameter invalid for DEV selected	Y	**inh/unhb-alm**

IPS GPL on E5 Assembly

Table 1-13. Error Messages - IPS GPL on E5 Assembly

Response ID Code	Error Message	New?	Used by Command
E4094	IPSM card has Critical Thermal Alarm	Y	**alw-trm**

MO-based GSM SMS NP

Table 1-14. Error Messages - MO-based GSM SMS NP

Response ID Code	Error Message	New?	Used by Command
E3474	MO SMS must be ON or MO-based SMS NP must be enabled	N	**ent/chg-srvsel** **ent/dlt-home-smsc**
E4102	At least one feature that requires MPS must be ON	N	**rept-stat-db** **rept-stat-mps**
E4371	GPORT feature must be enabled	Y	**enable-ctrl-feat**
E4446	MO-based GSM SMS NP must be enabled	Y	**chg-gsmopts**
E4761	MOSMSGTA must be set	Y	**chg-gsmopts**

MO-based IS41 SMS NP

Table 1-15. Error Messages - MO-based IS41 SMS NP

Response ID Code	Error Message	New?	Used by Command
E3474	MO SMS must be ON or MO-based SMS NP must be enabled	N	**ent/chg-srvsel** **ent/dlt-home-smsc**
E4102	At least one feature that requires MPS must be ON	N	**rept-stat-db** **rept-stat-mps**
E4433	APORT must be enabled	Y	**enable-ctrl-feat**
E4561	MO-based IS41 SMS NP must be enabled	Y	**chg-is41opts** **ent/chg-srvsel**
E4700	APORT must be ON	Y	**enable/chg-ctrl-feat**

Multiple Linksets to Single Adjacent PC

Table 1-16. Error Messages - Multiple Linksets to Single Adjacent PC

Response ID Code	Error Message	New?	Used by Command
E2341	May not change adjacent point code type	N	**chg-ls**
E2858	SLSCI is invalid for X25 link sets	N	**ent/chg-ls**
E3814	SPC does not exist	N	**ent/chg-ls**
E3821	SPC & DPC must be the same network type	N	**ent/chg-ls**
E3822	SPC must be a full point code	N	**ent/chg/rtrv-ls**
E4162	Unsupported card TYPE	Y	**ent-card**
E4631	Multiple Linksets to Single APC feature must be ON	Y	**ent/chg/rept-stat/rtrv-ls**
E4632	Maximum of 6 linksets to a single Adjacent PC	Y	**ent/chg-ls**
E4633	SPC may not be referenced in the STP's linkset table	Y	**dlt-spc**
E4634	No change in APC actually requested	Y	**chg-ls**
E4635	No change in SPC actually requested	Y	**chg-ls**
E4636	SPC may not exist as an SPC in the route table for the APC	Y	**ent/chg-ls**

Response ID Code	Error Message	New?	Used by Command
E4637	APC has no assigned linksets	Y	**rept-stat/rtrv-ls**
E4638	SPC may not exist as an SPC in the linkset table for the DPC	Y	**chg-dstn**
E4639	Only 1 IPGW linkset supported by a single APC	Y	**ent/chg-ls**
E4669	SPC parameter is not supported by IPGW linksets	Y	**ent/chg-ls**
E4729	Linkset APC/PPC pair is already being used	Y	**ent/chg-ls**
E4758	Linkset types must match for all linksets to the same APC	Y	**ent/chg-ls**
E4760	Linkset APC/SPC pair is already being used	Y	**ent/chg-ls**

Proxy Point Code

Table 1-17. Error Messages - Proxy Point Code

Response ID Code	Error Message	New?	Used by Command
E4162	Unsupported card TYPE	Y	**ent-card**
E4563	IPGW linksets not supported for proxy destinations	Y	**chg-dstn**
E4684	Allowed Proxy PC capacity exceeded	Y	**chg-dstn**
E4685	PPC referred by other entities	Y	**chg/dlt-dstn**
E4677	PRX allowed only if PPC feature is activated	Y	**ent/chg/rtrv-dstn**
E4678	PPC allowed only if PPC feature is activated	Y	**ent/rtrv-dstn** **ent/rtrv-ls**
E4679	Domain must be SS7 if Proxy PC is specified	Y	**ent-dstn**
E4680	Domain must be SS7 if prx is specified as yes	Y	**ent-dstn**
E4681	SPC and PPC are mutually exclusive	Y	**ent-dstn**
E4682	PPC and DPC must be of the same network type	Y	**ent-dstn**
E4683	Group code of PPC and DPC must match	Y	**ent-dstn**
E4684	Allowed Proxy PC capacity exceeded	Y	**ent/chg-dstn**
E4685	PPC referred by other entities	Y	**chg/dlt-dstn**
E4686	PPC not supported for IPGWx DPC	Y	**ent-dstn**
E4687	PRX=YES not supported for IPGWx DPC	Y	**ent-dstn**
E4688	LST=PRX if & only if APC uses PPC in route(dstn) table	Y	**ent/chg-ls**
E4689	PPC must be specified if and only if linktype is PRX	Y	**ent-ls**
E4690	Cannot use one PPC for more than 10 linksets	Y	**ent-ls**
E4691	Two point codes must not refer each other as PPC	Y	**ent-ls**
E4692	One LS must use PPC assigned to APC in route(dstn) table	Y	**ent/dlt-ls**
E4693	Command not allowed for proxy links	Y	**act/canc-lpo** **blk/unblk-slk**
E4694	APC must not use SPC and PPC together	Y	**ent-ls**
E4695	LST=PRX is valid only if PPC feature is enabled	Y	**ent/rtrv-ls**
E4696	PPC must be a full point code	Y	**ent/rtrv-ls**
E4697	PPC and APC must be of the same network type	Y	**ent-ls**
E4698	Group code of PPC and APC must match	Y	**ent-ls**
E4699	Parameter cannot be specified for proxy linksets	Y	**chg-ls**
E4707	PRX using DPC not allowed in GTT, MAP, MRN tables	Y	**ent/chg-gta**

Response ID Code	Error Message	New?	Used by Command
			ent/chg-gtt **ent/chg-map** **ent/chg-mrn**
E4708	One route must use PPC assigned in route(dstn) table	Y	**ent/chg/dlt-rte**
E4713	PRX using DPC not allowed in GSM tables	Y	**ent/chg-gsmmap-scrn** **ent/chg-gsms-opcode**
E4714	PPC not supported for IPGW Linksets	Y	**ent-ls**
E4722	PPC not supported for Private PC	Y	**ent-dstn**
E4723	PRX=YES not supported for Private PC	Y	**ent/chg-dstn**
E4724	Proxy PC not defined in route(dstn) table	Y	**ent-dstn** **ent/rtrv-ls**
E4726	Linkset Type for Network/Cluster Route can't be PRX	Y	**ent/chg-rte**
E4727	SPC cannot be assigned to entry that uses PPC	Y	**chg-dstn**
E4729	Linkset APC/PPC pair is already being used	Y	**ent-ls**
E4730	Maximum Proxy PC capacity exceeded	Y	**ent/chg-dstn**
E4731	Cluster DPCs can't inherit PRX linkset type	Y	**ent-dstn**

SCCP Loop Detection

Table 1-18. Error Messages - SCCP Loop Detection

Response ID Code	Error Message	New?	Used by Command
E2447	The specified value of NUM must not exceed the maximum table size	Y	**rtrv-loopset**
E3177	Force equals “yes” must be specified if NUM is greater than 50	Y	**rtrv-loopset**
E4561	The LOOPSET name specified must exist in the Loop Set table.	Y	**ent/chg-gta**
E4562	If a LOOPSET name is specified, the SCCP Loop Detection feature must be enabled.	Y	**ent/chg-gta**
E4563	LOOPSET table must be accessible	Y	**ent/chg-gta**
E4565	SCCP Loop Detection feature is not enabled	Y	**ent/chg/dlt/rtrv-loopset**
E4566	Loopset table is full	Y	**ent/chg-loopset**
E4567	Cannot access loopset table	Y	**ent/chg/dlt/rtrv-loopset**
E4568	Loopset entry does not exist	Y	**chg/dlt/rtrv-loopset**
E4569	Cannot delete loopset if it is being used by GTT	Y	**dlt-loopset**
E4570	Point code used by GTT force parameter required	Y	**dlt-loopset**
E4571	Loopset has maximum number of PCs assigned	Y	**chg-loopset**
E4572	The replacing point code list parameter requires the use of the force parameter if GTT is using the set	Y	**chg-loopset**
E4573	Cannot use the PC2 parameter without using the PC1 parameter	Y	**chg-loopset**
E4574	New PC1/PC2 parameter requires the use of PC1/PC2 parameter	Y	**chg-loopset**
E4575	Replacing and appending point code lists are mutually exclusive	Y	**chg-loopset**
E4576	Individual point code parameters (PC1/PC2) cannot be used with either of the point code list parameters	Y	**chg-loopset**

Response ID Code	Error Message	New?	Used by Command
E4577	Loopset entry already exists	Y	**ent-loopset**

SEAS Over IP

Table 1-19. Error Messages - SEAS Over IP

Response ID Code	Error Message	New?	Used by Command
E2039	<parm_desc> too long, min <min>, max <max> - <parm>	N	**chg-ctrl-feat**
E2320	TYPE can only be set to TELNET, SEAS, EMSALM or NONE	N	**chg-trm**
E3631	IPADDR and PORT combination cannot be same for both IPMRs	Y	**chg-seas-config**
E4351	Telnet Feature must be enabled	Y	**enable-ctrl-feat**
E4452	SOIP feature can't be turned ON if IPUI feature is not ON	Y	**chg-ctrl-feat**
E4453	SOIP feature must be ON	Y	**alw/rst-trm**
E4472	The IP Addr of E5-IPSM corresponding to SEAS Trm must be set	Y	**alw/rst-trm** **chg-ctrl-feat**
E4473	CONN parameter required with IPADDR, PORT, LOGIN and HNAME	Y	**chg-seas-config**
E4474	SEASCLLI must be set	Y	**alw/rst-trm** **chg-ctrl-feat**
E4477	Terminal cannot be changed to type SEAS	Y	**chg-trm**
E4478	Force must be specified to inhibit the last SEAS terminal	Y	**inh-card** **inh/rmv-trm**
E4481	SOIP Feature is ON	Y	**act-oap-config** **init-oap** **chg-ctrl-feat**
E4518	SEAS output group cannot be turned OFF for SEAS terminal	Y	**chg-trm**
E4613	Failed Reading SEASCFG Table	Y	**chg/rtrv-seas-config** **rept-stat-seas**
E4614	SOIP Must be Enabled	Y	**chg-ctrl-feat** **chg/rtrv-seas-config** **chg-trm**
E4615	SEAS Terminal Not Inhibited	Y	**chg-seas-config** **chg-trm**
E4616	SEAS Terminal not configured	Y	**chg-ctrl-feat**
E4617	SEAS terminal is Auto- Inhibited	Y	**alw/rst-trm**
E4619	Failed Reading IPTERM Table	Y	**chg-trm**
E4620	E5 IPSM Card is not Present	Y	**chg-trm** **chg-ctrl-feat**
E4672	Login, Password, and Host must be set in SEASCFG	Y	**chg-ctrl-feat**
E4673	CCSMR Server password must be 1 - 15 characters in length	Y	**chg-seas-config**

Response ID Code	Error Message	New?	Used by Command
E4772	IPADDR and PORT combination cant be same for both the CCSMRs	Y	`chg-seas-config`

Non-Feature Error Messages

The following error messages are new for Release 37.5. However, they are not associated with a specific feature.

NOTE: Error Message 4635 was added to the `chg-ls` command as part of the Multiple Linksets to a Single Adjacent PC feature. The addition of the message to the `chg-dstn` command is not associated with this feature.

Table 1-20. Error Messages - Non-Feature

Response ID Code	Error Message	New?	Used by Command
E4635	No change in SPC actually requested	N	`chg-dstn`
E4660	No change in RC actually requested	Y	`chg-rte`
E4787	SPARE ITU-INTL site id not defined	Y	`ent-dstn`
E4788	SPARE ITU-NATL site id not defined	Y	`ent-dstn`

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**.

A complete list and schedule of open enrollment can be found at **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*

- 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.

Once 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

Table 1-21 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 37.5, 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 1-21. 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	870-1008-02 870-1008-03 870-1008-04 870-1008-05	acmenet	2	1	1 IP Service	stplan imt	stplan
DCM	870-1945-01 870-1945-02 870-1945-03 870-1984-01	dcm	2	2	1 IP Service	bpdcm ebdadcm vwxslan	ebdadcm stplan
				2	2	bpdcm iplim iplimi	iplim iplimi
				2	1	bpdcm ss7ipgw ipgwi	ss7ipgw ipgwi
		stc	2	2	2 IP Service	bpdcm eroute	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)	870-2508-01 870-2508-02^	dcm	1	2	1 IP Service	bpdcm vwxslan	stplan
		stc	1	2	2 IP Service	bpdcm eroute	eroute
DSM†	1 GB MEM 870-1984-02	dsm	2	2	2 IP service	bpdcm vsccp	vsccp

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-1984-08 870-1984-09 870-1984-15^ 870-1984-17^ 2 GB MEM 870-1984-03 4 GB MEM 870-1984-05 870-1984-06 870-1984-07 870-1984-13^ 870-1984-16^					gls	gls
DSM-1G	870-2371-02 870-2371-06 870-2371-08 870-2371-13^	ipsm	1	2 (use only A)	1 IP service	bpdcm ips	ips
EDSM-2G*	870-2372-03 870-2372-07 870-2372-09 870-2372-14^	mcpm	1	2 (use only A)	1 IP service	bpdcm 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 bpmplt	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-E1T1	870-1873-02	lime1 limt1	1	8	32	ss7epm blbepm bldiag6 blvxw6 imtpci	ss7ansi ccs7itu
		lime1 (for SE-HSL)	1	8	1		ccs7itu

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-1873-03^					pldpmc1 blcpld	
E5-ENET	870-2212-02 870-2212-03^	dcm	1	2	16	bldiag6 blbepm iplhc imtpci blvxw6 blcpld	iplim iplimi
			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
E5-IPSM	870-2877-01	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	vsccp

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^					imtpci 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
GPSM-II	870-2360-01 870-2360-05 870-2360-06 870-2360-08^	N/A	1	N/A	N/A	eoam bpdcm	oam
HC-MIM††	870-2671-01 870-2671-02 870-2671-03^	lime1 limt1	2	8	64	ss7hc blbios blcpld blvxw bldiag pldpmc1 imtpci	ss7ansi ccs7itu
		lime1 (for SE-HSL)		8	2		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
ILA	870-1484-01 870-1484-02	limds0 limocu limv35	1	2	1	ss7ansi ss7gx25 ccs7itu imt	ss7ansi ss7gx25 ccs7itu
LIM-AINF**	870-1014-01	limds0	1	2	1	ss7ansi	ss7ansi

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-1014-02 870-1014-03 870-1014-04 870-1014-05 870-1014-06 870-1488-01 870-1488-02 870-1488-03 870-1488-04 870-1488-05 870-1488-06	limocu limv35				ss7gx25 ccs7itu imt	ss7gx25 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-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

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
LIM-V.35	870-1012-02 870-1012-03 870-1012-04 870-1487-01 870-1487-02 870-1487-03	limv35	1	2	2	ss7ansi ss7gx25 ccs7itu imt	ss7ansi 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 ebdablm imt	sccp gls ebdablm
TSM-512	870-1290-02 870-1290-03 870-1290-04	tsm	1	N/A	N/A	sccp gls ebdablm imt	sccp gls ebdablm
TSM-768	870-1291-02 870-1291-03 870-1291-04	tsm	1	N/A	N/A	sccp gls ebdablm imt	sccp gls ebdablm
TSM-1024	870-1292-02	tsm	1	N/A	N/A	sccp	sccp

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-1292-03 870-1292-04					gls ebdablm imt	gls ebdablm

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

**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.

†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.

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

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

^This part number is the ROHS equivalent of the immediately preceding part number.

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 .

Table 1-22. Feature Restrictions

Feature Name	Part Number	Restricted on Card...
AINPQ	893-0178-01	E5-SM4G
A-Port	893-0166-01	DSM (if less than 4G), E5-SM4G, TSM-256, TSM-512, TSM-768, TSM-1024,
EIR	893-0123-01	E5-SM4G
G-Flex	971-3055-01 - 971-3055-50	E5-SM4G
G-Port	893-0172-01	E5-SM4G
INP	893-0179-01	E5-SM4G
IS41 GSM Migration	893-0173-01	DSM (if less than 4G), E5-SM4G, TSM-256, TSM-512, TSM-768, TSM-1024
Large System # Links, Quantity 2000	893-0059-01	ACM, EILA, EILA-T, ILA, LIM-AINF, LIM-DS0, LIM-E1, LIM-OCU, LIM-V.35, TSM-256, TSM-268, TSM-1024
LNP Ported TNs (204 million, 216 million, 228 million)	893-0110-21 893-0110-22 893-0110-23	E5-SM4G
Multiple Linkset to Single APC	893-0181-01	ACM, EILA, EILA-T, ILA, LIM-AINF, LIM-DS0, LIM-E1, LIM-OCU, LIM-V.35, TSM-256, TSM-268, TSM-1024
Origin Based MTP Routing	893-0142-01	ACM, EILA, EILA-T, ILA, LIM-AINF, LIM-DS0, LIM-E1, LIM-OCU, LIM-V.35, TSM-256, TSM-268, TSM-1024
Origin Based SCCP Routing	893-0142-01	ACM, EILA, EILA-T, ILA, LIM-AINF, LIM-DS0, LIM-E1, LIM-OCU, LIM-V.35, TSM-256, TSM-268, TSM-1024

Feature Name	Part Number	Restricted on Card...
Prepaid IDP Query Relay	893-0160-01	E5-SM4G
Prepaid SMS Intercept Ph1	893-0067-01	E5-SM4G
Proxy Point Code	893-0187-01 893-0187-02 893-0187-03 893-0187-04 893-0187-05 893-0187-06 893-0187-07 893-0187-08 893-0187-09 893-0187-10	E5-SM4G

Hardware Baseline

The Hardware Baseline for EAGLE 5 ISS Release 37.5 is shown in the following table.

Table 1-23. Release 37.5 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		

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	
DCMX	870-1984-01 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	870-2372-14 Rev A	
E1-ATM	870-2455-01 Rev B		
	870-2455-02 Rev B		
	870-2455-03 Rev A	870-2455-05 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	
E5-E1T1	870-1873-02 Rev A	870-1873-03 Rev A	
E5-ENET	870-2212-02 Rev A	870-2212-03 Rev A	
E5-IPSM	870-2877-01 Rev A		
E5-SM4G		870-2860-01 Rev F or	
		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		
FAP	870-1606-01 Rev A or		Standard frame or standard frame with HC-MIMs
	870-1606-02 Rev A	870-1606-5 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		
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		

Component	Part Number	ROHS Number (if applicable)	Required for
GPSM-II	870-2360-01 Rev E		
	870-2360-05 Rev A		
	870-2360-06 Rev A	870-2360-08 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		
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	870-1012-02 Rev D or		
	870-1012-03 Rev A or		
	870-1012-04 Rev A		

Component	Part Number	ROHS Number (if applicable)	Required for
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 EPAP	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	
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	
PCI Card - Dual Port Ethernet	870-2706-02 Rev A	870-2706-04 Rev A	

Component	Part Number	ROHS Number (if applicable)	Required for
Hard Disc Drive - 250 GB SATA	870-2787-01 Rev A	870-2787-02 Rev A	
2 GB RAM Kit	870-2833-01 Rev A	870-2833-02 Rev A	

Glossary

A

ACM	Address Complete Message
ACM	*Application Communications Module*
AINF	Application Interface Appliqué
ATM	Asynchronous Transfer Mode

C

CCS7ITU	The generic program load and application for the ITU SS7 signaling links that is used with card types **`limds0, limch, limocu, limv35, lime1, and limt1`**.
CLLI	Common Language Location Identifier
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.
DPC	Destination Point Code The point code of the signaling point to which the MSU is routed. This point code can be adjacent to the EAGLE 5 ISS, but does not have to be.
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).

EDCM	Enhanced DCM
EDCM	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
GTT	Global Title Translation.

H

HC-MIM	High Capacity Multi-Channel Interface Module
HIPR	High-Speed IMT Packet Router
HMUX	High-Speed Multiplexer

I

ILA	Integrated LIM Appliqué
INP	INAP-based Number Portability
INP	Intelligent Network (IN) Portability
INP	INAP-based Number Portability
IP	Intelligent Peripheral
IP	Internet Protocol
IP^7	Tekelec's Internet Protocol to SS7 Interface
IPS	Internet Protocol Services
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.
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

M3UA	SS7 MTP3-User Adaptation Layer
MCPM	Measurement Collection and Polling Module
MDAL	Maintenance Disk and Alarm Card
MIM	Multi-Channel Interface Module
MO	Magneto Optical
MO	Managed Object
MO	Mobile Originated
MPL	Multi-port LIM
MSU	Message Signaling Unit
MTP	Message Transfer Part
MTP	Module Test Plan

N

NP	Number Plan
NP	Numbering Plan
NP	Number Portability

O

OPC	Originating Point Code

P

PPC	Private Point Code.
PPSMS	Prepaid Short Message Service
PPSMS	Prepaid Short Message Service Intercept

S

SCCP	Signaling Connection Control Part
SE-HSL	Synchronous E1 High Speed Link
SLS	Signaling Link Selector
SLTA	Signaling Link Test Acknowledgment
SLTC	Signaling Link Test Controller
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
STP	Signal Transfer Point.

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.
TDM	Terminal Disk Module.
TSM	Translation Service Module
TSM	Translation Services Module

V

V.35	ITU Interface Recommendation, V.35 The interface used with the LIMV35 card.