

Tekelec EAGLE[®] 5 Integrated Signaling System

Release 41.0

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; 7,260,086; 7,260,207; 7,283,969; 7,286,516; 7,286,647; 7,286,839; 7,295,579; 7,299,050; 7,301,910; 7,304,957; 7,318,091; 7,319,857; 7,327,670

Foreign Patent Numbers:

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

Ordering Information

Your Tekelec Sales Representative can provide you with information about how to order additional discs.

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EAGLE 5 ISS Release 41.0

Feature Content

Introduction

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

This Feature Notice includes a brief overview of the features included in this release, provides the hardware baseline, and explains how to find the Release Notice and other customer documentation on the Customer Support Site.

Feature Notice Updates

Revision C of the Feature Notice contains updates to the content in Revision B.

- [Using the `init-card` Command to Reset Service Module Cards](#) on page 42
A caution is placed, regarding using the `init-card` command to reset more than 8 Service Module cards at once.
- [FTRA Enhancements \(SIGTRAN\)](#) on page 29
The FTRA feature is enhanced to add support for IP tables.
- 6-Way Loadsharing on Routesets: Updated [Limitations](#) on page 9
- Flexible Link set Optional Based Routing: Added [Measurements](#) on page 12. Updated [Commands](#) on page 9.
- 2-Port LIM Obsolescence: Added [Commands](#) on page 31. Updated the description of the enhancement.
- [TIF Enhancements including IAM/SAM Splitting based on DPC](#) on page 39: Updated description
- EAGLE Dynamic Database Enhancement: Updated [Commands](#) on page 27
- Support Provisioning of SCTP ARHOST: Added [Commands](#) on page 31
- Support for 16 GTT Lengths in VGTT: Updated [Commands](#) on page 13
- Support for IPSG M3UA and SCTP Graceful Shutdown: Updated [Commands](#) on page 14
- Synchronous T1 High Speed Link: Updated [Commands](#) on page 17
- [Update to the `alw-card` Command](#) on page 41
The `alw-card` command is enhanced to allow the MASP and associated GPL to be downloaded from the inactive partition of the TDM during upgrade.
- [Update to the `rtrv-gws-redirect` Command](#) on page 41
The output format of the `rtrv-gws-redirect` command is enhanced.
- [Update to the `rtrv-ss7opts` Command](#) on page 41
The `rtrv-ss7opts` command is enhanced to remove FAK dependency.
- Removal of [Hardware Verification Codes](#) on page 46
- Updated [Unsolicited Information Messages](#) on page 42

- Updated [UIM Format Updates](#) on page 45
- Updated [Error Messages](#) on page 46

New Features

Features that are introduced in Release 41.0 include:

- [6-Way Loadsharing on Routesets](#) on page 8
The 6-Way Loadsharing on Routesets feature allows loadsharing across all 6 routes to a destination or exception route.
- [Flexible Link set Optional Based Routing](#) on page 9
The Flexible Link set Optional Based Routing feature allows GTT routing to be based on the incoming linkset.
- [Support for 16 GTT Lengths in VGTT](#) on page 13
The VGTT feature is enhanced to allow provisioning of 16 different GTT digit lengths per translation type in a GTT set.
- [Support for IPSP M3UA and SCTP Graceful Shutdown](#) on page 14
The Support for IPSP M3UA and SCTP Graceful Shutdown feature allows graceful shutdown to occur for an M3UA association on E5-ENET cards running the **ipsp** application.
- [Synchronous T1 High Speed Link](#) on page 16
The Synchronous T1 High Speed Link feature adds support for a high-speed link on an unchannelized T1 card.
- [TCAP Opcode Based Routing](#) on page 20
The TCAP Opcode Based Routing feature allows GTT routing to be based on information in the TCAP portion of the messages or on the SCCP Called Party Subsystem Number.
- [TIF Number Substitution](#) on page 22
The TIF Number Substitution feature allows called party and calling party numbers on an incoming Initial Address Message to be substituted with associated numbers from the EPAP on the outgoing message.

Core Enhancements

Core enhancements to the EAGLE 5 ISS that are introduced in Release 41.0 include:

- [Eagle Dynamic Database Enhancement - Phase 1](#) on page 27
Audits can be conducted on the dynamic database. These audits can be configured to occur at set intervals or can be manually triggered.
- [Enhancement to support 8 bits in incoming SLS bit rotation feature for ANSI links](#) on page 29
The SLS Bit Rotation by Incoming Linkset feature is enhanced to allow the rotation algorithm to support 5 or 8 bits for ANSI links.
- [Maintenance Phase for 2-Port LIM, ACM, TSM for SCCP functionality](#) on page 30
All 2-port LIM, ACM, and TSM cards (running the **sccp** functionality) must be removed before the EAGLE 5 ISS system can be upgraded to Release 41.0.
- [Support Provisioning of SCTP ARHOST](#) on page 31

An alternate remote address can be configured for use when the far end of an association is multi-homed and the primary remote address is not available.

- [TIF Enhancements including IAM/SAM Splitting based on DPC](#) on page 39

The Triggerless ISUP Framework (TIF) ITU Initial Address Message (IAM) processing is enhanced to allow IAM/SAM splitting, generation of Release messages based on the originating point code, and resetting the NM bits to 00.

- [Update to the rept-stat-user Command](#) on page 41

The output format of the `rept-stat-user` command is updated to increase the spacing.

- [Update to the tst-e1 Command](#) on page 42

The `tst-e1` command is updated to support additional loopback options.

6-Way Loadsharing on Routesets

The 6-Way Loadsharing on Routesets feature allows loadsharing across all 6 routes to a destination or exception route.

Feature Control Requirements

Feature control requirements for the 6-Way Loadsharing on Routesets feature include:

- A FAK for part number 893-0198-01
- A temporary FAK cannot be used to enable the feature.
- The feature cannot be turned off after it has been turned on.

Hardware Requirements

None.

Commands

For more information on the commands that are enhanced to support the 6-Way Loadsharing on Routesets feature, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable, turn on, and display the status of the 6-Way Loadsharing on Routesets feature.

```
rtrv-ctrl-feat
```

```
rlghncxa03w 09-04-19 16:40:40 EST EAGLE 41.0.0

The following features have been permanently enabled:
Feature Name          Partnum  Status  Quantity
HC-MIM SLK Capacity   893012707 on      64
Command Class Management 893005801 on      ----
LNP Short Message Service 893006601 on      ----
Prepaid SMS Intercept Ph1 893006701 on      ----
Intermed GTT Load Sharing 893006901 on      ----
MNP Circ Route Prevent  893007001 on      ----
XGTT Table Expansion    893006101 on      400000
XMAP Table Expansion    893007710 on      3000
```

```
6-Way LS on Routesets      893019801  on      ----
;
```

- `ent/chg/rtrv-rte`—Enhanced to allow provisioning of up to 6 routes with the same relative cost.
- `ent/chg/rtrv-rtx`—Enhanced to allow provisioning of up to 6 routes with the same relative cost for a given exception route criteria.

Limitations

The 6-Way Loadsharing on Routesets feature does not support IPGWx destinations.

Flexible Link set Optional Based Routing

The Flexible Link set Optional Based Routing (FLOBR) feature allows GTT routing to be based on the incoming linkset. Messages that encounter GTT are routed based on the incoming linkset of the original MSU. MSUs that are generated by the EAGLE 5 ISS use a separate set of GTT selector entries.

The FLOBR feature also allows full customization of the GTT routing hierarchy. If flexible routing is used, then a predetermined routing hierarchy is not necessary. The GTT routing translation can link to any GTT set as long as the GTT set has a different set type.

The capacity of the GTT selector table is increased to support 100,000 GTT selectors.

Feature Control Requirements

Feature control requirements for the FLOBR feature include:

- FAK for part number 893-0277-01
- The Enhanced GTT feature must be turned on before the FLOBR feature can be enabled.
- A temporary FAK cannot be used to turn on the feature.
- After the feature is turned on, it cannot be turned off.

Hardware Requirements

The FLOBR feature requires an E5-SM4G or higher card.

Commands

For more information on the commands that are added or enhanced to support the FLOBR feature, refer to the *Commands Manual* of the EAGLE 5 ISS Release 41.0 documentation set.

- `enable/chg/rtrv ctrl-feat`—Enhanced to enable and turn on the FLOBR feature.

```
rtrv-ctrl-feat
```

```
rlghncxa03w 09-03-19 16:40:40 EST  EAGLE 41.0.0
```

```
The following features have been permanently enabled:
Feature Name      Partnum  Status  Quantity
HC-MIM SLK Capacity  893012707  on      64
```

```

Command Class Management 893005801 on ----
LNP Short Message Service 893006601 on ----
Prepaid SMS Intercept Ph1 893006701 on ----
Intermed GTT Load Sharing 893006901 on ----
MNP Circ Route Prevent 893007001 on ----
XGTT Table Expansion 893006101 on 400000
XMAP Table Expansion 893007710 on 3000
TCAP Opcode Based Routing 893027801 on ----
Flex Lset Optnl Based Rtg 893027701 on ----
VGTT with 16 GTT lengths 893024801 on ----

```

;

Note: This example also displays output for the TCAP Opcode Based Routing and Support for 16 GTT Lengths in VGTT features.

- ent/chg/dlt/rtrv-gta—Enhanced to support flexible routing parameters. The set name parameters are obsoleted and replaced with the optsn parameter.

```
rtrv-gta:gttsn=setans006
```

```

tekelecstp 09-03-19 16:20:44 EST EAGLE 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
setans006  ansi     CDGTA    6
GTT TABLE IS 1 % FULL (3 of 269999)

START GTA END GTA  XLAT  RI  PCA
123456 123456 DPC   GT  001-001-002
MRNSET=NONE SSN=--- CCGT=no NTT=--- CGGTMOD=NO
NNP= NNAI= NSDD=10 NSDS=9876543210
NGTI=
LOOPSET = none FALLBACK=Yes TESTMODE=on
OPTSN=----- CGSELID=456 CDSELID=----- OPCS=setopc001

```

;

- ent/chg/dlt-rtrv-gtt —Enhanced to support GTT design changes.
- ent/chg/dlt/rtrv-gttset —Enhanced to support routing on the linkset or selector ID.

Example 1 displays all of the GTT selectors.

```
rtrv-gttset
```

```

sccprte 09-02-15 14:31:52 EST EAGLE 41.0.0

GTI
ANSI TT NP      NAI  SSN SELID LSN      CDPA      CGPA
GTTSET      GTTSET
2 5 -- --- any none lsa03  opc1 (opc ) cgssn2 (cgssn)
2 5 -- --- 202 1234 any ----- (--- ) cggta1 (cggta)
2 5 -- --- any none any  cdgta1 (cdgta) cggta1 (cggta)
2 15 -- --- --- none Eagle-Gen cdgta2 (cdgta) ----- (--- )
2 15 -- --- 202 1234 lsa02 ----- (--- ) cgssn1 (cgssn)
2 101 -- --- --- none any  setans101(cdgta) ----- (--- )
2 102 -- --- --- none any  a102 (cdgta) ----- (--- )
2 202 -- --- --- none any  a102 (cdgta) ----- (--- )

GTI
INTL TT NP      NAI  SSN SELID LSN      CDPA      CGPA
GTTSET      GTTSET
2 17 -- --- --- none Eagle-Gen icdgta1 (cdgta) ----- (--- )
2 101 -- --- --- none any  setint101(cdgta) ----- (--- )
2 102 -- --- --- none any  int102 (cdgta) ----- (--- )
2 222 -- --- --- none any  int102 (cdgta) ----- (--- )
4 101 dflt dflt --- none any  setint101(cdgta) ----- (--- )
4 102 dflt dflt --- none any  int102 (cdgta) ----- (--- )
4 222 dflt dflt --- none any  int102 (cdgta) ----- (--- )
4 253 11 126 102 5678 any ----- (--- ) icgpc2 (cgpc )
4 253 11 15 any 5678 lsint02 icgssn2 (cgssn) iopc2 (opc )

GTI
NATL TT NP      NAI  SSN SELID LSN      CDPA      CGPA
GTTSET      GTTSET
2 103 -- --- --- none any  setnat103(cdgta) ----- (--- )

```

```

2    104 --    --- --- none any      n104      (cdgta) ----- (--- )
2    204 --    --- --- none any      n104      (cdgta) ----- (--- )
4    18  f69    5    --- none Eagle-Gen icdgta1   (cdgta) ----- (--- )
4    103 dflt  dflt --- none any      setnat103 (cdgta) ----- (--- )
4    104 dflt  dflt --- none any      n104      (cdgta) ----- (--- )
4    204 dflt  dflt --- none any      n104      (cdgta) ----- (--- )

GTI          CG          CDPA          CGPA
N24 TT NP    NAI  SSN SELID LSN      GTTSET      GTTSET
2    2  --    --- --- none any      n24        (cdgta) ----- (--- )
2    124 --    --- --- none any      n24        (cdgta) ----- (--- )
2    224 --    --- --- none any      set24n224 (cdgta) ----- (--- )
4    2  dflt  dflt --- none any      n24        (cdgta) ----- (--- )
4    19  f69    5    --- none Eagle-Gen icdgta1   (cdgta) ----- (--- )
4    124 dflt  dflt --- none any      n24        (cdgta) ----- (--- )
4    224 dflt  dflt --- none any      set24n224 (cdgta) ----- (--- )
;

```

- ent/chg/dlt/rtrv-ls—Enhanced to support the FLOBR GTT Mode hierarchies.
- ent/chg/dlt/rtrv-tt—Enhanced to support GTT design changes.
- chg/rtrv-sccp-msg—Added to revise SCCP messages.

```
rtrv-sccp-msg:msgn=1
```

```

tekelecstp 09-03-30 16:10:59 EST  EAGLE 41.0.0
MSG = 1
ACTIVE = YES
OPC = 010-010-010

CDPA_GTI = 2
CDPA_TT = 0
CDPA_SSN = 6
CDPCI = 3-004-5
CDPA_NP = 1 ( e164 )
CDPA_NAI = 1 ( sub )
CDPA_GTA = 1234567890

CGPA_GTI = 2
CGPA_TT = 0
CGPA_SSN = 8
CGPC = 020-020-020
CGPA_NP = 1 ( e164 )
CGPA_NAI = 1 ( sub )
CGPA_GTA = 1234567890

LSN = ls111

EAGLEGEN = NO
;

```

- chg/rtrv-sccpopts—Enhanced to support FLOBR searches and GTT Mode hierarchies.

```
rtrv-sccpopts
```

```

tekelecstp 09-04-04 05:46:41 EST  EAGLE 41.0.0

SCCP OPTIONS
-----
CLASS1SEQ                off
DFLTGTTMODE              fcd
DFLTFALLBACK             yes
;

```

- rtrv-tbl-capacity—Enhanced to support additional GTT selector tables.
- tst-msg—Enhanced to process FLOBR test messages.

```
tst-msg:msgn=4:feat=gtt:prot=sccp:loc=1101
```

```
tekelecstp 09-04-06 13:24:22 GMT EAGLE 41.0.0

FLOBR Trace Tool:

Input:
EAGLE-Generated? No
OPC = 004-001-001
LSN = 1s222

CDPA: GTI=2
      TT=1
      NP=1 (e164)
      NAI=1 (sub)
      SSN=20
      PC=010-010-010
      ADDR=99

CGPA: GTI=2
      TT=0
      NP=1 (e164)
      NAI=1 (sub)
      SSN=10
      PC=003-001-001
      ADDR=88

Family=9

Opcode=46

Pkgtype=bgn (0x62)

Acn= 1-2-3-4-5

;
tekelecstp 09-04-06 13:24:22 GMT EAGLE 41.0.0

GTT Search Results:

Search Hierarchy: FLOBR CDPA

                  CgPA/CdPA

GTT Set Name      Set Type  SELID TestMode FallBack Found Matching Key

acdgta            CDPA GTA    -- OFF    Yes      Y      99
acggta            CGPA GTA    -- OFF    Yes      Y      88
acgpc             CGPA PC     -- OFF    Yes      Y      003-001-001
aopc              OPC        -- OFF    Yes      Y      004-001-001
acgssn            CGPA SSN    -- OFF    Yes      Y      10
aopcode           OPCODE     -- OFF    Yes      Y      pkg=bgn (0x62)
                  acn=1-2-3 op=46
acdssn            CDPA SSN    -- OFF    Yes      Y      20

Search Depth = 7
Loop Detected = No

Translation Results:
Translation Found: Yes [GTT Set Name = acdssn]
DPC = 003-003-003
RI = GT
SSN = 17

Command Complete

;
```

Measurements

The FLOBR feature adds two new registers:

- FCGGTTPRFD—the total number of MSUs that successfully complete Flexible CgPA GTT (per TT). This register is added to the existing SYSTOT-CGTT report on the OAM and measurement control platform.
- FCDGTTPRFD—the total number of MSUs that successfully complete Flexible CdPA GTT (per TT). This register is added to the existing SYSTOT-TT report on the OAM and measurement control platform.

In addition to the new registers, the existing GTTUN1NT register in the SYSTOT-TT report and the existing CCGTUN1NT register in the SYSTOT-CGTT report are enhanced to indicate when the FLOBR CdPA mode or CgPA mode, respectively, is used and translation fails for any of the following reasons:

- maximum search depth is reached
- duplicate GTTSET type is encountered
- translation not found (any GTTSET type)
- CdPA SSN required, but not present in the MSU
- CgPA SSN required, but not present in the MSU
- CgPA PC required, but not present in the MSU
- Default CgPA PC Set required, but not provisioned (ANSI or ITU)

Limitations

No limitations are associated with this feature.

Support for 16 GTT Lengths in VGTT

The existing VGTT feature is enhanced to allow provisioning of 16 different GTT digit string lengths per translation type in a GTT set.

Feature Control Requirements

Feature control requirements for the Support for 16 GTT Lengths in VGTT feature include:

- The VGTT feature must be turned on before the Support for 16 GTT Lengths in VGTT feature can be enabled.
- A FAK for part number 893-0248-01
- A temporary FAK cannot be used to enable the feature.
- The feature cannot be turned off after it is turned on.

Hardware Requirements

The Support for 16 GTT Lengths in VGTT feature requires an E5-SM4G or higher card.

Commands

For more information on the commands that are enhanced to support the Support for 16 GTT Lengths in VGTT feature, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable and turn on the Support for 16 GTT Lengths in VGTT feature. Output for the `rtrv-ctrl-feat` command is shown in the Commands section for the FLOBR feature.
- `ent/chg/dlt/rtrv-gta`—Enhanced to support 16 GTA lengths per GTT set.
- `ent/chg/dlt/rtrv-gtt` —Enhanced to support 16 GTA lengths per translation type.
- `ent/chg/dlt/rtrv-gttset` —Enhanced to support 16 GTA lengths per GTT set.

```
rtrv-gttset
```

```
rlghncxa03w 09-03-19 08:16:15 EST EAGLE 41.0.0
GTTSN      NETDOM  NDGT
lidx       ansi    1,3,5,6,7,8,9,10,11,12,13,14,18,21
t800      ansi    4,6
s_i000     itu     10,15
```

```
;
```

Limitations

No limitations are associated with this feature.

Support for IPSG M3UA and SCTP Graceful Shutdown

The Support for IPSG M3UA and SCTP Graceful Shutdown feature consists of two aspects:

- M3UA Graceful Shutdown

The `ipsg` application is updated to increase the shutdown timer to 2 seconds, which allows the ASP to deplete all the messages from its queue before the ASP is brought down. The M3UA software is also enhanced to progress the shutdown when a designated response is received from a peer.

- SCTP Graceful Shutdown

SCTP functionality of the `ipsg` application is updated to allow manual initiation of graceful shutdown for an M3UA association.

Feature Control Requirements

There are no feature control requirements identified for this feature.

Hardware Requirements

M3UA and SCTP shutdown is performed on only E5-ENET cards running the `ipsg` application.

Commands

For more information on the commands that are enhanced to support the Support for IPSG M3UA and SCTP Graceful Shutdown feature, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `chg-assoc`—Enhanced to allow graceful shutdown to occur for IPSP M3UA associations if the UAPS graceful shutdown bit is turned on.
- `chg/rtrv-uaps`—Enhanced to provision SCTP graceful shutdown for IPSP M3UA associations.

`rtrv-uaps:set=1`

```
eagle10213 09-03-17 14:01:00 EST EAGLE 41.0.0
SET  TIMER      TVALUE  PARM      PVALUE
  1     1         0        1         3
  1     2        3000       2         0
  1     3       10000       3         0
  1     4         5000       4         0
  1     5          0        5         0
  1     6          0        6         0
  1     7          0        7         0
  1     8          0        8         0
  1     9          0        9         0
  1    10          0       10         0

TIMER 2: False IP Connection Congestion Timer, max time an
association can be congested before failing due to false
congestion. SS7IPGW and IPGWI applications enforce
0-30000(ms). Not supported on IPSP application.
TVALUE : Valid range = 32-bits

TIMER 3: UA HeartBeat Period Timer T(beat), time (ms) between sending
of BEAT msgs by NE. IPSP, SS7IPGW and IPGWI applications
enforce 100(ms)-60000(ms).
TVALUE : Valid range = 32-bits

TIMER 4: UA HeartBeat Received Timer T(beat ack), timeout period for
response BEAT ACK msgs by NE. IPSP, SS7IPGW and IPGWI
applications enforce 100(ms)-10000(ms).
TVALUE : Valid range = 32-bits

PARM 1: ASP SNM options. Each bit is used as an enabled/disabled
flag for a particular ASP SNM option. Not supported on IPSP
application.
PVALUE : Valid range = 32-bits
BIT                                     BIT VALUE
0=Broadcast                            0=Disabled , 1=Enabled
1=Response Method                       0=Disabled , 1=Enabled
2-5=Reserved
6=Broadcast Congestion Status Change 0=Disabled , 1=Enabled
7-31=Reserved

PARM 2: ASP/AS Notification options. Each bit is used as an
enabled/disabled flag for a particular ASP/AS
Notification option. Not supported on IPSP application.
PVALUE : Valid range = 32-bits
BIT                                     BIT VALUE
0=ASP Active Notifications              0=Disabled , 1=Enabled
1=ASP Inactive Notifications            0=Disabled , 1=Enabled
2=ASP AS State Query                    0=Disabled , 1=Enabled
3-31=Reserved

PARM 3: UA Serviceability Options. Each bit is used as an
enabled/disabled flag for a particular UA Serviceability
option. Supported on IPSP, SS7IPGW, and IPGWI applications.
UA Graceful Shutdown supported on IPSP for M3UA only.
PVALUE : Valid range = 32-bits
BIT                                     BIT VALUE
0=UA Heartbeats                         0=Disabled , 1=Enabled
1=UA Graceful Shutdown                  0=Disabled , 1=Enabled
2-31=Reserved
```

- `linkinfo`—Enhanced to display whether graceful shutdown occurred.

```

pass:loc=1305:cmd="linkinfo -a a"
eagle10213 09-04-17 14:01:00 EST EAGLE 41.0.0

Adapter Layer Events for Link A

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

Date      Time      Event
-----
08-10-08  09:29:15.705  Management IP Conn Close
08-10-08  09:29:15.705  Transition to SERVER_SHUTDOWN
              (RC=0000000002)
08-10-08  09:29:15.705  ASP to SLK Down
08-10-08  09:29:15.705  Link Not Aligned
08-10-08  09:29:15.705  UA Graceful Shutdown
08-10-08  09:29:15.710  UA Shutdown Complete
08-10-08  09:29:15.710  Transition to IDLE
              (RC=0000000002)

end of report

```

Limitations

No limitations are associated with this feature.

Synchronous T1 High Speed Link

The Synchronous T1 High Speed Link (ST-HSL-A) feature provides support for a high speed link, referred to as an ST-HSL-A link, on an unchannelized T1 card.

Feature Control Requirements

The ST-HSL-A feature is a quantity-controlled feature. FAK numbers are used to provision the number of ST-HSL-A links that can be enabled on the EAGLE 5 ISS. After a quantity has been provisioned, a lower quantity cannot be provisioned.

Table 1: ST-HSL-A Quantities

Number of ST-HSL-A Links	FAK
4	893-0273-01
8	893-0273-02
16	893-0273-03
24	893-0273-04
32	893-0273-05
40	893-0273-06

Number of ST-HSL-A Links	FAK
48	893-0273-07
56	893-0273-08
64	893-0273-09
72	893-0273-10
80	893-0273-11
88	893-0273-12
96	893-0273-13
104	893-0273-14
112	893-0273-15
120	893-0273-16
128	893-0273-17
136	893-0273-18
144	893-0273-19
152	893-0273-20
160	893-0273-21
168	893-0273-22
176	893-0273-23
180	893-0273-24

Hardware Requirements

The ST-HSL-A feature requires E5-E1T1 cards.

The E5-E1T1 card supports 1 ST-HSL-A link. Support for the ST-HSL-A link is combined with the support for the current channelized and unchannelized links. Supported link types cannot be mixed on the same active card.

Commands

For more information on the commands that are enhanced to support the ST-HSL-A feature, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `chg/rtrv-l2t`—Enhanced to support unchannelized T1 high speed links and to allow up to 35 Level 2 Timer Sets to be defined.

```
rtrv-l2t
```

```
tekelecstp 09-04-03 10:56:27 EST EAGLE 41.0.0
LEVEL 2 TIMERS (IN SECONDS)
L2TSET    T1      T2      T3      T4NPP   T4EPP   T5      T6      T7      NODATA
1         13.0    11.5    11.5    2.3     0.60    0.10    4.0    1.5    0.10
2         13.0    11.5    11.5    2.3     0.60    0.10    4.0    1.5    0.10
```

```

3      13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
4      13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
5      13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
6      13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
7      13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
8      13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
9      13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
10     13.0  11.5  11.5  2.3    0.60  0.10  4.0  1.5  0.10
.
.
.
30     300.0 130.0   1.0 30.0    0.50  0.10  5.0  0.8  0.10
31     151.0 14.0   14.0 30.0    3.00  0.08  3.0  0.5  0.10
32     151.0 14.0   14.0 30.0    3.00  0.08  3.0  0.5  0.10
33     151.0 14.0   14.0 30.0    3.00  0.08  3.0  0.5  0.10
34     151.0 14.0   14.0 30.0    3.00  0.08  3.0  0.5  0.10
35     151.0 14.0   14.0 30.0    3.00  0.08  3.0  0.5  0.10
;

```

- ent/chg/dlt/rtrv-t1—Enhanced to support unchannelized T1 ports.

```
rtrv-t1
```

```

rlghncxa03w 09-04-02 09:07:58 EST EAGLE5 41.0.0
      T1
LOC  PORT ENCODE  T1TSEL  FRAMING  LL  CHANBRDG  CLASS  RATE
1211 1    ami      external  esf      10  -----  UNCHAN 1000
1307 2    b8zs     line     sf       133 -----  UNCHAN 2000
1311 1    ami      external  esf      500 -----  CHAN   ----
;

```

- enable/chg/rtrv-ctrl-feat—Enhanced to enable the ST-HSL-A feature.

```
rtrv-ctrl-feat
```

```

rlghncxa03w 09-03-09 16:40:40 EST EAGLE 41.0.0

The following features have been permanently enabled:
Feature Name          Partnum  Status  Quantity
HC-MIM SLK Capacity  893012707  on      64
Command Class Management 893005801  on      ----
LNP Short Message Service 893006601  on      ----
Prepaid SMS Intercept Ph1 893006701  on      ----
EAGLE5 Product        893007101  on      ----
EAGLE Product          893007201  off     ----
IP7 Product            893007301  off     ----
Network Security Enhance 893009101  off     ----
Telnet                 893005701  on      ----
G-Flex                 893021901  on      ----
VFLEX                  893016701  on      ----
ST-HSL-A SLK Capacity  893027304  on      24
;

```

- ent/rtrv-slk—Enhanced to support ST-HSL-A links. The format for the rtrv-slk command output is updated to accommodate the longer fields for the pcrn1 and pcrn2 parameter values.

Example 1 displays output for multiple card types and links.

```
rtrv-slk
```

```

eagle10212 09-04-14 16:20:45 EST EAGLE 41.0.0
      L2T  L1
LOC  LINK  LSN      SLC TYPE  SET  BPS  MODE  TSET  ECM  PCR  PCR
1201 A  e3m1s1  0  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1201 B  e3m1s2  0  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1202 A  e3m1s1  1  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1202 B  e3m1s2  1  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1203 A  e3m1s1  2  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1203 B  e3m1s2  2  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1204 A  e3m1s1  3  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1204 B  e3m1s2  3  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1205 A  e3m1s1  4  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
1205 B  e3m1s2  4  LIMDS0  1  56000  ---  ---  BASIC  ----  -----
;

```

```

1206 A e3m1s1 5 LIMDSO 1 56000 --- --- BASIC ----
1206 B e3m1s2 5 LIMDSO 1 56000 --- --- BASIC ----
1207 A e3m1s1 6 LIMDSO 1 56000 --- --- BASIC ----
1207 B e3m1s2 6 LIMDSO 1 56000 --- --- BASIC ----
1211 A e3m2s1 0 LIMDSO 11 56000 --- --- BASIC ----
1211 B e3m2s2 0 LIMDSO 11 56000 --- --- BASIC ----
1212 A e3m2s1 1 LIMDSO 11 56000 --- --- BASIC ----
1212 B e3m2s2 1 LIMDSO 11 56000 --- --- BASIC ----
1213 A e3m2s1 2 LIMDSO 11 56000 --- --- BASIC ----
1213 B e3m2s2 2 LIMDSO 11 56000 --- --- BASIC ----
1214 A e3m2s1 3 LIMDSO 11 56000 --- --- BASIC ----
1214 B e3m2s2 3 LIMDSO 11 56000 --- --- BASIC ----
1215 A e3m2s1 4 LIMDSO 11 56000 --- --- BASIC ----
1215 B e3m2s2 4 LIMDSO 11 56000 --- --- BASIC ----
1216 A e3m2s1 5 LIMDSO 11 56000 --- --- BASIC ----
1216 B e3m2s2 5 LIMDSO 11 56000 --- --- BASIC ----
1217 A e3m2s1 6 LIMDSO 11 56000 --- --- BASIC ----
1217 B e3m2s2 6 LIMDSO 11 56000 --- --- BASIC ----

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

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

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

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

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

```

Example 2 includes T1 signaling links that are assigned to E5-E1T1 cards.

rtrv-slks

```

tekelecstp 09-04-14 16:22:25 EST EAGLE5 41.0.0

LOC LINK LSN SLC TYPE L2T PCR PCR T1 T1
SET BPS ECM N1 N2 LOC PORT TS
1201 B t11s 0 LIMT1 11 56000 BASIC ---- 1201 2 2
1202 A t21s 0 LIMT1 21 1.536M PCR 608 32224 1202 5 1

SLK table is (2 of 1200) 0% full.
;

```

- t-st-t1—Enhanced to support E5-E1T1 cards and additional loopback options.

Limitations

No limitations are associated with this feature.

TCAP Opcode Based Routing

The TCAP Opcode Based Routing (TOBR) feature allows GTT routing to be based on information in the TCAP portion of ANSI or ITU messages or on the SCCP Called Party Subsystem Number (CdPA SSN).

For ITU messages, the information in the TCAP portion includes ITU TCAP package type, application context name, and operation code. For ANSI messages, the information includes ANSI TCAP package type, family, and operation code specifier.

All UDT, UDTS, Unsegmented XUDT, and Unsegmented XUDTS queries are supported. Segmented XUDT messages are supported for SSN routing.

TCAP Segmented SMS Support Phase 2

The TOBR feature allows all segmented TCAP SMS messages within a transaction to be routed to the same destination. The messages are routed based on the TCAP OpCode and Dialogue portion of the message.

Feature Control Requirements

Note: The TOBR feature is not quantity based; however, a quantity-based FAK is used to determine the number of Opcode translations that are allowed in the system.

Feature control requirements for the TOBR feature include:

- The FLOBR feature must be turned on before the TOBR feature can be enabled.
- A FAK for Part Number 893-0278-01
- The appropriate FAK for the desired quantity:
 - 3 opcode translations (893-0279-01)
 - 6 opcode translations (893-0279-02)
 - 12 opcode translations (893-0279-03)
 - 24 opcode translations (893-0279-04)
 - 48 opcode translations (893-0279-05)
 - 96 opcode translations (893-0279-06)
 - 1 million opcode translations (893-0279-07)
- Quantity FAKs must be entered in ascending order. After a quantity is provisioned, a lower quantity cannot be provisioned. The quantities do not have to be provisioned sequentially.
- A temporary FAK cannot be used to enable the feature.
- The feature cannot be turned off after it has been turned on.

Hardware Requirements

The TOBR feature requires E5-SM4G or higher cards.

Commands

For more information on the commands that are added or enhanced to support the TOBR feature, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `chg/rtrv-sccp-msg`—Enhanced to allow provisioning and display of TOBR parameters. This command was added to support the FLOBR feature.

```
rtrv-sccp-msg:msgn=1
```

```
tekelecstp 09-03-02 16:17:34 EST EAGLE 41.0.0
MSG = 1
ACTIVE = YES
OPC = 010-010-010

CDPA_GTI = 2
CDPA_TT = 0
CDPA_SSN = 6
CDPC = 010-010-010
CDPA_NP = 1 ( e164 )
CDPA_NAI = 1 ( sub )
CDPA_GTA = 1234567890

CGPA_GTI = 2
CGPA_TT = 0
CGPA_SSN = 8
CGPC = 020-020-020
CGPA_NP = 1 ( e164 )
CGPA_NAI = 1 ( sub )
CGPA_GTA = 1234567890

LSN = ls111

EAGLEGEN = NO

TCAP_FAMILY = 67

TCAP_OPCODE = 32

TCAP_PACKAGE = bgn (0x62)

TCAP_ACN = 6-7-8-9-3
```

- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable and turn on the TOBR feature. Output for the `rtrv-ctrl-feat` command is shown in the Commands section for the FLOBR feature.
- `ent/chg/dlt/rtrv-gta`—Enhanced to support TCAP fields.

Example 1 displays the output when an Opcode is requested.

```
rtrv-gta:gttsn=opcode1
```

```
tekelecstp 09-03-27 00:08:53 EST EAGLE 41.0.0

GTTSN      NETDOM  SETTYPE  NDGT
opcode1    ansi     OPCODE   -

GTA table is (2 of 269999) 1% full.

FAMILY      OPCODE      PKGTYPE      XLAT  RI  PC
7           4           qwp          DPC   GT  002-002-002
          SSN=0   CCGT=no   NTT=---
```

```

FALLBACK=sysdflt  TESTMODE=off
OPTSN=----- CGSELID=----- CDSELID=----- OPCS=-----

ACN          OPCODE          PKGTYPE          XLAT  RI    PC

Command Retrieved 1 Entries

;

```

Example 2 displays the output when a CdPA SSN entry is requested.

```

rtrv-gta:gttsn=setcdssn

tekelecstp 09-04-10 09:49:42 EST  EAGLE 41.0.0
GTTSN      NETDOM  NDGT
setcdssn   itu     -
GTT TABLE IS  1 % FULL (5 of 269999)

START SSN          END SSN          XLAT  RI    PC
100                200              DPCNGT GT  1-200-1
SSN=0  CCGT=no  NTT=---
FALLBACK=sysdflt  TESTMODE=off  CGCNVSN=-----
OPTSN=----- CGSELID=----- CDSELID=-----

Command Retrieved 1 Entries

;

```

- ent/dlt/rtrv-gttset—Enhanced to support TCAP routing options.

```

rtrv-gttset

rlghncxa03w 09-03-14 08:10:20 EST  EAGLE 41.0.0
GTTSN      NETDOM  SETTYPE  NDGT
Pc10      cross  CDGTA    6,8,10,17
Pc11      ansi   CGGTA    10
Pc12      itu    CGPC     -
Pc13      itu    CGSSN    -
Pc14      ansi   OPC      -
Pc15      ansi   CGPC     -
Pc16      itu    CDSSN    -
Pc17      -      OPCODE   -

;

```

- ent-trace—Enhanced to support a TOBR trace.

Limitations

No limitations are associated with this feature.

TIF Number Substitution

The Triggerless ISUP Framework (TIF) Number Substitution feature allows called party and/or calling party numbers on an incoming Initial Address Message (IAM) to be substituted with associated numbers from the RTDB on the outgoing IAM.

When an IAM is received, a lookup is performed on the called party number (CdPN) or calling party number (CgPN) in the RTDB database. If a successful retrieval of the called party directory number (DN) occurs, then the CdPN is substituted in the outgoing IAM. If a successful retrieval of the calling party DN occurs, the CgPN is substituted in the outgoing IAM.

The feature introduces the **nscdpn** and **nscgpn** Service Actions, which are used to perform a lookup for the incoming CdPN and CgPN, respectively. These Service Actions are used with the Numbering Plan Processor (NPP). For information on the Numbering Plan Processor and TIF, refer to the *Numbering Plan Processor (NPP) Overview* and the *Feature Manual - TIF*, respectively, of the latest EAGLE 5 ISS documentation set.

Feature Control Requirements

Feature control requirements for the TIF Number Substitution feature include:

- A FAK for Part Number 893-0225-01
- The feature cannot be enabled if the ELAP LNP Configuration feature is enabled.
- The feature cannot be enabled with a temporary FAK.
- The feature can be turned on and off.

Hardware Requirements

None.

Commands

For more information on the commands that are enhanced to support the TIF Number Substitution feature, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `chg-stpopts`—Enhanced to prevent the **ansigflex** option from being enabled if the TIF Number Substitution feature is enabled.
- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable, turn on, and display the status of the TIF Number Substitution feature.

`rtrv-ctrl-feat`

```
rlghncxa03w 09-03-05 16:40:40 EST EAGLE 41.0.0

The following features have been permanently enabled:
Feature Name          Partnum  Status  Quantity
HC-MIM SLK Capacity   893012707 on      64
Command Class Management 893005801 on      ----
LNP Short Message Service 893006601 on      ----
Prepaid SMS Intercept Ph1 893006701 on      ----
Intermed GTT Load Sharing 893006901 on      ----
G-Flex MAP Layer Routing 893021701 on      ----
TIF ASD               893024501 on      ----
TIF GRN               893025501 on      ----
TIF Number Portability 893018901 on      ----
TIF SCS Forwarding    893022201 on      ----
TIF Simple Number Subst. 893024001 on      ----
MO SMS IS41-to-GSM Migr 893026201 on      ----
ATINP                 893022101 off     ----
TIF Number Substitution 893022501 on      ----
```

;

- `chg/rtrv-tifopts`—Enhanced to support number substitution.

`rtrv-tifopts`

```
tekelecstp 09-03-05 12:32:21 EST EAGLE 41.0.0
Command entered at terminal #4.

TIF OPTIONS
```

```

-----
IAMCGPN      = dn
NPFLAG      = none
RCAUSENP    = 0
RCAUSEPFX   = 0
NPTYPE      = sprn
NPTYPECGPN  = sprn
ACLEN       = 0
SPLITIAM    = none
CONDCGPN    = none
CRPREL      = 31
RNRQD       = yes
DFLTRN      = none
DLMA        = none
DLMB        = none
DLMC        = none
SNSCGPNDFLT = none
MATCHSEQ    = dn
NSADDLDATA  = yes
NSPUBLIC    = 5

```

- ent/chg/rtrv-npp-as—Enhanced to support the **nscdpn** and **nscgpn** Service Actions.

rtrv-npp-as

```

tekelecstp 09-03-05 15:37:41 EST EAGLE 41.0.0
-----
ASN          CA          SA          FA          OFNAI    REFS
-----
asn1         znx          asdlkup     asd          inc       0
asn2         znx          grnlkup     grn          inc       0
asn3         znx          cgpnasdrqd zn           inc       0
              nprls
asn4         znx          cgpnasdrqd grn          inc       0
              cgpngrnrqd
              nprelay
asn5         ac8          rtdbtrn     sn           inc       0
              sn8          rtdbtsp     ac
              cc3          rtdbtrnsp   cc
              cdial
asn6         cc3          nscdpn      cc           intl      0
              ac8          nscgpn      ac
              sn8          sn

```

- ent/chg/rtrv-npp-srs—Enhanced to support Action Sets that contain **nscdpn** and **nscgpn** Service Actions.
- rtrv-data-rtdb—Enhanced to display number substitution data.

Example 1 displays output for a DN that is associated with a network entity, one instance of additional subscriber data (ASD) and one instance of number substitution.

rtrv-data-rtdb:dn=2324567893

```

tekelecstp 09-03-11 07:56:48 EST EAGLE5 41.0.0

Card Loc      : 1103   Status:Coherent
DN            2324567893  Portability Type (255)
              No portability type          Category
              Private

EntIdx
H'00000007

Entity Address Type          PC (INTL ) RI  SSN TT  NP NAI DA
bcda4321      RN            5-005-5  GT  000 000 00 000 none

```

```

SRFIMSI          NSSN  CCGT  NTT  NNP  NNAI
                no    no    no   no   no

ASD Address: 1234567890

NS Address       NS Category
2312457895      Public
;

```

Example 2 displays output for a non-ported DN that is associated with one instance of ASD and one instance of number substitution.

```
rtrv-data-rtddb:dn=1347823456
```

```

tekelecstp 09-03-11 07:56:48 EST  EAGLE5 41.0.0

Card Loc      : 1105    Status:Coherent
DN            : 1347823456  Portability Type ( 36)      Category
                Not Identified to be ported  Public

EntIdx
-----

ASD Address: 1234545367

NS Address     NS Category
1345692324     Private
;

```

- `rtrv-npp-serv`—Enhanced to display the `nscdpn` and `nscgpn` Service Actions.
- `tst-msg`—Enhanced to support the TIF Number Substitution feature.

Example 1 displays the output in debug mode.

```
tst-msg:msgn=1:prot=isup:loc=1215:feat=tif:mode=debug
```

```

tifstp 09-03-06 19:54:03 GMT  EAGLE 41.0.0

SERVICE NAME = tif SERVICE STATUS = ON
INC DIGITS = 88123456
NAI = 4 FNAI = intl FDIGLEN = 8

MATCHING RULE
FNAI = intl FDIGLEN = 8 PPFX = 88
ACTION SET NAME = set1

CONDITIONING RESULT
CA1 = cc2          EXECUTED = Y RESULT = PASS
CA2 = ac1          EXECUTED = Y RESULT = PASS
CA3 = snx          EXECUTED = Y RESULT = PASS
INC DIGITS = 88123456
COND DIGITS = 88123456

SERVICE APPLICATION
SA1 = nscdpn       EXECUTED = Y FORMAT = Y
INDIV CC=91 AC=5  SN=46789
SA2 = nscgpn       EXECUTED = Y FORMAT = Y
INDIV InCat=244   InDN=91123456
                  OutCat=4   OutDN=741852

FORMATING RESULT
FA1 = cc          EXECUTED = Y RESULT = PASS
FA2 = ac          EXECUTED = Y RESULT = PASS
FA3 = sn          EXECUTED = Y RESULT = PASS
OUTG DIGITS = 91546789
OUTG FNAI = intl
;

```

Example 2 displays the output when the Formatting Action for the outgoing CgPN is RN.

```
tst-msg:msgn=3:prot=isup:loc=1103:feat=tif:mode=debug
```

```
tifstp 09-03-06 19:52:42 GMT EAGLE 41.0.0

SERVICE NAME = tif SERVICE STATUS = ON
  INC DIGITS = 88123456
  NAI = 4 FNAI = intl FDIGLEN = 8

MATCHING RULE
  FNAI = intl FDIGLEN = 8 PPFX = 88
  ACTION SET NAME = set1

CONDITIONING RESULT
  CA1 = cc2          EXECUTED = Y RESULT = PASS
  CA2 = ac1          EXECUTED = Y RESULT = PASS
  CA3 = snx          EXECUTED = Y RESULT = PASS
  INC DIGITS = 88123456
  COND DIGITS = 88123456

SERVICE APPLICATION
  SA1 = nscdpn      EXECUTED = Y FORMAT = Y
  INDIV CC=91 AC=5 SN=46789
  SA2 = nscgpn      EXECUTED = Y FORMAT = Y
  No operation for IAMCGPN=RN

FORMATING RESULT
  FA1 = cc          EXECUTED = Y RESULT = PASS
  FA2 = ac          EXECUTED = Y RESULT = PASS
  FA3 = sn          EXECUTED = Y RESULT = PASS
  OUTG DIGITS = 91546789
  OUTG FNAI = intl
```

Example 3 displays the output when a CgPN is not present in the IAM.

```
tst-msg:msgn=4:prot=isup:loc=1215:feat=tif:mode=debug
```

```
tifstp 09-03-06 19:50:08 GMT EAGLE 41.0.0

SERVICE NAME = tif SERVICE STATUS = ON
  INC DIGITS = 88123456
  NAI = 4 FNAI = intl FDIGLEN = 8

MATCHING RULE
  FNAI = intl FDIGLEN = 8 PPFX = 88
  ACTION SET NAME = set1

CONDITIONING RESULT
  CA1 = cc2          EXECUTED = Y RESULT = PASS
  CA2 = ac1          EXECUTED = Y RESULT = PASS
  CA3 = snx          EXECUTED = Y RESULT = PASS
  INC DIGITS = 88123456
  COND DIGITS = 88123456

SERVICE APPLICATION
  SA1 = nscdpn      EXECUTED = Y FORMAT = Y
  INDIV CC=91 AC=5 SN=46789
  SA2 = nscgpn      EXECUTED = Y FORMAT = Y
  no cgpn

FORMATING RESULT
  FA1 = cc          EXECUTED = Y RESULT = PASS
  FA2 = ac          EXECUTED = Y RESULT = PASS
  FA3 = sn          EXECUTED = Y RESULT = PASS
  OUTG DIGITS = 91546789
  OUTG FNAI = intl
```

Example 4 displays the output when the incoming CgPN category value is same as the value specified for the chg-tifopts:nspublic parameter, and the chg-tifopts:nsaddldata=yes parameter is specified.

```
tst-msg:msgn=5:prot=isup:loc=1103:feat=tif:mode=debug
tifstp 09-03-06 20:16:09 GMT EAGLE 41.0.0

SERVICE NAME = tif SERVICE STATUS = ON
INC DIGITS = 88123456
NAI = 4 FNAI = intl FDIGLEN = 8

MATCHING RULE
FNAI = intl FDIGLEN = 8 PPFX = 88
ACTION SET NAME = set1

CONDITIONING RESULT
CA1 = cc2 EXECUTED = Y RESULT = PASS
CA2 = ac1 EXECUTED = Y RESULT = PASS
CA3 = snx EXECUTED = Y RESULT = PASS
INC DIGITS = 88123456
COND DIGITS = 88123456

SERVICE APPLICATION
SA1 = nscdpn EXECUTED = Y FORMAT = Y
INDIV CC=91 AC=5 SN=46789
SA2 = nscgpn EXECUTED = Y FORMAT = Y
Incoming CgPN category is NSPublic

FORMATING RESULT
FA1 = cc EXECUTED = Y RESULT = PASS
FA2 = ac EXECUTED = Y RESULT = PASS
FA3 = sn EXECUTED = Y RESULT = PASS
OUTG DIGITS = 91546789
OUTG FNAI = intl
?
```

Limitations

No limitations are associated with this feature.

Other Changes

Core enhancements introduced in Release 41.0 include:

Eagle Dynamic Database Enhancement - Phase 1

The EAGLE Dynamic Database (DDB) Enhancement - Phase 1 allows audits to be conducted on the Dynamic database. The audits are used to collect DDB checksums from all MTP cards and can be configured to occur automatically at set intervals or triggered manually.

Note: The DDB audit is conducted only on MTP cards.

Commands

For more information on the commands that are added or enhanced to support the EAGLE Dynamic Database Enhancement - Phase 1, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `aud-data`—Enhanced to audit dynamic databases.

- `chg/rtrv-ss7opts`—Enhanced to provision the amount of time between automatic Dynamic database audits. Output for the `rtrv-ss7opts` command is shown in [Update to the `rtrv-ss7opts` Command](#) on page 41.
- `dbg/rept-stat-ddb`—Added to display Dynamic database table entries and statistics or to audit a specific table. The `rept-stat-ddb` command displays the most recent Dynamic database audit report.

Example 1 displays a brief audit report.

```
rept-stat-ddb
```

```
tekelecstp 09-03-11 21:07:54 GMT EAGLE 41.0.0
DDB AUDIT REPORT
SYSTEM STATUS: CORRUPT
RESPONDING CARDS: 12
INCONSISTENT CARDS: 1101 1102 1103 1104 1111 (5)
AUDIT START TIME: 11/03/2009 21:07:22
NON RESPONDING CARDS: (0)
QUIET PERIOD: 500 ms
;
```

Example 2 displays a full audit report.

```
rept-stat-ddb:display=full
```

```
tekelecstp 09-03-11 21:07:54 GMT EAGLE 41.0.0
DDB AUDIT REPORT
SYSTEM STATUS: CORRUPT
RESPONDING CARDS: 12
INCONSISTENT CARDS: 1101 1102 1103 1104 1111 (5)
AUDIT START TIME: 11/03/2009 21:07:22
NON RESPONDING CARDS: (0)
QUIET PERIOD: 500 ms

RTE          LINK SET  LINK          CM CARD    CM CLSTR    MATED APPL MTP GLOBS
H'000003e8  H'000003e8  H'000003e8  H'000003e8  H'000003e8  -----  H'000003e8
*           LOC=1101  IDLE PERIOD=700                                     DDB UPDATES=42

H'000003e8  H'000003e8  H'000003e8  H'000003e8  H'000003e8  -----  H'000003e8
*           LOC=1102  IDLE PERIOD=700                                     DDB UPDATES=42

H'000003e8  H'000003e8  H'000003e8  H'000003e8  H'000003e8  -----  H'000003e8
*           LOC=1103  IDLE PERIOD=700                                     DDB UPDATES=42

H'000003e8  H'000003e8  H'000003e8  H'000003e8  H'000003e8  -----  H'000003e8
*           LOC=1104  IDLE PERIOD=700                                     DDB UPDATES=42

H'000a0979  H'037cb2e1  H'03d132d8  H'000034ed  H'0000a398  -----  H'00000000
           LOC=1105  IDLE PERIOD=6658825                                 DDB UPDATES=87

H'000a0979  H'037cb2e1  H'03d132d8  H'000034ed  H'0000a398  -----  H'00000000
           LOC=1106  IDLE PERIOD=6658825                                 DDB UPDATES=87

H'000a0979  H'037cb2e1  H'03d132d8  H'000034ed  H'0000a398  -----  H'00000000
           LOC=1107  IDLE PERIOD=6658820                                 DDB UPDATES=87

H'000003e8  H'000003e8  H'000003e8  H'000003e8  H'000003e8  H'000003e8  H'000003e8
*           LOC=1111  IDLE PERIOD=700                                     DDB UPDATES=43

H'000a0979  H'037cb2e1  H'03d132d8  H'000034ed  H'0000a398  -----  H'00000000
           LOC=1201  IDLE PERIOD=6658825                                 DDB UPDATES=87

H'000a0979  H'037cb2e1  H'03d132d8  H'000034ed  H'0000a398  -----  H'00000000
           LOC=1204  IDLE PERIOD=6658825                                 DDB UPDATES=180

H'000a0979  H'037cb2e1  H'03d132d8  H'000034ed  H'0000a398  -----  H'00000000
           LOC=1207  IDLE PERIOD=6662500                                 DDB UPDATES=87

H'000a0979  H'037cb2e1  H'03d132d8  H'000034ed  H'0000a398  -----  H'00000000
           LOC=1208  IDLE PERIOD=6662445                                 DDB UPDATES=87
```

;

- `rst-dstn`—Enhanced to support National and International point codes and to reset all Dynamic data in the Route table to the initial values.

Enhancement to support 8 bits in incoming SLS bit rotation feature for ANSI links

The existing SLS Bit Rotation by Incoming Linkset feature is enhanced to allow the rotation algorithm to support 5 or 8 bits for ANSI links. The value supported by the algorithm is based on the incoming linkset. ITU links continue to support 4 links. The Least Significant Bit (LSB) for rotation can have a value of 1 - 8.

Commands

For more information on the commands that are enhanced for the Enhancement to support 8 bits in the incoming SLS bit rotation feature for ANSI links, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `chg-lsopts`—Enhanced to specify whether the signaling link selector of the incoming ANSI linkset is rotated by 5 or 8 bits.
- `ent/chg/rtrv-ls`—Enhanced to allow provisioning of 1 - 8 bits for ANSI links.

`rtrv-ls:lsn=lsa`

```
tekelecstp 09-03-24 15:05:51 EST EAGLE 41.0.0

LSN          APCA   (SS7)  SCRN SET SET  BEI LST LNKS  GWS GWS GWS
lsa          001-001-001 none 1  1  no  A  0  off off off no  off

          SPCA          CLLI          TFATCABMLQ MTPRSE ASL8
-----
RANDSLS
off

ISLSRSB RSL8
6       yes

IPSG  IPGWAPC  GTTMODE          CGGTMOD
no    no      CdPA          no

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

FTRA Enhancements (SIGTRAN)

The FTRA feature is enhanced to add support for IP tables:

- IPLINK
- IPHOST
- IPCARD
- IPAPSOCK
- IPOPTION
- NTRKAPP
- IPRTE

Commands

For more information on the commands that are enhanced to support the FTRA Enhancements, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `act-ftp-trns`—Enhanced to perform FTP transfer of the IP tables.
- `ent/chg/dlt/rtrv-appl-rtkey`—Enhanced to support the IPOPTION table.
- `ent/chg/dlt/rtrv-as`—Enhanced to support the IPAS table.
- `ent/chg/dlt/rtrv-assoc`—Enhanced to support the IPAPSOCK table.
- `chg/rtrv-ip-card`—Enhanced to support the IPCARD table.
- `ent/dlt/rtrv-ip-host`—Enhanced to support the IPHOST table.
- `chg/rtrv-ip-lnk`—Enhanced to support the IPLINK table.
- `ent/dlt/rtrv-ip-rte`—Enhanced to support the IPRTE table.
- `ent/dlt/rtrv-na`—Enhanced to support the NTRWKAPP table.

Maintenance Phase for 2-Port LIM, ACM, TSM for SCCP functionality

All 2-port LIM and ACM cards must be removed before the EAGLE 5 ISS system can be upgraded to Release 41.0. The cards that must be removed include:

- ACM: 870-1008-xx
- EILA and EILA-T: 870-2049-xx
- LIM-AINF: 870-1014-xx - 870-1488-xx
- LIM-DS0: 870-1009-xx, 870-1485-xx
- LIM-E1: 870-1379-xx
- LIM-ILA: 870-1484-xx
- LIM-OCU: 870-1010-xx, 870-1486-xx
- LIM-V.35: 870-1012-xx, 870-1487-xx
- TSM-256: 870-12889-xx
- TSM-512: 870-1290-xx
- TSM-768: 870-1291-xx
- TSM-1024: 870-1292-xx

Note: All of the TSM cards continue to be supported for the GLS functionality. Support is removed only for TSM cards with the SCCP functionality.

Removing support for these cards also removes support for the `sccp`, `stplan`, `ss7ansi`, `ss7gx25`, and `ccs7itu` GPLs.

Support for the X.25 protocol is discontinued.

Note: All commands and parameters that support the X.25 protocol are obsolete as of Release 41.0. Removal of these commands and parameters from the code and documentation is an ongoing process.

Existing DS0, V.35, or OCU/DSCS interfaces may require digital cross-connect equipment for interface to higher density interface (e.g., E5-E1/T1). SIGTRAN signaling utilizing E5-ENET (870-2212-03) and ATM signaling utilizing E5-ATM (870-1872-01) are also migration options.

A description of supported EAGLE 5 ISS cards, with their associated GPLs and applications, is shown in the [EAGLE 5 ISS Card Overview Table](#) on page 63.

Commands

For more information on the commands that are enhanced to support the 2-port LIM, ACM, and TSM for SCCP functionality obsolescence, refer to the *Commands Manual* for the 41.0 documentation set.

- Commands that are enhanced to remove support for the obsolete cards include:
 - act/canc-dlk
 - act/canc-lpo
 - act-upgrade
 - alw-map-ss
 - aud-data
 - ent/act/dlt-slk
 - ent/alw/inh/init/rept-stat/rmv/rtrv-card
 - enable/chg-ctrl-feat
 - ent/chg/rtrv-e1
 - ent-trace
 - rept-stat-sccp
 - rept-stat-slan
 - rept-stat-sys
- Commands that are enhanced to remove support for the **sccp**, **stplan**, **ss7ansi**, **ss7gx25**, and **ccs7itu** GPLs include:
 - act/chg/rept-stat/rtrv-gpl
 - disp/set-mem
 - ent/disp/dlt-bp
 - rtrv-stp
- chg-feat—Enhanced to remove support for the X.25 protocol features

Support Provisioning of SCTP ARHOST

The Support Provisioning of SCTP ARHOST enhancement allows configuration of an alternate remote address when the far end of an association is multi-homed. The alternate address is used to re-establish the association if the remote primary interface cannot be reached.

Commands

For more information on the commands that are enhanced to support SCTP ARHOST provisioning, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- chg/rtrv-assoc—Enhanced to allow configuration of an alternate remote host and to determine the validation mode for an association when an SCTP INIT/INIT-ACK message is received.

Example 1 displays the output when information for an association is requested.

```
rtrv-assoc:aname=m3ua03
```

```
eagle10110 09-03-10 17:21:29 EST EAGLE 41.0.0
```

```
ANAME m3ua03
```

```

LOC      1307          IPLNK PORT A          LINK      A
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1011001.1307a
ALHOST   ---
RHOST    e1011501.1307a
ARHOST   ---
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
HBTIMER  30000
RHOSTVAL RELAXED

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

```

Example 2 displays the output when all associations are requested.

rtrv-assoc:display=all

```

eagle10212 09-03-10 17:00:42 EST EAGLE 41.0.0

ANAME ip11301a
LOC      1301          IPLNK PORT A          LINK      A
ADAPTER  M2PA          VER          M2PA RFC
LHOST    e1021201.1301a
ALHOST   ---
RHOST    e1021301.1301a
ARHOST   ---
LPORT    1301          RPORT      1301
ISTRMS   2            OSTRMS     2            BUFSIZE   200
RMODE    LIN          RMIN       120          RMAX      800
RTIMES   10          CWMIN      3000        M2PATSET  1
OPEN     YES          ALW        YES          RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME ip11301b
LOC      1301          IPLNK PORT A          LINK      B
ADAPTER  M2PA          VER          M2PA RFC
LHOST    e1021201.1301a
ALHOST   ---
RHOST    e1021301.1301a
ARHOST   ---
LPORT    1302          RPORT      1302
ISTRMS   2            OSTRMS     2            BUFSIZE   200
RMODE    LIN          RMIN       120          RMAX      800
RTIMES   10          CWMIN      3000        M2PATSET  1
OPEN     YES          ALW        YES          RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME sg1303a
LOC      1303          IPLNK PORT A          LINK      A
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1303a
ALHOST   ---
RHOST    e1021301.1303a
ARHOST   ---
LPORT    2003          RPORT      2003
ISTRMS   2            OSTRMS     2            BUFSIZE   200
RMODE    LIN          RMIN       120          RMAX      800
RTIMES   10          CWMIN      3000        UAPS      10
OPEN     YES          ALW        YES          RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME sg1305a

```

```

LOC      1305          IPLNK PORT A      LINK      A
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1305a
ALHOST   ---
RHOST    e1021301.1305a
ARHOST   ---
LPORT    2005          RPORT      2005
ISTRMS   2            OSTRMS     2            BUFSIZE  200
RMODE    LIN          RMIN       120          RMAX     800
RTIMES   10          CWMIN      3000        UAPS     10
OPEN     YES          ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME sg1305i
LOC      1305          IPLNK PORT A      LINK      B
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1305a
ALHOST   ---
RHOST    e1021301.1305a
ARHOST   ---
LPORT    2006          RPORT      2006
ISTRMS   2            OSTRMS     2            BUFSIZE  200
RMODE    LIN          RMIN       120          RMAX     800
RTIMES   10          CWMIN      3000        UAPS     10
OPEN     NO           ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME ipg1307a1
LOC      1307          IPLNK PORT A      LINK      A
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1307a
ALHOST   ---
RHOST    e1021301.1307a
ARHOST   ---
LPORT    4001          RPORT      4001
ISTRMS   2            OSTRMS     2            BUFSIZE  16
RMODE    LIN          RMIN       120          RMAX     800
RTIMES   10          CWMIN      3000        UAPS     10
OPEN     YES          ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME ip11311a
LOC      1311          IPLNK PORT A      LINK      A
ADAPTER  M2PA          VER          M2PA RFC
LHOST    e1021201.1311a
ALHOST   ---
RHOST    e1021301.1311a
ARHOST   ---
LPORT    1311          RPORT      1311
ISTRMS   2            OSTRMS     2            BUFSIZE  200
RMODE    LIN          RMIN       120          RMAX     800
RTIMES   10          CWMIN      3000        M2PATSET 1
OPEN     NO           ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME ip11313a
LOC      1313          IPLNK PORT A      LINK      A
ADAPTER  M2PA          VER          M2PA RFC
LHOST    e1021201.1313a
ALHOST   ---
RHOST    e1021301.1313a
ARHOST   ---
LPORT    1313          RPORT      1313
ISTRMS   2            OSTRMS     2            BUFSIZE  200
RMODE    LIN          RMIN       120          RMAX     800
RTIMES   10          CWMIN      3000        M2PATSET 1
OPEN     NO           ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED
    
```

```

ANAME ipg1315a1
LOC      1315          IPLNK PORT A          LINK      A
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1315a
ALHOST   ---
RHOST    e1021301.1315a
ARHOST   ---
LPORT    1315          RPORT      1315
ISTRMS   2            OSTRMS     2          BUFSIZE   16
RMODE    LIN          RMIN       120         RMAX      800
RTIMES   10          CWMIN      3000        UAPS      10
OPEN     NO           ALW        NO          RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME ipg1317a1
LOC      1317          IPLNK PORT A          LINK      A
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1317a
ALHOST   ---
RHOST    e1021301.1317a
ARHOST   ---
LPORT    1317          RPORT      1317
ISTRMS   2            OSTRMS     2          BUFSIZE   200
RMODE    LIN          RMIN       120         RMAX      800
RTIMES   10          CWMIN      3000        UAPS      10
OPEN     YES          ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME a1
LOC      1305          IPLNK PORT A          LINK      **
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1305a
ALHOST   ---
RHOST    labsun10215p0
ARHOST   ---
LPORT    2001          RPORT      2001
ISTRMS   2            OSTRMS     2          BUFSIZE   200
RMODE    LIN          RMIN       120         RMAX      800
RTIMES   10          CWMIN      3000        UAPS      10
OPEN     YES          ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

ANAME a2
LOC      1303          IPLNK PORT A          LINK      A2
ADAPTER  M3UA          VER          M3UA RFC
LHOST    e1021201.1303a
ALHOST   ---
RHOST    labsun10215p0
ARHOST   ---
LPORT    2002          RPORT      2002
ISTRMS   2            OSTRMS     2          BUFSIZE   200
RMODE    LIN          RMIN       120         RMAX      800
RTIMES   10          CWMIN      3000        UAPS      10
OPEN     YES          ALW        YES         RTXTHR   0
HBTIMER  30000
RHOSTVAL RELAXED

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

```

```

HBTIMER 30000
RHOSTVAL RELAXED

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

```

Example 3 displays the output when both the primary and alternate hosts are configured.

```
rtrv-assoc:rhosttype=alternate:display=all
```

```

ipsig 09-03-10 17:58:37 GMT EAGLE 41.0.0

ANAME assoc12
LOC 1111 IPLNK PORT A,B LINK A
ADAPTER M2PA VER M2PA RFC
LHOST aricent11.com
ALHOST aricent12.com
RHOST tekelec11.com
ARHOST tekelec12.com
LPORT 10003 RPORT 10001
ISTRMS 2 OSTRMS 2 BUFSIZE 200
RMODE LIN RMIN 120 RMAX 800
RTIMES 10 CWMIN 3000 M2PATSET 1
OPEN NO ALW YES RTXTHR 65535
HBTIMER 3000
RHOSTVAL RELAXED

ANAME assoc22
LOC 1201 IPLNK PORT A,B LINK A
ADAPTER M2PA VER M2PA RFC
LHOST aricent21.com
ALHOST aricent22.com
RHOST tekelec21.com
ARHOST tekelec22.com
LPORT 10003 RPORT 10001
ISTRMS 2 OSTRMS 2 BUFSIZE 200
RMODE LIN RMIN 120 RMAX 800
RTIMES 10 CWMIN 3000 M2PATSET 1
OPEN NO ALW YES RTXTHR 65535
HBTIMER 3000
RHOSTVAL RELAXED

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

```

- `connmgr`—Enhanced to display “host-unreslvd” if an association cannot be established due to an unresolved hostname in incoming message. The associated logs are enhanced to display “host- mismatch” if the association fails due to RHOST/ARHOST mismatch with INIT/INIT-ACK contents.

```
pass:loc=1107:cmd="connmgr -l"
```

```

Command Accepted - Processing

eagle10212 09-05-10 17:00:42 EST EAGLE 41.0.0
pass:loc=1304:cmd="connmgr -d"
Command entered at terminal #3.
;

eagle10212 09-05-10 17:00:42 EST EAGLE 41.0.0
PASS: Command sent to card
;

eagle10212 09-05-10 17:00:42 EST EAGLE 41.0.0
CONNMGR: Connection Manager Event Log

07-05-03 13:17:40.730 conn-rcvd 5005 from 192.168.100.174:5005
07-05-03 13:17:40.735 conn-rfsd lnk-not-actv 5005 192.168.100.174
07-05-03 13:17:40.950 conn-rcvd 5004 from 192.168.100.174:5004
07-05-03 13:17:40.955 conn-rfsd host-unreslvd 5004 192.168.100.174

```

```
07-05-03 13:17:40.960 conn-rcvd 5003 from 192.168.100.174:5003
07-05-03 13:17:40.965 conn-rfsd host-mismatch 5003 192.168.100.174

CONNMGR: command complete
```

- `sctp`—Enhanced to display the alternate remote IP address in the remote address field if the address is present in the association. The help text for the command is enhanced to refer to the alternate remote host.

Example 1 displays the full help text for the `sctp` command.

```
pass:loc=1307:cmd="sctp -h full"
```

```
eagle10212 09-05-10 17:00:42 EST EAGLE 41.0.0
pass:loc=1307:cmd="sctp -h full
Command entered at terminal #4.
;

eagle10212 09-05-10 17:00:42 EST EAGLE 41.0.0
PASS: Command sent to card
;

eagle10212 09-05-10 17:00:42 EST EAGLE 41.0.0

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

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

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

-a aname option details
  Retrieves detailed information and measurements for a specific
  association. For example the following SCTP command will get the
  measurements and detailed information for the association with
  association name = assoc1.
      sctp -a assoc1
  In remote address field of output configured RHOST or ARHOST or both IP
  address will be displayed based on the presence in association remote network
  array

-p port option details
  Retrieves detailed information for a specified SCTP port.
  For example the following SCTP command will get the detailed
  information for the SCTP port with a local port of 200.
      sctp -p 200
  In remote address field of output configured RHOST or ARHOST or both IP
  address will be displayed based on the presence in association remote network
  array

-r option details
  Resets specified SCTP Measurements. See examples below.
  Resets measurements for specified association:
      sctp -r -a assoc
  Resets measurements for all associations on port 2000:
      sctp -r -p 2000
  Resets measurements and event logs for all ports/associations:
```

```

        sctp -r
Resets event logs for specified association:
        sctp -r -l assoc
Resets event logs for all associations:
        sctp -r -l
Resets measurements for all associations:
        sctp -r -s

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

-l option details
This option displays logging details for associations. The logging
details are independent of the association state (close or open).
See examples below:
The following SCTP command will get the logging details
for all associations on the specified card.
        sctp -l
The following SCTP command will get the logging
details for the association with association name = assoc1.
        sctp -l assoc1

;

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0

SCTP command complete

;

```

Example 2 displays the output for the command when port information is requested.

pass:loc=1307:cmd="sctp -p 2222"

```

Command Accepted - Processing

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0
pass:loc=1307:cmd="sctp -p 2222"
Command entered at terminal #1.

;

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0
PASS: Command sent to card

;

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0
Local   Local IP      Num of
Port    Address         Assoc
2222    192.168.110.12  3
        192.168.112.12

Assoc   Local          Local   Remote        Remote
ID      IP Address     Port    Address       Port
  1     192.168.110.12 2222    192.168.112.4 5555
        192.168.112.12
  2     192.168.110.12 2222    192.168.112.4 5555
        192.168.112.12
  3     192.168.110.12 2222    192.168.112.4 7777
        192.168.112.12 192.168.110.4

        no.of inqueued msgs = 0
                max mtu = 1500
                max init times = 8
                max size reassembly = 1048576

```

```

        default rwnd value = 16384
        pre-open streams = 1
        ip datagram counter = 2781

Timer Values:          seconds          millisecs
      INIT              1                0
      RECV              0                200
      SEND              1                0
      SHUTDOWN          0                300
      HEARTBEAT         0                500
      PMTU              600              0
;

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0

SCTP command complete
;

```

Example 3 displays the output when association information is requested.

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

```

Command Accepted - Processing

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0
4546.1083   SYSTEM          INFO    REPT COND: system alive
          Report Date:01-07-02  Time:12:49:02
;

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0
pass:loc=1307:cmd="sctp -a assoc1"
Command entered at terminal #1.
;

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0
PASS: Command sent to card
;

eagle10212 09-05-10 17:00:42 EST  EAGLE 41.0.0
Aname      Local          Local  Remote          Remote
          Address          Port   Address          Port
assoc1     192.168.110.12  2222  192.168.112.4  5555
          192.168.112.12          192.168.110.2

Configuration                               State
Retransmission Mode = LIN                    State = OPEN
Min. Retransmission Timeout = 10             ULP association id = 18
Max. Retransmission Timeout = 800           Number of nets = 2
Max. Number of Retries = 10                 Inbound Streams = 1
Min. Congestion Window = 3000              Outbound Streams = 2
Inbound Streams = 2
Outbound Streams = 2
Checksum Algorithm = crc32c
Send/Rcv Buffer Size = 204800

Nets Data

IP Address  192.168.112.4          State  Reachable
Port        5555                      Primary YES
MTU         1500                  cwnd   16384
ssthresh    16384                    RTO    120

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

IP Address  192.168.110.2       State  Reachable
Port        5555                      Primary NO
MTU         1500                  cwnd   16384
ssthresh    16384                    RTO    120

```

```

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

                ip datagrams rcvd = 155402
ip datagrams with data chunks rcvd = 120844
                data chunks rcvd = 367908
                data chunks read = 367900
                dup tsns rcvd = 8
                sacks rcvd = 38734
                gap ack blocks rcvd = 3
                heartbeat requests rcvd = 135
                heartbeat acks rcvd = 52
                heartbeat requests sent = 52
                ip datagrams sent = 129254
ip datagrams with data chunks sent = 73084
                data chunks sent = 396330
                retransmit data chunks sent = 135
                sacks sent = 64872
                send failed = 0
                retransmit timer count = 0
                consecutive retransmit timeouts = 0
                RTT between RMIN and RMAX inclusive = 6
                RTT greater than RMAX = 0
                fast retransmit count = 135
                recv timer count = 0
                heartbeat timer count = 244
                none left tosend = 0
                none left rwnd gate = 5
                none left cwnd gate = 8
                UNKNOWN = 0

;

eagle10212 09-05-10 17:00:42 EST EAGLE 41.0.0

SCTP command complete

;

```

TIF Enhancements including IAM/SAM Splitting based on DPC

The TIF Enhancements including IAM/SAM Splitting based on DPC enhancement provides additional functionality for the EAGLE 5 ISS regarding ITU Incoming Address Messages (IAMs) that are processed by the Triggerless ISUP Framework (TIF). For additional information on TIF processing, refer to the *Feature Manual - TIF*. The new options are configured in the Destination and TIFOPTS tables.

- IAM/SAM Splitting based on DPC

ITU IAMs can be split into an IAM message and an SAM message. Enabling of IAM/SAM splitting and the maximum length of the Called Party Number (CdPN) that triggers IAM/SAM splitting can be configured.

Note: IAM/SAM splitting can be performed on all ITU IAMs that are processed by TIF. The message does not have to match a Numbering Plan Processor (NPP) rule or undergo digit modification.

- Release Cause

Generation of a Release message based on the originating point code (OPC) of ANSI or ITU IAMs can be configured.

- NM Bits Reset

The NM Bits for ITU IAMs can be configured to reset to **00**.

Note: As part of this enhancement, all support for the Triggerless ISUP Number Portability (TINP) feature is removed from the EAGLE 5 ISS code.

Commands

For more information on the commands that are enhanced to support the TIF Enhancements including IAM/SAM Splitting based on DPC, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

- `ent/chg/rtrv-csl`—Enhanced to remove parameters and values for the TINP feature.
- `ent/chg/rtrv-dstn`—Enhanced to determine when and how ITU IAM messages are split, allow NM bits to be reset on a per-destination basis, and configure the condition that triggers the sending of a Release message.

```
rtrv-dstn:dpci=1-1-1
```

```
tklc1191001 09-04-28 07:24:38 EST EAGLE5 41.0.0

      DPCI          CLLI          BEI  ELEI    ALIASA          ALIASN/N24    DMN
      1-001-1      -----  no   ---    001-001-001    -----      SS7

      SPCI          NCAI          RCAUSE    NPRST    SPLITIAM
      -----      ----          none      off      20

Destination table is (6048 of 8000) 76% full
Alias table is (1511 of 8000) 19% full

;
```

- `chg/rtrv-tifopts`—Enhanced to determine whether a Release message is triggered from the Destination table or the TIFOPTS table.

```
rtrv-tifopts
```

```
tekelecstp 09-03-10 12:32:21 EST EAGLE 41.0.0

TIF OPTIONS
-----
IAMCGPN          = dn
NPFLAG           = none
RCAUSENP         = 0
RCAUSEPFX        = 0
NPTYPE           = sprn
NPTYPEPCGPN     = sprn
ACLEN            = 0
SPLITIAM         = none
CONDCGPN         = none
CRPREL           = 31
RNRQD            = yes
DFLTRN           = none
DLMA             = none
```

```

DLMB          = none
DLMC          = none
SNSCGPNDFLT  = none
MATCHSEQ     = dn
RLCOPC       = off
;

```

Update to the `alw-card` Command

The `alw-card` command is enhanced to allow the MASP and associated GPL to be downloaded from the inactive partition of the TDM during upgrade.

Note: This value should only be entered under instruction by Tekelec personnel

Update to the `rept-stat-user` Command

The output format of the `rept-stat-user` command is updated to increase the spacing.

```
rept-stat-user
```

```

e5oam 09-04-03 17:25:57 MST EAGLE 41.0.0
REPT STAT USER COMPLD
USER ID          TERM #  IDLE SINCE          COMMAND              STATE
eagle           3      02-01-03 17:19:04  rept-stat-applsock  IDLE
eagle           6      02-01-03 17:25:57  rept-stat-user      PROCESSING
REPORT COMPLETED
;

```

Update to the `rtrv-gws-redirect` Command

The output format of the `rtrv-gws-redirect` command is updated to revise the column spacing.

```
rtrv-gws-redirect
```

```

rlghncxa03w 09-04-10 11:43:04 EST EAGLE 41.0.0
ENABLED      DPCA      RI      SSN      TT      GTA
off          003-033-003  GT      0        0        1
;

```

Update to the `rtrv-ss7opts` Command

The `rtrv-ss7opts` command is enhanced to remove the FAK dependency for the parameters. All parameters are displayed even if the associated feature is not turned on.

```
rtrv-ss7opts
```

```

tekelecstp 09-03-07 03:59:31 EST EAGLE 41.0.0

SS7 OPTIONS
-----
LSRESTRICT      off
DISCARDTFCI     off
DISCARDTFCN     off
SLSREPLACE      no
SLANCPORGOPC    off
DDBAUDTIMER     10
SLANSLN         off
MSGPRI2ITUI     dflt
MSGPRI2ITUN     dflt
;

```

Update to the `tst-e1` Command

The `tst-e1` command is enhanced to support the payload loopback option. For more information on this command, refer to the *Commands Manual* for the EAGLE 5 ISS Release 41.0 documentation set.

Using the `init-card` Command to Reset Service Module Cards



CAUTION: Resetting more than 8 Service Module cards via the `init-card` command at once may result in an extended reload time for the Service Module cards.

Operational Changes

The operational changes that are generated for the features and other changes in Release 41.0 include:

UAM Format Updates

System

```

      1      2      3      4      5      6      7      8
1234567890123456789012345678901234567890123456789012345678901234567890
      xxxx.yyyy zz SYSTEM                      text
                          Card aaaa,bbbb,cccc,dddd, ...(nnn others) (optional field)
    
```

Unsolicited Information Messages

FLOBR

Table 2: UIMs - FLOBR

UIM	1412	Format	Output Group
Action	Added for FLOBR		
Old data			
New data	GTT(FLOBR) failure: max search depth	I43	GTT
UIM	1413	Format	Output Group
Action	Added for FLOBR		
Old data			

New data	GTT(FLOBR) failure: duplicate set type	I43	GTT
UIM	1414	Format	Output Group
Action	Added for FLOBR		
Old data			
New data	GTT(FLOBR) warning: max search depth	I43	GTT
UIM	1415	Format	Output Group
Action	Added for FLOBR		
Old data			
New data	GTT(FLOBR) warning: duplicate settype	I43	GTT
UIM	1418	Format	Output Group
Action	Added for FLOBR		
Old data			
New data	SCCP did not route - no SSN in CgPA	I43	GTT
UIM	1419	Format	Output Group
Action	Added for FLOBR		
Old data			
New data	SCCP did not route - no SSN in CdPA	I43	GTT

Support Provisioning of SCTP ARHOST

Table 3: UIMs - SCTP ARHOST

UIM	1194	Format	Output Group
Action	Added for Support for provisioning SCTP ARHOST		
Old data			
New data	IP Connection Refused, RHOST mismatch	I42	SYS_MAINT
UIM	1198	Format	Output Group
Action	Enhanced for Support for provisioning SCTP ARHOST		

Old data	IP Connection, Cannot resolve RHOST		
New data	IP Connection, Cannot resolve RHOST(S)	I42	SYS_MAINT

TIF Number Substitution

Table 4: UIM-TIF Number Substitution

UIM	1411	Format	Output Group
Action	Added for TIF Number Substitution		
Old data			
New data	TIF CgPN NS Failure: CC mismatch in DN	I79	APSS

Non-feature Related

Table 5: UIMs - Non-feature Related

UIM	1392	Format	Output Group
Action	Added for 41.0		
Old data			
New data	IDPRCDPN NPP SERVICE is Disabled	I1	GTT
UIM	1393	Format	Output Group
Action			
Old data			
New data	IDPRCDGN NPP SERVICE is Disabled	I1	GTT
UIM	1394	Format	Output Group
Action	Added for Release 41.0		
Old data			
New data	Flushing undelivered MSUs	I19	LINK

UIM Format Updates

I13

```

1      2      3      4      5      6      7      8
1234567890123456789012345678901234567890123456789012345678901234567890
xxxx.xxxx  CARD cccc,ppp INFO      `text`
          SIO=xx  OPC=&&-###-###-###  DPC=&&-###-###-###
          CDPA: SSN=###  TT=###
          CGPA: SSN=###  TT=###
          CLASS=###    MSG TYPE=##
          DATA=xx xx xx xx xx xx xx xx xx xx xx
                xx xx xx xx xx xx xx xx xx xx xx
          LSN=[lnkset]
    
```

I43

```

1      2      3      4      5      6      7      8
1234567890123456789012345678901234567890123456789012345678901234567890
xxxx.xxxx  CARD cccc,ppppINFO      `text`
          SIO=xx  OPC=&&-###-###-###  DPC=&&-###-###-###
          SCCP MSG TYPE=##
          SCCP MSG TYPE=##  INV DMA LEN=###      (alternative)
          SCCP MSG TYPE=##  UNSUP Clg GTI=#      (alternative)
          SCCP MSG TYPE=##  INV Clg GTI=#      (alternative)
          SCCP MSG TYPE=##  UNSUP Cld GTI=#      (alternative)
          SCCP MSG TYPE=##  INV Cld GTI=#      (alternative)
          SCCP MSG TYPE=##  GTCNV:Clg ITU->ANSI fail (alternative)
          SCCP MSG TYPE=##  GTCNV:Cld ITU->ANSI fail (alternative)
          SCCP MSG TYPE=##  GTCNV:Clg ANSI->ITU fail (alternative)
          SCCP MSG TYPE=##  GTCNV:Cld ANSI->ITU fail (alternative)
          GTT on CdPA used MOSMSGTA=#####      (optional)
          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]
    
```

```

LSN=[lnkset]   GTTSETIDX=# # #   (alternative)

I44

1           2           3           4           5           6           7           8
12345678901234567890123456789012345678901234567890123456789012345678901234567890
xxxx.xxxx    CARD cccc,ppp INFO      `text`
TRANSLATED PC=&&-###-###-###   TRANSLATED SS=###
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]
LSN=[lnkset]   GTTSETIDX=# # #   (alternative)
    
```

```

I79

1           2           3           4           5           6           7           8
1234567890123456789012345678901234567890123456789012345678901234567890
xxxx.1411    CARD cccc    INFO      `text`
      International CGPN: #####
EPAP DN      : #####
    
```

Hardware Verification Codes

Hardware Verification Codes removed in EAGLE 5 ISS Release 41.0:

- 119—2 port E1/T1 with SLK provisioned on link > B
- 120—2 port LIM card provisioned w/ports > B
- 121—2 port E1 card not support MIM w/E1 port AMI encoding provisioned
- 126—2 port card with unsupported E1/T1 port (2-7) provisioned

Error Messages

Error Messages - FLOBR

Table 6: Error Messages - FLOBR

Response ID Code	Error Message	New?	Used by Command
E2083	GTTSN parameter mustn't be specified	N	ent/chg/rtrv-gttsetl
E2122	Failed reading Linkset Table	N	ent/chg/rtrv-gttsetl

Response ID Code	Error Message	New?	Used by Command
E2136	At least one optional parameter is required	N	chg-sccp-msg
E2346	Linkset not defined	N	ent/chg/dlt/rtrv-gttset tst-msg
E2601	Command aborted due to system error	N	ent/chg/dlt-gttset
E3120	Failed reading GTT DBMM Table	N	ent/chg/rtrv-gttset
E3332	GTA/CGPC/OPC/CGSSN/CDSN/OPCODE are mutually exclusive	N	ent/chg/dlt-gta
E3543	Failed reading GTT Selector Table	N	chg/rtrv-gttset dlt-ls
E3544	Failed reading GTT Set Table	N	chg/rtrv-gttset
E3551	NP and NPV must not be specified together	N	chg-sccp-msg
E3552	NAI and NAIV must not be specified together	N	chg-sccp-msg
E3553	GTI(A)=4, and GTI(x)=1 and 3 are not supported	N	chg-sccp-msg tst-msg
E3563	NAI entries per TT-NP combination has reached allowed max	N	ent/chg-gttset
E3686	GTT DBMM table is full	N	ent/chg-gttset
E4393	Origin Based SCCP Routing feature must be enabled	N	dlt-gttset
E4397	At least one GTT Set Name must be specified	N	chg-gttset

Response ID Code	Error Message	New?	Used by Command
E4412	CGSSN/CDSSN range cannot overlap an existing range	N	ent/chg/dlt-gta
E4414	SSNSELID Table is full	N	chg-gtttsel
E4415	CGSSN/CDSSN range does not exist	N	chg/dlt/rtrv-gta
E4457	CGSELID is valid only if specified GTTSN set type is CDGTA	N	ent/chg-gta
E4514	CdPA and/or CgPA GTT Set can't be specified as NONE	N	chg/trv-gtttsel
E4517	CdPA GTT set must not be specified	N	rtrv-gtttsel
E5060	Flexible Linkset Optional Based Routing must be ON	Y	ent/chg/rtrv-gta ent/chg/dlt/rtrv-gtttsel ent/chg-ls chg/rtrv-sccp-msg chg-sccpopts tst-msg
E5061	Cannot enter lsn, selid, gttsn or cg* fields if eaglegen=yes	Y	ent/chg/dlt/rtrv-gtttsel
E5062	CDGTTSN and/or CGGTTSN must be specified with LSN	Y	ent/chg/rtrv-gtttsel
E5063	OBSR must be enabled or FLOBR must be ON	Y	ent/chg-gta ent/chg/dlt/rtrv-gtttsel
E5064	CDGTASN/CGGTASN/CGPCSN are not valid when FLOBR ON	Y	ent/chg/rtrv-gtttsel
E5073	Linkset referenced by GTT selector table	Y	dlt-ls
E5107	OPCODE param must be specified if GTTSN settype is OPCODE	Y	ent/chg/dlt-gta

Response ID Code	Error Message	New?	Used by Command
E5122	CdPA/CgPA GTT Selector does not exist	Y	chg/dlt-gttset
E5123	Domain indicated by GTIx must match that of linkset	Y	ent/chg-gttset
E5124	SCCP Conversion and FLOBR features must be ON	Y	ent/chg-gta
E5127	CGCNVSN is invalid when GTTSET type is not cggta/cdgta	Y	ent/chg-gta
E5128	CGGTASN, CGPCSN and CGGTTSN are mutually exclusive	Y	ent/chg/rtrv-gttset
E5129	GTTSN, CDGTASN and CDGTTSN are mutually exclusive	Y	ent/chg/rtrv-gttset
E5130	CGSSN must not be specified with GTTSN, CDGTTSN or CDGTASN	Y	ent/chg/rtrv-gttset
E5131	SELID must not be specified with GTTSN or CDGTASN	Y	ent/chg/rtrv-gttset
E5132	Invalid parameter(s) specified with NP=DFLT and NAI=DFLT	Y	chg/dlt/rtrv-gttset
E5139	CGCNVSN Gttset name cannot be same as GTTSN Gttset name	Y	ent/chg-gta
E5147	OPC/CGPC/CDPC Network Domain must match	Y	tst-msg

Support for 16 GTT Lengths in VGTT**Table 7: Error Messages - VGTT with 16 Lengths**

Response ID Code	Error Message	New?	Used by Command
E5058	VGTT must be on before enabling VGTT with 16 GTT lengths	Y	enable-ctrl-feat

Synchronous T1 High Speed Link**Table 8: Error Messages - Synchronous T1 High Speed Link**

Response ID Code	Error Message	New?	Used by Command
E2908	LOOPBACK param needed for FELINE or FEPAYLOAD exclusively	N	tst-t1
E2913	STOP Loopback type must match active loopback	N	tst-t1
E3047	Parameter combination invalid	N	ent/chg-t1
E3872	FRAMING=ESFPERF not supported	N	ent/chg-t1
E4044	Only two E1/T1 ports allowed for Linkclass=Unchan	N	ent-t1
E4274	Cannot mix Unchannelized and Channelized modes on E1/T1 card	N	ent-t1
E4277	Linkclass=Unchan is not valid for this card type	N	ent-t1
E4595	Only one E1/T1 port allowed for Linkclass=Unchan	N	ent-t1

TIF Number Substitution**Table 9: Error Messages - TIF Number Substitution**

Response ID Code	Error Message	New?	Used by Command
E2601	Command aborted due to system error	N	rtrv-data-rtddb
E5091	TIF Number Substitution feature must be enabled	Y	ent/chg-npp-srs chg-tifopts
E5092	NSCgPN and SNSCgPN SAs are mutually exclusive	Y	ent/chg-npp-srs
E5093	TIF NS feature cannot be enabled unless MATCHSEQ is DN	Y	chg-ctrl-feat
E5094	MATCHSEQ cannot be NPTYPE, if TIF NS Feature is Enabled	Y	chg-tifopts

Error Messages - TOBR**Table 10: Error Messages - TOBR**

Response ID Code	Error Message	New?	Used by Command
E2155	Invalid parameter combination specified	N	dlt/rtrv-gta
E3332	GTA/CGPC/OPC/CGSSN/CDSSN/OPCODE are mutually exclusive	N	ent/chg/dlt-gta
E3451	Controlled Feature is not enabled	N	ent/chg-gta ent-gttset
E4400	GTA/CGPC/OPC/CGSSN/CDSSN/OPCODE must be specified	N	ent/chg/dlt/rtrv-gta
E4412	CGSSN/CDSSN range cannot overlap an existing range	N	ent/chg/dlt-gta
E4415	CGSSN/CDSSN range does not exist	N	chg/dlt/rtrv-gta

Response ID Code	Error Message	New?	Used by Command
E4924	Wildcard value is not allowed for ACN	Y	chg-sccp-msg
E5054	PKG and PKGV must not be specified together	Y	chg-sccp-msg
E5056	FLOBR must be ON before TOBR can be enabled	Y	enable-ctrl-feat
E5057	TCAP Opcode Based Routing feature must be enabled	Y	rtrv-gttssel
E5100	Larger Opcode Quantity FAK should be provided	Y	enable-ctrl-feat
E5101	Maximum Opcode Quantity FAK already enabled	Y	enable-ctrl-feat
E5105	One of the TOBR quantity feature must be ON	Y	ent/chg/dlt/rtrv-gta
E5106	OPCODE,PKGTYPE, ACN/FAMILY must be specified together	Y	ent/chg/dlt/rtrv-gta
E5107	OPCODE param must be specified if GTTSN settype is OPCODE	Y	ent/chg/dlt-gta
E5108	CDSSN param must be specified if GTTSN settype is CDSSN	Y	ent/chg/dlt-gta
E5109	Exceeding TOBR Quantity feature OPCODE translations limit	Y	ent-gta
E5110	OPCSN is invalid when GTTSN set type is cggta/cgssn/cgpc	Y	ent/chg-gta
E5140	FAMILY parameter is allowed with ANSI TCAP PKGTYPE	Y	ent/dlt/rtrv-gta
E5141	ACN parameter is allowed with ITU TCAP PKGTYPE	Y	ent/chg/dlt/rtrv-gta

Response ID Code	Error Message	New?	Used by Command
E5144	PKGTYPE abort requires ACN/FAMILY/OPCODE value none	Y	ent/chg/dl/rtrv-gta
E5148	Both FAMILY and OPCODE must be NONE if either is NONE	Y	ent-gta

Non-Feature Related

Table 11: EAGLE Dynamic Database Enhancement - Phase 1

Response ID Code	Error Message	New?	Used by Command
E2101	Card location is unequipped	N	dbg-ddb
E2103	Failed reading the link table	N	dbg-ddb
E2154	Card slot reserved by system	N	dbg-ddb
E2155	Invalid parameter combination specified	N	aud-data dbg-ddb
E2212	Invalid card type for this command	N	dbg-ddb
E2303	Unknown LSN	N	dbg-ddb
E2373	Link is unequipped in the database	N	dbg-ddb
E2392	Received wrong display mode	N	aud-data
E2417	Point code does not exist in the routing table	N	dbg-ddb
E2886	DSTN address must be a full, network or cluster PC	N	dbg-ddb
E4000	No data available to display	Y	rept-stat-ddb
E4259	Target card is not in Active state	N	dbg-ddb

Response ID Code	Error Message	New?	Used by Command
E4785	RLOC and LINK parameter combination must be specified	Y	dbg-ddb

Table 12: Enhancement to support 8 bits in incoming SLS bit rotation feature for ANSI links

Response ID Code	Error Message	New?	Used by Command
E5044	For ITU link sets, ISLSRSB must be in the range (1-4)	Y	ent/chg-ls
E5053	RSL8 is only valid for ANSI link sets	Y	chg-lsopts
E5089	ISLSRSB value must be < 6 when RSL8 is no	Y	ent/chg-ls
E5090	RSL8 is valid only if ISLSBR Feature is enabled	Y	chg-lsopts

Table 13: Support Provisioning of SCTP ARHOST

Response ID Code	Error Message	New?	Used by Command
E5135	Primary remote hostname required before alternate	Y	chg-assoc
E5136	Remote hostname required with rhostype.	Y	chg-assoc
E5137	Arhost value must not match lhost/alhost/rhost.	Y	chg-assoc
E5138	Rhost value must not match lhost/alhost/arhost	Y	chg-assoc

Table 14: TIF Enhancements including IAM/SAM Splitting based on DPC

Response ID Code	Error Message	New?	Used by Command
E3357	TIF NP feature must be enabled	N	chg-dstn
E4982	At least one TIF feature must be enabled	N	ent/chg-dstn

Table 15: Error Messages - Non-Feature/Enhancement Related

Response ID Code	Error Message	New?	Used by Command
E2025	Invalid card location	N	ent-trace
E2124	All links of LSN must use same error correction method	N	ent-slk
E2127	L2 timer not valid for the signaling link type	N	ent-slk
E2130	Maximum number of links are assigned to this linkset	N	ent-slk
E2131	Parameters not valid for card type	N	ent-slk
E2154	Card slot reserved by system	N	chg-e1
E2155	Invalid parameter combination specified	N	ent-slk ent-gta
E2165	Removable drive not inserted	N	disp-disk-dir
E2212	Invalid card type for this command	N	ent-slk
E2269	Unable to communicate with card at location	N	disp-disk-dir
E2387	Card is not in service	N	act-ftp-trns
E2587	Card GPL of link does not match domain of linkset APC	N	ent-slk
E2734	The Channel card must be on the same shelf as its T1 card	N	ent-slk
E2737	The T1PORT at the specified location is not equipped	N	ent-slk
E2739	T1 card location is unequipped	N	ent-slk
E2741	All links on a channel card must use the same E1LOC or T1LOC	N	ent-slk

Response ID Code	Error Message	New?	Used by Command
E2743	Card type of LIMCH does not support T1PORT = 2	N	ent-slk
E2744	T1PORT specified by T1LOC is not equipped	N	ent-slk
E2887	Failed accessing maintenance data	N	ent-slk
E2974	BPS must be 56000 for all ports on Multi Port LIM	N	ent-slk
E3276	Command not allowed while in upgrade mode	N	aud-data rept-stat-ddb
E3282	Failed reading the SAPC table	N	ent/chg/dlt-ls ent/chg-rte dlt-dstn
E3432	Code parameter not supported for OAM locations	N	alw-card
E3455	SCTP Association or SLK provisioned: Card supports 2 links	N	ent-slk
E3482	Link capacity exceeds limit allowed by HSL feature key	N	ent-slk
E3483	CAS=ON is not supported on this card	N	ent-e1
E3484	Interface to a channel card is not supported	N	chg-e1
E3488	RECOVERED is allowed only in channel bridging mode	N	chg-e1
E3490	HIPR must be equipped on the shelf for this card	N	chg-e1
E3562	Network domains of GTI and CdPA GTT Set must match	N	ent-gttset

Response ID Code	Error Message	New?	Used by Command
E3578	NP and NAI must be specified as DFLT together	N	ent/chg/rtrv-gttset
E3726	Active device state does not permit database change	N	ent-slk
E3866	Fan feature must be enabled	N	chg-e1 ent-slk
E4049	Card type of LIMCH does not support E1PORT = 2	N	ent-slk
E4050	E1PORT specified by E1LOC is not equipped	N	ent-slk
E4051	TS value on the E1 already in use by a signaling link	N	ent-slk
E4055	The E1PORT at the specified location is not equipped	N	ent-slk
E4058	The Channel card must be on the same shelf as its E1 card	N	ent-slk
E4076	E1 card location is unequipped	N	ent-slk
E4214	LOC and E1PORT parameter combination must be specified	N	ent-slk
E4215	LOC and T1PORT parameter combination must be specified	N	ent-slk
E4266	Channel bridged slave port is invalid for link provisioning	N	ent-slk
E4267	Invalid timing source for channel bridging	N	chg-e1
E4282	An HSL feature key must be enabled for Linkclass=Unchan	N	ent-slk

Response ID Code	Error Message	New?	Used by Command
E4375	Exception route already exists for input parameters	Y	chg-rtx
E4398	OPTSN and CGSELID/CDSELID are mutually exclusive	N	ent/chg-gta
E4403	CGSSN cannot be specified with OPISN/OPCSN/CGSELID	N	ent/chg-gta
E4405	OPTSN GTT set type is not compatible with GTTSN set type	N	en/tchg-gta
E4486	CgPA GTT Set does not exist	N	ent/chg/rtrv-gttset
E4487	Network domains of GTI and CdPA GTT Set must match	N	ent/chg-gttset
E4488	CGGTASN/CGPCSN set type doesn't match	N	ent/chg/rtrv-gttset
E4511	CdPA GTT Set does not exist	N	ent/chg/rtrv-gttset
E4514	CdPA and/or CgPA GTT Set can't be specified as NONE	N	chg/rtrv-gttset
E4519	CdPA GTT Set type must be cdgta	N	ent/chg/rtrv-gttset
E4660	No change in RC actually requested	Y	chg-rtx
E4756	GPORT/IGM/MO SMS feature must be enabled	Y	chg-gsmopts
E4777	Specified route does not exist in the RTX entry	Y	chg-rtx
E4819	Failure reading TSTMSG Table	N	chg/rtrv-sccp-msg
E4829	Multiple links w/in same linkset cannot share an association	N	ent-slk

Response ID Code	Error Message	New?	Used by Command
E4922	PCR N1/N2 threshold is out of range for the link type	Y	ent-slk
E4925	OPC must not be identical to APC of linkset	Y	ent/chg-rtx
E5013	PVN, FCNA and FCNB must not be identical	Y	act-upgrade
E5080	OPTSN or CGSELID/CDSELID is not valid	Y	chg-gta
E5103	OPTSN set domain must be the same as GTTSN set domain	Y	ent/chg-gta
E5111	The GTTSN set type must not be same as OPTSN set type	Y	ent/chg-gta
E5121	CdPA/CgPA GTT Selector already exists	Y	ent-gttset
E5125	Feature is not supported	Y	chg-feat
E5143	GTT Set specified by OPISN/OPCSN/CCNNSN does not exist	Y	ent/chg-gta
E5149	Invalid table entry, can not be repaired by conversion code	Y	act-upgrade

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

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into the Tekelec Customer Support site and locate a document. Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into the Tekelec **new** Customer Support site at support.tekelec.com.
Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.
2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.

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 is your initial point of contact for all product support needs. A representative takes your call or email, creates a Customer Service Request (CSR) and directs your requests to the Tekelec Technical Assistance Center (TAC). Each CSR includes an individual tracking number. Together with TAC Engineers, the representative will help you resolve your request.

The Customer Care Center is available 24 hours a day, 7 days a week, 365 days a year, and is linked to TAC Engineers around the globe.

Tekelec TAC Engineers are available to provide solutions to your technical questions and issues 7 days a week, 24 hours a day. After a CSR is issued, the TAC Engineer determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, normal support procedures apply. A primary Technical Engineer is assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

Tekelec Technical Assistance Centers are located around the globe in the following locations:

Tekelec - Global

Email (All Regions): support@tekelec.com

- **USA and Canada**

Phone:

1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

1-919-460-2150 (outside continental USA and Canada)

TAC Regional Support Office Hours:

8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Central and Latin America (CALA)**

Phone:

USA access code +1-800-658-5454, then 1-888-FOR-TKLC or 1-888-367-8552 (toll-free)

TAC Regional Support Office Hours (except Brazil):

10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

- **Argentina**

Phone:

0-800-555-5246 (toll-free)

- **Brazil**

Phone:

0-800-891-4341 (toll-free)

TAC Regional Support Office Hours:

8:30 a.m. through 6:30 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

- **Chile**

Phone:

1230-020-555-5468

- **Columbia**

Phone:

01-800-912-0537

- **Dominican Republic**

Phone:

1-888-367-8552

- **Mexico**

Phone:

001-888-367-8552

- **Peru**

- Phone:
0800-53-087
- **Puerto Rico**
Phone:
1-888-367-8552 (1-888-FOR-TKLC)
 - **Venezuela**
Phone:
0800-176-6497
 - **Europe, Middle East, and Africa**
 - **Signaling**
Phone:
+44 1784 467 804 (within UK)
TAC Regional Support Office Hours:
8:00 a.m. through 7:00 p.m. (GMT), Monday through Friday, excluding holidays
 - **Software Solutions**
Phone:
+33 3 89 33 54 00
TAC Regional Support Office Hours:
8:00 a.m. through 7:00 p.m. (GMT), Monday through Friday, excluding holidays
 - **Asia**
 - **India**
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TAC Regional Support Office Hours:
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 - **Singapore**
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9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

EAGLE 5 ISS Card Overview Table

The EAGLE 5 ISS Card Overview table is a resource table that provides an overview of information for cards that can be provisioned in the EAGLE 5 ISS. For a detailed description of supported hardware, see the [Hardware Baseline](#) on page 71.

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 16: 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
DCM	870-1945-01 870-1945-02 870-1945-03 870-1984-01 (DCMX)	dcm	2	2	1 IP Service	bpdcm vwxslan	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

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
						iplim iplimi	iplimi
					1	bpdc ss7ipgw ipgwi	ss7ipgw ipgwi
	870-2372-01	stc	1	2	2 IP Service	bpdc eroute	eroute
EDCM-A (SSEDCM)	870-2508-01	dcm	1	2	1 IP Service	bpdc vwxslan	stplan
	870-2508-02^	stc	1	2	2 IP Service	bpdc eroute	eroute
DSM†	1 GB MEM 870-1984-02 870-1984-08 870-1984-09 870-1984-15^ 870-1984-17^	dsm	2	2	2 IP service	bpdc vsccp gls	vsccp
	2 GB MEM 870-1984-03						
	4 GB MEM 870-1984-05 870-1984-06 870-1984-07 870-1984-13^ 870-1984-16^						

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
DSM-1G	870-2371-02 870-2371-06 870-2371-08 870-2371-13^	ipsm	1	2 (use only A)	1 IP service	bpdcml ips	ips
EDSM-2G*	870-2372-03 870-2372-07 870-2372-09 870-2372-14^ 870-2372-15^	mcpcm	1	2 (use only A)	1 IP service	bpdcml bpdcml2 mcp	mcp
E1/T1 MIM++	870-2198-01 870-2198-02 870-2198-03 870-2198-04 870-2198-07^	lime1 limt1 limch	1	2	8	ss7ml bpmp1t	ss7ansi ccs7itu
E1-ATM	870-2455-01 870-2455-02 870-2455-03 870-2455-05^	lime1atm	1	2	1	atmitu bphcap bphcapt	atmitu
E5-ATM	870-1872-01^ 870-1872-02^	limatm lime1atm	2	2	2	atmhc blbepm blcpld bldiag6 blvxw6 imtpci	atmans atmitu
E5-E1T1	870-1873-02 870-1873-03^ 870-1873-04^	lime1 limt1	1	8	32	ss7hc blbepm bldiag6	ss7ansi ccs7itu

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
		lime1 (for SE-HSL)	1	8	1	blvxw6 imtpci	ccs7itu
		limt1 (for ST-HSL-A)	1	8	1	pldpmc1 blcpld	ss7ansi
E5-ENET	870-2212-02 870-2212-03^ 870-2212-04^ 870-2212-05^	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
			1	2	32	ipsg bldiag6 blbepm blvxw6 blcpld imtpci	ipsg

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
		stc	1	2	2 IP Service	erthc bldiag6 blbepm blvxw6 imtpci blcpld	eroute
		enet	1	2	32	ipsg bidiag6 blbepm blvxw6 blcpld imtpci	ipsg
E5-IPSM	870-2877-01^ 870-2877-02^	ipsm	1	2 (use only A)	1 IP service	ipshc imtpci blcpld blvxw6 bldiag6 blbepm	ips
E5-MASP	870-2903-01^	N/A	2	2	N/A	oamhc blmcap	oam
E5-MDAL	870-2900-01^	N/A	2	N/A	N/A	N/A	N/A
E5-SM4G	870-2860-01^ 870-2860-02^	dsm	2	2	2 IP Service	sccphc imtpci blcpld blvxw6 bldiag6 bpbsmg	vsccp

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card		Links per Card	Card GPLs	Card Applications
			Slots/Ports	Ports			
E5-TSM	870-2943-03^	tsm	1	1	N/A	glshc blbepm blcpld bldiags6 blvxw6 imtpci	gls
GPSM-II	870-2360-01 870-2360-05 870-2360-06 870-2360-08^ 870-2360-09^	N/A	1	N/A	N/A	eoam bpdcn bpdcn2	oam
HC-MIMH	870-2671-01 870-2671-02 870-2671-03^	lime1 limt1	2	8	64	ss7hc blbios	ss7ansi ccs7itu
		lime1 (for SE-HSL)	2	8	2	blcpld blvxw6 bldiag6 pldpnc1 imtpci	ccs7itu
HIPR	870-2574-01 870-2574-02^	N/A	1	N/A	N/A	hipr	hipr
HMUX	870-1965-01 870-1965-03^	N/A	1	N/A	N/A	bphmux	bphmux
LIM-ATM	870-1293-02 870-1293-03 870-1293-06 870-1293-07 870-1293-08	limatm	1	2	1	atmansi bphcap bphcapt	atmansi

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
	870-1293-10 870-1293-13^						
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^ 870-1289-07^	tsm	1	N/A	N/A	gls imt	gls
TSM-512	870-1290-02 870-1290-03 870-1290-04	tsm	1	N/A	N/A	gls imt	gls
TSM-768	870-1291-02 870-1291-03 870-1291-04	tsm	1	N/A	N/A	gls imt	gls

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
TSM-1024	870-1292-02 870-1292-03 870-1292-04	tsm	1	N/A	N/A	gls imt	gls
<p>*Though the system allows 250 MCPM cards, practical usage is 2.</p> <p>†DSM or E5-SM4G cards are required for the LNP, 50,000 or EPAP-based features. For more information about turning these features on, refer to the appropriate manual.</p> <p>‡For the E1 or T1 interface, an SS7 application (SS7ANSI or CCS7ITU) can be assigned to these cards.</p> <p>For more information on the E1 or T1 interface go to Chapter 3 “System Administration Procedures” in the Database Administration Manual - SS7.</p> <p>^This part number is the ROHS equivalent of the immediately preceding part number.</p>							

Feature Restrictions

The following table lists features that are not supported on certain cards. The cards are listed by the name that appears on the card label. For more information on the cards, such as card type, associated GPLs, etc, please see the [EAGLE 5 ISS Card Overview Table](#) on page 63.

Table 17: Feature Restrictions

Feature Name	Part Number	Restricted on Card...
120 Million EPAP DN/IMSI Entries	N/A	DSM (less than 4G)
384 Million LNP Records	893-0110-24 - 893-0110-36	DSM
AINPQ	893-0178-01	DSM (less than 4G)
A-Port	893-0166-01	DSM (less than 4G)
Flexible Link set Optional Based Routing	893-0277-01	DSM
IS41 GSM Migration	893-0173-01	DSM (less than 4G)
LNP Ported TNs (204 million, 216 million, 228 million)	893-0110-21 - 893-0110-23	DSM (less than 4G), E5-SM4G
MO SMS ASD	893-0267-01	DSM (less than 4G)

Feature Name	Part Number	Restricted on Card...
MO SMS B-Party Routing	893-0246-01	DSM (less than 4G)
MO SMS GRN	893-0266-01	DSM (less than 4G)
MO-based GSM SMS NP	893-0194-01	DSM (less than 4G)
MO-based IS41 SMS NP	893-0195-01	DSM (less than 4G)
MO SMS IS41-to-GSM Migration	893-0262-01	DSM (less than 4G)
MTP Messages for SCCP Apps	893-0174-01	DSM (less than 4G)
Prepaid SMS Intercept Ph1	893-0067-01	DSM (less than 4G)
Support for 16 GTT Lengths in VGTT	893-0248-01	DSM
TCAP Opcode Based Routing	893-0278-01	DSM

Hardware Baseline

The Hardware Baseline for EAGLE 5 ISS Release 41.0 is shown in the following table.

Table 18: 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		
	870-0776-08 Rev A or		
	870-0776-11 Rev A		

Component	Part Number	ROHS Number (if applicable)	Required for
Air Management Card	870-1824-01 Rev A	870-1824-02 Rev A	Shelves with Fan Assembly
DCM	870-1945-01 Rev A or		
	870-1945-02 Rev A or		
	870-1945-03 Rev A		
DCMX	870-1984-01 Rev A		
EDCM (single slot)	870-2372-01 Rev E or		
	870-2372-08 Rev A	870-2372-13 Rev A	
EDCM-A (single slot)	870-2508-01 Rev A	870-2508-02 Rev A	
DSM, 1GB MEM	870-1984-02 Rev A or		
	870-1984-08 Rev A or		
	870-1984-09 Rev A	870-1984-15 Rev A 870-1984-17 Rev A	
DSM, 2GB MEM	870-1984-03 Rev A		
DSM, 4GB MEM	870-1984-05 Rev A		Heavy Duty Frame
	870-1984-06 Rev A or		
	870-1984-07 Rev A	870-1984-13 Rev A 870-1984-16 Rev A	
DSM-1G	870-2371-02 Rev A		
	870-2371-06 Rev A		
	870-2371-08 Rev A or	870-2371-13 Rev A	
EDSM-2G (MCPM)	870-2372-03 Rev A		
	870-2372-07 Rev A		
	870-2372-09 Rev A or	870-2372-14 Rev A	
		870-2372-15 Rev A	
E1/T1 MIM	870-2198-01 Rev G or		
	870-2198-02 Rev A or		
	870-2198-03 Rev A or		
	870-2198-04 Rev A	870-2198-07 Rev A	
E1-ATM	870-2455-01 Rev B		

Component	Part Number	ROHS Number (if applicable)	Required for
	870-2455-02 Rev B		
	870-2455-03 Rev A	87-02455-05 Rev A	
E5-ATM		870-1872-01 Rev A	
		870-1872-02 Rev A	
E5-ATM Adapter		830-1342-05	
E5-E1T1	870-1873-02 Rev A	870-1873-03 Rev A	
		870-1873-04 Rev A	
E5-ENET	870-2212-02 Rev A	870-2212-03 Rev A	
		870-2212-04 Rev A	
		870-2212-05 Rev A	
E5-IPSM		870-2877-01 Rev A	
		870-2877-02 Rev A	
E5-MASP		870-2903-01 Rev C	
E5-MDAL		870-2900-01 Rev A	
E5-SM4G		870-2860-01 Rev F	
		870-2860-02 Rev A	
E5-TSM		870-2943-03 Rev A	
FAP	870-1606-01 Rev A or		Standard frame or standard frame with HC-MIMs
	870-1606-02 Rev A	870-1606-05 Rev A	
	870-2320-01 Rev A	870-2320-03 Rev A	Heavy duty frame or heavy duty frame with HC-MIMs
	870-1823-01 Rev B	870-2804-01 Rev B	
FAP-CF/EF	870-0243-08 Rev C		
FAP-MISC	870-0243-09 Rev C		
FAP Fuse and Alarm Panel	870-2804-01 Rev A		
Fast Copy Adapter Upper		830-1343-01 Rev A	
Fast Copy Adapter Lower		830-1343-02 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	
		870-2360-09 Rev A	
HC-MIM	870-2671-01 Rev P or		
	870-2671-02 Rev B	870-2671-03 Rev A	
HIPR	870-2574-01 Rev D	870-2574-02 Rev A	
HMUX	870-1965-01 Rev A	870-1965-03 Rev A	
LIM-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	
MDAL	870-0773-04 Rev B or		
	870-0773-05 Rev A or		
	870-0773-06 Rev A or		
	870-0773-08 Rev A	870-0773-09 Rev A	
MPL	870-2061-01 Rev A or		
	870-2061-03 Rev A or		
	870-2061-04 Rev A	870-2061-06 Rev A	
MPS DC Frame Assembly	890-1843-01 Rev C	890-1843-02 Rev A	
MPS in Heavy Duty Frame	890-1801-01 Rev E	890-1801-02 Rev A	
TDM	870-0774-10 Rev A or		
	870-0774-11 Rev A		Rev C required if installed in a system with more than 11 shelves
TDM GTI	870-0774-15 Rev B	870-0774-18 Rev A	
TSM-256	870-1289-02 Rev A or		

Component	Part Number	ROHS Number (if applicable)	Required for
	870-1289-03 Rev A or		
	870-1289-04 Rev A	870-1289-06 Rev A 870-1289-07 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	T1000 Application Server
Modem Card	870-2707-01 Rev B	870-2707-02 Rev A	T1000 Application Server
Quad Serial Exp. Card	870-2708-01 Rev B	870-2708-02 Rev A	T1000 Application Server
120 GB Hard Drive Assy	870-2721-02 Rev B	870-2721-04 Rev A	T1000 Application Server
T1100 (Application Server - DC)	870-2754-01 Rev P or	870-1893-03 Rev A	
	870-2807-01 Rev A		

Component	Part Number	ROHS Number (if applicable)	Required for
Dual Port Ethernet	870-2706-02 Rev A	870-2706-04 Rev A	T1100 (Application Server - DC)
Hard Disc Drive - 250 GB SATA	870-2787-01 Rev B	870-2787-02 Rev A	T1100 (Application Server - DC)
2 GB RAM Kit	870-2833-01 Rev C	870-2833-02 Rev A	T1100 (Application Server - DC)

Glossary

A

ATM

Asynchronous Transfer Mode

A packet-oriented transfer mode that uses an asynchronous time division multiplexing technique to multiplex information flow in fixed blocks, called cells.

A high-bandwidth, low-delay switching, and multiplexing technology to support applications that include high-speed data, local area network interconnection, multimedia application and imaging, and residential applications such as video telephony and other information-based services.

C

CCS7ITU

The application for the ITU SS7 signaling links that is used with card types `limds0`, `limch`, `lime1`, and `limt1`.

CdPA

Called Party Address

The portion of the MSU that contains the additional addressing information of the destination of the MSU. Gateway screening uses this additional information to determine if MSUs that contain the DPC in the routing label and the subsystem number in the called party address portion of the MSU are allowed in the network where the EAGLE 5 ISS is located.

CgPN

Calling party number

D

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.
DSM	Database Service Module. The DSM provides large capacity SCCP/database functionality. The DSM is an application card that supports network specific functions such as EAGLE Provisioning Application Processor (EPAP), Global System for Mobile Communications (GSM), EAGLE Local Number Portability (ELAP), and interface to Local Service Management System (LSMS).

E

E1	The European equivalent of T1 that transmits digital data over a telephone network at 2.048 Mbps.
E5-E1T1	EPM-based E1/T1 Multi-Channel Interface Module

E

An EPM-based card that provides E1 and T1 connectivity. The E5 indicates the card is for existing EAGLE 5 control and extension shelves. E1T1 is an abbreviation for the ITU E1 and ANSI T1 interfaces. Thus the nomenclature defines the shelves where the card can be used and the physical interface that it provides.

E5-ENET

EPM-based Ethernet card

A high capacity single-slot IP signaling card (EPM card plus Gig Ethernet PMC cards).

E5-IPSM

Ethernet Card w/ 2GB of main memory

EDCM

Enhanced Database Communication Module

G

GB

Gigabyte — 1,073,741,824 bytes

GTT

Global Title Translation

A feature of the signaling connection control part (SCCP) of the SS7 protocol that the EAGLE 5 ISS uses to determine which service database to send the query message when an MSU enters the EAGLE 5 ISS and more information is needed to route the MSU. These service databases also verify calling card numbers and credit card numbers. The service databases are identified in the SS7 network by a point code and a subsystem number.

H

H

HC-MIM

High Capacity Multi-Channel Interface Module

A card that provides access to eight E1/T1 ports residing on backplane connectors A and B. Each data stream consists of 24 T1 or 31 E1 DS0 signaling links assigned in a time-division multiplex (TDM) manner. Each channel occupies a unique timeslot in the data stream and can be selected as a local signaling link on the interface card. Each card has 8 E1 or 8 T1 port interfaces with a maximum of 64 signaling links provisioned among the 8 E1/T1 ports.

HIPR

High-Speed IMT Packet Router

A card that provides increased system throughput and traffic capacity. HIPR moves EAGLE from an intra-shelf ring topology to an intra-shelf switch topology. HIPR acts as a gateway between the intra-shelf IMT BUS, running at 125Mbps, and the inter-shelf operating at 1.0625Gbps. The HIPR card will seat in the same slot as an HMUX card (slots xx09 & xx10 of each shelf).

HMUX

High-Speed Multiplexer

A card that supports the requirements for up to 1500 links, allowing communication on IMT buses between cards, shelves and frames. HMUX cards interface to 16 serial links, creating a ring from a series of point to point links. Each HMUX card provides a bypass multiplexer to maintain the ring's integrity as cards are removed and inserted into an operational shelf.

High-Speed IMT Multiplexer, a replacement card for the IPMX.

I

IAM Initial Address Message

IP Internet Protocol
IP specifies the format of packets, also called datagrams, and the addressing scheme. The network layer for the TCP/IP protocol suite widely used on Ethernet networks, defined in STD 5, RFC 791. IP is a connectionless, best-effort packet switching protocol. It provides packet routing, fragmentation and re-assembly through the data link layer.

ISS Integrated Signaling System

L

LIM-ATM A link interface module (LIM) with the ATM interface.

LNP Local Number Portability

LSB Least Significant Bit

M

MCPM Measurement Collection and Polling Module
The Measurement Collection and Polling Module (MCPM) provides comma delimited core STP measurement data to a remote server for processing. The MCPM is an EDSM with 2 GB of memory running the MCP application.

MDAL Maintenance Disk and Alarm

MIM Multi-Channel Interface Module

M

MPL

Multi-port LIM

MSU

Message Signaling Unit

The SS7 message that is sent between signaling points in the SS7 network with the necessary information to get the message to its destination and allow the signaling points in the network to set up either a voice or data connection between themselves.

The message contains the following information:

- The forward and backward sequence numbers assigned to the message which indicate the position of the message in the traffic stream in relation to the other messages.
- The length indicator which indicates the number of bytes the message contains.
- The type of message and the priority of the message in the signaling information octet of the message.
- The routing information for the message, shown in the routing label of the message, with the identification of the node that sent message (originating point code), the identification of the node receiving the message (destination point code), and the signaling link selector which the EAGLE 5 ISS uses to pick which link set and signaling link to use to route the message.

N

NPP

Numbering Plan Processor

N

Provides the flexible service application behavior that satisfies the needs of customers resident in complex signaling networks. It is used for number conditioning, RTDB lookup, and outgoing number formatting.

S

SE-HSL	<p>Synchronous E1 High Speed Link</p> <p>Format for E1 high-speed signaling links where time-slot 0 is used for framing and error control. The remainder of bandwidth, equivalent to 31 channels of 64Kbps data, is used as a single data link yielding a total capacity of 1.984 Mbps. Also known as Unchannelized E1.</p>
SS7	<p>Signaling System #7</p>
SS7ANSI	<p>SS7 ANSI</p> <p>An application used by the LIM cards and the E1/T1 MIM card for the MTP functionality.</p>
SSEDCM	<p>Single Slot Enhanced Data Communications Module</p>
SSN	<p>Subsystem Number</p> <p>The subsystem number of a given point code. The subsystem number identifies the SCP application that should receive the message, or the subsystem number of the destination point code to be assigned to the LNP subsystem of the EAGLE 5 ISS.</p> <p>A value of the routing indicator portion of the global title translation data commands</p>

S

indicating that no further global title translation is required for the specified entry.

ST-HSL-A

Synchronous T1 High Speed Link

The 192 data bits of a framed T1 are combined to form a single unchannelized high-speed data stream that uses the SS7 protocol for messaging. Also known as Unchannelized T1.

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

Time Division Multiplexing

TDM-GTI

TDM Global Timing Interface

TINP

Triggerless ISUP based Number Portability

TSM

Translation Services Module

Provides translation capability and Global Title Translation (GTT) implementation for the Local Number Portability (LNP) function and is used for downloading gateway screening tables to link interface modules (LIMs).

V

V

VGTT

Variable Length GTT

A feature that provides the ability to provision global title entries of varying lengths to a single translation type or GTT set. Users are able to assign global title entries of up to 10 different lengths to a single translation type or GTT set.

Feature Notice

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