Tekelec EAGLE® 5

Release 44.0

Feature Notice

910-6240-001 Revision C

June 2012

Table of Contents

List of Tables

EAGLE 5 ISS Release 44.0

Feature Content

Introduction

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

This Feature Notice includes a brief overview of each feature, lists new hardware required (if any), provides the hardware baseline for this release, and explains how to find the Release Notice and other customer documentation on the Customer Support Site.

Revision B of the Feature Notice includes updates to commands, measurements, alarms, and error messages for features and enhancements introduced in 44.0. The *Allow MOBR Exception Routes to Adjacent Point Codes* feature and the *Update to Ethernet Port Characteristics* are added.

New and Enhanced Features

- *Allow MOBR Exception Routes to Adjacent Point Codes*

  The Origin-Based MTP Routing feature is enhanced to allow exception routes to be provisioned for adjacent point codes.

- *Digit Action to Delete Country Code when Present and Prefix with Database Entity*

  The DELCCPREFIX Digit Action can be applied to the Called Party Global Title Address (CdPA GTA) when the GTA has a National format.

- *EPM-B Based Cards*

  A new Embedded Processor Module is introduced along with a new series of cards that run on the module.

  - *E5-ATM-B*
  - *E5-ENET-B*
  - *E5-MCPM-B*

- *E5-ENET-B IPSG High Throughput*

  The E5-ENET-B card running the IPSG application can have a capacity up 9500 TPS.

- *IPS Application on E5-ENET-B*

  The E5-ENET-B card can run the IPS application.

- *E5-OAM Integrated GLS*

  Generic Loading Services functionality is migrated from the TSM and E5-TSM cards to the E5-OAM.

- *E5-SM8G-B*

  A new E5-SM8G-B card is introduced. This card can be used to replace DSM and E5-SM4G cards.

- *IDPR TON Mapping for CdPN BCD Format*

The mapping that occurs when encoding or decoding the BCD parameter for a Called Party or Calling Party number can be configured by the user.

- *Message Flow Control Replacement for TVG*

  Message Flow Control (MFC) provides a framework to control the flow of data between cards based on the capacity of the services provided by the cards. This framework provides an alternative to TVG.

- *MFC for EROUTE*

  MFC can be used to control the flow of EROUTE traffic from the MTP/OAM application to the EROUTE application.

- *MFC for MTP3*

  MFC can be used to control the flow for INM and SNM MSUs and for all MTP layer 3 routing.

- *MFC for SCCP*

  MFC can be used to control the flow of SCCP traffic between LIM cards and Service Module cards.

- *MFC for SLAN*

  MFC can be used to control the flow of STP LAN service requests.

- *NPP Conditioning Action Support for Extracting Variable Length Area Code from CgPN*

  Numbering Plan Processing support is added to extract area codes of different lengths from the Calling Party Number.

- *NPP Single Digit Wild Card Optionality*

  A new NPP Unlimited SDWC Characters feature is introduced. This feature allows configuration of the desired NPP Single Digit Wild Card Optionality.

- *TIF Calling Party Number Conditioning*

  The Triggerless ISUP Framework (TIF) is enhanced to invoke Numbering Plan Processor (NPP) services using the Calling Party Number (CgPN) portion of an ISUP IAM message.

- *TIF Range CGPN Blacklist*

  An ISUP REL message is generated for an incoming ISUP IAM if an NPP rule is found for the Called Party Number (CdPN), and the CgPN parameter is not present in the IAM, or the CgPN is present but does not contain any digits, or if an NPP rule to generate an ISUP REL message is found for the Calling Party Number.

- *TIF Subscriber CgPN Blacklist*

  An ISUP REL message is generated for an incoming ISUP IAM if the CgPN is found in the RTDB and the RTDB entry has CgBL flag = YES, or the CgPN is not found in the RTDB.

Other Changes

- *Display Reference Counts for Default MAP and MRN Sets*

  The `rtrv-map` and `rtrv-mrn` commands are enhanced to display the reference count for default MAP and MRN sets.

- *Enable or Disable an IP Interface on High Capacity Cards*

  An IP interface can be enabled or disabled for high-capacity cards.

- *Equipment Identity Register Support of ANSI*

Equipment Identity Register (EIR) supports ANSI point codes.

- *NPP Enhancement: Add Optional SA Data for Service Actions in Action Set*

  A numerical values list can be added to individual Service Actions. These data are supported by the *TIF Range CGPN Blacklist* and *TIF Subscriber CgPN Blacklist* features and are used as Release Cause values for the ISUP REL message.

- *Updates to the chg-measopts and chg-mtc-measopts Commands*

  The `chg-measopts` and `chg-mtc-measopts` commands are enhanced to allow various parameters to be configured as options for new on and off parameters.

Operational Changes

- *Update to Ethernet Port Characteristics*

  Ethernet Port characteristics for cards are updated.

- *Unsolicited Alarm Messages*
- *Unsolicited Information Messages*
- *Hardware Verification Code*
- *UAM Format Updates*
- *Error Messages*

Allow MOBR Exception Routes to Adjacent Point Codes

The Origin-Based MTP Routing (MOBR) feature is enhanced to allow exception routes to be provisioned for adjacent point codes (APCs).

Exception routes are allowed through the use of a 'dummy' point code as an APC. After the true APC is replaced by a dummy APC, MOBR exception routes can be configured for the true APC with the same method used for non-adjacent destinations.

The dummy point code is configured and known only to the EAGLE 5.

The linkset to the dummy point code should have the SLTSET set to 0, using the `ent-ls` or `chg-ls` command. The sltset parameter specifies the SLT record to be associated the linkset. If a value of *0* is provisioned for the sltset parameter, then a dummy SLTSET is created and designated as 'Reflect'.

If the SLTSET for a linkset is configured as Reflect, then the EAGLE 5 does not send an SLTM message to the adjacent node. When an SLTM message is received, the EAGLE 5 responds with an SLTA message with the OPC and DPC of the SLTA swapped from the SLTM message.

Feature Control Requirements

The sltset=0 parameter can be configured only for an 'A' linkset.

Hardware Requirements

None.

Commands

The `ent/chg/rtrv-ls` commands are enhanced to provision and display the Reflect SLTSET.

Example 1 displays output when all linksets have been set to Reflect.

`rtrv-ls`

```
tekelecstp 11-10-13 15:55:42 EST  EAGLE 44.0.0

                                  L3T SLT              GWS GWS GWS
LSN           APCA   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
ls1           001-001-001   none 1   RFT no  A   0    off off off no    off
ls2           002-002-002   none 1   RFT no  A   0    off off off no    off
ls3           003-003-003   none 1   RFT no  A   0    off off off no    off
```

Example 2 displays output for a specified linkset that has been set to Reflect.

`rtrv-ls:lsn=ls1`

```
tekelecstp 11-10-13 15:56:22 EST  EAGLE 44.0.0

                                  L3T SLT              GWS GWS GWS
LSN           APCA   (SS7)  SCRN SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
ls1           001-001-001   none 1   RFT no  A   0    off off off no    off

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

            RANDSLS
            off

            IPSG  IPGWAPC  GTTMODE           CGGTMOD   PCT
            no    no       CdPA               no      off


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

Limitations

The following limitations exist for a linkset with an SLTSET that is provisioned as *reflect*:

- SLT failures are not reported.
- Periodic SLT messages are not generated for links in the linkset.
- Peer-to-peer network management messages generated by the EAGLE 5 towards an adjacent node are not processed by adjacent nodes configured as the dummy point code. Incorrect route status at these adjacent nodes may result.
- The real point code of the adjacent node is treated as a non-adjacent node. Therefore, network management messages expected only from adjacent nodes are rejected.
- Any traffic generated by an adjacent node for other nodes that have prohibited status at the EAGLE 5 are discarded at the EAGLE 5 and a TFP message is sent back to adjacent node. Adjacent nodes may ignore TFP messages from the EAGLE 5.
- The change-over and change-back for link failures are time controlled because the destination point code of the Changeover Order (COO) and Changeback Declaration (CBD) messages is the dummy point code, causing these messages to be ignored by the adjacent node. Also, the COO and CBD messages received by the EAGLE 5 from the adjacent node (configured as the dummy point code) are ignored by the EAGLE 5.

Digit Action to Delete Country Code when Present and Prefix with Database Entity

The Digit Action to delete country code if present and prefix database entity feature allows the DELCCPREFIX Digit Action to be applied to the Called Party Global Title Address (CdPA GTA) when the GTA has a National format as well as when the GTA has an International format.

When the option is configured and the GTA has an International format, the Country Code is deleted and the GTA is prefixed with the Entity Id. When the GTA has a National format, the GTA is prefixed with the Entity ID.

Hardware Requirements

None.

Feature Control Requirements

There are no feature control requirements identified for this feature.

Commands

The `chg/rtrv-sccpopts` commands are updated to provision and display the new delccprefix parameter.

`rtrv-sccpopts`

```
    tekelecstp 11-07-29 15:38:23 EST  EAGLE 44.0.0

    SCCP OPTIONS
    ------------------------------
    CLASS1SEQ                    on
    CCLEN                         0
    ACLEN                         0
    INTLUNKNNAI                  no
    SUBDFRN                     off
    DFLTGTTMODE                CdPA
    CNVAINAT                      1
    MOBRSCCPOPC                 MTP
    TGTT0                      NONE
    TGTT1                      NONE
    TGTTUDTKEY                  MTP
    TGTTXUDTKEY                 MTP
    GMSTCAPCE                   off
    DFLTFALLBACK                 no
    MTPRGTT                     off
    MTPRGTTFALLBK          mtproute
    UNQGTTSEL             exactmatch
    DELCCPREFIX               pfx4all

;
```

Limitations

No limitations are associated with this feature.

EPM-B Based Cards

A new Embedded Processor Module (EPM) is introduced. This module is referred to as the EPM-B and has a Part Number of 850-2037-01.

A series of new cards that run on the EPM-B is introduced. These cards are known collectively as EPM-B based cards and are discussed individually in their associated sections:

- *E5-ATM-B*
- *E5-ENET-B*
- *E5-MCPM-B*

The EPM-B based cards are single slot cards with dual core processors.

Hardware Requirements

- Fan trays must be installed on shelves that contain EPM-B based cards.
- The IMT bus must contain at least one HIPR or HIPR2 card before an EPM-B based card can connect with the bus. If HMUX cards are used, then the cards cannot access the IMT bus. If the shelf contains both HMUX and HIPR/HIPR2 cards, then the EPM-B based card connects with the HIPR/HIPR2 cards only.

  Note: HMUX cards with HIPR/HIPR2 cards on the same shelf are supported only during migration to the EPM-B based cards.

- Dual 60A power feeds are recommended for all frames that host EPM-B based cards. EAGLE 5 frames that host EPM-B cards may require dual 60 Amp power feeds, depending on frame configuration.
- The BLMCAP GPL must be flashed on EPM-B based cards before the card can be initialized.

Commands

- `chg-th-alm`—Enhanced to support a thermal limit of 90 degrees Celsius for EPM-B based cards.
- `rept-stat-card`—Enhanced to show *EPM B* as the Mother Board ID when an EPM-B based card is used.

`rept-stat-card:loc=1113:mode=full`

```
   rlghncxa03w 11-03-09 16:35:57 IST  EAGLE 44.0.0
   CARD   VERSION      TYPE      GPL        PST            SST        AST
   1103   134-000-000  DCM       SLANHC     IS-NR          Active     -----
     ALARM STATUS       = No Alarms.
     BLMCAP  GPL version = 032-000-000
     IMT BUS A          = Conn
     IMT BUS B          = Conn
     CLOCK A            = Active
     CLOCK B            = Idle
     CLOCK I            = Idle
     MBD BIP STATUS     = Valid
     MOTHER BOARD ID    = EPM B
     DBD STATUS         = Valid
     DBD TYPE           = 1G ENET
     DBD MEMORY SIZE    = 2048M
     HW VERIFICATION CODE = ----
```

```
      CURRENT TEMPERATURE   =  62C (144F)
      PEAK TEMPERATURE:     =  63C (146F)     [02-09-14 14:49]
      IPLNK STATUS
          IPLNK  IPADDR            STATUS     PST
          A      10.220.9.9        UP         IS-NR
      DLK IP CONNECTION
          PORT   PST            SST            AST
          A      IS-NR          Active         -----
      SLAN % EAGLE CAPACITY    = 0%
      SLAN % HOST CAPACITY     = 0%

    Command Completed.
;
```

E5-ATM-B

A new E5-ATM-B card (Part Number 870-2972-01) is introduced. This card is based on the EPM-B module. See *EPM-B Based Cards* for information common to all cards based on the EPM-B.

E5-ATM-B cards can be inserted in slots that are provisioned for ATMANSI or ATMITU applications. The card is provisioned using the `ent-card` command with type=limatm and appl=atmansi for ANSI or type=lime1atm and appl=atmitu for ITU.

Feature Control Requirements

Message Flow Control (MFC) and the Fan feature must be on before an E5-ATM-B card can be brought into service. See *Message Flow Control Replacement for TVG* for more information.

If MFC and the Fan feature are on, then E5-ATM-B cards can co-exist with and be used to replace E5-ATM cards (Part Numbers 870-1872-XX) without configuration changes. If MFC or the Fan feature is off, then the E5-ATM-B cards will auto-inhibit.

When the EAGLE contains B-series cards which include E5-ENET-B, E5-ATM-B, E5-SM8G-B, and E5-E1T1-B, the following cards are not supported in EAGLE Release 44.0 except during migration to the B-series cards:

- DCM card (870-1945-xx)
- DSM card (870-1984-xx)
- EDCM card (870-2372-xx) used for SLAN or STC functionality
- EDCM-A card (870-2508-xx) used for SLAN or STC functionality

Commands

If the only enhancement to the command is adding support for E5-ATM-B cards, then the command is listed with no additional information. If adding support for the card causes further changes to the command, then that information is provided.

- `act/chg/rept-stat/rtrv-gpl`
- `act/canc-lpo`
- `enable-ctrl-feat`
- `ent/act/blk/canc/dact/inh/rept-stat/tst/ublk/unhb-slk`
- `ent/alw/init/rept-stat/rtrv-card`

- `rept-meas`
- `rept-stat-rtd`
- `rtrv-stp`
- `rtrv-tps`

E5-ENET-B

A new E5-ENET-B card (Part Number 870-2971-01) is introduced. This card is based on the EPM-B module. See *EPM-B Based Cards* for information common to all cards based on the EPM-B.

The E5-ENET-B card can be used with the EROUTE, IPGW, IPLIM, IPLIMI, IPS, IPSG, SS7IPGW, and STPLAN applications.

E5-ENET-B with EROUTE

E5-ENET-B cards can be used in slots that are provisioned for the EROUTE application. The card is provisioned using the `ent-card` command with type=stc and appl=eroute.

E5-ENET-B with IPGWx, IPLIMx, SS7IPGW

E5-ENET-B cards can be used in slots that are provisioned for the IPGWI, IPLIM, IPLIMI, or SS7IPGW application. The card is provisioned using the `ent-card` command with type=dcm and appl=ipgwi/iplim/iplimi/ss7ipgw.

E5-ENET-B with IPS

See *IPS Application on E5-ENET-B* for information on the E5-ENET-B card running the IPS application.

E5-ENET-B with IPSG

E5-ENET-B cards can be used in slots that are provisioned for the IPSG application. A new ENETB card type is introduced for use with the E5-ENET-B card and IPSG application. The card is provisioned using the `ent-card` command with type=enetb and appl=ipsg.

An E5-ENET-B card with the IPSG application has a capacity of 6500 TPS. If E5-ENET-B cards are installed in slots that are provisioned for E5-ENET cards, then the E5-ENET-B cards process at 5000 TPS. If an E5-ENET card is installed in a slot provisioned for an E5-ENET-B card, then the E5-ENET card auto-inhibits.

If the *E5-ENET-B IPSG High Throughput* feature is turned on, then the E5-ENET-B cards process at rates up to 9500 TPS.

E5-ENET-B with STPLAN

E5-ENET-B cards can be used in slots that are provisioned for the STPLAN application. The card is provisioned using the `ent-card` command with type=dcm and appl=stplan.

Feature Control Requirements

Message Flow Control (MFC) and the Fan feature must be on before an E5-ENET-B card running the STPLAN, EROUTE, IPGW, IPGWI, IPLIM, IPLIMI, or IPSG application can be brought into service. See *Message Flow Control Replacement for TVG* for additional information on MFC.

Note: The E5-ENET-B card running the IPS application does not require MFC. See *IPS Application on E5-ENET-B* for additional information.

If MFC and the Fan feature are on, then E5-ENET-B cards can co-exist with and be used to replace E5-ENET cards (Part Numbers 870-2212-XX), EDCM cards (Part Numbers 870-2372-XX) and EDCM-A cards (Part Numbers 870-2508-XX) without configuration changes. If MFC or the Fan feature is off, then the E5-ENET-B cards will auto-inhibit.

When the EAGLE contains B-series cards which include E5-ENET-B, E5-ATM-B, E5-SM8G-B, and E5-E1T1-B, the following cards are not supported in EAGLE Release 44.0 except during migration to the B-series cards:

- DCM card (870-1945-xx)
- DSM card (870-1984-xx)
- EDCM card (870-2372-xx) used for SLAN or STC functionality
- EDCM-A card (870-2508-xx) used for SLAN or STC functionality

Commands

If the only enhancement to the command is adding support for E5-ENET-B cards, then the command is listed with no additional information. If adding support for the card causes further changes to the command, then that information is provided.

- `act/init-flash`
- `act/chg/rept-stat/rtrv-gpl`
- `act/canc-lpo`
- `enable-ctrl-feat`
- `ent/chg/act/alw/blk/canc/dact/dlt/inh/rept-stat/rtrv/tst/ublk/unhb-slk`—Enhanced to support increased TPS when an E5-ENET-B card running the IPSG GPL and application is used.
- `ent/chg/rtrv-appl-rtkey`
- `ent/chg-assoc`
- `ent/chg/init/rept-stat/rtrv-card`—Enhanced to support the ENETB card type when an E5-ENET-B card is used with the IPSG GPL and application. The `chg-card` command is enhanced to add the type parameter which allows the IPLIMx card configuration to migrate to an IPSG configuration that is hosted by an E5-ENET or an E5-ENET-B card.

  Example 1 displays output for the `rtrv-card` command when an E5-ENET-B card is configured with the IPSG application.

  `rtrv-card`

```
   eagle10212 11-03-05 09:34:40 EST  EAGLE 44.0.0
   CARD   TYPE      APPL     LSET NAME   LINK SLC LSET NAME   LINK SLC
   1301   DCM       IPLIM    e3e4        A    0   e3e4        B    2
   1303   ENET      IPSG     ls1303a     A    0   lsm2pa7     A15  0
   1305   ENETB     IPSG     ls1305a     A    0   ls1305i     B    0
                             ls1305a     A1   1   ls1305i     B1   1
                             ls1305a     A2   2   ls1305i     B2   2
```

```
                              ls1305a     A3   3   ls1305i     B3   3
   1307   DCM       SS7IPGW  ls1307a     A    0
   1311   DCM       IPLIM    e3e4a       A    0
```

Example 2 displays output for the `rtrv-card` command when the IPSG links are requested.

`rtrv-card:links=ipsg`

```
   e1001501 11-02-23 16:20:42 EST  EAGLE 44.0.0
   CARD   TYPE      APPL     LSET NAME   LINK SLC   SLKTPS
   1105   ENET      IPSG     e1e2sg1     A    0     410
                             e1e2sg1     B    4     410
                             e1e2sg1     A1   1     410
                             e1e2sg1     B1   5     410
                             e1e2sg1     A2   2     410
                             e1e2sg1     B2   6     410
                             e1e2sg1     A3   3     410
                             e1e2sg1     B3   7     410
                  Total SLKTPS is (3280 of 5000) 66%
   1211   ENET      IPSG     ls1211a     A    0     500
                             ls1211b     A1   0     600
                             ls1211b     B1   1     600
                             ls1211c     A2   0     700
                             lsm3ua1     A3   0     1600
                  Total SLKTPS is (4000 of 5000) 80%
   1213   ENET      IPSG     ls1213a     A    0     800
                             ls1213b     A1   0     900
                             ls1213c     A2   0     1000
                             lsm3ua1     A3   1     1600
                  Total SLKTPS is (4300 of 6500) 66%
   1215   ENETB     IPSG     m3ua01      A    0     10
                             m3ua02      B    0     10
                             m3ua03      A1   0     10
                             m3ua04      B1   0     10
                             m3ua05      A2   0     10
                             m3ua06      B2   0     10
                             m3ua07      A3   0     10
                             m3ua08      B3   0     10
                             m3ua09      A4   0     10
                             m3ua10      B4   0     10
                             m3ua11      A5   0     10
                             m3ua12      B5   0     10
                             m3ua13      A6   0     10
                             m3ua14      B6   0     10
                             m3ua15      A7   0     10
                             m3ua16      B7   0     10
                  Total SLKTPS is (1600of 6500) 25%

;
```

- `chg-eisopts`
- `chg-netopts`
- `chg/rtrv-sg-opts`
- `ent/chg-ip-card`
- `ent/chg-ls`—Enhanced to support increased values for maxsltktps and slktps/rsvdslktps parameters an E5-ENET-B card running the IPSG GPL and application is used.
- `ent/rtrv-dlk`
- `ent-ip-node`
- `ent/dlt/rtrv-ip-rte`
- `pass`
- `rept-meas`

- `rept-stat-iptps`—Enhanced to support increased TPS when an E5-ENET-B card running the IPSG GPL and application is used.
- `rept-stat-mon`
- `rept-stat-rtd`
- `rept-stat-slan`
- `rept-stat-sys`
- `rept-stat-tstslk`
- `rtrv-stp`
- `rtrv-tps`

IPS Application on E5-ENET-B

The *E5-ENET-B* card can run the IPS application. The card is provisioned using the `ent-card` command with type=ipsm and appl=ips.

Feature Control Requirements

The Fan feature must be turned on before an E5-ENET-B card running the IPS application can be brought into service.

If the Fan feature is turned on, then E5-ENET-B cards running the IPS application can co-exist with and be used to replace DSM-1G (Part Numbers 870-2371-XX) and E5-IPSM (Part Numbers 870-2877-XX) cards without configuration changes. If the Fan feature is off, then the E5-ENET-B cards will auto-inhibit.

Commands

If the only enhancement to the command is adding support for E5-ENET-B cards running the IPS application, then the command is listed with no additional information. If adding support for the card causes further changes to the command, then that information is provided.

- `act/init-flash`
- `act/chg/rept-stat/rtrv-gpl`
- `act-upgrade`
- `alw/chg/rst-trm`
- `chg-db`
- `enable/chg-ctrl-feat`
- `ent/inh/init/rept-stat-card`
- `pass`
- `rtrv-stp`
- `soiplog`

E5-ENET-B IPSG High Throughput

The E5-ENET-B IPSG High Throughput feature allows an *E5-ENET-B* card running the IPSG application to have a capacity of up to 9500 TPS.

If the feature is not turned on, then an E5-ENET-B card running the IPSG application continues to have a capacity of 6500 TPS.

Turning on the E5-ENET-B IPSG High Throughput feature impacts the baseline configuration for the E5-ENET-B card running the IPSG application as shown in *Table 1: Baseline Configuration Changes for the E5-ENET-B IPSG High Throughput Feature*.

Table 1: Baseline Configuration Changes for the E5-ENET-B IPSG High Throughput Feature

E5-ENET-B Card Baseline Configuration	E5-ENET-B IPSG High Throughput feature OFF	E5-ENET-B IPSG High Throughput feature ON
Maximum TPS for the card	6500	9500
Average MSU size (bytes)	0-272	0-120
Max RTT (ms)	120	50
Max number of links/associations	16	4
Protocol	M2PA and M3UA	M2PA

Note: Standard de-rating considerations apply.

Feature Control Requirements

- FAK for Part Number 893-0395-01
- A temporary FAK cannot be used to enable the feature.
- The feature can be turned on and off.
- The feature cannot be turned off if any E5-ENET-B card has a configured card capacity greater than 6500 TPS.

Hardware Requirements

None.

Commands

- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable, turn on, and display the status of the E5-ENET-B IPSG High Throughput feature.

  `rtrv-ctrl-feat`

```
   rlghncxa03w 11-03-13 16:40:40 EST  EAGLE 44.0.0

   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
```

```
    Large System # Links      893005911  on          2800
    Routesets                 893006403  on          8000
    EAGLE5 Product            893007101  on          ----
    EAGLE Product             893007201  off         ----
    IP7 Product               893007301  off         ----
    Network Security Enhance  893009101  off         ----
    Telnet                    893005701  on          ----
    LNP ELAP Configuration    893010901  on          ----
    LNP ported TNs            893011036  on     384000000
    LNP ported LRNs           893010501  on        200000
    LNP ported NPANXXs        893009402  on        350000
    15 Minute Measurements    893012101  off         ----
    EIR                       893012301  on          ----
    HIPR2 High Rate Mode      893020101  on          ----
    INP                       893017901  on          ----
    E5-ENET-B IPSG High TPS   893039501  on          ----

;
```

- `ent/chg/rtrv-ls`—Enhanced to support capacities of 9500 TPS for E5-ENET-B cards running the IPSG application when the E5-ENET-B IPSG High Throughput feature is turned on.
- `rept-stat-iptps`—Enhanced to report derived IP TPS usage data on IPSG linksets. Valid derived TPS values are shown when:
  - E5-ENET-B cards are used,
  - the E5-ENET-B IPSG High Throughput feature is turned on,
  - traffic is greater than 6500 TPS, and
  - the card is operating outside of the limits shown in *Table 1: Baseline Configuration Changes for the E5-ENET-B IPSG High Throughput Feature*.

  Dashes are shown for the derived TPS values in other instances, including use of an E5-ENET card.

  Four new parameters are added:

  - history—Displays the 60 second history of the derived IP TPS transmit and receive usage data.
  - link—Specifies the link on the IPSG card indicated by the loc parameter
  - loc—Specifies the IPSG card location for which IP TPS data is to be displayed.
  - tpscost—Displays current actual and derived IP TPS transmit and receive usage over a window of 15 seconds and peak derived IP TPS transmit and receive usage and timestamp for all 15 second periods since last reset

  Example 1 displays output when the tpscost parameter is specified.

  `rept-stat-iptps:loc=1305:tpscost=yes`

```
    eagle10212 11-07-20 09:07:34 EST  EAGLE 44.0.0
    IP TPS USAGE REPORT

                   Actual      Derived    Derived PEAK    PEAKTIMESTAMP
                   TPS           TPS          TPS
    ------------------------------------------------------------------------
    LOC
    1305           Tx: 8000      8240         8500        11-08-03 10:00:25
                   Rcv:8000      8240         8600        11-08-03 10:10:25
    ------------------------------------------------------------------------
    LSN     LINK
    lsm2pa1  A     Tx: 4000      4120         4380        11-08-03 10:00:25
                   Rcv:4000      4120         4120        11-08-03 10:10:25

    lsm2pa2  B     Tx: 4000      4120         4120        11-08-03 10:00:25
                   Rcv:4000      4120         4480        11-08-03 10:10:25
```

```
    ------------------------------------------------------------------------

    Command Completed.
```

Example 2 displays the history information for a specific location.

```
rept-stat-iptps:loc=1111:history=yes
```

```
    eagle10212 12-01-18 09:07:34 EST  EAGLE5 44.0.0
    IP TPS USAGE HISTORY REPORT for Card LOC=1111

    SAMPLE#  SLK        ACTUAL        DERIVED         AVG   AVG TX    AVG RX
                       TX     RX      TX     RX       RTT  MSU SIZE  MSU SIZE
    ------------------------------------------------------------------------
     1       A       1702      0    2331    ---        7     292       0
             A1      3403   3403    4662   4662       14     292     292
    ------------------------------------------------------------------------
    .
    .
    .

    SAMPLE#  SLK        ACTUAL        DERIVED         AVG   AVG TX    AVG RX
                       TX     RX      TX     RX       RTT  MSU SIZE  MSU SIZE
    ------------------------------------------------------------------------
    60      A       1702      0    2331    ---        7     292       0
            A1      3403   3403    4662   4662       14     292     292
    ------------------------------------------------------------------------

    Command Completed.
```

Example 3 shows TPC cost information for a linkset

```
rept-stat-iptps:lsn=lsm2pa1:tpscost=yes
```

```
    eagle10212 11-07-20 09:07:34 EST  EAGLE 44.0.0
    IP TPS USAGE REPORT

                  Actual      Derived   Derived PEAK    PEAKTIMESTAMP
                  TPS           TPS         TPS
    ------------------------------------------------------------------------
    LSN
    lsm2pa1       Tx: 13400     14430       14675       11-08-03 10:00:25
                  Rcv:14200     15000       15320       11-08-03 10:10:25
    ------------------------------------------------------------------------
    LOC   LINK
    1305  A       Tx: 6800       7150        7250       11-08-03 10:00:25
                  Rcv:7000       7340        7550       11-08-03 10:10:25

    1306  B       Tx: 6600       7280        7425       11-08-03 10:00:25
                  Rcv:7200       7660        7770       11-08-03 10:10:25
    ------------------------------------------------------------------------

    Command Completed.
```

Limitations

No limitations are associated with this feature.

E5-MCPM-B

A new E5-MCPM-B card (Part Number 870-3089-01) is introduced. This card is based on the EPM-B module and is used to replace the EDSM-2G cards (Part Numbers 870-2372-XX). See *EPM-B Based Cards* for information common to all cards that are based on the EPM-B.

EDSM-2G and E5-MCPM-B cards are referred to collectively as MCPM cards.

The E5-MCPM-B card is used to perform Measurements Collection Processor and E5-OAM Integrated Measurements functionality for nodes with a link capacity greater than 2,400 (1,200 if the 15 Minute Measurements feature is enabled). E5-OAM Integrated Measurements is used for nodes with a link capacity of 2400/1200 or less.

E5-MCPM-B cards can be inserted in slots that are provisioned for the MCP application. The card is provisioned using the `ent-card` command with type=mcpm and appl=mcp. A new MCPHC GPL is introduced to run the Measurements Platform feature on the E5-MCPM-B cards.

Feature Control Requirements

The Fan feature must be turned on before an E5-MCPM-B card can be brought into service.

If the Fan feature is turned on, then E5-MCPM-B cards can co-exist with and be used to replace EDSM-2G cards (Part Numbers 870-2372-XX) without configuration changes. If the Fan feature is off, then the E5-MCPM-B cards will auto-inhibit.

Hardware Requirements

- Backplane cable adapter 830-1103-xx is needed to connect to the E5-MCPM-B card.
- Backplane cable adapter 830-1102-xx is needed when using shielded CAT-5[23] Ethernet cables for TCP/IP connection to the external host.

Commands

If the only enhancement to the command is to support E5-MCPM-B cards, then the command is listed with no additional information. If adding support for the card requires additional changes to the command, then that information is provided.

- `act/chg/rept-stat/rtrv-gpl`—Enhanced to support the MCPHC GPL.

  Example 1 displays partial output for non-E5 cards.

  `rtrv-gpl`

```
   tekelecstp 11-03-15 17:11:43 EST  EAGLE5 44.0.0

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   EOAM      1114  134-000-000  134-000-000      134-000-000  134-000-000
   EOAM      1116  134-000-000  134-000-000      -----------  -----------
   SCCP      1114  134-000-000  134-000-000      134-000-000  134-000-000
   SCCP      1116  134-000-000  134-000-000      134-000-000  -----------
   STPLAN    1114  134-000-000  134-000-000      134-000-000  134-000-000
   STPLAN    1116  134-000-000  134-000-000      134-000-000  -----------
   ATMANSI   1114  134-000-000  134-000-000      134-000-000  134-000-000
   ATMANSI   1116  134-000-000  134-000-000      134-000-000  -----------
   VXWSLAN   1114  134-000-000  134-000-000      134-000-000  134-000-000
```

```
    VXWSLAN   1116  134-000-000  134-000-000      134-000-000  -----------
    IPLIM     1114  134-000-000  134-000-000      134-000-000  134-000-000
    IPLIM     1116  134-000-000  134-000-000      134-000-000  -----------
    IPLIMI    1114  134-000-000  134-000-000      134-000-000  134-000-000
    IPLIMI    1116  134-000-000  134-000-000      134-000-000  -----------
    SS7IPGW   1114  134-000-000  134-000-000      134-000-000  134-000-000
    SS7IPGW   1116  134-000-000  134-000-000      134-000-000  -----------
    VSCCP     1114  134-000-000  134-000-000      134-000-000  134-000-000
    VSCCP     1116  134-000-000  134-000-000      134-000-000  -----------
    ATMITU    1114  134-000-000  134-000-000      134-000-000  134-000-000
    ATMITU    1116  134-000-000  134-000-000      134-000-000  -----------
    SS7ML     1114  134-000-000  134-000-000      134-000-000  134-000-000
    SS7ML     1116  134-000-000  134-000-000      134-000-000  -----------
    BPHMUX    1114  134-000-000  134-000-000      134-000-000  134-000-000
    BPHMUX    1116  134-000-000  134-000-000      134-000-000  -----------
    IPGWI     1114  134-000-000  134-000-000      134-000-000  134-000-000
    IPGWI     1116  134-000-000  134-000-000      134-000-000  -----------
    MCPHC     1114  134-000-000  134-000-000      134-000-000  134-000-000
    MCPHC     1116  134-000-000  134-000-000      134-000-000  -----------

;
```

Example 2 displays partial output for E5-based control cards.

`rtrv-gpl`

```
  tekelecstp 11-06-15 16:33:16 EST  EAGLE5 44.0.0-64.0.0
    GPL Auditing  ON

    GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    EOAM      1114  134-000-000  134-000-000      134-000-000  134-000-000
    EOAM      1116  134-000-000  134-000-000      134-000-000  134-000-000
    EOAM      1113  -----------  -----------      -----------  -----------
    GLS       1114  134-000-000  134-000-000      134-000-000  134-000-000
    GLS       1116  134-000-000  134-000-000      134-000-000  134-000-000
    GLS       1113  -----------  -----------      -----------  -----------
    ATMANSI   1114  134-000-000  134-000-000      134-000-000  134-000-000
    ATMANSI   1116  134-000-000  134-000-000      134-000-000  134-000-000
    ATMANSI   1113  -----------  -----------      -----------  -----------
    BLMCAP    1114  134-000-000  134-000-000      134-000-000  134-000-000
    BLMCAP    1116  134-000-000  134-000-000      134-000-000  134-000-000
    BLMCAP    1113  -----------  -----------      -----------  -----------
    OAMHC     1114  134-000-000  134-000-000      134-000-000  134-000-000
    OAMHC     1116  134-000-000  134-000-000      134-000-000  134-000-000
    OAMHC     1113  -----------  -----------      -----------  -----------
    HIPR2     1114  134-000-000  134-000-000      134-000-000  134-000-000
    HIPR2     1116  134-000-000  134-000-000      134-000-000  134-000-000
    HIPR2     1113  -----------  -----------      -----------  -----------
    IPLIM     1114  134-000-000  134-000-000      134-000-000  134-000-000
    IPLIM     1116  134-000-000  134-000-000      134-000-000  134-000-000
    IPLIM     1113  -----------  -----------      -----------  -----------
    IPLIMI    1114  134-000-000  134-000-000      134-000-000  134-000-000
    IPLIMI    1116  134-000-000  134-000-000      134-000-000  134-000-000
    IPLIMI    1113  -----------  -----------      -----------  -----------
    SS7IPGW   1114  134-000-000  134-000-000      134-000-000  134-000-000
    SS7IPGW   1116  134-000-000  134-000-000      134-000-000  134-000-000
    SS7IPGW   1113  -----------  -----------      -----------  -----------
    VSCCP     1114  134-000-000  134-000-000      134-000-000  134-000-000
    VSCCP     1116  134-000-000  134-000-000      134-000-000  134-000-000
    VSCCP     1113  -----------  -----------      -----------  -----------
    ATMITU    1114  134-000-000  134-000-000      134-000-000  134-000-000
    ATMITU    1116  134-000-000  134-000-000      134-000-000  134-000-000
    ATMITU    1113  -----------  -----------      -----------  -----------
    IPGWI     1114  134-000-000  134-000-000      134-000-000  134-000-000
    IPGWI     1116  134-000-000  134-000-000      134-000-000  134-000-000
    IPGWI     1113  -----------  -----------      -----------  -----------
```

```
    MCP       1114  134-000-000  134-000-000      134-000-000  134-000-000
    MCP       1116  134-000-000  134-000-000      134-000-000  134-000-000
    MCP       1113  -----------  -----------      -----------  -----------
    IPSG      1114  134-000-000  134-000-000      134-000-000  134-000-000
    IPSG      1116  134-000-000  134-000-000      134-000-000  134-000-000
    IPSG      1113  -----------  -----------      -----------  -----------
    MCPHC     1114  134-000-000  134-000-000      134-000-000  134-000-000
    MCPHC     1116  134-000-000  134-000-000      134-000-000  134-000-000
    MCPHC     1113  -----------  -----------      -----------  -----------

;
```

- `act/init-flash`
- `chg-measopts`
- `enable/chg-ctrl-feat`
- `ent/alw/inh/rept-stat/rtrv-card`—The `rept-stat-card` command is enhanced to show EPM B as the Mother Board ID when an EPM-B based card is used (see the Commands section for the *EPM-B Based Cards*) and to support the MCPHC GPL. The `rept-stat-card` command is also enhanced to display MCPM in the *TYPE* field for an MCPM card.

  `rept-stat-card`

```
    rlghncxa03w 11-04-09 16:35:57 IST  EAGLE 44.0.0

    CARD   VERSION      TYPE      GPL        PST            SST       AST
    1101   125-020-000  TSM       GLS        IS-NR          Active    -----
    1102   128-002-000  LIMATM    ATMHC      IS-NR          Active    -----
    1103   125-020-000  DSM       VSCCP      IS-NR          Active    -----
    1105   125-020-000  DSM       VSCCP      IS-NR          Active    -----
    1106   130-001-000  TSM       GLSHC      IS-NR          Active    -----
    1107   125-020-000  STC       EROUTE     IS-NR          Active    -----
    1108   134-000-000  MCPM      MCPHC      IS-NR          Active     -----
    1109   125-020-000  HMUX      BPHMUX     IS-NR          Active    -----
    1110   125-020-000  HMUX      BPHMUX     IS-NR          Active    -----
    1111   125-020-000  IPSM      IPS        IS-NR          Active    -----
    1112   125-020-000  MCPM      MCP        IS-NR          Active    -----
    1113   070-019-002  GPSM      EOAM       IS-NR          Standby   -----
    1114   -----------  TDM                  IS-NR          Active    -----
    1115   070-019-002  GPSM      EOAM       IS-NR          Active    -----
    1116   -----------  TDM                  IS-NR          Active    -----
    1117   -----------  MDAL                 IS-NR          Active    -----
    1201   125-020-000  LIMDS0    SS7ANSI    IS-NR          Active    -----
    1202   -----------  LIMCH     SS7ANSI    OOS-MT-DSBLD   Manual    -----
    1203   125-020-000  LIMCH     SS7ANSI    IS-NR          Active    -----
    1205   125-020-000  EDCM      IPGWI      IS-NR          Active    -----
    1206   125-020-000  EDCM      SS7IPGW    IS-NR          Active    -----
    1207   125-020-000  EDCM      IPLIM      IS-NR          Active    -----
    1208   125-020-000  EDCM      IPLIMI     IS-NR          Active    -----
    1209   125-020-000  HMUX      BPHMUX     IS-NR          Active    -----
    1210   125-020-000  HMUX      BPHMUX     IS-NR          Active    -----
    1211   125-020-000  LIMATM    ATMANSI    IS-NR          Active    -----
    1213   125-020-000  LIME1ATM  ATMITU     IS-NR          Active    -----
    1301   048-019-022  LIME1     SS7ANSI    IS-NR          Active    -----
    1303   125-022-000  LIME1     SS7ANSI    IS-NR          Active    -----
    1305   125-022-000  LIME1     CCS7ITU    IS-NR          Active    -----
    1309   125-017-000  HIPR      HIPR       IS-NR          Active    -----
    1310   125-017-000  HIPR      HIPR       IS-NR          Active    -----
    1311   125-020-000  STC       EROUTE     IS-NR          Active    -----
    1313   125-020-000  DCM       VXWSLAN    IS-NR          Active    -----
    2101   104-002-000  LIMV35    CCS7ITU    IS-NR          Active    -----
    2103   128-018-000  DCM       IPLHC      IS-NR          Active    -----
    2107   104-001-000  LIMCH     CCS7ITU    IS-NR          Active    -----
    2108   128-018-000  DCM       SLANHC     IS-NR          Active    -----
```

```
    2109   128-022-000  HIPR2     HIPR2      IS-NR          Active    -----
    2110   128-022-000  HIPR2     HIPR2      IS-NR          Active    -----
    2111   128-018-000  STC       ERTHC      IS-NR          Active    -----
    1213   053-000-058  E5ENET    IPSG       IS-NR          Active    -----
    Command Completed.
;
```

- `inh/unhb-alm`
- `rept-ftp-meas`
- `rept-stat-meas`—Enhanced to display MCPM in the *TYPE* field for an MCPM card.

  `rept-stat-meas`

```
                         PST           SST        AST
    MEAS SS               IS-ANR        Active     -----
        ALARM STATUS =    *  0516 Degraded Mode - 1 card failed

    CARD   VERSION         TYPE    PST           SST        AST
    1107 P 101-009-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     -----
    1109   -----------     MCPM    OOS-MT        Isolated   -----
       IP Link A                   OOS-MT        Unavail    -----

    CARD 1107 ALARM STATUS = No Alarms
    CARD 1109 ALARM STATUS = Card is isolated from the system
    Command Completed.
;
```

- `rept-stat-sys`
- `rtrv-stp`—Enhanced to support the MCPHC GPL and to display MCPM in the *TYPE* field for an MCPM card. The following example displays partial output.

  `rtrv-stp`

```
    tekelecstp 11-03-30 11:07:17 EST  EAGLE 44.0.0
    Card  Part Number  Rev Serial Number  Type     DB     APPL     GPL Version
    ----  -----------  --- -------------  ----     --     ----     -----------
    1101  870-1275-01  W    10245689323    DSM     4096M  VSCCP    027-010-000
    1102  Empty
    1103  870-1788-03  A    10234658345    TSM     128M   GLS      027-010-000
    1104  Empty
    1105  870-1339-06  A    10274568974    LIMATM   -     ATMANSI  027-010-000
    1106  870-2372-09  C    10205415217    MCPM    4096M  MCP      134-000-000
    1107  870-2212-02  A    10206265084    DCM     512M   STPLAN   128-002-000
    1108  870-1456-05  A    10204764378    DCM     512M   SS7IPGW  027-010-000
    1109  870-2877-01  A    10207185554    HIPR2           HIPR2    128-023-000
    1110  870-2877-01  A    10207185554    HIPR2           HIPR2    128-023-000
    1111  870-1788-05  A    10205734657    MCPM    2048M  MCP      027-010-000
    1112  870-1789-04  A    10302135627    LIMDS0   -     SS7ANSI  027-010-000
    1113  870-2360-01  A    10346357678    GPSM    1024M  EOAM     025-340-000
    1114  TDM
    1115  Unavailable                      GPSM           EOAM
    1116  Unavailable
    1117  MDAL
    1118  Empty

    1201  870-1339-06  A    10245667974    LIMATM   -     ATMANSI  027-010-000
    1202  Empty
    1203  870-1789-04  A    10302135777    LIMDS0   -     SS7ANSI  027-010-000
    1204  Empty
    1205  870-1275-01  W    10246789323    DSM     4096M  VSCCP  027-010-000
    1206  Empty
    1207  Empty                            DCM            SS7IPGW
    1208  870-1456-05  A    10204764222    DCM     512M   SS7IPGW  027-010-000
```

```
    1209  MUX                                                BPHMUX   027-345-000
    1210  MUX                                                BPHMUX   027-345-000
    1211  870-1788-05  A    10205737777    MCPM    2048M    MCP      027-010-000
    1212  870-1788-03  A    10234632455    TSM     128M     GLS      027-010-000
    1213  Empty
    1214  Auto-Inhibit                    IPSM             IPS
    1215  870-1788-05  A    10205736734    MCPM    2048M    MCP      027-010-000
    1216  870-1789-04  A    10302135655    LIMDS0   -       SS7ANSI  027-010-010
    1217  Empty
    1218  Empty
    .
    .
    .
    6118  870-2453-06  A    10444135655    LIMATM   -       ATMANSI  028-010-000

    Command Completed.
;
```

E5-SM8G-B

A new E5-SM8G-B card (Part Number 870-2990-01) is introduced. The E5-SM8G-B card is a dual-slot card with a dual-core processor.

The E5-SM8G-B card can be inserted in slots that are provisioned for the VSCCP application. The card is provisioned using the `ent-card` command with type=dsm and appl=vsccp.

As of Release 44, references to Service Module cards include E5-SM8G-B cards.

A new performance key is introduced for the E5-SM4G Throughput Capacity feature. This key (Part Number 893-0191-03) is supported only on the E5-SM8G-B card and allows the card to run at 10,000 TPS. The E5-SM8G-B card also supports the existing E5-SM4G Throughput Capacity performance keys at their associated TPS levels.

Feature Control Requirements

Message Flow Control (MFC) functionality and the Fan feature must be on before an E5-SM8G-B card can be brought into service. See *Message Flow Control Replacement for TVG* for more information.

If MFC and the Fan feature are on, then E5-SM8G-B cards can co-exist with and be used to replace DSM (Part Numbers 870-1984-XX) and E5-SM4G (Part Numbers 870-2860-XX) cards without configuration changes. If MFC or the Fan feature is off, then the E5-SM8G-B cards will auto-inhibit.

The new E5-SM4G Throughput Capacity performance level (Part Number 893-0191-03) must be enabled before the E5-SM8G-B card can run at 10,000 TPS.

When the EAGLE contains B-series cards which include E5-ENET-B, E5-ATM-B, E5-SM8G-B, and E5-E1T1-B, the following cards are not supported in EAGLE Release 44.0 except during migration to the B-series cards:

- DCM card (870-1945-xx)
- DSM card (870-1984-xx)
- EDCM card (870-2372-xx) used for SLAN or STC functionality
- EDCM-A card (870-2508-xx) used for SLAN or STC functionality

Hardware Requirements

- Fan trays must be installed on shelves that contain E5-SM8G-B cards.
- The IMT bus must contain at least one HIPR or HIPR2 card before an E5-SM8G-B card can connect with the bus. If HMUX cards are used, then the cards cannot access the IMT bus. If the shelf contains both HMUX and HIPR/HIPR2 cards, then the E5-SM8G-B card connects with the HIPR/HIPR2 cards only.

  Note: HMUX cards with HIPR/HIPR2 cards on the same shelf are supported only during migration to the EPM-B based cards.

Commands

If the only enhancement to the command is adding support for E5-SM8G-B cards, then the command is listed with no additional information. If adding support for the card causes further changes to the command, then that information is provided.

- `act/init-flash`
- `act/chg/rept-stat/rtrv-gpl`
- `act-upgrade`
- `alw-map-ss`
- `chg-feat`
- `chg/rtrv-ip-card`
- `chg/rtrv-ip-lnk`
- `chg-ss-appl`
- `chg-stpopts`
- `enable-ctrl-feat`
- `ent/alw/inh/init/rept-stat/rtrv/sent-card`
- `ent-trace`
- `netstat`
- `pass`
- `rept-meas`
- `rept-stat-db`
- `rept-stat-ddb`
- `rept-stat-lnp`
- `rept-stat-mps`
- `rept-stat-rtd`
- `rept-stat-sccp`
- `rtrv-data-rtdb`
- `rtrv-srvsel`
- `rtrv-stp`
- `tst-msg`
- `tst-npp-msg`

E5-OAM Integrated GLS

The E5-OAM Integrated GLS feature (Integrated GLS) migrates Generic Loading Services (GLS) functionality for the Gateway Screening feature from the TSM (Part Numbers 870-1289-XX, 870-1291-XX, and 870-1292-XX) and E5-TSM (Part Number 870-2943-03) cards to the E5-OAM.

The Integrated GLS feature supports all TSM and E5-TSM card functionality. The feature can exist in mixed mode with TSM-based and E5-TSM-based GLS during migration.

Feature Control Requirements

- FAK for Part Number 893-0389-01
- The Gateway Screening feature must be turned on before the Integrated GLS feature can be enabled.
- A temporary FAK cannot be used to enable the feature.
- The feature can be turned on and off.

Hardware Requirements

E5-OAM cards must be installed before the Integrated GLS feature can be enabled. If EOAM cards are installed, then the feature cannot be enabled.

Commands

- `chg-db`—Enhanced to support the Integrated GLS feature.
- `copy-disk`—Enhanced to support the Integrated GLS feature.
- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable, turn on, and display the status of the Integrated GLS feature.

`rtrv-ctrl-feat`

```
rlghncxa03w 11-03-10 16:40:40 EST  EAGLE 44.0.0

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          ----
XGTT Table Expansion      893006101  on        400000
XMAP Table Expansion      893007710  on          3000
Large System # Links      893005911  on          2800
Routesets                 893006403  on          8000
EAGLE5 Product            893007101  on          ----
EAGLE Product             893007201  off         ----
IP7 Product               893007301  off         ----
Network Security Enhance  893009101  off         ----
Telnet                    893005701  on          ----
SCCP Loop Detection       893016501  off         ----
LNP ELAP Configuration    893010901  on          ----
LNP ported TNs            893011036  on     384000000
LNP ported LRNs           893010501  on        200000
LNP ported NPANXXs        893009402  on        350000
15 Minute Measurements    893012101  off         ----
EIR                       893012301  on          ----
EAGLE OA&M IP Security    893400001  off         ----
```

```
    SCCP Conversion           893012001  on          ----
    SE-HSL SLK Capacity       893013005  on            32
    Integrated GLS            893038901  on          ----
;
```

Limitations

No limitations are associated with this feature.

IDPR TON Mapping for CdPN BCD Format

The IDPR TON mapping feature allows configuration of the mapping that occurs when encoding or decoding the BCD parameter for a Called Party or Calling Party number. The Type of Number (TON) value, Nature of Address Indicator (NAI) value, and the type of mapping used (NAI to TON for encoding or TON to NAI for decoding) can be configured.

Feature Control Requirements

There are no feature control requirements identified for this feature.

Hardware Requirements

None.

Commands

The `chg/rtrv-ttropts` commands are enhanced to enable and display the IDPR TON mapping options. If the mapping options are not configured in the `chg-ttropts` command, then the default values are displayed in the `rtrv-ttropts` command.

`rtrv-ttropts`

```
    tekelecstp 11-05-10 15:46:44 EST  EAGLE 44.0.0

    Command entered at terminal #4.
    TTR OPTIONS
    ------------------------------------------------------------
    CDPN DETAILS            CGPN DETAILS
    NPTYPE  rnsp            CGNPTYPE     rnsp
    SNAI    incoming        CGSNAI       incoming

    CGPACCCK        nonintl
    DLMA            NONE
    DLMB            NONE
    DLMC            NONE
    DFLTRN          NONE
    SPORTTYPE       none
    SPFILL          off
    RNSPFILL        off
    CGPNSKRTG       no
    DRAFRMT         grn
    DRANAI          3
    CDRNRSP         connect
    CDSPRSP         relay
```

```
    CDNOENTITYRSP   continue
    CDDNNOTFNDRSP   release
    CDDRA           rndn
    CDDRANAI        natl
    CDDRANP         e164
    CDRELCAUSE      31
    CDCNP           off
    CGRNRSP         connect
    CGSPRSP         relay
    CGNOENTITYRSP   continue
    CGDNNOTFNDRSP   release
    CGDRA           rndn
    CGDRANAI        natl
    CGDRANP         e164
    CGRELCAUSE      31
    CGCNP           off

    NAI2TON MAP
    NAI TON  NAI TON  NAI TON  NAI TON  NAI TON  NAI TON  NAI TON  NAI TON
      0   0    1   0    2   0    3   2    4   1    5   0    6   0    7   0
      8   0    9   0   10   0   11   0   12   0   13   0   14   0   15   0
     16   0   17   0   18   0   19   0   20   0   21   0   22   0   23   0
     24   0   25   0   26   0   27   0   28   0   29   0   30   0   31   0
     32   0   33   0   34   0   35   0   36   0   37   0   38   0   39   0
     40   0   41   0   42   0   43   0   44   0   45   0   46   0   47   0
     48   0   49   0   50   0   51   0   52   0   53   0   54   0   55   0
     56   0   57   0   58   0   59   0   60   0   61   0   62   0   63   0
     64   0   65   0   66   0   67   0   68   0   69   0   70   0   71   0
     72   0   73   0   74   0   75   0   76   0   77   0   78   0   79   0
     80   0   81   0   82   0   83   0   84   0   85   0   86   0   87   0
     88   0   89   0   90   0   91   0   92   0   93   0   94   0   95   0
     96   0   97   0   98   0   99   0  100   0  101   0  102   0  103   0
    104   0  105   0  106   0  107   0  108   0  109   0  110   0  111   0
    112   0  113   0  114   0  115   0  116   0  117   0  118   0  119   0
    120   0  121   0  122   0  123   0  124   0  125   0  126   0  127   0

    TON2NAI MAP
    TON NAI
      0   2
      1   4
      2   3
      3   2
      4   2
      5   2
      6   2
      7   2

;
```

Limitations

No limitations are associated with this feature.

Message Flow Control Replacement for TVG

Message Flow Control (MFC) provides a framework to control the flow of data between cards based on the capacity of the services provided by the cards. The MFC framework can be used to replace the Group Ticket Voucher (TVG) framework.

When a server card determines that the capacity for a service is reached, the service is considered to be 'in flow control'. The server card broadcasts a message to all cards indicating that the service is not available for the remainder of a configured time slice and specifies the interval that defines the remainder of the time slice. When the time slice expires, the service is automatically marked available again on all client cards, and the server card is considered to be 'out of flow control'.

MFC supports two service types:

- **Card Services** are provided by a card, and the capacity stated by that card service only affects the usage of that card. If the capacity of a card service is exhausted, only that service on that card is affected. The client card can obtain the service from another card. A card service is used for features with an 'N+1' configuration.
- **System Services** are provided by the system as a whole. Several cards can provide the same system service, and each card can have a different rated capacity. A service request that is sent to a system service is sent to all cards that provide the service. If the capacity of the system service is exhausted on one card, the service for the whole system group is in flow control. A system service is used when the available pool of resources must be limited by the weakest link (the card with the lowest rated capacity).

When an application that is using the MFC framework needs to use a service, the application looks through a list of cards or services and makes a service request. For card services, if the desired card is in flow control, the application selects a different card and uses MFC to qualify its flow control status. For system services, if any card providing a system service is in flow control, the application has to wait until the system service is out of flow control.

Feature Control Requirements

MFC is provisioned using the on=mfc option in the `chg-stpopts` command. After MFC has been provisioned, the *Customer Care Center* must be contacted to return control to TVG.

Hardware Requirements

None.

Commands

- `chg/rtrv-stpopts`—Enhanced to turn on and display the status of the MFC option.

`rtrv-stpopts`

```
   rlghncxa03w 11-03-17 16:02:05 EST  EAGLE 44.0.0
   STP OPTIONS
   --------------------------
   MTPT31CTL                1
   MTPLTI                 yes
   MTPLTCTDPCQ              3
   MTPLTST              10000
   MTPDPCQ               2000
   TFATFRPR              1000
   MTPLPRST               yes
   MTPT10ALT            30000
   UIMRD                  yes
   SLSCNV               perls
   CRITALMINH             yes
   DISPACTALMS             no
   NPCFMTI           14-0-0-0
   RPTLNPMRSS             yes
```

```
    RANDSLS                 off
    RSTRDEV                  on
    HSCLKSRC              RS422
    HSCLKGAIN          LONGHAUL
    ARCHBLDID               off
    MFC                     off

;
```

- `rept-stat-card`—Enhanced to display MFC status when the MFC option is turned on. If MFC is not turned on, then the TVG status is displayed as before.

  `rept-stat-card:loc=1203:mode=full`

```
    tekelecstp 11-03-21 11:19:03 EST  EAGLE 44.0.0
    CARD   VERSION      TYPE      GPL        PST            SST        AST
    1203   134-000-000  LIMDS0    SS7ML      IS-NR          Active     -----
      ALARM STATUS       = *  0022 Clock B for card failed
      BPMPLT  GPL version = 056-000-000
      IMT BUS A          = Conn
      IMT BUS B          = Conn
      CLOCK A            = Active
      CLOCK B            = Fault
      CLOCK I            = Idle
      HS CLOCK A         = Fault
      HS CLOCK B         = Fault
      HS CLOCK I         = Idle
      MBD BIP STATUS     = VALID
      MOTHER BOARD ID    = MIM
      DBD STATUS         = Valid
      DBD TYPE           = None
      DBD MEMORY SIZE    = 0M
      HW VERIFICATION CODE = ----
      SIGNALING LINK STATUS
          SLK    PST               LS            CLLI          E5IS
          A      IS-NR             ls1203a0      tklcb1203a0   INACTIVE
          B      IS-NR             ls1203a0      tklcb1203a0   INACTIVE
          A1     IS-NR             ls1203a1      tklcb1203a1   INACTIVE
          B1     IS-NR             ls1203a1      tklcb1203a1   INACTIVE
          A2     IS-NR             ls1203a2      tklcb1203a2   INACTIVE
          B2     IS-NR             ls1203a2      tklcb1203a2   INACTIVE
          A3     IS-NR             ls1203a3      tklcb1203a3   INACTIVE
          B3     IS-NR             ls1203a3      tklcb1203a3   INACTIVE
      APPLICATION SERVICING
                                       TVG    MFC         TVG    MFC
          SNM     REQ STATUS =   24 hr: GDNHSI ---, 5 min: GD---- ---
          SLAN    REQ STATUS =   24 hr: ------ GDN, 5 min: ------ G--
          SCCP    REQ STATUS =   24 hr: ------ ---, 5 min: ------ ---
          EROUTE  REQ STATUS =   24 hr: ------ GDN, 5 min: ------ G--
          INM     REQ STATUS =   24 hr: G----- ---, 5 min: G----- ---
          MTP3    REQ STATUS =   24 hr:        ---, 5 min:        ---

    Command Completed.
;
```

- `rept-stat-mfc`—Added to obtain the status of the MFC services.

  Example 1 displays a report for all services.

  `rept-stat-mfc`

```
    tekelecstp 11-07-08 15:48:17 EDT  EAGLE 44.0.0
    Service   Type      Total
    ----------------------------
    SLAN      SERVER     2
    SLAN      CLIENT     2
```

```
    SNM       SYSTEM     4
    INM       SYSTEM     4
    MTP3      SERVER     2
    MTP3      CLIENT     4
    EROUTE    SERVER     2
    EROUTE    CLIENT     4
    VSCCP     SERVER     2
    VSCCP     CLIENT     2
    ------------------------------

    Command Completed.
;
```

Example 2 displays a summary report for the specified service.

`rept-stat-mfc:service=eroute`

```
    tekelecstp 11-07-08 15:50:20 EDT  EAGLE 44.0.0
    Service   Type      Total
    ------------------------------
    EROUTE    SERVER     2
    EROUTE    CLIENT     4
    ------------------------------

    Command Completed.
;
```

Example 3 displays a full report for a specified service.

`rept-stat-mfc:service=eroute:mode=full`

```
    tekelecstp 11-07-08 16:01:17 EDT  EAGLE 44.0.0
    LOC    SERVICE   STATE   SERVER  CLIENT
    ---------------------------------------
    1101   EROUTE    IS-NR             X
    1103   EROUTE    UNAVL             X
    1105   EROUTE    UNAVL     X
    1106   EROUTE    IS-NR     X
    1113   EROUTE    IS-NR             X
    1115   EROUTE    UNAVL             X
    ---------------------------------------
    Totals  6                  2       4

    Command Completed.
;
```

Example 4 displays 30 second average data for the service calculated over the previous 5 minutes:

`rept-stat-mfc:service=eroute:mode=stats:sample=avg30s`

```
    rlghncxa03w 11-03-04 13:36:07 EST  EAGLE 44.0.0
    PER CARD EROUTE SERVER DATA, 30-SEC AVG VALUES CALCULATED OVER PREV 5 MIN

                                SRVC_RQSTS_RCVD                NUM_APPL_ORIG
    FC         MSEC       ----------------------------    --------------------
    EVENTS     IN FC      OUT_FC     IN_FC      DACT       DACTS      FC
    ------------------------------------------------------------------------------
    0          0          0          0          0          0          0
    CARD LOC:   1101   LAST 5 CLIENTS:  0   ,0   ,0   ,0   ,0

    ------------------------------------------------------------------------------
    TOTAL SRVC RQSTS RCVD: 0


    PER CARD EROUTE CLIENT DATA, 30-SEC AVG VALUES CALCULATED OVER PREV 5 MIN

    SVC         SVC         PDUS        PDUS        SRVR        ON_SHLF
```

```
    RQSTS       DENIED      SENT        DSCRD       RESLCTD     NOT_AVL
    ------------------------------------------------------------------------
    7978        97          7881        14          0           0
    CARD LOC:   1103   LAST 5 SERVERS:  1101,0   ,0   ,0   ,0

    62          61          1           0           0           0
    CARD LOC:   1104   LAST 5 SERVERS:  1101,0   ,0   ,0   ,0

    264         223         41          4           0           0
    CARD LOC:   1105   LAST 5 SERVERS:  1101,0   ,0   ,0   ,0

    0           0           0           0           0           0
    CARD LOC:   1113   LAST 5 SERVERS:  0   ,0   ,0   ,0   ,0

    206         206         0           8           0           0
    CARD LOC:   1115   LAST 5 SERVERS:  0   ,0   ,0   ,0   ,0

    ------------------------------------------------------------------------
    SYSTEM TOTALS: PDUs SENT = 7923      ,  PDUs DSCRD = 26


    Command Completed.
;
```

Example 5 displays the MFC status of all the specified Service Cards.

```
rept-stat-mfc:service=eroute:mode=act
```

```
    rlghncxa03w 10-02-04 13:36:07 EST  EAGLE 44.0.0
    PER CARD EROUTE SERVER ACTIVATION DATA
                                IP LINK
    LOC     STATUS    THERMAL   STATUS
    ---------------------------------------
    1201    ACT        OK        OK
    1202    ACT        N/A       OK
    1204    UNAVL      ---       ---
    2215    DACT       BAD       OK
    2216    DACT       N/A       BAD
    4214    ACT        OK        OK
    4215    DACT       OK        BAD
    ---------------------------------------

    Command Completed.
;
```

Example 6 displays the output when the statistics are reset.

```
rept-stat-mfc:service=eroute:reset=yes
```

```
    rlghncxa03w 11-03-06 13:36:07 EST  EAGLE 44.0.0

    Command Completed.
;
```

- `rept-stat-mon`—Enhanced to provide MFC or TVG information.

  Example 1 displays information for all provisioned subsystems.

  ```
  rept-stat-mon
  ```

  ```
      rlghncxa03w 11-03-04 16:35:57 IST  EAGLE 44.0.0
      EROUTE SUBSYSTEM REPORT IS-NR         Active     -----
      STC Cards Configured= 4  Cards IS-NR= 2
      EISCOPY BIT = ON
      System Threshold = 80% Total Capacity
      System Peak EROUTE Load:            7080 Buffers/Sec
      System Total EROUTE Capacity:      12000 Buffers/Sec
  ```

```
   SYSTEM ALARM STATUS = No Alarms.

   CARD   VERSION      PST           SST        AST       MESSAGE   CPU
                                                 USAGE     USAGE
   ------------------------------------------------------------------------
   1101   052-008-000  IS-NR         Active     -----      63%      28%
   1103   052-008-001  IS-NR         Active     -----      55%      28%
   1105   255-255-255  OOS-MT        Isolated   -----       0%       0%
   1205   255-255-255  OOS-MT        Isolated   -----       0%       0%
   ------------------------------------------------------------------------
   EROUTE Service Average Messaging Capacity =  59%
   Average CPU Capacity =  28%

   CARDS DENIED EROUTE SERVICE:

   ========================================================================

   FAST COPY SUBSYSTEM REPORT IS-NR          Active     -----
   FC Cards Configured= 3  Cards IS-NR= 3
   SYSTEM ALARM STATUS = No Alarms.

   GPL         FCMODE
   ------------------
   IPSG        FCOPY
   IPGHC       FCOPY
   ------------------

   CARD  GPL    PST          SST        CPU   CARD FCS
   ------------------------------------------------------
   1201  IPSG   IS-NR        Active     34%   ALLOWED
   1202  IPSG   IS-NR        Active     55%   ALLOWED
   1203  IPGHC  IS-NR        Active     10%   ALLOWED
   ------------------------------------------------------

   Command Completed.
;
```

Example 2 displays card- and system-level information for a specified subsystem.

```
rept-stat-mon:type=eroute
```

```
   rlghncxa03w 11-03-11 16:35:57 IST  EAGLE 44.0.0
   EROUTE SUBSYSTEM REPORT IS-NR          Active     -----
   STC Cards Configured= 4  Cards IS-NR= 2
   EISCOPY BIT = ON
   System Threshold = 80% Total Capacity
   System Peak EROUTE Load:            7080 Buffers/Sec
   System Total EROUTE Capacity:      12000 Buffers/Sec

   SYSTEM ALARM STATUS = No Alarms.

   CARD   VERSION      PST           SST        AST       MESSAGE    CPU
                                                          USAGE      USAGE
   ------------------------------------------------------------------------
   1101   052-008-000  IS-NR         Active     -----       63%       28%
   1103   052-008-001  IS-NR         Active     -----       55%       28%
   1203   255-255-255  OOS-MT        Isolated   -----        0%        0%
   1205   255-255-255  OOS-MT        Isolated   -----        0%        0%
   ------------------------------------------------------------------------
   EROUTE Service Average Messaging Capacity =  59%
   Average CPU Capacity =  28%

   CARDS DENIED EROUTE SERVICE:
```

```
    Command Completed.
;
```

Example 3 displays performance statistics for a specified subsystem.

`rept-stat-mon:type=eroute:mode=perf`

```
    rlghncxa03w 11-03-11 16:35:57 IST  EAGLE 44.0.0
    EROUTE SUBSYSTEM REPORT IS-ANR         Ovrflw=1       -----
    STC Cards Configured= 2  Cards IS-NR= 2
    EISCOPY BIT = ON
    System Threshold = 80% Total Capacity
    System Peak EROUTE Load:           12200 Buffers/Sec
    System Total EROUTE Capacity:      12000 Buffers/Sec

    SYSTEM ALARM STATUS =  *  0482 Card(s) have been denied EROUTE service

    STATISTICS
    ======================================================================
    CARD    CPU USAGE   MESSAGE RATE
    ----------------------------------------------------------------------
    1104     55%        6200
    1112     50%        6000
    ----------------------------------------------------------------------
    AVERAGE MESSAGING CAPACITY = 80%
    AVERAGE CPU USAGE = 27%
    TOTAL MESSAGING RATE = 12200

    CARDS DENIED EROUTE SERVICE:  1302, 1305

    Command Completed.
;
```

- `rept-stat-sccp`—Enhanced to provide MFC or TVG information.

  `rept-stat-sccp:mode=perf`

```
    tekelecstp 11-03-06 17:32:58 EST  EAGLE5 44.0.0
    SCCP SUBSYSTEM REPORT   IS-NR          Active     -----
         SCCP ALARM STATUS   = No Alarms
    GFLEX SERVICE REPORT    IS-NR          Active     -----
         GFLEX ALARM STATUS  = No Alarms
    MNP SERVICE REPORT      IS-NR          Active     -----
         MNP ALARM STATUS    = No Alarms

    SCCP Cards Configured= 1      Cards IS-NR= 1
    System Daily Peak SCCP Load       0      TPS 11-03-06 17:23:29
    System Overall Peak SCCP Load     0      TPS 00-00-00 00:00:00
    System Total SCCP Capacity        6800   TPS (6800   max SCCP Capacity)
    System SCCP Capacity Calc. Method (N)
    System TPS Alarm Threshold        5440   TPS ( 80% System   N SCCP Capacity)


    TPS STATISTICS
    ======================================================================
    CARD   CPU      TOTAL       CLASS 0          CLASS 1
           USAGE    MSU RATE    MESSAGING RATE   MESSAGING RATE
    ----------------------------------------------------------------------
    1205     5%        0           0                0
    ----------------------------------------------------------------------
    AVERAGE MSU USAGE =   0%
    AVERAGE CPU USAGE =   5%
    TOTAL MSU RATE    =   0

    STATISTICS FOR PAST 30 SECONDS
    ======================================================================
```

```
    TOTAL MSUS:            0
    TOTAL ERRORS:          0

    HIGHEST 01 OVERALL DAILY PEAKS        LAST 01 DAILY PEAK SCCP LOADS
    ==============================================================================
    0      TPS 00-00-00 00:00:00          0      TPS 11-03-06 17:23:29

    Command Completed.
;
```

- `rept-stat-slan`—Enhanced to provide MFC or TVG information.

  `rept-stat-slan:mode=perf`

```
    rlghncxa03w 11-03-04 13:36:07 EST  EAGLE 44.0.0
    SLAN Subsystem Report  IS-NR          Active      -----
    SLAN Cards Configured= 3      Cards IS-NR= 3
    CARD   HOST    EAGLE    MESSAGING
           CAP     CAP      RATE
    ------------------------------------------------------------------------
    1101   50%     30%      140
    1102   55%     33%      435
    1103   47%     28%      435
    1104   80%     32%      622
    ------------------------------------------------------------------------
    AVERAGE USAGE per HOST CAPACITY  =  51%
    AVERAGE USAGE per EAGLE CAPACITY =  30%

    CARDS DENIED SLAN SERVICE:
                             2103
    Command Completed.
;
```

- `send-msg`—Enhanced to allow the Service ID field in the violation indicator to be provisioned.

Limitations

No limitations are associated with this feature.

MFC for EROUTE

Message Flow Control (MFC) can be used to control EROUTE traffic from the MTP/OAM application to the EROUTE application. If MFC is off, then TVG is used for flow control (for cards that support TVG).

See *Message Flow Control Replacement for TVG* for additional information about MFC, including Feature Control and Hardware Requirements.

MFC for MTP3

Message Flow Control (MFC) can be used to control the flow for INM and SNM MSUs and MTP layer 3 routing. If MFC is off, then TVG is used for flow control for INM and SNM (for cards that support TVG), and for the linkset rerouting that is used in MTP Layer 3 routing.

See *Message Flow Control Replacement for TVG* for additional information about MFC, including Feature Control and Hardware Requirements.

MFC for SCCP

Message Flow Control (MFC) can be used to control the flow of SCCP traffic between LIM cards and Service Module cards. If MFC is off, then TVG is used for flow control (for cards that support TVG).

See *Message Flow Control Replacement for TVG* for additional information about MFC, including Feature Control and Hardware Requirements.

MFC for SLAN

Message Flow Control (MFC) can be used to control STP LAN service requests. If MFC is off, then TVG is used for flow control (for cards that support TVG).

See *Message Flow Control Replacement for TVG* for information on MFC, including Feature Control and Hardware Requirements.

NPP Conditioning Action Support for Extracting Variable Length Area Code from CgPN

Numbering Plan Processing (NPP) Conditioning Action support is added to extract area codes of different lengths from the Calling Party Number (CgPN). Conditioning Actions ACCGPN1 - ACCGPN8 are added to specify the length of Area Code to be extracted from the CgPN while processing the NPP service.

After stripping the Country Code from the CgPN, the Conditioning Action extracts the appropriate length of the area code from the CgPN. The area code token is then populated with the extracted digits.

The ACCGPN1 - ACCGPN8 Conditioning Actions are mutually exclusive with each other and with the existing ACCGPN Conditioning Action.

The logic used by the ACCGPNx Conditioning Actions is the same as that of the ACCGPN Conditioning Action. The only difference is that the length of area code to be extracted from the CgPN is not determined by the SCCPOPTS:ACLEN, GSMSMSOPTS:MOSMSACLEN,or IS41SMSOPTS:MOSMSACLEN parameter. Instead, the digit suffixed 'X' for the ACCGPNX parameter is used to specify the length of the AC to be extracted. For example, Conditioning Action ACCGPN4 extracts an area code of 4 digits from the CgPN.

The ACCGPNx Conditioning Actions are supported by the TIF, TIF2, TIF3, IDPRCDPN, IDPRCDPN2, IDPRCDPN3, IDPRCDPN4, MOSMSGCDPN, and MOSMSICDPN NPP Services.

Feature Control Requirements

There are no feature control requirements identified for this feature.

Hardware Requirements

None.

Commands

- `ent/chg/rtrv-npp-as`—Enhanced to support and display the ACCGPN1 - ACCGPN8 Conditioning Actions.
- `ent/chg/dlt/rtrv-npp-srs`—Enhanced to support and display the ACCGPN1 - ACCGPN8 Conditioning Actions.

Limitations

No limitations are associated with this feature.

NPP Single Digit Wild Card Optionality

NPP Single Digit Wild Card (SDWC) Optionality allows the desired single digit wild card functionality to be selected by turning a new NPP Unlimited SDWC Characters feature (Part Number 893-0393-01) on or off.

If the NPP Unlimited SDWC Characters feature is turned on:

- An unlimited number of SDWC characters is allowed for each Numbering Plan Processor (NPP) service.
- A maximum of 3 SDWC characters is allowed in a Filter Prefix (FPFX) value.
- The SDWC characters must be within the first 6 digits (except the last digit) of the FPFX value.

If the NPP Unlimited SDWC Characters feature is turned off or is not enabled:

- A maximum of 25 SDWC characters is allowed for each NPP service.
- An unlimited number of SDWC characters is allowed in an FPFX value.
- The SDWC characters are allowed in any FPFX digit location except the last digit.

Feature Control Requirements

- FAK for Part Number 893-0393-01
- The feature cannot be turned on if any existing NPP service rules have more than 3 SDWCs specified for the FPFX value.
- The feature cannot be turned on if any existing NPP service rules have an SDWC specified after the sixth digit of the FPFX value.
- The feature cannot be turned off if an SDWC is specified for the FPFX value more than 25 times across all of the rules for an NPP service.
- A temporary FAK cannot be used to enable the feature.
- The feature can be turned on and off.

Hardware Requirements

None.

Commands

- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable, turn on, and display the status of the NPP Single Digit Wild Card Optionality feature.

  `rtrv-ctrl-feat`

```
    rlghncxa03w 11-03-03 16:40:40 EST  EAGLE 44.0.0

    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         ----
    Intermed GTT Load Sharing 893006901  on         ----
    MNP Circ Route Prevent    893007001  on         ----
    XGTT Table Expansion      893006101  on       400000
    XMAP Table Expansion      893007710  on         3000
    Large System # Links      893005911  on         2800
    Routesets                 893006403  on         8000
    EAGLE5 Product            893007101  on         ----
    EAGLE Product             893007201  off        ----
    IP7 Product               893007301  off        ----
    Network Security Enhance  893009101  off        ----
    Telnet                    893005701  on         ----
    NPP Unlimited SDWC Chars  893039301  off        ----

;
```

- `ent-npp-srs`—Enhanced to support the NPP Single Digit Wild Card Optionality feature.

Limitations

No limitations are associated with this feature.

TIF Calling Party Number Conditioning

The Triggerless ISUP Framework (TIF) is enhanced to add TIF Calling Party Numbering Plan Processor (NPP) services. This enhancement allows NPP to be called separately for Called Party numbers (CdPN) and Calling Party numbers (CgPN), and allows the CgPN access to all NPP conditioning and formatting controls.

The TIFCGPN, TIFCGPN2 and TIFCGPN3 NPP services are added for TIF CgPN Numbering Plan Processing. These services are invoked using the CgPN portion of an ISUP IAM message.

The ASDOTHER and GRNOTHER Formatting Actions are added to support TIF CgPN Conditioning. The ASDOTHER Formatting Action allows the Additional Subscriber Data (ASD) returned from an RTDB search in the ASDLKUP Service Action for a TIF CgPN service to be used in CdPN formatting. The GRNOTHER Formatting Action allows the Generic Routing Number (GRN) returned from an RTDB search in the GRNLKUP Service Action for a TIF CgPN service to be used in CdPN formatting.

A TIF CdPN NPP service can invoke a TIF CgPN NPP Service. TIF CgPN NPP services are tied to TIF CdPN NPP services (TIF, TIF2, TIF3) in a one-to-one manner. For example, if an MSU is filtered by the TIF2 GWS stop action, then the TIF2 NPP service is invoked based on the CdPN portion of the message. The TIF2 NPP Service Action processing can then invoke the TIFCGPN2 NPP Service using the CgPN portion of the message.

The TIF Additional Subscriber Data, TIF Generic Routing Number, TIF Number Substitution, and TIF Simple Number Substitution features and various existing Service Actions are enhanced to support TIF CgPN Conditioning. Refer to the *Feature Manual - TIF* and to the *Numbering Plan Processor (NPP) Overview* for the Release 44.0 Documentation Set for additional information.

Feature Control Requirements

There are no feature control requirements identified for this feature.

Hardware Requirements

TIF CgPN Number Conditioning requires Service Module cards.

Commands

- `chg/rtrv-npp-serv`—Enhanced to support and display the TIFCGPN, TIFCGPN2, and TIFCGPN3 Service.
- `ent/chg/dlt/rtrv-npp-srs`—Enhanced to support and display the TIFCGPN, TIFCGPN2, and TIFCGPN3 Service. The invkserv parameter is also added to the `ent/chg-npp-srs` commands to configure the invoking of an NPP Service.

  `rtrv-npp-srs`

```
    tekelecstp 11-02-28 16:41:44 EST  EAGLE 44.0.0

    SRVN        FPFX              FDL  FNAI  ASN         INVKSERV
    ----------  ----------------  ---  ----  ----------  ----------
    nppt        a                 10   intl  asn2        none
    nppt        a                 16   intl  asn3        none
    tif2        b                 12   natl  asn5        tifcgpn2
    idprcdpn    91                12   intl  cdset1      none
    idprcdpn2   91                10   natl  cdset2      none
    idprcdpn3   *                 *    intl  cdset3      none
    idprcdpn4   98                9    intl  cdset2      none

    NPP-SRS  table is (7 of 8192) 1% full.

;
```

- `tst-msg`—Enhanced to support the TIFCGPN, TIFCGPN2, and TIFCGPN3 Services.

TIF Range CGPN Blacklist

The TIF Range CgPN Blacklist feature generates an ISUP RELEASE (ISUP REL) message back to the originator of an incoming IAM message based on the Calling Party Number (CgPN) if one of the following conditions exists:

- A CgPN beginning with a specific prefix is found during Numbering Plan Processing (NPP).

- The CgPN parameter is not present in the IAM.
- The CgPN parameter is present but does not contain any digits.
- An NPP rule to generate an ISUP REL message is found for the Calling Party Number.

Two new CgPN Service Actions are created to support this feature:

- FPFXRLS-generate an REL message if a Calling Party rule is found in NPP
- NOCGPNRLS-generate an REL message if the Calling Party is not present in the IAM or is present with no digits

Feature Control Requirements

- FAK for Part Number 893-0377-01
- The GTT feature must be turned on before the TIF Range CgPN Blacklist feature can be enabled.
- The Gateway Screening feature must be turned on before the TIF Range CgPN Blacklist feature can be enabled.
- A temporary FAK cannot be used to enable the feature.
- The feature can be turned on and off.

Hardware Requirements

The TIF Range CgPN Blacklist feature requires Service Module cards.

Commands

- `chg-tifopts`—Enhanced to support the TIF Range CgPN Blacklist feature.
- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable, turn on, and display the status of the TIF Range CgPN Blacklist feature.

`rtrv-ctrl-feat`

```
   rlghncxa03w 11-02-03 16:40:40 EST  EAGLE 44.0.0

   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          ----
   XGTT Table Expansion      893006101  on        400000
   XMAP Table Expansion      893007710  on          3000
   Large System # Links      893005911  on          2800
   Routesets                 893006403  on          8000
   EAGLE5 Product            893007101  on          ----
   EAGLE Product             893007201  off         ----
   IP7 Product               893007301  off         ----
   Network Security Enhance  893009101  off         ----
   Telnet                    893005701  on          ----
   15 Minute Measurements    893012101  off         ----
   EIR                       893012301  on          ----
   EAGLE OA&M IP Security    893400001  off         ----
   SCCP Conversion           893012001  on          ----
   GPORT                     893017201  on          ----
   APORT                     893016601  on          ----
   IS41 GSM Migration        893017301  off         ----
   TIF ASD                   893024501  on          ----
   TIF GRN                   893025501  on          ----
   TIF Number Portability    893018901  on          ----
```

```
   TIF SCS Forwarding        893022201  on          ----
   TIF Simple Number Subst.  893024001  on          ----
   TIF Number Substitution   893022501  on          ----
   TIF Subscr CgPN Blacklist 893037601  on          ----
   TIF Range CgPN Blacklist  893037701  on          ----

;
```

- `ent/chg/rtrv-npp-as`—Enhanced to support the FPFXRLS and NOCGPNRLS Service Actions.
- `ent/chg/rtrv-npp-serv`—Enhanced to support the FPFXRLS and NOCGPNRLS Service Actions.
- `ent/chg/rtrv-npp-srs`—Enhanced to support the TIF Range CgPN Blacklist feature

Measurements

Measurement registers for the TIF Range CgPN Blacklist feature:

- TIFFPFXRLS—Total number of MSUs processed by TIF and blacklisted by the FPFXRLS Service Action.
- TIFNOCGRLS—Total number of MSUs processed by TIF and blacklisted by the NOCGPNRLS Service Action.
- TIFRANGEBL—Total number of MSUs processed by TIF and found to be blacklisted by the FPFXRLS and NOCGPNRLS Service Actions.

The TIFFPFXRLS and TIFNOCGRLS registers are located in the MTCD/MTCH NP System Measurement report. The TIFRANGEBL register is located in the MTCD/MTCH NP SSP measurement report. All of the measurements can be collected using the Measurements Control Platform, OAM, or E5-OAM based collection methods.

TIF Subscriber CgPN Blacklist

The TIF Subscriber CgPN Blacklist feature generates an ISUP RELEASE (ISUP REL) message back to the originator of an incoming IAM message based on the Calling Party Number (CgPN) if one of the following conditions exists:

- The CgPN is found in the RTDB, and the RTDB entry has CgBL flag = YES.
- The CgPN is not found in the RTDB.

Two new CgPN Service Actions are created to support this feature:

- BLRLS-generate an ISUP REL message if the Calling Party Number is found in RTDB and the CgBL flag = YES
- BLNFNDRLS-generate an ISUP REL message if the Calling Party Number is not found in RTDB

Feature Control Requirements

- FAK for Part Number 893-0376-01
- The GTT and Gateway Screening features must be turned on before the TIF Subscriber CgPN Blacklist feature can be enabled.
- If the ELAP feature (Part Number 893-0109-001) is turned on, then the TIF Subscriber CgPN Blacklist feature cannot be enabled.

- If an LNP quantity is turned on, then the feature cannot be enabled.
- If the ANSIGFLEX option is turned on in the `chg-stpopts` command, then the feature cannot be enabled.
- The feature requires EPAP.
- A temporary FAK cannot be used to enable the feature.
- The feature can be turned on and off.

Hardware Requirements

The TIF Subscriber CgPN Blacklist feature requires Service Module cards.

Commands

- `chg-stpopts`—Enhanced to support the TIF Subscriber CgPN Blacklist feature.
- `chg-tifopts`—Enhanced to support the TIF Subscriber CgPN Blacklist feature.
- `enable/chg/rtrv-ctrl-feat`—Enhanced to enable, turn on, and display the status of the TIF Subscriber CgPN Blacklist feature. See the Commands section for *TIF Range CGPN Blacklist* for `rtrv-ctrl-feat` output.
- `ent/chg/rtrv-npp-as`—Enhanced to support the BLSRLS and BLNFNDRLS Service Actions and to allow the addition of a numerical values list to Service Actions supported by the TIF Subscriber CgPN Blacklist feature. See *NPP Enhancement: Add Optional SA Data for Service Actions in Action Set* for `rtrv-npp-as` output.
- `ent/chg/rtrv-npp-serv`—Enhanced to support the BLSRLS and BLNFNDRLS Service Actions.
- `ent/chg/rtrv-npp-srs`—Enhanced to support the TIF Range CgPN Blacklist feature

Measurements

Measurement registers for the TIF Subscriber CgPN Blacklist feature:

- TIFRLS—Total number of MSUs processed by TIF and blacklisted by the BLRLS Service Action.
- TIFNFNDRLS—Total number of MSUs processed by TIF and blacklisted by the BLNFNDRLS Service Action.
- TIFSBSCRBL—Total number of MSUs processed by TIF and found to be blacklisted by BLRLS and BLNFNDRLS Service Actions.

The TIFRLS and TIFNFNDRLS registers are located in the MTCD/MTCH NP System Measurement report. The TIFSBSCRBL register is located in the MTCD/MTCH NP SSP measurement report. All of the measurements can be collected using the Measurements Control Platform, OAM, or E5-OAM based collection methods.

Other Changes

The following core enhancements are introduced in Release 44.0:

Display Reference Counts for Default MAP and MRN Sets

The `rtrv-map` and `rtrv-mrn` commands are enhanced to display reference counts for default MAP and MRN sets, respectively, using the on=refcnt parameter.

Reference count data displayed by the `rtrv-map` command:

- MAPSET REFCNT—count of GTT table entries with XLAT=NONE that refer the corresponding MAPSET
- MAPSETPC REFCNT—Count of entries from MRN, GTT Translation, GSM MAP Screening, GSM MAP Opcode and Prepaid SMS Options tables that refer a MAP entry with a MAPSET/PC combination
- MAPSETPCSSN REFCNT—Count of entries from MRN, GSM MAP Screening, GSM MAP Opcode, GTT Translation and GTT Action tables that refer a MAP entry with a MAPSET/PC/SSN combination

`rtrv-map:pcn=1001:on=refcnt`

```
    eaglestp 11-03-17 16:23:34 EST  EAGLE 44.0.0

       MAPSET ID=3      MRNSET ID=1     MRNPC=   01003
       MAPSET REFCNT=1
       PCN            Mate PCN      SSN RC MULT SRM MRC GRP NAME SSO WT %WT THR
       01001                         11 10  SHR *N  *N  -------- OFF 40  67   1
       MAPSETPCSSN REFCNT=2       MAPSETPC REFCNT=1
                     01002          12 10  SHR *N  *N  -------- OFF 20  33   1
       MAPSETPCSSN REFCNT=0       MAPSETPC REFCNT=*1

    MAP table is (15 of 36000) 1% full.

;
```

Reference count data displayed by the `rtrv-mrn` command:

- MRNSET REFCNT—Count of GTT table entries with XLAT=NONE that refer to the corresponding MRN set
- MRNSETPC REFCNT—Count of entries from the MAP, GTT Translation, GTT Action, and Prepaid SMS Options tables that refer to the corresponding MRN entry

`rtrv-mrn:pcn=1001:mrnset=dflt:on=refcnt`

```
    eaglestp 11-03-17 14:24:37 EST  EAGLE 44.0.0

       MRNSET REFCNT=1
       MRNSET MAPSET  MAPPCN         MAPSSN      PCN            RC WT %WT THR
       DFLT   DFLT    01003             10      01002          10  5  50   1
       MRNSETPC REFCNT=2
                                                01001          10  5  50   1
       MRNSETPC REFCNT=1

    MRN table is (13 of 6000) 1% full.

;
```

As part of this enhancement, the output for the `ent/chg-map` and `ent/chg-mrn` commands is updated to display an Extended Processing Time message.

Example 1 displays output for the `chg-map` command.

`chg-map`

```
    tekelecstp 11-03-22 12:29:22 EST  EAGLE 44.0.0
    chg-map:pc=1-1-1:ssn=100:mrc=no:srm=no
    Command entered at terminal #4.
    CHG-MAP: MASP A - MESSAGE: EXTENDED PROCESSING REQUIRED
    CAUTION: THE VALUE OF SRM IS EFFECTIVE WHEN MULT IS COM OR DOM AND
    THE VALUE OF MRC IS EFFECTIVE WHEN MULT IS DOM.
    CHG-MAP: MASP A - COMPLTD
;
```

Example 2 displays output for the `chg-mrn` command.

`chg-mrn`

```
    tekelecstp 11-03-22 15:43:00 EST  EAGLE 44.0.0
    chg-mrn:pci=1-1-2:mrnset=111:mapset=10:mappc=1-1-1:mapssn=*
    Command entered at terminal #4.
    CHG-MRN: MASP A - MESSAGE: EXTENDED PROCESSING REQUIRED
    CHG-MRN: MASP A - COMPLTD

;
```

Example 3 displays output for the `ent-map` command when a new MAP set is created.

`ent-map:pc=1-1-1:ssn=10:rc=10:mpc=1-1-2:mssn=20:materc=20:mapset=new`

```
    tekelecstp 11-03-22 11:22:28 EST  EAGLE 44.0.0
    ent-map:pc=1-1-1:ssn=10:rc=10:mpc=1-1-2:mssn=20:materc=20:mapset=new
    Command entered at terminal #4.
    ENT-MAP: MASP A - MESSAGE: EXTENDED PROCESSING REQUIRED

    New MAPSET Created : MAPSETID = 362
    ENT-MAP: MASP A – COMPLTD
;
```

Example 4 displays output for the `ent-mrn` command.

`ent-mrn:pc=1-1-1:rc=10:pc1=1-1-2:rc1=20:pc2=1-1-3:rc2=30:apc3=1-1-4:rc3=40:apc4=1-1-5:rc4=50:mrnset=new`

```
    tekelecstp 11-03-04 12:59:14 EST  EAGLE 44.0.0

ent-mrn:pc=1-1-1:rc=10:pc1=1-1-2:rc1=20:pc2=1-1-3:rc2=30:apc3=1-1-4:rc3=40:apc4=1-1-5:rc4=50:mrnset=new

    Command entered at terminal #4.
    ENT-MRN: MASP A - MESSAGE: EXTENDED PROCESSING REQUIRED

    New MRNSET Created : MRNSETID = 112
    ENT-MRN: MASP A – COMPLTD
;
```

Enable or Disable an IP Interface on High Capacity Cards

The `act-ip-lnk` and `dact-ip-lnk` commands are added to allow an IP interface to be enabled or disabled for the following cards:

- E5-ENET or E5-ENET-B card running the EROUTE, IPGWx, IPLIMx, IPSG, or SLAN application
- E5-IPSM or E5-ENET-B card running the IPS application
- E5-SM4G or E5-SM8G-B card running the VSCCP application
- E5-OAM card running the OAMHC application
- E5-MCPM-B card running the MCP application

The `act-ip-lnk` command activates an IP link on a valid card and puts the link into service. The state of the link is changed from OOS-MT-DSBLD (Out-Of-Service-Maintenance-Disabled) to OOS-MT (Out-Of-Service-Maintenance), IS-ANR (In-Service-Abnormal), or IS-NR (In-Service-Normal).

The `dact-ip-lnk` command deactivates the IP link and takes the link out of service. The state of the link is changed from OOS-MT, IS-ANR, or IS-NR to OOS-MT-DSBLD.

Equipment Identity Register Support of ANSI

Equipment Identity Register (EIR) now supports ANSI point codes. EIR no longer supports ITU-N24 point codes.

EAGLE 5 supports the following:

- ANSI Point Codes are supported as EIR capability point code types.
- ANSI, ITU-I, and ITU-N point codes are supported in the MAP table for the EIR local subsystem.
- ANSI, ITU-I, and ITU-N Global Title Indicators are supported in the Service Selector table (`SRVSEL`) for the EIR service.

NPP Enhancement: Add Optional SA Data for Service Actions in Action Set

Each NPP Action Set can add a numerical values list to the Service Action data for Service Actions in an Action Set.

Currently, the numerical values list is supported only by the *TIF Range CGPN Blacklist* and *TIF Subscriber CgPN Blacklist* features. When used with these features, the data is used as Release Cause values in ISUP REL messages.

Up to 2 numerical list values can be associated with each TIF CgPN Blacklist Service Action. The first value is used for ANSI ISUP and the second value is used for ITU ISUP.

New sa1val - sa8val parameters are added to the `ent/chg-npp-as` command to provision the numerical values list. The `rtrv-npp-as` command is enhanced to display the numerical values list data when the mode=full parameter is specified.

`rtrv-npp-as:mode=full`

```
    tekelecstp 11-03-05 15:37:41 EST  EAGLE 44.0.0

    ASN         CA          SA          SA DATA         FA          OFNAI  REFS
    ----------  ----------  ----------  ------------    ----------  -----  ----
    asn6        cc3         nscdpn                      cc          intl   1
                ac8         nscgpn                      ac
                sn8                                     sn

    tifcgpn1    cc2         blrls       val1 =12        cc          intl   1
                dnx                     val2 =45        dn
                            blnfndrls   val1 =56
                                        val2 =78
                            grnlkup

    tifcgpn2    cc2         asdlkup                     cc          intl   1
                dnx                                     dn

    NPP-AS   table is (3 of 1024) 1% full.

;
```

Updates to the chg-measopts and chg-mtc-measopts Commands

The chg-measopts command is enhanced to allow the all, avldlink, avllink, avlstplan, cllibasedname, collect15min, complink, complnkset, compsctpasoc, compsctpcard, compua, gtwylnkset, gtwylsdestni, gtwylsonismt, gtwylsorigni, gtwyorigni, gtwyorigninc, gtwystp, nmlink, nmlnkset, nmstp, systotstp, systotstplan, and systottt parameters to be configured using either the existing individual parameters or as options for the new on and off parameters. If the on or off parameter is used, then up to 8 options can be configured at a time.

The chg-mtc-measopts command is enhanced to allow the mtcdaiq, mtcdatinpq, mtcdeir, mtcdgttapath, mtcdlink, mtcdlnkset, mtcdlnp, mtcdmap, mtcdnp, mtcdsctpasoc, mtcdsctpcard, mtcdstp, mtcdstplan, mtcdua, mtcdvflex, mtchaiq, mtchatinpq, mtcheir, mtchgttapath, mtchlnp, mtchmap, mtchnp, and mtchvflex parameters to be configured using either the existing individual parameters or as options for the new on and off parameters. If the on or off parameter is used, then up to 8 options can be configured at a time.

Operational Changes

Release 44.0 contains new and updated alarms and error messages for feature and non-feature items.

Update to Ethernet Port Characteristics

As of Release 44.0, all Ethernet ports are OFF by default. The in-service port and associated light will be turned ON by running the relevant application. The light for the unused port will remain OFF.

Unsolicited Alarm Messages

Integrated GLS

Table 2: UAM: Integrated GLS

UAM	450
Action	Added for 44.0
Old data	
New data	Invalid HW for Integrated GLS
Format	GLS SYSTEM
Output Group	CARD
UAM	901
Action	Updated for 44.0
Old data	Card DB load timeout, check GLS card

New data	Card DB load timeout, check GLS SS
Format	GLS SYSTEM
Output Group	CARD

Unsolicited Information Messages

Non-Feature Related

Table 3: UIMs: Non-Feature Related

UIM	1392	Format	Output Group
Action	Updated for 44.0		
Old data	IDPRCDPN NPP SERVICE is Disabled	I1	GTT
New data	IDPRCDPN NPP SERVICE is OFF	Card	GTT
UIM	1393	Format	Output Group
Action	Updated for 44.0		
Old data	IDPRCGPN NPP SERVICE is Disabled	I1	GTT
New data	IDPRCGPN NPP SERVICE is OFF	Card	GTT

Hardware Verification Code

Hardware Verification Codes: EPM-B Based Cards

Table 4: Hardare Verification Codes: EPM-B Based Cards

Hardware Verification Code	Card Type	Description	New?	UAM
128	HC-MIM, EPMB	Fan feature bit must be ON for HC-MIM and EPMB	N	43
179	EPMB	EPM-B based card detected and MFC is OFF	Y	99

Hardware Verification Code: E5-MCPM-B

Table 5: Hardware Verification Code: E5-MCPM-B

Hardware Verification Code	Card Type	Description	New?	UAM
142	E5-MCPM-B	E5-MCPM-B card not running with D4G memory	Y	422

Hardware Verification Code: E5-ENET-B with IPSG

Table 6: Hardware Verficiation Code: E5-ENET-B with IPSG

Hardware Verfication Code	Card Type	Description	New?	UAM
172	E5-ENET-B with IPSG	EPM card inserted in a slot provisioned for EPM-B based card	Y	99

UAM Format Updates

GLS System

```
     1         2         3         4         5         6         7         8

12345678901234567890123456789012345678901234567890123456789012345678901234567890

*   0002.0450 *  GLS System           Invalid HW for Integrated GLS
```

Error Messages

Allow MOBR Exception Routes to Adjacent PCs

Table 7: Error Message: Allow MOBR Exception Routes to Adjacent PCs

Response ID Code	Error Message	New?	Used by Command
E5412	Linkset type must be A for SLTSET=0	Y	`ent/chg-ls`

Enable or Disable an IP Link for High Capacity Cards

Table 8: Error Messages: Enable or Disable an IP Link for High Capacity Cards

Response ID Code	Error Message	New?	Used by Command
E2144	Location invalid for hardware configuration	N	`act/dact-ip-lnk`
E2368	System busy - try again later	N	`act/dact-ip-lnk`
E2376	Specified LOC is invalid	N	`act/dact-ip-lnk`
E2387	Card is not in service	N	`act/dact-ip-lnk`
E2975	Specified Port is not supported	N	`act/dact-ip-lnk`
E4916	Command invalid for hardware configuration	N	`act/dact-ip-lnk`

E5-ENET-B

Table 9: Error Messages: E5-ENET-B

Response ID Code	Error Message	New?	Used by Command
E2136	At least one optional parameter is required	N	`chg-card`

IPS Application on E5-ENET-B

Table 10: Error Messages: IPS Application on E5-ENET-B

Response ID Code	Error Message	New?	Used by Command
E4472	The IP Addr of E5-IPSM or E5-ENET-B corresponding to SEAS Trm must be set	N	`alw/rst-trm` chg-ctrl-feat
E4620	E5-IPSM or E5-ENET-B Card is not Present	N	`chg-ctrl-feat` `chg-trm`

Error Message: E5-ENET-B IPSG High Speed Throughput

Table 11: E5-ENET-B IPSG High Speed Throughput

Response ID Code	Error Message	New?	Used by Command
E2131	Parameters not valid for card type	N	`rept-stat-iptps`
E2155	Invalid parameter combination specified	N	`rept-stat-iptps`
E2294	LSN and LOC parms are mutually exclusive	N	`rept-stat-iptps`
E4806	TPS exceeded allowed range	N	`ent/chg-ls`
E4807	TPS exceeded for Card	N	`chg-ctrl-feat`
E5389	LOC must be specified with HISTORY	Y	`rept-stat-iptps`
E5404	LSN or LOC must be specified with TPSCOST	Y	`rept-stat-iptps`
E5410	Command supported only for IPSG linksets	Y	`rept-stat-iptps`
E5411	LOC is valid only with HISTORY, TPSCOST, or PEAKRESET	Y	`rept-stat-iptps`

Error Message: IDPR TON Mapping

Table 12: Error Message: IDPR TON Mapping

Response ID Code	Error Message	New?	Used by Command
E5428	NAI, TON, and MAP must be specified todgether	Y	`chg-ttropts`

Error Messages: Integrated GLS

Table 13: Error Messages: Integrated GLS

Response ID Code	Error Message	New?	Used by Command
E3084	Both OAM cards must be of the same type	N	`chg-db` `copy-disk`
E5248	Both MASPs must be E5-OAM	Y	`chg-db`

Response ID Code	Error Message	New?	Used by Command
			copy-disk

Error Messages: Message Flow Control

Table 14: Error Messages: Message Flow Control

Response ID Code	Error Message	New?	Used by Command
E2155	Invalid parameter combination specified	N	rept-stat-mfc
E2368	System busy - try again later	N	rept-stat-mfc
E5385	EPM-B based card(s) present in IS_NR/IS-ANR state	Y	chg-stpopts
E5467	Invalid value specified for the parameter	Y	chg-stpopts
E5475	MFC option can be changed once within 10 secs	Y	chg-stpopts

Error Messages: NPP Single Digit Wild Card Optionality

Table 15: Error Messages: NPP Single Digit Wild Card Optionality

Response ID Code	Error Message	New?	Used by Command
E2601	Command aborted due to system error	N	chg-ctrl-feat
E4786	Max 25 FPFX single digit wildcard chars '?' per NPP service	Y	chg-ctrl-feat ent-npp-srs
E4856	FPFX contains more than three ?	Y	chg-ctrl-feat ent-npp-srs
E4958	? must be in the first six FPFX digits	Y	chg-ctrl-feat ent-npp-srs

Error Messages: TIF Calling Party Number Conditioning

Table 16: Error Messages: TIF Calling Party Number Conditioning

Response ID Code	Error Message	New?	Used by Command
E2136	At least one optional parameter is required	N	ent/chg-npp-srs
E3523	At least one parameter must be changed	N	ent/chg-npp-srs
E5320	INVKSERV value must be NONE for specified SRVN value	Y	ent/chg-npp-srs
E5321	INVKSERV value must be NONE or TIFCGPN	Y	ent/chg-npp-srs
E5322	INVKSERV value must be NONE or TIFCGPN2	Y	ent/chg-npp-srs
E5323	INVKSERV value must be NONE or TIFCGPN3	Y	ent/chg-npp-srs
E5324	FAs ASDOTHER and GRNOTHER require INVKSERV not equal to NONE	Y	ent/chg-npp-srs
E5325	Action Set with CgPN SAs require Rule INVKSERV equal to NONE	Y	ent/chg-npp-srs

Error Messages: TIF Range CgPN Blacklist

Table 17: Error Messages: TIF Range CgPN Blacklist

Response ID Code	Error Message	New?	Used by Command
E5326	TIF Range CgPN Blacklist feature must be enabled	Y	ent/chg-npp-srs
E5327	SA FPFXRLS is mutually exclusive with all other SAs	Y	ent/chg-npp-srs
E5328	SA FPFXRLS requires 2 SA(X)VAL values	Y	ent/chg-npp-srs
E5329	SA FPFXRLS SA(X)VAL values must be between 0-127	Y	ent/chg-npp-srs

Response ID Code	Error Message	New?	Used by Command
E5330	SA NOCGPNRLS requires 2 SA(X)VAL values	Y	ent/chg-npp-srs
E5331	SA NOCGPNRLS SA(X)VAL values must be between 0-127	Y	ent/chg-npp-srs

Error Messages: TIF Subscriber CgPN Blacklist

Table 18: Error Messages: TIF Subscriber CgPN Blacklist

Response ID Code	Error Message	New?	Used by Command
E5332	TIF Subscr CgPN Blacklist feature must be enabled	Y	ent/chg-npp-srs
E5333	SA BLRLS requires 2 SA(X)VAL values	Y	ent/chg-npp-srs
E5334	SA BLRLS SA(X)VAL values must be between 0-127	Y	ent/chg-npp-srs
E5335	SA BLNFNDRLS requires 2 SA(X)VAL values	Y	ent/chg-npp-srs
E5336	SA BLNFNDRLS SA(X)VAL values must be between 0-127	Y	ent/chg-npp-srs

Error Messages NPP Enhancement: Add optional SA Data for each SA in Action Set

Table 19: Error Messages: NPP Enhancement: Add optional SA Data for each SA in Action Set

Response ID Code	Error Message	New?	Used by Command
E5337	SA1 does not support SA1VAL for specified SRVN value	Y	ent/chg-npp-srs
E5338	SA2 does not support SA2VAL for specified SRVN value	Y	ent/chg-npp-srs
E5339	SA3 does not support SA3VAL for specified SRVN value	Y	ent/chg-npp-srs

Response ID Code	Error Message	New?	Used by Command
E5340	SA4 does not support SA4VAL for specified SRVN value	Y	ent/chg-npp-srs
E5341	SA5 does not support SA5VAL for specified SRVN value	Y	ent/chg-npp-srs
E5342	SA6 does not support SA6VAL for specified SRVN value	Y	ent/chg-npp-srs
E5343	SA7 does not support SA7VAL for specified SRVN value	Y	ent/chg-npp-srs
E5344	SA8 does not support SA8VAL for specified SRVN value	Y	ent/chg-npp-srs
E5345	SA1 does not support SA1DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5346	SA2 does not support SA2DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5347	SA3 does not support SA3DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5348	SA4 does not support SA4DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5349	SA5 does not support SA5DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5350	SA6 does not support SA6DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5351	SA7 does not support SA7DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5352	SA8 does not support SA8DGTS for specified SRVN value	Y	ent/chg-npp-srs
E5353	SA1VAL requires SA1 to be provisioned	Y	ent/chg-npp-as

Response ID Code	Error Message	New?	Used by Command
E5354	SA2VAL requires SA2 to be provisioned	Y	ent/chg-npp-as
E5355	SA3VAL requires SA3 to be provisioned	Y	ent/chg-npp-as
E5356	SA4VAL requires SA4 to be provisioned	Y	ent/chg-npp-as
E5357	SA5VAL requires SA5 to be provisioned	Y	ent/chg-npp-as
E5358	SA6VAL requires SA6 to be provisioned	Y	ent/chg-npp-as
E5359	SA7VAL requires SA7 to be provisioned	Y	ent/chg-npp-as
E5360	SA8VAL requires SA8 to be provisioned	Y	ent/chg-npp-as
E5361	SA1DGTS requires SA1 to be provisioned	Y	ent/chg-npp-as
E5362	SA2DGTS requires SA2 to be provisioned	Y	ent/chg-npp-as
E5363	SA3DGTS requires SA3 to be provisioned	Y	ent/chg-npp-as
E5364	SA4DGTS requires SA4 to be provisioned	Y	ent/chg-npp-as
E5365	SA5DGTS requires SA5 to be provisioned	Y	ent/chg-npp-as
E5366	SA6DGTS requires SA6 to be provisioned	Y	ent/chg-npp-as
E5367	SA7DGTS requires SA7 to be provisioned	Y	ent/chg-npp-as
E5368	SA8DGTS requires SA8 to be provisioned	Y	ent/chg-npp-as

Error Messages: Non Feature-Related

Table 20: Error Messages: Non Feature-Related

Response ID Code	Error Message	New?	Used by Command
E2419	Point code does not exist in the remote point code table	N	ent/chg-gsmmap-scrn ent/chg-gsms-opcode

Response ID Code	Error Message	New?	Used by Command
E4543	PC/MAPSET does not exist in MAP table	N	`ent/chg-gsmmap-scrn` `ent/chg-gsms-opcode`
E5437	VCI value greater than 16383 not allowed	N	`ent-slk`
E5469	MAPSET is being referred by GTT Translation entities	Y	`dlt-map`

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

- **Caribbean 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:

  8:00 a.m. through 5:48 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays
- **Chile**

  Phone:

  1230-020-555-5468
- **Colombia**

  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**

  Regional Office Hours:

  8:30 a.m. through 5:00 p.m. (GMT), Monday through Friday, excluding holidays
  - **Signaling**

    Phone:

    +44 1784 467 804 (within UK)

- **Software Solutions**

  Phone:

  +33 3 89 33 54 00

- **Asia**
  - **India**

    Phone:

    +91 124 436 8552 or +91 124 436 8553

    TAC Regional Support Office Hours:

    10:00 a.m. through 7:00 p.m. (GMT plus 5 1/2 hours), Monday through Saturday, excluding holidays
  - **Singapore**

    Phone:

    +65 6796 2288

    TAC Regional Support Office Hours:

    9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

Emergency Response

In the event of a critical service situation, emergency response is offered by the Tekelec Customer Care Center 24 hours a day, 7 days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

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

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

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

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.

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 Tekelec products. To enroll in any of the courses or for schedule information, contact the Tekelec Training Center at (919) 460-3064 or E-mail `training@tekelec.com`.

A complete list and schedule of open enrollment can be found at `www.tekelec.com`.

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 Customer Support* site.

   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**.

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*.

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 21: EAGLE 5 ISS Card Overview Table

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
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 iplimi	iplim iplimi
					1	bpdcm ss7ipgw ipgwi	ss7ipgw ipgwi
	870-2372-01	stc	1	2	2 IP Service	bpdcm eroute	eroute

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
EDCM-A (SSEDCM)	870-2508-01 870-2508-02^	dcm	1	2	1 IP Service	bpdcm vwxslan	stplan
		stc	1	2	2 IP Service	bpdcm eroute	eroute
DSM†	1 GB MEM 870-1984-02 870-1984-08 870-1984-09 870-1984-15^ 870-1984-17^ 2 GB MEM 870-1984-03 4 GB MEM 870-1984-05 870-1984-06 870-1984-07 870-1984-13^ 870-1984-16^	dsm	2	2	2 IP service	bpdcm vsccp gls	vsccp
DSM-1G	870-2371-02 870-2371-06 870-2371-08 870-2371-13^	ipsm	1	2 (use only A)	1 IP service	bpdcm ips	ips
EDSM-2G*	870-2372-03 870-2372-07 870-2372-09 870-2372-14^ 870-2372-15^	mcpm	1	2 (use only A)	1 IP service	bpdcm bpdcm2 mcp	mcp

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
E1/T1 MIM††	870-2198-01 870-2198-02 870-2198-03 870-2198-04 870-2198-07^	lime1 limt1 limch	1	2	8	ss7ml bpmplt	ss7ansi ccs7itu
E1-ATM	870-2455-01 870-2455-02 870-2455-03 870-2455-05^	lime1atm	1	2	1	atmitu bphcap bphcapt	atmitu
E5-ATM	870-1872-01^ 870-1872-02^	limatm lime1atm	1	4 (3 used)	3	atmhc blixp	atmansi atmitu
E5-ATM-B	870-2972-01	limatm	1	4 (3 used)	3	atmhc blmcap	atmansi atmitu
E5-E1T1	870-1873-02 870-1873-03^ 870-1873-04^	lime1 limt1	1	8	32	ss7hc blixp	ss7ansi ccs7itu
		lime1 (for SE-HSL)	1	8	1		ccs7itu
		limt1 (for ST-HSL-A)	1	8	1		ss7ansi
E5-ENET	870-2212-02 870-2212-03^ 870-2212-04^ 870-2212-05^	dcm	1	2	16	iplhc blixp	iplim iplimi
			1	2	1	ipghc bldiag6 blvwx6 blixp	ss7ipgw ipgwi
			1	2	2 IP Service	slanhc blixp	stplan

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 blixp	eroute
		enet	1	2	32	ipsg blixp	ipsg
E5-ENET-B	870-2970-01	dcm	1	2	16	iplhc blmcap	iplim iplimi
			1	2	1	ipghc blmcap	ss7ipgw ipgwi
			1	2	2 IP Service	slanhc blmcap	stplan
		stc	1	2	2 IP Service	erthc blmcap	eroute
		enetb	1	2	32	ipsg blmcap	ipsg
		ipsm	1	2 (use only A)	1 ipshc service	ipshc blmcap	ips
E5-IPSM	870-2877-01^ 870-2877-02^	ipsm	1	2 (use only A)	1 ipshc service	ipshc blixp	ips
E5-MASP	870-2903-01^ 870-2903-02^ 870-2903-03^	N/A	2	2	N/A	oamhc blmcap	oam
E5-MCPM-B	870-3089-01	mcpm	1	2 (use only A)	1 IP service	mcphc blmcap	mcp
E5-MDAL	870-2900-01^	N/A	2	N/A	N/A	N/A	N/A

Card Name as shown on card label	Part Number	Provisioned Card Type	Per Card Slots/Ports		Links per Card	Card GPLs	Card Applications
E5-SM4G	870-2860-01^ 870-2860-02^	dsm	2	2	2 IP Service	sccphc blixp	vsccp
E5-SM8G-B	870-2990-01	dsm	2	2	2 IP Service	sccphc blmcap	vsccp
E5-TSM	870-2943-03^	tsm	1	1	N/A	glshc blixp	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 bpdcm bpdcm2	oam
HC-MIM††	870-2671-01 870-2671-02 870-2671-03^	lime1 limt1	2	8	64	ss7hc blixp	ss7ansi ccs7itu
		lime1 (for SE-HSL)	2	8	2		ccs7itu
HIPR	870-2574-01 870-2574-02^	N/A	1	N/A	N/A	hipr	hipr
HIPR2	870-2872-01^ 870-2872-02^	N/A	1	N/A	N/A	hipr2	hipr2
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^ 870-0773-10^	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
*Although the system allows 250 MCPM cards, practical usage is 2. †DSM or E5-SM4G cards are required for the LNP, 50,000 GTT, or EPAP-related features. For more information about turning these features on, refer to the appropriate manual. ††For the E1 or T1 interface, an SS7 application (SS7ANSI or CCS7ITU) can be assigned to these cards. For more information on the E1 or T1 interface go to Chapter 3 “System Administration Procedures” in the Database Administration Manual - SS7. ^This part number is the ROHS equivalent of the immediately preceding part number.							

Hardware Baseline

The Hardware Baseline is shown in the following table.

Table 22: 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		

Component	Part Number	ROHS Number (if applicable)	Required for
	870-0776-11 Rev A		
Air Management Card	870-1824-01 Rev A	870-1824-02 Rev A	Shelves with Fan Assembly
DCM	870-1945-01 Rev A or		
	870-1945-02 Rev A or		
	870-1945-03 Rev A		
DCMX	870-1984-01 Rev A		
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	

Component	Part Number	ROHS Number (if applicable)	Required for
E1-ATM	870-2455-01 Rev B		
	870-2455-02 Rev B		
	870-2455-03 Rev A	87-02455-05 Rev A	
E5-ATM		870-1872-01 Rev A	
		870-1872-02 Rev A	
E5-ATM-B		870-2972-01 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-ENET-B		870-2971-01 Rev A	
E5-IPSM		870-2877-01 Rev A	
		870-2877-02 Rev A	
E5-MASP		870-2903-01 Rev C	
		870-2903-02 Rev A	
		870-2903-03 Rev A	
E5-MCPM-B		870-3089-01 Rev A	
E5-MDAL		870-2900-01 Rev A	
E5-SM4G		870-2860-01 Rev F	
		870-2860-02 Rev A	
E5-SM8G-B		870-2990-01 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	

Component	Part Number	ROHS Number (if applicable)	Required for
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	
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	
HIPR2		870-2872-01 Rev A	
		870-2872-02 Rev A	
High-speed Fiber Channel Cable		830-1344-xx	
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	
		870-0773-10 Rev A	
MPL	870-2061-01 Rev A or		

Component	Part Number	ROHS Number (if applicable)	Required for
	870-2061-03 Rev A or		
	870-2061-04 Rev A	870-2061-06 Rev A	
MPS DC Frame Assembly	890-1843-01 Rev C	890-1843-02 Rev A	
MPS in Heavy Duty Frame	890-1801-01 Rev E	890-1801-02 Rev A	
TDM	870-0774-10 Rev A or		
	870-0774-11 Rev A		Rev C required if installed in a system with more than 11 shelves
TDM GTI	870-0774-15 Rev B	870-0774-18 Rev A	
TSM-256	870-1289-02 Rev A or		
	870-1289-03 Rev A or		
	870-1289-04 Rev A	870-1289-06 Rev A 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		
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	

Component	Part Number	ROHS Number (if applicable)	Required for
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		
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

ANSI

American National Standards Institute

An organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. ANSI develops and publishes standards. ANSI is a non-commercial, non-government organization which is funded by more than 1000 corporations, professional bodies, and enterprises.

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`.

CgPN

Calling party number

The field in the TCAP portion of the MSU that contains the additional

C

	addressing information of the origination of the MSU.

D

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.
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 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

E

	A high capacity single-slot IP signaling card (EPM card plus Gig Ethernet PMC cards).
EDCM	Enhanced Database Communication Module
EIR	Equipment Identity Register A network entity used in GSM networks, as defined in the 3GPP Specifications for mobile networks. The entity stores lists of International Mobile Equipment Identity (IMEI) numbers, which correspond to physical handsets (not subscribers). Use of the EIR can prevent the use of stolen handsets because the network operator can enter the IMEI of these handsets into a 'blacklist' and prevent them from being registered on the network, thus making them useless.

F

FPFX	Filter Prefix Digit string used to classify incoming digit strings.

G

GB	Gigabyte — 1,073,741,824 bytes
GLS	Generic Loading Services An application that is used by the TSM cards for downloading gateway screening to LIM cards.

H

HC-MIM	High Capacity Multi-Channel Interface Module A card that provides access to eight E1/T1 ports residing on backplane

H

	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).
HIPR2	High-Speed IMT Packet Router 2 A card that provides increased system throughput and traffic capacity on the existing Fibre-Channel ring. A high rate Fibre-Channel option of 2.5 Gbps is available when an EAGLE is provisioned with all HIPR2 cards. In a mixed topology where a HIPR2 is used in an EAGLE along with HMUX and HIPR, the Fibre-Channel ring runs at the lower rate of 1.0625 Gbps.
HMUX	High-Speed Multiplexer A card that supports the requirements for up to 1500 links,

H	
	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	
ISS	Integrated Signaling System
L	
LIM-ATM	A link interface module (LIM) with the ATM interface.
LNP	Local Number Portability
M	
MDAL	Maintenance Disk and Alarm
MIM	Multi-Channel Interface Module
MPL	Multi-port LIM
N	
NPP	Numbering Plan Processor
	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	Synchronous E1 High Speed Link

S

	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.
SS7	Signaling System #7
SS7ANSI	SS7 ANSI An application used by the LIM cards and the E1/T1 MIM card for the MTP functionality.
SSEDCM	Single Slot Enhanced Data Communications Module

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
TIF	Triggerless ISUP Framework
TSM	Translation Services Module

T

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).