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Acronyms

The following table provides information about the acronyms and the terminology used in the document.

Table Acronyms

Acronym	Definition
AC	Area Code
CSV	Comma Separated Value
FTA	File Transfer Area
GTT	Global Title Translation
HSL	High Speed Link
LSL	Low Speed Link
MCPM	Measurement Collection and Polling Module
MSU	Message Signal Unit
SFTP	Secure Shell FTP
TT	Translation Type
UI	User Interface

What's New in This Guide

This section introduces the documentation updates for Release 47.0 in Oracle Communications EAGLE Measurements Reference.

Release 47.0 - F41416-01, September 2022

There are no updates for this document in this release.

1

Introduction

This chapter describes the content and structure of the user's guide, indicates how to obtain help, details where to find related documentation, and provides other general information.

Overview

Measurements Reference describes EAGLE measurements. Measurements provide support for:

- STP performance management
- SS7 traffic monitoring and engineering
- Specific feature performance analysis



Note:

EAGLE supporting ANSI networks make use of the LNP and SEAS features. EAGLE supporting ITU networks do not include these systems.

Scope and Audience

This manual is intended for maintenance personnel who must maintain the EAGLE. The technician should be familiar with **SS7** protocols. The manual provides preventive and corrective procedures that will aid maintenance personnel in maintaining the EAGLE.

Preventive maintenance procedures are routines to be carried out on a scheduled basis to help prevent system failures. These routines are industry-standard recommendations and may be adopted to fit any company maintenance plan.

The corrective maintenance procedures are those used in response to a system alarm or output message. These procedures are EAGLE-specific and aid in the detection, isolation, and repair of faults.

References

For more information, refer to the following documents:

1. *Commands User's Guide*
2. *Database Administration - System Management User's Guide*

2

Measurements

Introduction to Measurements

This section describes EAGLE measurements. Measurements provide support for:

- **STP** performance management
- **SS7** traffic monitoring and engineering
- Specific feature performance analysis

Measurements provide operations and maintenance personnel with network performance and STP performance data in accordance with:

- Telcordia GR-82-CORE
- Telcordia GR-310-CORE
- Telcordia GR-478-CORE
- Telcordia GR-778-CORE

Measurements can be collected and reported with the following collection methods:

- [Obsolete OAM Measurements and FTA](#)
- [Measurements Platform](#)
- [E5-OAM Integrated Measurements](#)

The primary functions of Measurements are as follows:

- **Collection**

Measurements are collected in 5-minute, 30-minute, and 60-minute intervals. An option exists for the default 30-minute measurements to be collected every 15 minutes. Many 30-minute measurements intervals are accumulated into daily intervals.

- **Storage**

Measurements are stored in dedicated RAM tables and/or disks after collection. Most are retained for 24 hours. Measurements for some features are retained for 7 days.

- **Retrieval**

Measurements data is retrieved from the RAM storage area and/or disk. ACTIVE measurement data is retrieved and reported from the application cards except for SCP SMCs. Registers collected from SCP SMCs are not supported for ACTIVE measurements and will be reported as zero in an ACTIVE measurement report. An ACTIVE linkset report requires all links in the linkset to be available in order to provide the report.

- **Reporting**

Measurement reports are available on-demand/scheduled as shown in [Table 2-1](#).

Table 2-1 Demand and Scheduled Reporting

Reporting Interval	Measurements Platform		E5-OAM Integrated Measurements	
	Demand	Scheduled	Demand	Scheduled
5-minute	Yes	Yes	Yes	Yes
15-minute (optional)	Yes	Yes	Yes	Yes
30-minute	Yes	Yes	Yes	Yes
Day-to-hour	Yes	No	Yes	No
Hourly	Yes	Yes	Yes	Yes
Daily	Yes	Yes	Yes	Yes

Scheduled measurements are directed to the Traffic Unsolicited Output Message group. No other unsolicited output is sent to this output group.

Note that the collection of measurements is a separate task from reporting. Measurements collection is activated automatically upon system power-up, or through administrative commands. Collection is organized by **ENTTYPE** and reporting period. Collection occurs per link every 5 minutes, and separately every 30 minutes. Measurements are generated on the application cards and periodically collected by the **UI** and stored for later retrieval, unless the Measurements Platform is enabled, whereas the information is collected and stored by the dedicated MPCM cards.

Refer to the *Commands User's Guide* for descriptions of commands used to generate, schedule, and transfer measurements reports.

Refer to the *Database Administration - System Management User's Guide* for information and procedures to provision basic OAM measurements, the Measurements Platform feature and E5-OAM Integrated Measurements feature.

Obsolete OAM Measurements and FTA

Basic OAM measurements are no longer supported from Release 46.3 onward. For measurement collection to occur, either the Measurements Platform feature or the E5-OAM Integrated Measurements feature must be used. To enable the E5-OAM Integrated Measurements feature, use the following commands:

```
ENABLE-CTRL-FEAT:partnum=893037301
CHG-CTRL-FEAT:partnum=893037301:status=ON
```

OAM-based measurements are collected by an E5-OAM MASP and are stored on the E5-TDM card.

For OAM-based measurements and the Measurements Platform feature, the `rept-meas` command sends measurements reports for the NP, GSM MAP screening, LNP, G-Port, A-Port, and IS41 GSM Migration (IGM) features to the file transfer area (FTA). Applications measurements (INP, GSM MAP screening, and LNP) are now supported only by the FTP reporting capability.

The FTA measurements reporting capability is replaced with the FTP reporting capability.

EAGLE continues to support retrieval of the ACTIVE PERIOD for links/linkset for troubleshooting purposes. All the entity types that supported the ACTIVE PERIOD collection without enabling the Measurements Platform feature or the E5-OAM Integrated Measurements feature are still supported.

The EAGLE UI display of measurement reports via the `chg/rept-meas` and `rtrv-meas-sched` commands is still supported; either the Measurements Platform or E5-OAM Integrated Measurements must be enabled.

Basic OAM Measurements

Basic OAM measurements are collected by the E5-MCAP control card and are stored on the E5-TDM card. For EAGLE nodes with up to 700 links, measurement reports can be generated either to a User Interface (UI) serial terminal or through the File Transfer Area (FTA), depending on the feature or function.

Basic OAM measurements are available when the E5-OAM Integrated Measurements feature and the Measurements Platform feature are not used in the system.

When basic OAM measurements are in use, the `rept-meas` command sends measurements reports for TYPE=MTCH (as well as some MTCD reports) to the file transfer area (FTA) rather than to an EAGLE terminal.

When basic OAM measurements are in use, turning on any unsupported feature disables hourly collection for ALL features. The features not supported are:

- AIQ
- ATINP/PATINP
- EGMS
- EIR
- ENUM
- GTT Actions
- LNP 384
- SIP
- S13 EIR
- VFLEX

Reports can be scheduled or generated on demand using the following commands:

- `chg-meas`: Used to turn measurement collection on and off, and to schedule automatic generation of measurements reports to a UI terminal.
- `rept-meas`: Used to generate measurements reports on demand.
- `rtrv-meas-sched`: Used to display the measurements collection status and the list of measurements reports currently scheduled to be automatically generated to a UI terminal.

 **Note:**

If a new entity is provisioned in place of a deleted entity, then the measurements for the deleted entity are set to zero. The reported peg counts apply only to the new entity.

The File Transfer Area function supports the transfer of file data between an EAGLE and a remote computer. The function provides the capability to download files from the EAGLE using a data communications link and the following commands:

- Activate File Transfer: `act-file-trns`
- Copy to or from Transfer Area: `copy-fta`
- Delete Entry from File Transfer Area: `dlt-fta`
- Display File Transfer Area: `disp-fta-dir`

Extracting measurements from the FTA requires:

- A computer with a VT320 or KSR connection to the system
- A communication program that both emulates VT terminals and supports Kermit file transfer
- A spreadsheet program that can import Comma Separated Value (**CSV**) text files

A personal computer running ProComm® for Windows and Microsoft Excel® meets these requirements.

Measurements Platform

For an EAGLE node with more than 700 links, either the Measurements Platform or the E5-OAM Integrated Measurements feature must be used to collect measurements. The Measurements Platform must be used to collect measurements for an EAGLE node with more than 2400 links. The Measurements Platform provides a dedicated processor for collecting and reporting measurements data for EAGLE functions, EPAP-related features that collect measurements, GSM MAP Screening, and LNP.



Note:

If the 15-Minute Measurements feature is turned on, then the Measurements Platform is required for support of more than 1200 links.

Links that are supported by the Measurements Platform and E5-OAM Integrated Measurements feature include IP associations as shown:

- Each low-speed link (LSL) counts as 1 link
- Each ATM high speed link (HSL) counts as 1 link
- Each SE-HSL counts as 1 link
- For IPLIM, each association counts as 1 link
- For IPGW, 1 link per card
- For IPSTG, each association counts as 1 link

The Measurements Platform feature requires the following hardware and provisioning in the system:

- Two MCPM cards

The platform consists of multiple **Measurement Collection and Polling Module (MCPM)** cards in a primary/secondary configuration, in which the primary MCPM performs all collection and reporting functions. The secondary MCPM card serves

as backup for the primary. The EAGLE interface is via the standard **IMT** bus and allows communications with the network elements and the **OAM**. The interface to the customer's network supports the **FTP** transfer of Measurements reports to an FTP server.

The Primary MCPM maintains constant communication with the Secondary card as a way of each monitoring the health status of the other. If the primary MCPM fails before or during collection, the secondary MCPM card assumes the Primary role and begins/continues collection.

- The Measurements Platform feature turned on
- The Measurements Platform enable option turned on in the MEASOPTS table
- A provisioned customer FTP server
- The EAGLE OA&M IP Security feature, and Secure Shell FTP (SFTP) as a client, if secure transfer is used

Enabling the Measurements Platform feature (feature bit is turned on), allows the Measurements Platform to be provisioned and tested without transferring measurement functionality from the OAM to the Measurements Platform. After the Platform hardware, software, and Ethernet connections have been provisioned and verified, the transfer of measurements functionality from the OAM to the **Measurement Platform** is initiated by setting the *Measurements Platform Enabled* bit, which is set by the system only one time. From the point that the *Measurements Platform Enabled* bit is set and initial data transfer has occurred, the measurements functionality of the OAM is limited to operator interface for measurement configuration and on-demand report requests. The Measurements Platform assumes the collection duties and stores the collected data in MCPM **RAM**.

After collection of the measurements, scheduled reports are automatically generated and transferred from an MCPM card to a customer FTP server using the FTP interface.

Existing FTP file server reports are overwritten by subsequent requests that produce the identical file name.

Reports can be scheduled or generated on demand. Scheduled and on-demand reports are accessible by the following commands:

- `chg-measopts`: Used to:
 - Enable Measurements Platform collection
 - Turn on or turn off the 15 Minute Measurements collection function
 - Enable or disable the automatic generation and FTP transfer of scheduled measurements reports to the FTP server
 - Turn on or off the CLLI-based file name option for measurements reports files.
 - Turn on or off the unchannelized link label option
- `chg-mtc-measopts`: Used to enable or disable the automatic generation and FTP transfer of scheduled measurement reports to the FTP server.
- `rept-stat-meas`: Reports the status of the Measurements subsystem including card location and state, Alarm level, and Subsystem State.
- `rept-ftp-meas`: Manually initiates generation and FTP transfer of a measurements report from the MCPM card to the FTP server.
- `rtrv-measopts`: Displays the status of Measurements Platform collection, scheduled reports, 15-Minute Measurements collection, CLLI-based file names, and the unchannelized link label.

- `rtrv-mtc-measopts`: Displays the enabled or disabled status of hourly and daily maintenance scheduled reports.

**Note:**

If a new entity is provisioned in place of a deleted entity, then the measurements for the deleted entity are set to zero. The reported peg counts apply only to the new entity.

E5-OAM Integrated Measurements

The E5-OAM Integrated Measurements feature provides full measurements support for an EAGLE node with up to 2400 links without requiring dedicated cards. The Measurements Platform is required for support of more than 2400 links.

**Note:**

If the 15-Minute Measurements feature is turned on, then the E5-OAM Integrated Measurements feature supports measurements up to 1200 links, and the Measurements Platform is required for support of more than 1200 links.

Links that are supported by the Measurements Platform and E5-OAM Integrated Measurements feature include IP associations as shown:

- Each low-speed link (LSL) counts as 1 link
- Each ATM high speed link (HSL) counts as 1 link
- Each SE-HSL counts as 1 link
- For IPLIM, each association counts as 1 link
- For IPGW, 1 link per card
- For IPSG, each association counts as 1 link

The E5-OAM Integrated Measurements feature requires the following hardware and provisioning in the system:

- E5-based control cards (E5-MASP cards and E5-MDAL cards)
- Ethernet port A provisioned on the E5-MCAP card portions of the E5-MASP cards
- The E5-OAM Integrated Measurements feature enabled and turned on
- The E5-OAM Integrated Measurements collection option turned on in the MEASOPTS table
- A provisioned customer FTP server
To mitigate network failures that could cause lost reports, it is recommended that you provision up to three FTP servers for E5-OAM Integrated Measurements. Refer to the *Database Administration - System Management User's Guide* for information about configuring the FTP servers for E5-OAM Integrated Measurements. If a network failure is on or near the EAGLE OAM IP link, then a loss of reports on the server is possible. The E5-OAM card will not switch activity if

the IP link is unavailable on the active MASP. An alarm is generated, but the role change is a manual action. You can run on-demand reports to retrieve the data.

- The EAGLE OA&M IP Security feature, and Secure Shell FTP (SFTP) as a client, if secure transfer is used

After collection of the measurements, scheduled reports are automatically generated and transferred from an E5-MASP card to a customer FTP server using the FTP interface. Existing FTP file server reports are overwritten by subsequent requests that produce the identical file name.

Reports can be scheduled or generated on demand using the following commands:

- `chg-measopts`:
 - Turns on the E5-OAM Integrated Measurements collection option
 - Turns on or turn off the 15 Minute Measurements collection function
 - Enables or disables the automatic generation and FTP transfer of scheduled measurements reports to the FTP server
 - Turns on or off the CLLI-based file name option for measurements reports files
 - Turn on or off the unchannelized link label option
- `chg-meas`: Enables report generation. The complete command that you must enter so that measurement reports are generated is `chg-meas:collect=on`.
- `chg-mtc-measopts`: Enables or disables the automatic generation and FTP transfer of scheduled daily and hourly measurement reports to the FTP server.
- `rept-stat-meas`: Reports the status of the measurements subsystem including card location and state, E5-MASP and IP link state, Alarm level, and Subsystem State.
- `rept-ftp-meas`: Manually initiates generation and FTP transfer of a measurements report from the E5-MASP card to the FTP server.
- `rtrv-measopts`: Displays the status of E5-OAM Integrated Measurements collection, scheduled reports, 15-Minute Measurements collection, CLLI-based file names, and unchannelized link label.
- `rtrv-mtc-measopts`: Displays the enabled or disabled status of all FTP scheduled measurements reports.

**Note:**

If a new entity is provisioned in place of a deleted entity, then the measurements for the deleted entity are set to zero. The reported peg counts apply only to the new entity.

When the E5-OAM Integrated Measurements feature is used in the system,

- The `rept-meas` command cannot be used for the `lnp`, `np`, and `mapscrn` entity types, because the file transfer area (FTA) is disabled. Use the `rept-ftp-meas` command for those entity types.
- Scheduled UI reports are allowed if the system has up to 700 links, and are disabled if the system has more than 700 links.

Data Mirroring

The measurements data that is collected at interval, as well as the derived data that is periodically computed, is stored on the active/primary collection platform and mirrored on the standby/secondary platform. Any MEAS reports generated after the role change are identical to the reports generated before the role change. The duplication of the collected data provides an additional measure of reliability for the Measurements Subsystem.

In the event that the standby/secondary platform is unavailable when the mirroring occurs, that data is retained on the active/primary, but it is not retained on the standby/secondary. If a role change occurs, any data collected while the standby/secondary was unavailable will not be available for reporting. A second role change is required if it is necessary to report the missing data.

Optional 15-Minute Measurements

Optional 15-minute measurements are available when the 15-minute measurement option is on and either the Measurements Platform is configured or the E5-OAM Integrated Measurements feature is turned on. This option can change the duration for 30-minute reports to 15 minutes. The Measurements Platform and the E5-OAM Integrated Measurements feature have the capability to collect and report **STP**, link, and linkset measurements on a 15-minute basis. All of the measurements available for 30-minute collection are available every 15 minutes when the feature option is operational.



Note:

Scheduled UI reports are disabled when the 15-minute measurements feature is enabled.

The feature is controlled by a measurement option. Turning on the feature requires a part number. The feature cannot be turned off once turned on. It is a Permanently **ON** feature. Upon turn on, the collection period defaults to the 30-minute option. Refer to the *Database Administration - System Management User's Guide* for details on implementing the 15-minute measurements feature.

The feature becomes operational when the collection period has been changed to 15 minutes. The collection period is changed from 30 minutes to 15 minutes (and vice versa) by using the `chg-measopts:collect15min` command. Refer to the *Commands User's Guide* for detailed usage information. When the 30-minute option is selected, measurements data is collected and reported each half-hour at hh:00 and hh:30. When the 15-minute option is selected, measurements data is collected and reported four times each hour at hh:00, hh:15, hh:30, and hh:45. The current state of the option is displayed with the Measurements Platform and E5-OAM Integrated Measurements feature options. Report types supported by 15-minute measurements are:

- systot (STP system totals)
- comp (Component)

- gtwy (Gateway)
- avl (Availability)

After 15-minute measurements collection and reporting is operational, 15-minute reports are retrieved using `rept-meas` or `rept-ftp-meas` commands. Refer to the *Commands User's Guide* for detailed usage information.

Data Collection

The various scenarios for making 15-minute collection operational, and the impact on data collection are shown in [Table 2-2](#). The first column specifies the four quarter-hour intervals during which 15-minute collection could be made operational. The second column identifies the impact of making 15-minute collection operational during the specified time window. If 15-minute collection is made operational during the first or third quarter hour, there is no impact on the collected data. If 15-minute collection is made operational during the second or fourth quarter hour, the data that is collected and stored for that quarter-hour actually represents 30 minutes of data. This is not an error and no measurements data is lost. Rather it is a side effect of making 15-minute collection operational after the previous quarter-hour boundary has already passed.

Table 2-2 Enabling 15-Minute Measurements - Impacts

Time Window for Making 15-Minute Measurements Operational	Impact on Data Collection	Data Loss
<i>xx00 to xx15</i>	15 minutes of data will be collected for the quarter-hour <i>xx15</i>	None
<i>xx15 to xx30</i>	The <i>xx15</i> interval will contain no data. The <i>xx30</i> interval will contain 30 minutes of data	None
<i>xx30 to xx45</i>	15 minutes of data will be collected for the quarter-hour <i>xx45</i>	None
<i>xx45 to xx00</i>	The <i>xx45</i> interval will contain no data. The <i>xx00</i> interval will contain 30 minutes of data	None

Some quarter-hour measurements data may not be available for 24 hours after making 15-minute collection operational. This condition exists for quarter-hour intervals for which 15-minute collection has not yet occurred. Data that was collected on a 30-minute basis is available for reporting for up to 24 hours after it is collected. After the 15-minute collection option is enabled, this data remains available on a half-hour basis (*xx00* and *xx30*) but is not available on a quarter-hour basis (*xx15* and *xx45*). After the 15-minute collection option has been enabled for 24 hours, all 15-minute measurements data is available on a quarter-hour basis (*xx00*, *xx15*, *xx30*, and *xx45*).

In addition, full 30-minute data coverage will not be available until 24 hours after making 15-minute collection not operational. Reports for specific periods will always contain the amount of data collected for that period. If **SEAS** reporting is enabled, for 24 hours after 15-minute measurements are made not operational, 30-minute demand **SEAS** reports for time periods prior to feature status change will only contain 15 minutes of data, and **SEAS** will not support reporting at the *xx15* and *xx45* times.

Also note that in the exception case of making 15-minute collection not operational, if the feature is made not operational in the first 15 minutes of a half-hour (*xx00-xx15* or *xx30-xx45*) and a demand report is requested in the second 15 minutes of a half-hour (*xx15-xx30* or *xx45-xx60*) for *period=last* (or *period* unspecified), the report given will be the last 15-minute interval (*xx00-xx15* or *xx30-xx45*), not the last collected 15-minute interval (*xx45-xx00* or *xx15-xx30*). Note that collection did not occur during this 15-minute period, and Measurements data not current will be issued. To get a report for the last collected 15-minute interval, *period=specific* has to be issued with the command with the correct **QH/HH** value.

If the feature control status of 15-minute measurements is turned on and a report is requested for the active interval (*period=active*) prior to the next scheduled measurements collection (based on the current 15-minute measurements status), then the data will be correct but the starting time for the period shown in the report will be incorrect. As soon as the next scheduled collection occurs, then active reports will show the correct data and the correct starting time.

A similar limitation also exists for *period=last*. If the feature control status of 15-minute measurements is turned on and a report is requested for the last interval prior to the next scheduled measurements collection (based on the current 15-minute measurements status), then the start and end times for the period shown in the report will be incorrect. The data presented in the report will correspond to the start and end times. As soon as the next scheduled collection occurs, then *period=last* reports will show the correct start and end times and the corresponding data for that interval.

If collection has not occurred since changing the operation status, then *period=specific* needs to be issued to get the last period collected.

Reports

Reports can be scheduled or printed on-demand. Scheduled and on-demand reports are accessible by the following administrative commands:

- `chg-measopts`: Used to enable or disable the automatic generation and FTP transfer of scheduled measurement reports to the FTP server.
- `rept-ftp-meas`: Manually initiates generation and FTP transfer of a measurements report from the MCPM to the FTP server (Measurements Platform) or from the E5-MASP to the FTP server (E5-OAM Integrated Measurements).
- `rtrv-measopts`: Generates a user interface display showing the enabled/disabled status of all **FTP** scheduled reports.
- `chg-mtc-measopts`: Enables or disables the automatic generation and FTP transfer of scheduled maintenance measurements reports to the FTP server.
- `rtrv-mtc-measopts`: Shows the enabled/disabled status of all hourly and daily scheduled maintenance measurements reports.

Refer to the *Commands User's Guide* for more information on how to use measurement commands.

Characteristics

Reports have the following characteristics.

- Categories

The following are the categories and types of measurement reports collected by the EAGLE:

- Traffic Engineering Reports
 - * STP system totals (**SYSTOT**)
 - * Component measurements (**COMP**)
 - * Network management (**NM**)
- Error Tracking/Troubleshooting Reports
 - * Daily availability (**AVLD**)
 - * Day-to-hour availability (**AVLDTH**)
 - * Availability (**AVL**)
- Maintenance Reports
 - * Daily maintenance measurements (**MTCD**)
 - * Day-to-hour maintenance measurements (**MTCDTH**)
 - * Hourly maintenance measurements (**MTCH**)
- Network Usage Reports
 - * Gateway (**GTWY**)
 - * Record Base (**RBASE**)
- Maintenance Status Reports
 - * Maintenance Status Indicators (**MTCS**)
- Entity Types
The following entity types may be reported for a particular category type.
 - **AIQ**: ANSI41 AIQ
 - **ATINPQ**: Any-Time Interrogation Number Portability Query
 - **DEIR**: S13 EIR Interface
 - **EIR**: **Equipment Identity Register**
 - **ENUM**: EAGLE ENUM Mobile Number Portability and Tier One Address Resolution
 - **GTTAPATH**: GTT Actions per path
 - **IDPR**: IDP Pre-paid Relay Query
 - **LINK**: Signaling link
 - **LNKSET**: Linkset
 - **LNP**: Local number portability
 - **LSDESTNI**: Linkset destination network identifier
 - **LSONISMT**: Per link set, per originating network identifier, per ISUP message type measurements
 - **LSORIGNI**: Linkset originating network identifier
 - **MAPSCRN**: Global Systems for Mobile Communications Mobile Application Part Screening Measurements
 - **NP**: Intelligent network application part-based number portability

- **ORIGNI**: Originating network identifier
 - **ORIGNINC**: Originating network identifier for network cluster
 - **SCTPASOC**: Per association SCTP layer
 - **SCTPCARD**: Per card SCTP layer
 - **SFTHROT**: SS7 Firewall Throttling GTT Action
 - **SIP**: SIP Number Portability
 - **STP**: All nodes
 - **TT**: Translation type
 - **UA**: Per Application Server/Association UA layer
 - **VFLEX**: Voice Mail Router measurements
- Accessible Periods
There are four accessible periods for which measurements may be reported:
 1. *Last* is used to access the previous collection interval.
 2. *Specific* is used to access a specific interval (for example, one of the previous 48 half-hour intervals).
 3. *Active* is used to access measurements for the current collection interval.
 4. *All* is used to access measurements for all collection intervals retained.

LSL and SE-HSL Reports

As of Release 44.0, low-speed MTP2 links and high-speed unchannelized MTP2 links can be identified separately in the relevant reports.

The standard link label is "MTP2", and is applicable to all types of MTP2 links, regardless of the link speed. When the **unchlinklabel** functionality is provisioned to ON in the `chg-measopts` command, unchannelized links are labeled with "MTP2-UNCH", while low-speed links retain the "MTP2" label. The -UNCH label is also applied to linksets that contain unchannelized MTP2 links.

The label appears in scheduled and on-demand reports, for UI and FTP.

Measurements Platform/E5-OAM Integrated Measurements Feature Reports

Measurements Platform and E5-OAM Integrated Measurements reports have the following characteristics.

Report Files

Report files are divided into three sections:

1. System header
The system header size varies depending on embedded data. A typical size of 250 bytes is used in all calculations in the examples in this manual.
2. Individual report header
The report header size varies depending on the report type, but is always the same size for an individual report type. The size of the report data section varies

depending on the number of entities being reported, and the particular data items being reported for each entity (for example, a count of 0 versus a large count).

3. Report data

For the estimates given in this manual, 6 characters are assumed for each data item, including the comma delimiter. Other variable quantities, such as the number of entities in the report, are stated with each example.

The output file sizes calculated in this manual are rough estimates only. They are not intended to be an exact representation of output file size, which could vary significantly depending on the configuration of a particular system.

Table 2-3 Measurements Platform and E5-OAM Integrated Measurements Feature System Header

Field Name	Description	Unit
CLLI	The Common Language Location Identifier for the STP	ASCII Text
SWREL	The software release currently running on the STP	ASCII Text
RPTDATE	The date on which the report was generated	YYYY-MM-DD
RPTIME	The time at which the report was generated (24-hour clock)	HH:MM:SS
TZ	An abbreviation for the time zone	ASCII Text
RPTTYPE	The type of report being generated	ASCII Text
RPTPD	The period of the report	ASCII Text
IVALDATE	The date for the report interval	YYYY-MM-DD
IVALSTART	The starting time of the report interval	HH:MM:SS
IVALEND	The ending time of the report interval	HH:MM:SS
NUMENTIDS	The number of entities contained in the report	Integer

Example header format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "31.3.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"STP SYSTEM TOTAL MEASUREMENTS ON
STP", "LAST", "1999-01-17", "15:00:00", "15:30:00", 1<cr><lf>
<cr><lf>
```

File Naming Conventions

File names consist of fields separated by underscores and followed by the **.csv** extension. This format allows the files to be readily identified as a comma-separated value (**CSV**) format. Due to the overall length of the file names, long file names (beyond 8.3 format) are utilized.

- *CLLI-based Names Disabled*

These file names consist of three fields identified as follows:

- Up to 13 characters for the report type (sched-entity, for example, systot-stp or mtcnth-lnkset)
- 8 characters for the report date (yyyymmdd). This reflects the date the data is generated.
- 4 characters for the ending report time (hhmm). This is defined as the common boundary between the end of the last period and the beginning of the next period. For example, the half hour from 2:00PM to 2:30PM would end at 1430. A day-to-hour period ends on the hour. A daily period or specific request for the final hour or half-hour of a day ends at 2400, midnight.

Examples of output file names:

- Half hourly **STP** system totals generated 1999-02-24 at 15:22:00 for the last period would be (the period from 1430 to 1500 on 02/24/99):
`systot-stp_19990224_1500.csv`
- Maintenance daily linkset report generated 2001-07-17 at any time would be (the period from 0000 to 2400 on 07/16/01):
`mtcd-lnkset_20010716_2400.csv`
- Maintenance day-to-hour link report generated 2003-04-29 at 08:32:00 would be (the period from 0000 to 0800 on 04/29/03):
`mtcdth-link_20030429_0800.csv`
- Half hourly **STP** system totals generated 1999-02-23 at 00:15:20 for the specific end time 0030 would be (the period from 0000 to 0030 on 02/23/99):
`systot-stp_19990223_0030.csv`
- Half hourly **STP** system totals generated 1999-02-24 at 00:15:30 for the specific end time 2330 would be (the period from 2300 to 2330 on 02/23/99):
`systot-stp_19990223_2330.csv`
- Half hourly **STP** system totals generated 1999-02-24 at any time for the specific end time 2400 or 0000 would be (the period from 2330 to 2400 on 02/23/99):
`systot-stp_19990223_2400.csv`

Some applications will reformat fields when opening the .csv file. Use a text editor when opening .csv files to examine file content as presented in the output file examples in this document.

- *CLLI-based Names Enabled*

These file names consist of four fields identified as follows:

- Up to 11 characters for the **CLLI** of the EAGLE.
- Up to 13 characters for the report type (sched-entity, for example, systot-stp or mtcnth-lnkset)
- 4 characters for the report date (mmdd). This reflects the date the data is generated.
- 4 characters for the ending report time (hhmm). This is defined as the common boundary between the end of the last period and the beginning of the next

period. For example, the half hour from 2:00PM to 2:30PM would end at 1430. A day-to-hour period ends on the hour. A daily period or specific request for the final hour or half-hour of a day ends at 2400, midnight.

Examples of output file names:

- Half hourly **STP** system totals generated 02-24 at 15:22:00 for the last period would be (the period from 1430 to 1500 on 02/24):

```
wnrtpaah01w_systot-stp_0224_1500.csv
```

- Maintenance daily linkset report generated 07-17 at any time would be (the period from 0000 to 2400 on 07/16):

```
wnrtpaah01w_mtc-d-lnkset_0716_2400.csv
```

- Maintenance day-to-hour link report generated 04-29 at 08:32:00 would be (the period from 0000 to 0800 on 04/29):

```
wnrtpaah01w_mtc-dth-link_0429_0800.csv
```

- Half hourly **STP** system totals generated 02-23 at 00:15:20 for the specific end time 0030 would be (the period from 0000 to 0030 on 02/23):

```
wnrtpaah01w_systot-stp_0223_0030.csv
```

- Half hourly **STP** system totals generated 02-24 at 00:15:30 for the specific end time 2330 would be (the period from 2300 to 2330 on 02/23):

```
wnrtpaah01w_systot-stp_0223_2330.csv
```

- Half hourly **STP** system totals generated 1999-02-24 at any time for the specific end time 2400 or 0000 would be (the period from 2330 to 2400 on 02/23/99):

```
wnrtpaah01w_systot-stp_0223_2400.csv
```

Some applications will reformat fields when opening the .csv file. Use a text editor when opening .csv files to examine file content as presented in the output file examples in this document.

Measurement Interval Status Criteria

The `STATUS` Event Name in the measurement reports provides the reported collection status, as described in [Table 2-4](#).

Table 2-4 Measurement Interval Status Criteria

Event Name	Description
STATUS	<p>Indication of Data Validity</p> <p>K indicates good data. The basic rule to mark a measurement report as K is that the registers are pegged for the complete interval and the cards collecting the registers are IS-NR for the entire interval.</p> <p>I indicates an incomplete interval. This indicates that the registers were not pegged for the complete interval or the cards collecting the registers were not IS-NR for the entire interval. There can be a case in which OAM or MCPM sends measurement collection requests to the LIM or SERVICE cards, but the cards did not collect any data and/or failed to send that data to the OAM or MCPM for the complete interval. In such a case the reports are generated and stored with zeroes for the register values, which indicates that measurements are running on the EAGLE but that the LIM/SERVICE cards are ISOLATED or OOS-MT-DSBLD.</p> <p>N indicates data not current, no data was collected. All register values will contain zeros, which are to be interpreted as unknown.</p>

Report Limitations

The measurement registers of a system total report can store a maximum count of 4294967295 (size of the register), after which the register will roll over to 0. This limitation puts constraint on the number of the following cards that can run at the maximum card TPS in the system, or on the value of maximum TPS that can be processed by the maximum number of those cards allowed in the system:

- ENUM
 - Up to 12 ENUM cards can run at the maximum advertised TPS (4000) in the system without exceeding the count capacity.
 - The maximum allowed 16 ENUM cards can run at a maximum of 3100 TPS in the system without exceeding the count capacity.
 - The maximum allowed 16 ENUM cards running at maximum card TPS of 4000 can run for 18 hours before the count capacity is exceeded.
- SIP
 - Up to 12 SIP cards can run at the maximum advertised TPS (4000) in the system without exceeding the count capacity.
 - The maximum allowed 16 SIP cards can run at a maximum of 3100 TPS in the system without exceeding the count capacity.
 - The maximum allowed 16 SIP cards running at maximum card TPS of 4000 can run for 18 hours before the count capacity is exceeded.
- S13
 - Up to six S13 cards can run at the maximum advertised TPS (8000) in the system without exceeding the count capacity.
 - The maximum allowed 16 S13 cards can run at a maximum of 3100 TPS in the system without exceeding the count capacity.

- The maximum allowed 16 S13 cards running at maximum card TPS of 8000 can run for nine hours before the count capacity is exceeded.

These limitations do not affect the processing of traffic. If the limitations are exceeded, then the value of the measurements register will roll over after reaching its maximum value and the pegging will be incorrect.

3

Reports

Report Tables

The tables that follow in this chapter define the parameters used in the measurement reports. Included in the tables are the event name, description and unit of measurement as described in Telcordia **GR-82-CORE**.

The Example Commands and the Example Outputs are separated according to the collection method used to report measurements.

- **FTP** - Indicates measurements that are transferred to the customer's **FTP** server via the **FTP** interface.
- **UI** - Indicates measurements that are output on the terminal interface.

Note:

The Status Event Name appearing in the Measurement Tables only appears when using the Measurements Platform or **E5-OAM Integrated Measurements**. The Example Outputs and the Example Inputs are examples. Variations exist and are likely. Refer to the *Commands User's Guide* for complete (options, variables) information on command usage.

If the Measurements Platform is enabled, the `chg-meas:collect=off` command can be used to disable the scheduled UI report output without affecting the actual collection. If UI based reports are disabled via this mechanism, then the Traffic Unsolicited Output Message Group may be turned off since there is no output directed to it.

STP System Totals Measurements (SYSTOT)

These measurements are used to monitor the overall performance of the **STP**.

Entity types: STP, Translation Type (TT), IDPR, SIP, SFTHROT, SFAPP

Accumulation interval: Every 30 minutes

Optional Accumulation Interval: Every 15 minutes

STP retention period: 24 hours

Reporting modes: Scheduled, On-Demand

Accessible collection periods: Last, Specific

STP SYSTOT Report

STP SYSTOT reports are an aggregation of the counters from OAM, SCCP, and LIM cards. If any of the cards are ISOLATED/OOS during a measurement interval, the report is marked **I**. The report is marked **K** only when the OAM, SCCP, and LIM cards are IS-NR throughout the entire measurement interval.

Example Commands:

UI: rept-meas:type=systot:enttype=stp

FTP: rept-ftp-meas:type=systot:enttype=stp

**** The following changes are for 43.0 and later. ****

Changes for PR 156835: Point Code and CIC Translation

- Added registers PCTDPCLKP and PCTOPCLKP

Table 3-1 STP System Total STP Measurements

Event Name	Description	Unit
CRSYSAL	Number of Critical System Alarms - The total number of critical system alarms.	peg count
DNTBLNOP	DN Table Not Present - The total number of MSUs that require DN service but that arise on an IMSI Service Module, which does not contain EPAP DN data	peg count
DTAMSULOST	DTAMsUs Lost - The total number of MSUs that were discarded because the original MSU was too large to be encapsulated.	peg count
DURINTFL	Duration of Internal Node Failure - Total time that messages could not be switched to outgoing link (apart from any link interface failure).	milli-seconds
GFGTMATCH	G-Flex GTTs with Match - The total number of G-Flex Global Title Translations successfully completed.	peg count
GFGTNOMCH	G-Flex GTTs No Match - The total number of G-Flex Global Title Translations completed that did not match an entry in the GSM database.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
GFGTNOLKUP	G-FlexGTTs No Look-up - The total number of G-Flex Global Title Translations that could not be looked up in the GSM database because of an error, i.e., when the G-Flex SCCP CdPA verification fails.	peg count
GTTONSM	Total number of messages on which GTT is performed only on SCCP cards.	peg count
GTTONLIM	Total number of messages on which GTT is performed only on GTT enabled IPSP cards.	peg count
GTTPERFD	GTTs Performed - Usually, the total number of MSUs that successfully completed global title translation (GTT). Also includes G-Port and INP MSUs that got a match in either the G-Port, INP, or GTT DB. <i>Sometimes,</i> GTTPERFD indicates the total number of global title translations (GTTs) performed on MSUs that successfully completed GTT, because several GTTs may happen for the same MSU. One scenario where multiple GTTs occur for an MSU occurs is when the ANSI/ITU SCCP Conversion Feature is activated. In this case, the count for GTTPERFD can be double what it would be without the feature, although the number of MSUs received by the EAGLE did not change.	peg count
GTTUN0NS	GTTs Unable to Perform - Diagnostic 0: No Translation for Address of Such Nature - The sum total of times that the specified type of translation in an MSU was not supported by the STP . This register contains the sum of the GTTUN0NS register in the systot-tt report and the CGGTTUN0NS register in the systot-cggtt report.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
GTTUN1NT	<p>GTTs Unable to Perform - Diagnostic 1: No Translation for This Address - The sum total of times that SCCP could not find a translation in the translation table. This includes Global Title translations, Point Code translations, and Subsystem translations.</p> <p>This register contains the sum of the GTTUN1NT register in the <code>systot-tt</code> report and the CGGTTUN1NT register in the <code>systot-cggtt</code> report.</p>	peg count
IARFAILED	The number of messages counted by IARTOTAL that were dismissed due to one of the problems reported by the UIMs that are specific to the IAR Base feature (that is, UIM 1020..1021 and 1427..1431).	peg count
IARNOTAP	The number of messages counted by IARTOTAL that were not counted by IARPASSD or IARFAILED; they were dismissed because modification was determined to be inappropriate (that is, not applicable). This <i>excludes</i> messages that were dismissed because of no matching entry in database (GT and TRIG CSL list, DPC (not Home SCP), NPP Rule, RTDB).	peg count
IARPASSD	The number of messages counted by IARTOTAL that were modified by the IAR base feature. The IAR Base must have changed the CdPN parameter, CgPN parameter, or both.	peg count
IARTOTAL	The total number of messages received by the IAR Base feature from TTR Service Selection; the total number to which IAR pre-processing is applied. The sum of the IARNOTAP, IARPASSD, and IARFAILED pegs <i>and</i> messages that were dismissed because there was no matching entry in database: GT and TRIG CSL list/DPC (not Home SCP), NPP Rule, RTDB.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
IDPPTYGTT	Total number of IDP/IDPSMS messages that were selected for A-Party Routing service, but fell through to GTT (with or without having attempted SK routing first).	peg count
IDPPTYRTD	Total number of IDP/IDPSMS messages that were selected for A-Party Routing service, and were successfully routed based on A-Party PPSOPTS routing data (that is, routing data associated with the RTDB PT assigned to the A-Party digits).	peg count
IDPPTYSKR	Total number of IDP/IDPSMS messages that were selected for A-Party Routing service, but fell through to Service Key Routing, and were successfully routed based on SK/BCSM PPSOPTS data (that is, routing data associated with the RTDB PT assigned to the SK/BCSM entry).	peg count
IDPBKLCONN	Total number of IDP/IDPSMS messages received that matched the blacklist criteria and a CONNECT response was generated.	peg count
IDPBKLCONT	Total number of IDP/IDPSMS messages received that did not match the blacklist criteria and a CONTINUE response was generated.	peg count
IDPRMSERR	The total number of MSUs selected for IDPR service which could not be processed due to errors in encoding, decoding, or formatting, or IDP A-Party routing, or IDP SK Routing.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
IDPRMSFAIL	Total number of MSUs selected for IDPR service which fell through to GTT due to (1) no match on MSISDN in MNPDB , or (2) match on MSISDN but no association to RN or SP for CDPNNP or CGPNNP , (3) no match for IDP A-Party Blocklist query-response criteria or, (4) IDP Blocklist relay resulted in falling through to GTT for routing, or (5) IDP A-Party or SK Routing resulted in falling through to GTT routing (due to no-match on MSISDN or insufficient data).	peg count
IDPRMSRCV	Total number of MSUs received and selected for IDPR service. This register includes counts for MSUs that resulted in both successful and unsuccessful MNPDB lookups.	peg count
IDPRMSSUCC	Number of MSUs selected for IDPR service for which the requested IDPR feature set functionalities were executed successfully. This includes pegs to IDPAPTYRTD, IDPSKRTD, IDPBKLCONN, and IDPBKLCONT registers.	peg count
IDPSKGTT	Total number of IDPs that were selected for Service Key Routing (without having first gone to A-Party Routing), but fell through to GTT.	peg count
IDPSKRTD	Total number of IDP/IDPSMS messages that were selected for Service Key Routing (without having first gone to A-Party Routing), and were successfully routed based on SK/BCSM PPSOPTS data.	peg count
IMSITBLNOP	IMSI Table Not Present - The total number of MSUs that require IMSI service but that arise on a DN Service Module, which does not contain EPAP DN data	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
LNPTBLNOP	LNP Table Not Present - The total number of MSUs that require LNP service but that arise on DN or IMSI Service Module, which does not contain ELAP data	peg count
MASYSAL	Number of Major System Alarms - The total number of major system alarms.	peg count
MISYSAL	Number of Minor System Alarms - The total of minor system alarms.	peg count
MOSMSSEGER	Total number of TC_CONTINUE messages (with Component Portion) discarded by the Portability Check for MO SM feature.	peg count
MOSMSSEGOK	Total number of TC_CONTINUE messages (with Component Portion) relayed successfully by the Portability Check for MO SMS and/or MO-based SMS NP feature.	peg count
MSIDPNOMCH	Total number of IDP messages that did not fully meet the criteria of the IDP Screening for Prepaid feature. These messages are relayed to their destination by GTT .	peg count
MSIDPMATCH	Total number of IDP messages that did meet the criteria of the IDP Screening for Prepaid feature. Instead of sending the IDP message onward, a Continue message is sent to the originating MSC . The criteria involves matching the following TCAP fields with EAGLE Common Screening Lists: <ol style="list-style-type: none"> CgPA and CdPA are provisioned in the In-Network Subscriber List. The Teleservice and Service Key values are in the Service Key/Teleservice List. 	peg count
MSINVDPC	MSUs Rcvd – Invalid DPC - Number of MSUs received and discarded because the DPC could not be found in the STP routing table.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
MSINVLNK	MSUs Discarded – Invalid Link - Number of MSUs discarded because of an incorrect SLC . (The SLC refers to a nonexistent link or the same link.)	peg count
MSINVSIF	MSUs Discarded – Invalid SIF - Number of MSUs that have been received and discarded because of an invalid SIF.	peg count
MSINVSIO	MSUs Rcvd – Invalid service indicator octet (SIO) - Number of MSUs received and discarded because the service requested in the service indicator octet (SIO) was not supported by the STP.	peg count
MSINVSLC	MSUs Discarded – Invalid SLC - Number of MSUs discarded because of an invalid SLC code in the ECO/COO .	peg count
MSNACDPC	MSUs Discarded – Inaccessible DPC - The total number of MSUs discarded because of an inaccessible DPC.	peg count
MSSCCPFL	MSUs Discarded – Routing Failure - Number of MSUs discarded due to an SCCP routing failure.	peg count
MSUDSCRD	MSUs Discarded – Gateway Screening - The total number of MSUs that failed gateway screening and were discarded. See linkset report for individual peg counts.	peg count
MSULOST1	MSUs Discarded – Level 2/ Level 3 Queue Full - Number of MSUs discarded because the level 2 to level 3 queue was full.	peg count
MSULOST2	MSUs Discarded – Route On Hold Buffer Overflow - Number of MSUs discarded because the routing buffer was in overflow.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
MSULOST3	<p>MSUs Discarded –</p> <ol style="list-style-type: none"> LS On Hold Buffer Overflow - The number of MSUs discarded because the linkset-on-hold buffer was in overflow. The On Hold Buffer is used during changeover/changeback situations to ensure that traffic is sequenced correctly. During changeover and changeback, MSUs that were originally sent over links which are now failed (not IS-NR) are buffered while the changeover/changeback procedures are carried out. Once those procedures are completed, the traffic in the on-hold buffer is routed based on the current configuration. LSL LIM does not have SCCP assignment for received SCCP traffic. HSL – <ul style="list-style-type: none"> All Class 1 (sequenced) GTT traffic addressed to EAGLE A Class 0 GTT message for EAGLE arrives when the SCCP TVG queue is full A GTT message in the SCCP TVG queue is more than 2 seconds old. 	peg count
MSULOST4	<p>MSUs Discarded – Rcvd Queue Full - Number of MSUs discarded because the receive queue was full.</p>	peg count
MSULOST5	<p>MSUs Discarded – LIM Init - Number of MSUs discarded while the LIM card was initializing.</p>	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
MSULOST6	MSUs Discarded - The number of MSUs discarded due to an error encountered during internal (IMT) transfer of MSU between cards.	peg count
MSUSCCPFLR	MSUSCCP Failure - Total MSUs Discarded Due to SCCP Conversion Failure.	peg count
NMSCCPMH	The current daily system-wide peak SCCP message handling load in transactions per second.	xact per second
OMSINVDPC	MSUs Originated – Invalid DPC - Number of MSUs with an invalid DPC.	peg count
ORIGMSUS	Originated MSUs - Total number of outgoing MSUs successfully passed to MTP level 2 for transmission, while carrying the STP point code in the OPC field.	peg count
ORMSUOCT	Originate MSU Octets - Total number of outgoing octets associated with MSUs carrying the STP point code in the OPC field. This includes octets added in MTP level 2 processing.	octets
OVSZMSG	Oversized MTP 3 Messages - Number of messages received by an HSL that exceeds 272 octets (level 3) and is discarded.	peg count
PKSCCPMH	The overall system-wide peak SCCP message handling load in transactions per second. Value is the highest recorded since it was last reset using the <code>rept-stat-sccp:mode=peakreset</code> command.	xact per second
PCTDPCLKP	Total number of successful DPC lookups in PCT feature.	peg count
PCTOPCLKP	Total number of successful OPC lookups in PCT feature.	peg count
SCCPLOOP	Total number of times that a GTT translation matched a Point Code in the STP's loopset entries resulting in either a notify or discard of an SCCP message.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity K indicates good data I indicates incomplete interval N indicates data not current.	status
THRSWMSU	Through-Switched MSUs - The total number of MSUs that did not carry the STP point code in the OPC or the DPC, and were successfully passed to MTP level 2 for transmission.	peg count
TMULTCOMP	Total number of messages where more than one component was searched for an OPCODE translation, even if no matching translation was found (per TT).	peg count
TRMDMSUS	Terminated MSUs - The total number of incoming MSUs carrying the STP point code in the DPC.	peg count
TRMSUOCT	Terminated MSU Octets - The total number of octets associated with incoming MSUs carrying the STP point code in the DPC. Includes octets removed in MTP level 2 processing.	octets
TSMSUOCT	Through-Switched MSU Octets - The total number of octets associated with MSUs that did not carry the STPs point code in the OPC or the DPC, and were successfully passed to MTP level 2 for transmission.	octets
UDTXUDTF	Total number of messages for which UDT(S) to XUDT(S), XUDT(S) to UDT(S) or Segmented XUDT(S) to UDT(S) conversion has failed.	peg count
XLXTELEI	X-List Entry Not Created - The total number of times that an x-list was not created because the Exception List Exclusion Indicator (ELEI) for the cluster is set to yes.	peg count

Table 3-1 (Cont.) STP System Total STP Measurements

Event Name	Description	Unit
XLXTSPACE	X-List Entry Not Created - The total number of times an x-list entry was not created because there is no more space in the route/destination table.	peg count

UI Example Output:

```

tekelecstp 17-08-01 04:30:58 MST EAGLE 46.6.0.0.0-71.3.0
  TYPE OF REPORT: STP SYSTEM TOTAL MEASUREMENTS ON STP
  REPORT PERIOD: LAST
  REPORT INTERVAL: 17-08-01, 04:00:00 THROUGH 04:29:59

  STP-SYSTOT MEASUREMENTS

  These measurements are from 17-08-01, 04:00:00 through 04:29:59.
  ORIGMSUS = 0, TRMDMSUS = 0, THRSWMSU
= 0,
  ORMSUOCT = 0, TRMSUOCT = 0, TSMSUOCT
= 0,
  DURINTFL = 0, DTAMSULOST = 0, MSINVDPC
= 0,
  MSINVSIO = 0, OMSINVDPC = 0, MSINVLNK
= 0,
  MSINVSIF = 0, MSNACDPC = 0, MSINVSLC
= 0,
  GTTPERFD = 0, GTTUN0NS = 0, GTTUN1NT
= 0,
  MSSCCPFL = 0, MSULOST1 = 0, MSULOST2
= 0,
  MSULOST3 = 0, MSULOST4 = 0, MSULOST5
= 0,
  CRSYSAL = 3, MASYSAL = 4, MISYSAL
= 39,
  XLXTSPACE = 0, XLXTELEI = 0, MSUDSCRD
= 0,
  OVSZMSG = 0, GFGTMATCH = 0, GFGTNOMCH
= 0,
  GFGTNOLKUP = 0, MSUSCCPFLR = 0, NMSCCPMH
= 3,
  PKSCCPMH = 3, MSSCCPDISC = 0, IDPRMSRCV
= 0,
  IDPRMSSUCC = 0, IDPRMSFAIL = 0, IDPRMSERR
= 0,
  MSIDPNOMCH = 0, MSIDPMATCH = 0, MSULOST6
= 0,
  SCCPLOOP = 0, MOSMSSEGOK = 0, MOSMSSEGER
= 0,
  IDPPTYRTD = 0, IDPPTYSKR = 0, IDPPTYGTT
  
```



```
FTP: rept-ftp-meas:type=systot:enttype=tt
```

Table 3-3 STP System Total Translation Type Measurements

Event Name	Description	Unit
AGTTPERFD	Advanced CdPAGTTs Performed - The total number of MSUs that successfully passed Advanced CdPA Global Title Translation (AGTT) . This register appears in the SYSTOT-TT report ONLY .	peg count
FCDGTTPRFD	FLOBR CDPA GTTs Performed - The total number of MSUs that successfully completed Flexible CdPA Global Title Translation. This register appears in the SYSTOT-TT report ONLY .	peg count
GTTADISC0	GTT Actions – MSUs Discarded - The total number of messages discarded by the DISCARD GTT Action.	peg count
GTTADISC1	GTT Actions – MSUs Discarded - The total number of messages discarded by the UDTs GTT Action.	peg count
GTTADISC2	GTT Actions – MSUs Discarded - The total number of messages discarded by the TCAP Error GTT Action	peg count
GTTADUP	GTT Actions – MSUs Duplicated - The total number of messages for which Duplicate MSU was sent. Multiple duplicate actions in an action set shall also increment this register only once.	peg count
GTTAFWD	GTT Actions – MSUs Forwarded - The total number of messages <i>forwarded</i> by Forward GTT Action.	peg count
GTTASET	GTT Actions - The total number of messages <i>receiving</i> any GTT action.	peg count

Table 3-3 (Cont.) STP System Total Translation Type Measurements

Event Name	Description	Unit
GTTPERFD	<p>GTTs Performed - Usually, the total number of MSUs that successfully completed global title translation (GTT). Also includes G-Port and INPMSUs that got a match in either the G-Port, INP, or GTT DB.</p> <p>Sometimes, GTTPERFD indicates the total number of global title translations (GTTs) performed on MSUs that successfully completed GTT, because several GTTs may happen for the same MSU. One scenario where multiple GTTs occur for an MSU occurs is when the ANSI/ITU SCCP Conversion Feature is activated. In this case, the count for GTTPERFD can be double what it would be without the feature, although the number of MSUs received by the EAGLE did not change.</p>	peg count
GTTUNONS	<p>GTTs Unable to Perform - Diagnostic 0: No Translation for Address of Such Nature - Total number of times that the specified translation type in an MSU was not supported by the STP or the form of the GTT was incorrect for the given translation type. Also includes G-Port, INP and GTT MSUs that did not match on new selectors (GTI, NP, NAI) in addition to ones not matching on TT.</p>	peg count
GTTUN1NT	<p>GTTs Unable to Perform - Diagnostic 1: No Translation for This Address - Number of times that a match for the global title could not be found in the translation table. Also includes G-Port, INP MSUs that fell through to GTT, got a selector match, but still did not get a match on the GTA.</p>	peg count
GTTASRVGFLX	The total number of messages serviced by GFLEX GTT Action.	peg count

Table 3-3 (Cont.) STP System Total Translation Type Measurements

Event Name	Description	Unit
GTTASRVGPRT	The total number of messages serviced by GPORT GTT Action.	peg count
GTTASRVMSR	The total number of messages serviced by SMSMR GTT Action.	peg count
GTTASFLOG	The total number of messages serviced by SFLOG GTT Action.	peg count
GTTAMSVTO	The total number of messages that successfully pass SCPVAL GTT Action.	peg count
GTTAMSVDI	The total number of messages discarded by SCPVAL GTT Action.	peg count
GTTAMSVNA	The total number of messages where validation was not applied by SCPVAL GTT Action.	peg count
STATUS	Indication of Data Validity K – indicates good data I – indicates incomplete interval N – indicates data not current.	status

UI Example Output:

```
> rept-meas:type=systot:enttype=tt:tt=1

eagle1 15-09-20 03:55:58 EST EAGLE5 46.3.0.0-66.11.0
TYPE OF REPORT: STP SYSTEM TOTAL MEASUREMENTS ON TT
REPORT PERIOD: LAST
REPORT INTERVAL: 15-09-20, 03:00:00 THROUGH 03:29:59

TT-SYSTOT MEASUREMENTS: TT: 1

These measurements are from 15-09-20, 03:00:00 through 03:29:59.
GTTPERFD = 0, GTTUN0NS = 0, GTTUN1NT
= 0,
AGTTPERFD = 0, FCDGTTPRFD = 0, GTTADISCO
= 0,
GTTADISC1 = 0, GTTADISC2 = 0, GTTADUP
= 0,
GTTAFWD = 0, GTTASET = 0,
GTTASRVGFLX= 0,
GTTASRVGPRT= 0, GTTASRVMSR= 0, GTTASFLOG
= 0,
GTTAMSVTO = 0, GTTAMSVDI = 0, GTTAMSVNA
= 0
```


Example Commands:

UI: rept-meas:type=systot:enttype=tt

FTP: rept-ftp-meas:type=systot:enttype=tt

Table 3-5 Calling Party GTT Measurements

Event Name	Description	Unit
CGTTPERFD	CgPAGTTs Performed - The total number of MSUs that successfully passed CgPA global title translation (GTT) (CgPA GTA , CgPA PC , or OPC). This register is pegged only when the CgPA TT is present in the MSU . Since GTT can be done on the CgPA PC or on the OPC , the CgPA GTA is not a prerequisite to perform GTT . This register appears in the SYSTOT-CGTT report ONLY , which is only generated if the Origin Based SCCP Routing feature is enabled or FLOBR feature is turned on.	peg count
CGGTTADISC0GTTADISC0	GTT Actions – MSUs Discarded - The total number of messages discarded by the DISCARD GTT Action.	peg count
CGGTTADISC1GTTADISC1	GTT Actions – MSUs Discarded - The total number of messages discarded by the UDTS GTT Action.	peg count
CGGTTADISC2GTTADISC2	GTT Actions – MSUs Discarded - The total number of messages discarded by the TCAP Error GTT Action	peg count
CGGTTADUPGTTADUP	GTT Actions – MSUs Duplicated - The total number of messages for which Duplicate MSU was sent. Multiple duplicate actions in an action set shall also increment this register only once.	peg count
CGGTTAFWDGTTAFWD	GTT Actions – MSUs Forwarded - The total number of messages <i>forwarded</i> by Forward GTT Action.	peg count
CGGTTASETGTTASET	GTT Actions - The total number of messages <i>receiving</i> any GTT action.	peg count

Table 3-5 (Cont.) Calling Party GTT Measurements

Event Name	Description	Unit
GTTUN0NS	<p>CgPAGTTs Unable to Perform - Diagnostic 0: CgPA selectors not found - The total number of times that the specified type of translation in an MSU was not supported by the STP. This register counts MSUs for which CgPA selectors were not found. This register appears in the SYSTOT-CGTT report ONLY, which is only generated if the Origin Based SCCP Routing feature is enabled or FLOBR feature is turned on.</p>	peg count

Table 3-5 (Cont.) Calling Party GTT Measurements

Event Name	Description	Unit
CGGTTUN1NT	<p>Origin Based GTTs Unable to Perform - Diagnostic 1: - The number of times that a match for the global title or point code could not be found in the translation table because:</p> <p>Translation not found in CgPA GTA GTTSET or in CgPA PC GTTSET or in OPC GTTSET. GTT on CgPA PC is required, but CgPA PC is not present in the MSU.</p> <p>This register is pegged when the CgPA TT is present in the MSU. Since GTT can be done on the CgPA PC or on the OPC, the CgPA GTA is not a pre-requisite to perform GTT.</p> <p>This register shall also be pegged, if FLOBR CgPA gttmode is used, and translation is not successful for any of the following reasons:</p> <ul style="list-style-type: none"> • maximum search depth is reached • duplicate GTTSET type is encountered • translation not found (any GTTSET type) • CdPA SSN required, but not present in the MSU • CgPA SSN required, but not present in the MSU • CgPA PC required, but not present in the MSU • Default CgPA PC Set is required, but not provisioned (ANSI or ITU) <p>This register appears in the SYSTOT-CGTT report ONLY, which is only generated if the Origin Based SCCP Routing feature is enabled or FLOBR feature is turned on.</p>	peg count

Table 3-5 (Cont.) Calling Party GTT Measurements

Event Name	Description	Unit
FCGGTTPRFD	FLOBR CGPA GTTs Performed - The total number of MSUs that successfully completed Flexible CgPA Global Title Translation. This register appears in the SYSTOT-CGTT report ONLY, which is only generated if the Origin Based SCCP Routing feature is enabled or FLOBR feature is turned on.	peg count
CGGTTSRGFLX	The total number of messages serviced by GFLEX GTT Action.	peg count
CGGTTSRGPRT	The total number of messages serviced by GPORT GTT Action.	peg count
CGGTTSRSMSR	The total number of messages serviced by SMSMR GTT Action.	peg count
CGGTASFLOG	The total number of messages serviced by SFLOG GTT Action.	peg count
CGGTAMSVTO	The total number of messages that successfully pass SCPVAL GTT Action.	peg count
CGGTAMSVDI	The total number of messages discarded by SCPVAL GTT Action.	peg count
CGGTAMSVNA	The total number of messages where validation was not applied by SCPVAL GTT Action.	peg count
CGGTTONSM	Total number of messages on which GTT is performed only on SCCP cards (per CGTT).	peg count
CGGTTONLIM	Total number of messages on which GTT is performed only on GTT enabled IPSP cards (per CGTT).	peg count
CGTMULTCOMP	Total number of messages where more than one component was searched for an OPCODE translation, even if no matching translation was found (per CGTT).	peg count

Assuming each data line will be:

4 char status + 4 char TT + 17 * (6 char data) + 2 = 112 chars

For a report of 256 TTs, example typical file size:

Table 3-6 Typical File Size: systot-cgtt.csv

System header	+	Report header	+	Report data	=	File Size
250	+	244	+	28,672	=	29,166 bytes

IDPR SYSTOT Report

Example Commands:

UI: rept-meas:type=systot:enttype=idpr

FTP: rept-ftp-meas:type=systot:enttype=idpr



Note:

The IDPR Measurement Report table for the SYSTOT IDPR report is available as follows.

Table 3-7 Availability of SYSTOT IDPR Report

Reporting modes	Period	Retention	Display	Reports supported on GPLs
On-demand	30 minutes	24 hours	UI	OAMHC (without Integrated Measurements)
On-demand	15 or 30 minutes	24 hours	UI	MCP/OAMHC (with Integrated Measurements)
Scheduled/On demand	15 or 30 minutes	24 hours	FTP	MCP/OAMHC

The IDPR Measurement Report is created for IDPR measurements through the entity "idpr."

Table 3-8 SYSTOT IDPR Measurements

Event Name	Description	Unit
IDPPTYGTT	Total number of IDP/IDPSMS messages that were selected for A-Party Routing service, but fell through to GTT (with or without having attempted SK routing first).	peg count
IDPPTYRTD	Total number of IDP/IDPSMS messages that were selected for A-Party Routing service, and were successfully routed based on A-Party PPSOPTS routing data (i.e. routing data associated with the RTDB PT assigned to the A-Party digits).	peg count
IDPPTYSKR	Total number of IDP/IDPSMS messages that were selected for A-Party Routing service, but fell through to Service Key Routing, and were successfully routed based on SK/BCSM PPSOPTS data (i.e. routing data associated with the RTDB PT assigned to the SK/BCSM entry).	peg count
IDPBKLCONN	Total number of IDP/IDPSMS messages received that matched the blocklist criteria and a CONNECT response was generated.	peg count
IDPBKLCONT	Total number of IDP/IDPSMS messages received that did not match the blocklist criteria and a CONTINUE response was generated.	peg count
IDPRMSERR	The total number of MSUs selected for IDPR service which could not be processed due to errors in encoding, decoding, formatting, or IDP A-Party routing, or IDP SK Routing. This register also includes count when IDPRCDPN or IDPRCGPN service is turned off.	peg count

Table 3-8 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
IDPRMSFAIL	Total number of MSUs selected for IDPR service which fell through to GTT due to (1) no match on MSISDN in MNPDB, or (2) match on MSISDN but no association to RN or SP for CDPNNP or CGPNNP, (3) no match for IDP A-Party blacklist query-response criteria or, (4) IDP blacklist relay resulted in falling through to GTT for routing, or (5) IDP A-Party or SK Routing resulted in falling through to GTT routing (due to no-match on MSISDN or insufficient data).	peg count
IDPRMSRCV	Total number of MSUs received and selected for IDPR service. This register includes counts for (1) MSUs that resulted in both successful and unsuccessful MNPDB lookups, (2) MSUs which failed IDPR Preprocessing, (3) when no NPP rule is found for IDPRCDPN & IDPRCGPN service, (4) when IDPRCDPN or IDPRCGPN service is turned off. IDPRMSRCV = IDPRMSERR + IDPRMSFAIL + IMPRMSSUCC + Fall-Through case Note: "Fall-Through case" - All MSUs that have failed IDPR pre-processing or not having matching NPP rule for IDPRCDPN & IDPRCGPN which fall through to GTT.	peg count
IDPRMSSUCC	Number of MSUs selected for IDPR service for which the requested IDPR feature set functionalities were executed successfully. This includes pegs to IDPPTYRTD, IDPSKRTD, IDPBKLCNN, and IDPBKLCONT registers.	peg count

Table 3-8 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
IDPSKGTT	Total number of IDPs that were selected for Service Key Routing (without having first gone to A-Party Routing), but fell through to GTT.	peg count
IDPSKRTD	Total number of IDP/IDPSMS messages that were selected for Service Key Routing (without having first gone to A-Party Routing), and were successfully routed based on SK/BCSM PPSOPTS data.	peg count
IDPINPCONN	Total number of IDP Messages for which INPRTG Service action sent a CONNECT message from IDPRCDPN service.	peg count
IDPINPCONN2	Total number of IDP Messages for which INPRTG Service action sent a CONNECT message from IDPRCDPN2 service.	peg count
IDPINPCONN3	Total number of IDP Messages for which INPRTG Service action sent a CONNECT message from IDPRCDPN3 service.	peg count
IDPINPCONN4	Total number of IDP Messages for which INPRTG Service action sent a CONNECT message from IDPRCDPN4 service.	peg count
IDPINPCONT	Total number of IDP Messages for which INPRTG Service action sent a CONTINUE message from IDPRCDPN service.	peg count
IDPINPCONT2	Total number of IDP Messages for which INPRTG Service action sent a CONTINUE message from IDPRCDPN2 service.	peg count
IDPINPCONT3	Total number of IDP Messages for which INPRTG Service action sent a CONTINUE message from IDPRCDPN3 service.	peg count

Table 3-8 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
IDPINPCONT4	Total number of IDP Messages for which INPRTG Service action sent a CONTINUE message from IDPRCDPN4 service.	peg count
IDPINPRLC	Total number of IDP Messages for which INPRTG Service action sent a RELEASECALL message from IDPRCDPN service.	peg count
IDPINPRLC2	Total number of IDP Messages for which INPRTG Service action sent a RELEASECALL message from IDPRCDPN2 service.	peg count
IDPINPRLC3	Total number of IDP Messages for which INPRTG Service action sent a RELEASECALL message from IDPRCDPN3 service.	peg count
IDPINPRLC4	Total number of IDP Messages for which INPRTG Service action sent a RELEASECALL message from IDPRCDPN4 service.	peg count
IDPINPRTG	Total number of IDP Messages processed by INPRTG Service action from IDPRCDPN service.	peg count
IDPINPRTG2	Total number of IDP Messages processed by INPRTG Service action from IDPRCDPN2 service.	peg count
IDPINPRTG3	Total number of IDP Messages processed by INPRTG Service action from IDPRCDPN3 service.	peg count
IDPINPRTG4	Total number of IDP Messages processed by INPRTG Service action from IDPRCDPN4 service.	peg count
IDPSKGTART	Total number of IDP Messages processed by SKGTA SKGTARTG Service action from IDPRCDPN service.	peg count
IDPSKGTART2	Total number of IDP Messages processed by SKGTA SKGTARTG Service action from IDPRCDPN2 service.	peg count

Table 3-8 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
IDPSKGTART3	Total number of IDP Messages processed by SKGTA SKGTARTG Service action from IDPRCDPN3 service.	peg count
IDPSKGTART4	Total number of IDP Messages processed by SKGTA SKGTARTG Service action from IDPRCDPN4 service.	peg count
IDPRCDPN	Total number of IDP Messages processed per IDPRCDPN service.	peg count
IDPRCDPN2	Total number of IDP Messages processed per IDPRCDPN2 service.	peg count
IDPRCDPN3	Total number of IDP Messages processed per IDPRCDPN3 service.	peg count
IDPRCDPN4	Total number of IDP Messages processed per IDPRCDPN4 service.	peg count

UI Example Output:

```
> rept-meas:enttype=idpr:type=systot
```

```
Command Accepted - Processing
```

```
meas 02-06-30 13:01:20 EST EAGLE5 43.0.0-63.46.0
rept-meas:enttype=idpr:type=systot
Command entered at terminal #1.
;
meas 02-06-30 13:01:20 EST EAGLE5 43.0.0-63.46.0
Measurements Report will be generated.
;

meas 02-06-30 13:01:20 EST EAGLE5 43.0.0-63.46.0
TYPE OF REPORT: STP SYSTEM TOTAL MEASUREMENTS ON IDPR
REPORT PERIOD: LAST
REPORT INTERVAL: 02-06-30, 12:30:00 THROUGH 12:59:59

IDPR-SYSTOT MEASUREMENTS

These measurements are from 02-06-30, 12:30:00 through 12:59:59.
Measurement data represents an incomplete interval.
IDPRMSRCV = 0, IDPRMSSUCC = 0, IDPRMSFAIL
= 0,
IDPRMSERR = 0, IDPAPTYRTD = 0, IDPAPTYSKR
= 0,
IDPAPTYGTT = 0, IDPSKRTD = 0, IDPSKGTGTT
= 0,
```

```

IDPBKLCNN =          0, IDPBKLCONT =          0, IDPINPCNN =          0,
IDPINPCNN2=          0, IDPINPCNN3=          0, IDPINPCNN4=          0,
IDPINPCNT =          0, IDPINPCNT2=          0, IDPINPCNT3=          0,
IDPINPCNT4=          0, IDPINPRLC =          0, IDPINPRLC2 =          0,
IDPINPRLC3 =          0, IDPINPRLC4 =          0, IDPINPRTG =          0,
IDPINPRTG2 =          0, IDPINPRTG3 =          0, IDPINPRTG4 =          0,
IDPSKGTART =          0, IDPSKGTART2=          0, IDPSKGTART3=          0,
IDPSKGTART4=          0, IDPRCDPN =          0, IDPRCDPN2 =          0,
IDPRCDPN3 =          0, IDPRCDPN4 =          0

;

meas 02-06-30 13:01:23 EST EAGLE5 43.0.0-63.46.0
END OF ON-DEMAND IDPR-SYSTOT MEASUREMENT REPORT

;

```

FTP Example Output File Name: *systot-idpr_20820706_0445.csv*

FTP Example Output File Format:

```

"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RTPD", "IVALDATE", "IVALSTAR
T",
"IVALEND", "NUMENTIDS"
"meas", "EAGLE5 43.0.0-63.46.0", "2082-07-06", "04:45:01", "EST ", "STP SYSTEM T
OTAL MEASUREMENTS ON IDPR", "LAST", "2082-07-06", "04:30:00", "04:45:00", 1

"STATUS", "IDPRMSRCV", "IDPRMSSUCC", "IDPRMSFAIL", "IDPRMSERR", "IDPAPTYRTD", "IDPA
PTY
SKR", "IDPAPTYGTT", "IDPSKRTD", "IDPSKGT", "IDPBKLCNN", "IDPBKLCONT", "IDPINPCNN
", "
IDPINPCNN2", "IDPINPCNN3", "IDPINPCNN4", "IDPINPCNT", "IDPINPCNT2", "IDPINPCO
NT3
", "IDPINPCNT4", "IDPINPRLC", "IDPINPRLC2", "IDPINPRLC3", "IDPINPRLC4", "IDPINPRTG
", "
IDPINPRTG2", "IDPINPRTG3", "IDPINPRTG4", "IDPSKGTART", "IDPSKGTART2", "IDPSKGTART3
", "
IDPSKGTART4", "IDPRCDPN", "IDPRCDPN2", "IDPRCDPN3", "IDPRCDPN4"
"I", 32, 34, 36, 38, 52, 54, 56, 58, 60, 62, 64, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100,
102
, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122

```

Assuming the data line will be:

4 char status + 35*(avg. 6 chars per field) + 2 = 216 chars

Typical file size:

Table 3-9 Typical File Size: *systot-idpr.csv*

System Header	+	Report Header	+	Report Data	=	File Size
250	+	459	+	214	=	923

SIP SYSTOT Report

Example Commands:

```
UI: rept-meas:type=systot:enttype=sip
```

```
FTP:rept-ftp-meas:type=systot:enttype=sip
```

**** The following changes are for 43.0 and later. ****

Changes for PR 156835: Point Code and CIC Translation

- Added registers PCTDPCLKP and PCTOPCLKP

Table 3-10 STP System Total SIP Measurements

Event Name	Description	Unit
INVITERCVD	The total number of SIP invite received (Including re-transmits)	peg count
CANCRDVD	Number of cancel received	peg count
PROVRSPSENT	Number of 1xx responses sent	peg count
OKRSPSENT	Number of 2xx responses sent	peg count
RDRCTSENT	Number of 302 responses sent	peg count
CLNFAILSENT	Number of 4xx responses sent	peg count
SRVERRSENT	Number of 5xx responses sent	peg count
NPSUCC	Number of SIP invite messages for which rxdb lookup was successfully performed and RN/ASD was found	peg count
NPBYPASSSUC	Number of SIP invite messages for which rxdb lookup was not performed	peg count
INVALIDDDN	Number of SIP invite messages for which rxdb lookup returned RN not found	peg count
NPRNNF	Number of SIP invite messages for which rxdb lookup returned RN not found	peg count

UI Example Output:

```
tekelecstp 02-01-03 19:06:13 MST EAGLE5 45.0.0-64.49.0
TYPE OF REPORT: STP SYSTEM TOTAL MEASUREMENTS ON SIP
REPORT PERIOD: LAST
REPORT INTERVAL: 02-01-03, 18:00:00 through 18:29:59
```

```
SIP-SYSTOT MEASUREMENTS
```

```
These measurements are from 02-01-03, 18:00:00 through 18:29:59
```



```

    INVITERCVD =          0, CANCRCVD   =          0, PROVRSSENT=
0,
    OKRSPSENT  =          0, RDRCTSENT  =          0, CLNFAILSENT=
0,
    SRVERRSENT =          0, NPSUCC     =          0, NPBYPASSSUC=          0,
    INVALIDDN  =          0, NPRNNF     =          0

```

FTP Example Output File Name: *systot-sip_20020212_2200.csv*

FTP Example Output File Format:

```

"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 45.0.0-64.49.0", "2013-01-09", "21:30:00", "MST ", "STP
SYSTEM TOTAL MEASUREMENTS ON SIP", "LAST", "2011-01-23", "00:30:00", "01:00:00", 1

"STATUS", "INVITERCVD", "CANCRCVD", "PROVRSSENT", "OKRSPSENT", "RDRCTSENT", "CLNFA
ILSENT", "SRVERRSENT", "NPSUCC",
"NPBYPASSSUC", "INVALIDDN", "NPRNNF"
"K", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

```

Assuming the data line will be:

4 char status + 11*(avg. 6 chars per field) + 2 = 72 chars

Typical file size:

Table 3-11 Typical File Size: *systot-sip.csv*

System Header	+	Report Header	+	Report Data	=	File Size
250	+	145	+	72	=	467 bytes

SFTHROT SYSTOT Report

Example Commands:

```
FTP:rept-ftp-meas:type=systot:enttype=sfthrot
```

Table 3-12 STP System Total SFTHROT Measurements

Event Name	Description	Unit
GTTATHTO	The total number of messages serviced by a particular Throttling GTT Action.	peg count
GTTATHDI	The total number of messages discarded because the Throttling GTT Action was in BLOCKED state.	peg count

FTP Example Output File Name: *systot-sfthrot_20150813_1530.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "EAGLE5 46.3.0.0-66.8.0", "8/13/2015", "15:30:01", "EST
", "STP SYSTEM TOTAL MEASUREMENTS ON
SFTHROT", "LAST", "8/13/2015", "15:00:00", "15:30:00", 32<cr><lf>

"STATUS", "THROTTLING ACTION", "GTTATHTO", "GTTATHDI"<cr><lf>
"K", "sf1", 0, 0<cr><lf>
. . . . .

"K", "sf32", 0, 0<cr><lf>
```

Assuming the data line will be:

4 char status + 12 char TA + 2 * (6 char data) + 2 = 30 chars

Typical file size:

Table 3-13 Typical File Size: systot-sfthrot.csv

System Header	+	Report Header	+	Report Data	=	File Size
250	+	52	+	960 bytes	=	1262 bytes

SFAPP SYSTOT Report

Example Commands:

```
FTP:rept-ftp-meas:type=systot:enttype=sfapp
```

Table 3-14 STP System Total SFAPP Measurements

Event Name	Description	Unit
SFAPPSUCC	Total number of messages which pass validation for a GTT action.	peg count
SFAPPFAIL	Total number of messages which fail validation for a GTT action.	peg count
SFAPPERROR1	Total number of CAT3.1/ CAT3.2 messages having decode error.	peg count
SFAPPERROR2	Total number of ATI_ACK messages having any error.	peg count
SFAPPNEWVLR	Number of new VLRs created	peg count
SFAPPVLRWL	Number of VLRs moved to allowlist	peg count
SFAPPVLRGL	Number of VLRs moved to graylist	peg count

Table 3-14 (Cont.) STP System Total SFAPP Measurements

Event Name	Description	Unit
SFAPPVLRBL	Number of VLRs moved to blocklist	peg count
SFAPPNEWPRI	Number of times new primary SFAPP card is chosen	peg count
SFAPPNEWROAM	Number of times new roaming entry is created	peg count
SFAPPAGEPROF	Number of VLRs aged out/ deleted from dynamic profile table	peg count
SFAPPAGEROAM	Number of VLRs aged out/ deleted from dynamic roaming table	peg count

FTP Example Output File Name: systot-sfapp_20171208_2030.csv

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "EAGLE 46.5.1.5.0-73.6.0", "2017-12-08", "20:30:02", "MST ", "STP
SYSTEM TOTAL MEASUREMENTS ON
SFAPP", "LAST", "2017-12-08", "20:00:00", "20:30:00", "1"<cr><lf>

"STATUS", "GTT
ACTION", "SFAPPSUCC", "SFAPPFAIL", "SFAPPERROR1", "SFAPPERROR2"<cr><lf>
"K", "sfapp1", 1, 0, 1, 0<cr><lf>
"I", "def_sfapp", 0, 0, 0, 0<cr><lf>
```

Assuming the data line will be:

4 char status + 12 char (GTT action) + 4 * (6 char data) + 2 = 40 chars

Typical file size:

Table 3-15 Typical File Size: systot-sfapp.csv

System Header	+	Report Header	+	Report Data (33 entries)	=	File Size
250	+	75	+	1320 bytes	=	1645 bytes

Component Measurements (COMP)

Component Measurements provides performance data related to links and linksets.

Entity Types: LINK, LNKSET , SCTPASOC, SCTPCARD, UA

Accumulation Interval: 30 minutes

Optional Accumulation Interval: Every 15 minutes

STP Retention Period: 24 hours**Reporting Modes:** Scheduled, On-Demand**Accessible Collection Periods:** Last, Specific, Active

LINK COMP Report

Certain registers are reported for MTP2, SAAL, IPVL, and IPVHSL classes. These registers are summarized in [Table 3-16](#).

**Note:**

The LINK COMP Report takes about 3-4 minutes to be generated correctly after a link is deleted.

Table 3-16 Registers Reported per LINK CLASS for Component Links

Event Name	MTP2 Class	SAAL Class	IPVL/IPVLGW Class	IPVHSL Class
AVTPSXMT				X
AVTPSRCV				X
DURLKOTG	X	X	X	
ECCNGLV1	X	X	X	X
ECCNGLV2	X	X	X	X
ECCNGLV3	X	X	X	X
ECLNKCB				X
ECLNKXCO				X
INCCELLS		X		
LMSUOCTRCV			X	X
LMSUOCTTRN			X	X
LMSURCV			X	X
LMSURCVDSC			X	X
LMSUTRN			X	X
LMSUTRNDSC			X	X
LNKAVAIL	X	X	X	X
M2PLKNIS				X
M2PUDMRC				X
M2PUDMTR				X
M2PUDOCR				X
M2PUDOCT				X
MSGDISC0	X	X	X	X
MSGDISC1	X	X	X	X
MSGDISC2	X	X	X	X
MSGDISC3	X	X	X	X

Table 3-16 (Cont.) Registers Reported per LINK CLASS for Component Links

Event Name	MTP2 Class	SAAL Class	IPVL/IPVLGW Class	IPVHSL Class
MSGSRCVD	X	X	X	X
MSURETRN	X			
MSGSRGTT	X	X	X	X
MSGSTRAN	X	X	X	X
MTCEUSG	X	X	X	X
MOCTRGTT	X	X	X	X
MOCTRCVD	X	X	X	X
MOCTTRAN	X	X	X	X
NMGWSDSABL	X	X	X	X
OCTRETRN	X			
OUTCELLS		X		
PKTPSXMT				X
PKTPSRCV				X
SDPDURCV		X		
SDPDURTR		X		
SDPDUTRN		X		
TDCNGLV1	X	X	X	X
TDCNGLV2	X	X	X	X
TDCNGLV3	X	X	X	X

Command Examples

- UI:


```
rept-meas:type=comp:enttype=link:loc=xxxx:link=x
rept-meas:type=comp:enttype=link:lsn=ls3
rept-meas:type=nm:enttype=link:lsn=rs1
```
- FTP:


```
rept-ftp-meas:type=comp:enttype=link
```

Measurement Events

Table 3-17 Component Link Measurements

Event Name	Description	Unit
AVTPSXMT	Average Transactions per Second (TPS) transmitted	TPS
AVTPSRCV	Average TPS received	TPS

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
DURLKOTG	Duration of Link Unavailable (Outage) - The total time a link was unavailable to MTP level 3 for any reason.	seconds
ECCNGLV1	Event Count for Entering Level 1 Link Congestion - The total number of times that link congestion level 1 was entered.	peg count
ECCNGLV2	Event Count for Entering Level 2 Link Congestion - The total number of times that link congestion level 2 was entered.	peg count
ECCNGLV3	Event Count for Entering Level 3 Link Congestion - The total number of times that link congestion level 3 was entered.	peg count
ECLNKCB	Number of times the link performed ChangeBack procedures, including time-controlled ChangeBacks.	peg count
ECLNKXCO	Number of times the link performed Extended ChangeOver procedure, including time-controlled ChangeOvers.	peg count
GTTFORSM	Total number of messages that are sent from a GTT enabled IPSP card to an SCCP card.	peg count
GTTONLIM	Total number of messages on which GTT is performed on a GTT enabled IPSP card.	peg count
INCCELLS	Total incoming NDC-valid ATM cells on the HSL's VCL, including UI and OAM cells but excluding idle/unassigned cells.	octets
LMSUOCTRCV	The number of octets received in large MSUs . This register is pegged in addition to MOCTRCVD when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully received.	octets

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
LMSUOCTTRN	The number of octets transmitted in large MSUs . This register is pegged in addition to MOCTTRAN when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully transmitted.	octets
LMSURCV	The number of large MSUs received . This register is pegged in addition to MSURECVD when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully received.	peg count
LMSURCVDSC	The number of large MSUs discarded in the receive path. This can occur when the Large MSU Support for IP Signaling feature is not on or when the MSU is larger than 4095 bytes or when a routing failure occurs.	peg count
LMSUTRN	The number of large MSUs transmitted . This register is pegged in addition to MSGSTRAN when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully transmitted.	peg count
LMSUTRNDSC	The number of large MSUs discarded in the transmit path..	peg count
LNKAVAIL	Link Available Time - The total time the link was available to MTP level 3.	seconds
M2PLKNIS	M2PA Link Not-in-Service Duration The duration the link was not in the in-service (INS) state at the M2PA layer (in seconds), i.e., during which the link was in any of the other defined M2PA states (such as IDLE, OOS, AIP, PROVING, ALIGNED READY, or RETRIEVAL).	msec
M2PUDMRC	The number of M2PA UDMs received .	peg count
M2PUDMTR	The number of M2PA User Data Messages (UDMs) transmitted .	peg count
M2PUOCR	The number of M2PA UDM octets received .	octets

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
M2PUDOCT	The number of M2PA User Data Message (UDM) octets transmitted.	octets
MOCTRCVD	Message Octets Received - Total number of octets associated with Messages received, including those removed for MTP level 2 processing and those for which retransmission has been requested. <ul style="list-style-type: none">• For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes.	octets
MOCTRGTT	Message Octets Received for Messages Requiring GTT - Total number of octets received associated with incoming Messages requiring global title translation (GTT), including octets removed in MTP level 2 processing, e.g., CRC and flag. <ul style="list-style-type: none">• For SAAL class linksets, applies to MTP level 3 message bytes.	octets

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
MOCTTRAN	<p>Message Octets Transmitted - Total number of octets associated with Messages transmitted to the far end. For all linkset classes, this includes octets for MTP level 3 SIO and SIF.</p> <ul style="list-style-type: none">• For MTP2 class linksets, octets included are those associated with Messages transmitted AND acknowledged by level 2, as well as any retransmitted Messages. Additional octets included are MTP level 2 flag, BSN/BIB, FSN/BIB, LI, and CRC octets.• For SAAL and IPVHSL class linksets, octets are not included until the Message is acknowledged by level 2.• For IPVL and IPVLGW class links, octets are not included until the Message is transmitted by level 2. For IPVLGW class linksets, SNMs (Messages with SI=0) are NOT included.	octets

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
MSGDISC0	<p>For ANSI links: Priority 0 MSUs Discarded Due to Congestion - The total number of priority 0 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> For SAAL class links, applies to MTP level 3 messages . For ITU links, the total number of MSUs discarded due to congestion. <p>Note: The EAGLE only supports this one ITU discard counter. When the discard threshold is reached, all MSUs are discarded and counted in this register. Prior to the discard threshold being reached, no MSUs are discarded.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count
MSGDISC1	<p>For ANSI links: Priority 1 MSUs Discarded Due to Congestion - The total number of priority 1 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> For SAAL class links, applies to MTP level 3 messages . <p>For ITU links: this register is not applicable.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
MSGDISC2	<p>For ANSI links: Priority 2 MSUs Discarded Due to Congestion - The total number of priority 2 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> For SAAL class links, applies to MTP level 3 messages . <p>For ITU links: this register is not applicable.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count
MSGDISC3	<p>For ANSI links: Priority 3 MSUs Discarded Due to Congestion - The total number of priority 3 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> For SAAL class links, applies to MTP level 3 messages . <p>For ITU links: this register is not applicable.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count
MSGSRCVD	<p>MSUs Received - Total number of MSUs received, including those for which retransmission has been requested.</p> <ul style="list-style-type: none"> For SAAL, IPVL, IPVHSL, and IPVLGW class links, applies to MTP level 3 messages. 	peg count

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
MSGSRGTT	<p>MSUs Received Requiring GTT -</p> <p>Total number of incoming MSUs requiring global title translation (GTT).</p> <ul style="list-style-type: none"> For SAAL class links, applies to MTP level 3 messages. 	peg count
MSGSTRAN	<p>MSUs Transmitted -</p> <p>Total number of MSUs transmitted to the far-end, including retransmissions.</p> <ul style="list-style-type: none"> For MTP2 class links, MSUs transmitted AND acknowledged by level 2. For SAAL, IPVL, IPVHSL, and IPVLGW class linksets, MTP level 3 messages offered for transmission after any required conversion from their respective M2PA, M3UA, or SUA formats. 	peg count
MSURETRN	<p>MSUs Retransmitted - Number of MSUs retransmitted from the STP on this link.</p> <ul style="list-style-type: none"> For MTP2 class links, MSUs retransmitted by level 2. 	peg count
MTCEUSG	<p>Link Maintenance Usage - The total time the link was manually made unavailable to MTP level 3. This includes locally blocked (LPO), locally inhibited, or deactivated.</p> <p>Note: MTCEUSG may be less than DURLKOTG due to link recovery time following <code>canc-slk</code>, <code>act-slk</code> command sequence</p>	seconds

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
NMGWSDSABL	Number of Times GWS Disabled - The number of times that the GWS subsystem on the LIM card supporting the link was disabled because of a receive overload condition on the card. When this occurs, the GWS subsystem is disabled for all links on the card and this register is pegged for all links on the card regardless of whether GWS is enabled for that link. Gateway screening is disabled on the card to allow recovery from the receive overload condition and is re-enabled when the receive overload condition abates.	peg count
OCTRETRN	MSU Octets Retransmitted - The total number of MSU octets retransmitted. This register is NOT reported for HSLs .	octets
OUTCELLS	Total outgoing NDC-valid ATM cells on the HSL's VCL , including UI and OAM cells but excluding idle/unassigned cells.	peg count
PKTPSXMT	Peak TPS transmitted	TPS
PKTPSRCV	Peak TPS transmitted	TPS
SDPDURCV	SSCOPSDPDUs Received - The number of SSCOP sequenced data (SD) PDUs that were received during the indicated interval.	peg count
SDPDURTR	SSCOP SDPDUs Retransmitted - The number of SSCOP SD PDUs that were retransmitted, based on an accumulated count of such retransmissions conveyed to layer management.	peg count
SDPDUTRN	SSCOP SD PDUs Transmitted - The number of SSCOP SD PDUs that were transmitted, including retransmissions.	peg count
STATUS	Indication of Data Validity: K indicates good data I indicates incomplete interval N indicates data not current	status

Table 3-17 (Cont.) Component Link Measurements

Event Name	Description	Unit
TDCNGLV1	Total Duration of Level 1 Link Congestion - The total time the link was in level 1 congestion.	seconds
TDCNGLV2	Total Duration of Level 2 Link Congestion - The total time the link was in level 2 congestion.	seconds
TDCNGLV3	Total Duration of Level 3 Link Congestion - The total time the link was in level 3 congestion.	seconds

UI Output Examples

- rept-meas:type=comp:enttype=link:loc=xxxx:link=x

```

tekelecstp 12-03-20 09:24:26 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-20, 08:30:00 THROUGH 08:59:59

LINK-COMP MEASUREMENTS: LOC: 1103, LINK: A , LSN:
ipsg (IPVL)

These measurements are from 12-03-20, 08:30:00 through 08:59:59.
MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN
= 0,
MOCTRCVD = 0, MTCEUSG = 0, DURLKOTG
= 1800,
MSGSRGTT = 0, MOCTRGTT = 0, TDCNGLV1
= 0,
TDCNGLV2 = 0, TDCNGLV3 = 0, ECCNGLV1
= 0,
ECCNGLV2 = 0, ECCNGLV3 = 0, MSGDISC0
= 0,
MSGDISC1 = 0, MSGDISC2 = 0, MSGDISC3
= 0,
LNKAVAIL = 0, NMGWSDSABL = 0, LMSUTRN
= 0,
LMSURCV = 0, LMSUOCTTRN = 0, LMSUOCTRCV
= 0,
LMSUTRNDSC = 0, LMSURCVDSC = 0

;

tekelecstp 12-03-20 09:27:46 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST

```

REPORT INTERVAL: 12-03-20, 08:30:00 THROUGH 08:59:59

LINK-COMP MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2
(MTP2)

These measurements are from 12-03-20, 08:30:00 through 08:59:59.

MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN =
0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD =
0,
MTCEUSG = 0, DURLKOTG = 1800, MSGSRGTT =
0,
MOCTRGTT = 0, TDCNGLV1 = 0, TDCNGLV2 =
0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2 =
0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1 =
0,
MSGDISC2 = 0, MSGDISC3 = 0, LNKAVAIL =
0,
NMGWSDSABL = 0
;

tekelecstp 12-03-20 09:29:08 EST EAGLE5 44.0.0

TYPE OF REPORT: COMPONENT MEASUREMENTS ON LINK

REPORT PERIOD: LAST

REPORT INTERVAL: 12-03-20, 08:30:00 THROUGH 08:59:59

LINK-COMP MEASUREMENTS: LOC: 1105, LINK: A , LSN: ssedcm1
(IPVHSL)

These measurements are from 12-03-20, 08:30:00 through 08:59:59.

MSGSTRAN = 61569, MSGSRCVD = 53186, MOCTTRAN = 9174700,
MOCTRCVD = 5698838, MTCEUSG = 0, DURLKOTG = 0,
MSGSRGTT = 53156, MOCTRGTT = 5698508, TDCNGLV1 = 0,
TDCNGLV2 = 0, TDCNGLV3 = 0, ECCNGLV1 = 0,
ECCNGLV2 = 0, ECCNGLV3 = 0, MSGDISC0 = 0,
MSGDISC1 = 0, MSGDISC2 = 0, MSGDISC3 = 0,
LNKAVAIL = 900, NMGWSDSABL = 0, LMSUTRN = 0,
LMSURCV = 0, LMSUOCTTRN = 0, LMSUOCTRCV = 0,
LMSUTRNDSC = 0, LMSURCV DSC = 0, M2PUDMTR = 61569,
M2PUDOCT = 10221158, M2PUDMRC = 53186, M2PUDOCR = 6603000,
M2PLKNIS = 0, ECLNKCB = 0, ECLNKXCO = 0,
GTONLIM = 53156, GTTFORSM = 0, AVTPSXMT = 70,
AVTPSRCV = 65, PKTPSXMT = 102, PKTPSRCV = 87
;

tekelecstp 12-03-20 09:31:19 EST EAGLE5 44.0.0

TYPE OF REPORT: COMPONENT MEASUREMENTS ON LINK

REPORT PERIOD: LAST

REPORT INTERVAL: 12-03-20, 09:00:00 THROUGH 09:29:59

LINK-COMP MEASUREMENTS: LOC: 1112, LINK: A , LSN:
saal (SAAL)

These measurements are from 12-03-20, 09:00:00 through 09:29:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN
= 0,
MOCTRCVD = 0, MTCEUSG = 0, DURLKOTG
= 1800,
MSGSRGTT = 0, MOCTRGTT = 0, TDCNGLV1
= 0,
TDCNGLV2 = 0, TDCNGLV3 = 0, ECCNGLV1
= 0,
ECCNGLV2 = 0, ECCNGLV3 = 0, MSGDISC0
= 0,
MSGDISC1 = 0, MSGDISC2 = 0, MSGDISC3
= 0,
LNKAVAIL = 0, NMGWSDSABL = 0, OUTCELLS
= 1565,
INCCELLS = 0, SDPDUTRN = 0, SDPDURCV
= 0,
SDPDURTR = 0
```

;

tekelecstp 12-03-20 09:32:50 EST EAGLE5 44.0.0

TYPE OF REPORT: COMPONENT MEASUREMENTS ON LINK

REPORT PERIOD: LAST

REPORT INTERVAL: 12-03-20, 09:00:00 THROUGH 09:29:59

LINK-COMP MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1
(MTP2-UNCH)

These measurements are from 12-03-20, 09:00:00 through 09:29:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN
= 0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD
= 0,
MTCEUSG = 1800, DURLKOTG = 1800, MSGSRGTT
= 0,
MOCTRGTT = 0, TDCNGLV1 = 0, TDCNGLV2
= 0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
= 0,
MSGDISC2 = 0, MSGDISC3 = 0, LNKAVAIL
= 0,
NMGWSDSABL = 0
```

;

- rept-meas:type=comp:enttype=link:lsn=ls3:period=active

```

tekelecstp 12-02-10 05:38:34 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-10, 05:30:00 THROUGH CURRENT

LINK-COMP MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2
(MTP2)

MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN =
0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD =
0,
MTCEUSG = 0, DURLKOTG = 515, MSGSRGTT =
0,
MOCTRGTG = 0, TDCNGLV1 = 0, TDCNGLV2 =
0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2 =
0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1 =
0,
MSGDISC2 = 0, MSGDISC3 = 0, LNKAVAIL =
0,
NMGWSDSABL = 0

;

```

FTP Output Examples

Table 3-18 COMP LINK Column Headers

Field Name	Description
LSN	Linkset name
LOC	Card location
LINK	Link port
LNKTYPE	Link type

FTP Example Output File Name: *comp-link_20101004_1000.csv*

FTP Example Output File Format:

```

"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVALSTAR
T","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-10","05:39:32","EST
","COMPONENT
MEASUREMENTS ON LINK","LAST","2012-02-10","05:00:00","05:30:00",5<cr><lf>
<cr><lf>
"STATUS","LSN","LOC","LINK","LNKTYPE","MSGSTRAN","MSGSRCVD","MSURETRN","OCTRE
TRN","MOCTTRAN","MOC
TRCVD","MTCEUSG","DURLKOTG","MSGSRGTT","MOCTRGTG","TDCNGLV1","TDCNGLV2","TDCN

```


Table 3-20 Registers Reported Per LINKSET CLASS

Register Name	MTP2	SAAL	IPVL	IPVHSL
AVTPSXMT				X
AVTPSRCV				X
GTTMSCNVTD	X	X	X	X
INCCELLS		X		
MSGWSDSLIM	X	X	X	X
MSGSRCVD	X	X	X	X
MSGSRGTT	X	X	X	X
MSGSTRAN	X	X	X	X
MTPMSCNVTD	X	X	X	X
MOCTRGTT	X	X	X	X
MOCTRCVD	X	X	X	X
MOCTTRAN	X	X	X	X
OUTCELLS		X		
PKTPSXMT				X
PKTPSRCV				X
SCCPLOOP	X	X	X	X
SDPDURCV		X		
SDPDURTR		X		
SDPDUTRN		X		
TDLSINAC	X	X	X	X
ZTTMAPI	X	X	X	X
ZTTMAPO	X	X	X	X

Command Examples

- **UI**

```
rept-meas:type=comp:enttype=lnkset:lsn=xy212
```

- **FTP:**

```
rept-ftp-meas:type=comp:enttype=lnkset
```

Measurement Events

Table 3-21 Component Linkset Measurements

Event Name	Description	Unit
AVTPSXMT	Average TPS transmitted	TPS
AVTPSRCV	Average TPS received	TPS
GTTMSCNVTD	Total GT Routed SCCP MSUs Converted.	peg count

Table 3-21 (Cont.) Component Linkset Measurements

Event Name	Description	Unit
INCCELLS	Total incoming NDC-valid ATM cells on the HSL's VCL, including UI and OAM cells but excluding idle/unassigned cells.	peg count
MOCTRGTT	<p>Message Octets Received for Messages RequiringGTT -</p> <p>Total number of octets received associated with incoming Messages requiring global title translation (GTT), including octets removed in MTP level 2 processing, e.g. CRC and flag.</p> <ul style="list-style-type: none"> For SAAL class linksets, applies to MTP level 3 message bytes. 	octets
MOCTRCVD	<p>Message Octets Received -</p> <p>Total number of octets associated with Messages received, including those removed for MTP level 2 processing and those for which retransmission has been requested.</p> <ul style="list-style-type: none"> For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes. 	octets

Table 3-21 (Cont.) Component Linkset Measurements

Event Name	Description	Unit
MOCTTRAN	<p>Message Octets Transmitted - Total number of octets associated with Messages transmitted to the far-end. For all linkset classes, this includes octets for MTP level 3 SIO and SIF.</p> <ul style="list-style-type: none"> For MTP2 class linksets, octets included are those associated with Messages transmitted AND acknowledged by level 2, as well as any retransmitted Messages. Additional octets included are MTP level 2 flag, BSN/BIB, FSN/BIB, LI, and CRC octets. For SAAL and IPVHSL class linksets, octets are not included until the Message is acknowledged by level 2. For IPVL and IPVLGW class links, octets are not included until the Message is transmitted by level 2. For IPVLGW class linksets, SNMs (Messages with SI=0) are NOT included. 	octets
MSGSRCVD	<p>MSUs Received - Total number of MSUs received, including those for which retransmission has been requested.</p> <ul style="list-style-type: none"> For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages 	peg count
MSGSRGTT	<p>MSUs Received Requiring GTT - Total number of incoming MSUs requiring global title translation (GTT).</p> <ul style="list-style-type: none"> For SAAL class linksets, applies to MTP level 3 messages. 	peg count

Table 3-21 (Cont.) Component Linkset Measurements

Event Name	Description	Unit
MSGSTRAN	<p>MSUs Transmitted -</p> <p>Total number of MSUs transmitted to the far-end, including retransmissions.</p> <ul style="list-style-type: none"> For MTP2 class links, MSUs transmitted AND acknowledged by level 2. For SAAL, IPVL, IPVHSL, and IPVLGW class linksets, MTP level 3 messages offered for transmission after any required conversion from their respective M2PA, M3UA, or SUA formats. 	peg count
MSGWSDSLIM	<p>MSUs lost due to Gateway Screening being Disabled on a LIM - These MSUs were discarded because the gateway screening function was disabled. Gateway screening may have been disabled because the screen set was unavailable. This condition can also occur if the screen set data is invalid or gateway screening discard is on.</p>	peg count
MTPMSCNVTD	Total MTP Routed SCCP MSUs Converted.	peg count
OUTCELLS	Total outgoing NDC-valid ATM cells on the HSL's VCL, including UI and OAM cells but excluding idle/unassigned cells.	peg count
PKTPSXMT	Peak TPS transmitted	TPS
PKTPSRCV	Peak TPS transmitted	TPS
SCCPLOOP	<p>The total number of times that a GTT translation matched a Point Code in the STP's loopset entries resulting in either a notify or discard of an SCCP message.</p> <p>This register is reported as zero in ACTIVE, "period=active", measurement linkset reports.</p>	peg count
SDPDURCV	<p>SSCOP SD PDUs received -</p> <p>The number of SSCOP SD PDUs that were received during the indicated interval.</p>	peg count
SDPDURTR	<p>SSCOP SD PDUs Retransmitted - The number of SSCOP sequenced Data PDUs that were retransmitted, based on an accumulated count of such retransmissions conveyed to LM.</p>	peg count

Table 3-21 (Cont.) Component Linkset Measurements

Event Name	Description	Unit
SDPDUTRN	SSCOP SD PDUs Transmitted - The number of SSCOP sequenced Data (SD) PDUs that were transmitted, including retransmissions.	peg count
STATUS	Indication of Data Validity: K indicates good data I indicates incomplete interval N indicates data not current	status
TDLSINAC	Total Duration of Link Set Inactivity - The total time that all links in the linkset were unavailable to MTP level 3, regardless if they were made unavailable manually or automatically.	seconds
ZTTMAPI	Translation Type mapping translation performed - MSUs received on the gateway linkset - The total number of Translation Type Mapping translations performed for Message Signal Units (MSUs) received on the gateway link set (i.e., incoming).	peg count
ZTTMAPO	Translation Type Mapping Translation Performed - MSUs Transmitted on the Gateway Link Set - The total number of Translation Type Mapping translations performed for Message Signal Units (MSUs) transmitted on the gateway link set (i.e., outgoing).	peg count

UI Output Examples

- rept-meas:type=comp:enttype=lnkset:lsn=xxxx

```
tekelecstp 12-02-10 04:37:20 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-10, 04:00:00 THROUGH 04:29:59
```

```
LNKSET-COMP MEASUREMENTS: ipsg (IPVL)
```

These measurements are from 12-02-10, 04:00:00 through 04:29:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
MOCTRCVD = 0, MSGSRGTT = 0, MOCTRGTT =
0,
TDLSINAC = 0, MSGWSDSLIM = 0, ZTTMAPO =
```

```

0,
ZTTMAPI = 0, MTPMSCNVTD = 0, GTTMSCNVTD
= 0,
SCCPLOOP = 0
;

```

```

tekelecstp 12-02-10 04:34:04 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-10, 04:00:00 THROUGH 04:29:59

```

LNKSET-COMP MEASUREMENTS: mtp2 (MTP2)

These measurements are from 12-02-10, 04:00:00 through 04:29:59.

```

MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN
= 0,
MOCTRCVD = 0, MSGSRGTT = 0, MOCTRGTT
= 0,
TDLSINAC = 0, MSGWSDSLIM = 0, ZTTMAPO
= 0,
ZTTMAPI = 0, MTPMSCNVTD = 0, GTTMSCNVTD
= 0,
SCCPLOOP = 0
;

```

```

tekelecstp 12-02-10 04:38:11 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-20, 08:30:00 THROUGH 08:59:59

```

LINKSET-COMP MEASUREMENTS: LOC: 1105, LINK: A , LSN:
ssedcm1 (IPVHSL)

These measurements are from 12-03-20, 08:30:00 through 08:59:59.

```

MSGSTRAN = 61569, MSGSRCVD = 53186, MOCTTRAN =
9174700,
MOCTRCVD = 5698838, MTCEUSG = 0, DURLKOTG
= 0,
MSGSRGTT = 53156, MOCTRGTT = 5698508, TDCNGLV1
= 0,
TDCNGLV2 = 0, TDCNGLV3 = 0, ECCNGLV1
= 0,
ECCNGLV2 = 0, ECCNGLV3 = 0, MSGDISC0
= 0,
MSGDISC1 = 0, MSGDISC2 = 0, MSGDISC3
= 0,
LNKAVAIL = 900, NMGWSDSABL = 0, LMSUTRN
= 0,
LMSURCV = 0, LMSUOCTTRN = 0, LMSUOCTRCV
= 0,
LMSUTRNDSC = 0, LMSURCVDSC = 0, M2PUDMTR =

```



```
61569,
M2PUDOCR = 10221158, M2PUDMRC = 53186, M2PUDOCR = 6603000,
M2PLKNIS = 0, ECLNKCB = 0, ECLNKXCO = 0,
GTTONLIM = 53156, GTTFORSMT = 0, AVTPSXMT = 70,
AVTPSRCV = 65, PKTPSXMT = 102, PKTPSRCV = 87
```

;

```
tekelecstp 12-03-20 09:19:21 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-20, 08:30:00 THROUGH 08:59:59
```

LNKSET-COMP MEASUREMENTS: saal (SAAL)

These measurements are from 12-03-20, 08:30:00 through 08:59:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
MOCTRCVD = 0, MSGSRGTT = 0, MOCTRGTT =
0,
TDLSINAC = 0, MSGWSDSLIM = 0, ZTTMAPO =
0,
ZTTMAPI = 0, OUTCELLS = 1565, INCCELLS =
0,
SDPDUTRN = 0, SDPDURCV = 0, SDPDURTR =
0,
MTPMSCNVTD = 0, GTTMSCNVTD = 0, SCCPLOOP = 0
```

;

```
tekelecstp 12-03-20 09:21:54 EST EAGLE5 44.0.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-20, 08:30:00 THROUGH 08:59:59
```

LNKSET-COMP MEASUREMENTS: hcmimt1 (MTP2-UNCH)

These measurements are from 12-03-20, 08:30:00 through 08:59:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
MOCTRCVD = 0, MSGSRGTT = 0, MOCTRGTT =
0,
TDLSINAC = 0, MSGWSDSLIM = 0, ZTTMAPO =
0,
ZTTMAPI = 0, MTPMSCNVTD = 0, GTTMSCNVTD =
0,
SCCPLOOP = 0
```

;

4 char status + 13 char LSN + 12 char LKNTYPE + 18*(6 char data) + 2 = 139 chars

For a report of 500 linksets, typical file size is:

Table 3-23 Typical File Size: comp-lnkset.csv

System header	+	Report header	+	Report data	=	File Size
250	+	229	+	69,500	=	69,979 bytes

SCTPASOC COMP Report

The per association SCTP layer measurements and reports are shown below.

Command Examples

- **UI:** `rept-meas:type=comp:enttype=sctpasoc:aname=assoc1`
- **FTP:** `rept-ftp-meas:type=comp:enttype=sctpasoc`

Measurement Events

Table 3-24 Component SCTPASOC Measurements

Event Name	Description	Unit
ASMAXRTO	SCTP Association Maximum Observed Retransmission Timeout - The maximum observed value of the SCTP state variable Retransmission Timeout (RTO) in milliseconds (ms) for SCTP packets transmitted (but not retransmitted) to the remote peer endpoint's destination transport address during the measurement interval.	msec
ASOCABTD	SCTP Aborted Associations - The number of times that SCTP associations have made a direct transition to the CLOSED state from any state using the primitive "Abort" (AnyState --Abort--> CLOSED), conveying an ungraceful termination of the association.	peg count
ASOCSHTD	SCTP Association Shutdowns - The number of times that SCTP associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state, conveying graceful termination of the association.	peg count

Table 3-24 (Cont.) Component SCTPASOC Measurements

Event Name	Description	Unit
CNTLCHKR	SCTP Control Chunks Received - The number of SCTP control chunks received from the remote peer (excluding duplicates). CNTLCHKR register excludes initial SCTP association set-up messages (INIT and COOKIE-ECHO).	peg count
CNTLCHKR	SCTP Control Chunks Sent - The number of SCTP control chunks sent to the remote peer (excluding retransmissions), including ABORT messages, after an association has been formed and the association ID is known (see SCPKTRCV and SCPKTSNT).	peg count
DATCHKRC	Number of SCTP DATA chunks received from the remote SCTP peer (excluding duplicates and discards).	peg count
DATCHKSN	Number of SCTP DATA chunks sent to the remote SCTP peer (excluding retransmissions).	peg count
DURASNEST	Duration the association was not in the Established state.	seconds
ECASNEST	Number of times the association transitioned out of the Established state.	peg count
GAPACKSR	SCTP Gap Acknowledgements Received - The number of Gap Acknowledgement blocks in Selective Acknowledgement (SACK) control chunks received from the remote SCTP peer, indicating gaps in the peer's received subsequences of DATA chunks as represented by their Transport Sequence Numbers (TSNs). (The inclusion of this measurement is intended to allow network personnel to assess the message-delivery performance of the IPVHSL relative to gap acknowledgment limits, if used as performance criteria for link proving and in-service monitoring.)	peg count

Table 3-24 (Cont.) Component SCTPASOC Measurements

Event Name	Description	Unit
ORDCHKRC	SCTP Ordered Data Chunks Received - The number of SCTP ordered data chunks received from the remote peer (excluding duplicates).	peg count
ORDCHKSN	SCTP Ordered Data Chunks Sent - The number of SCTP ordered data chunks sent to the remote peer (excluding retransmissions).	peg count
PEERFAIL	SCTP Association Peer Endpoint Failures - The number of peer endpoint failure detection events for the association as triggered by the crossing of threshold the association maximum retransmissions.	peg count
RTXCHNKS	SCTP Association Retransmitted Chunks - The number of SCTP data chunks retransmitted to the remote SCTP peer. When T3-rtx expires, the DATA chunks that triggered the T3 timer will be re-sent according with the retransmissions rules. Every DATA chunk that was included in the SCTP packet that triggered the T3-rtx timer must be added to the value of this counter.	peg count
SCOCTRCV	SCTP Packet Octets Received - The number of octets comprising valid SCTP packets received from the remote peer after an association has been formed.	octets
SCOCTSNT	SCTP Packet Octets Sent - The total number of octets comprising SCTP packets submitted to the IP layer for transmittal to the remote peer for a specific association.	octets

Table 3-24 (Cont.) Component SCTPASOC Measurements

Event Name	Description	Unit
SCPKTRCV	<p>SCTP Packets Received - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included.</p> <p>SCPKTRCV register excludes the pegging of SCTP Packets received when the association ID is unknown (that is, the association parameter "OPEN" has value "NO" for all the links configured on the card; the association ID is known when INITs are received for open server-mode associations or it is established). Also, excludes pegging of ABORT messages.</p>	peg count
SCPKTSNT	<p>SCTP Packets Sent - The total number of SCTP packets sent to the remote peer, i.e., submitted by the local SCTP instance to the IP layer for transmission. Retransmissions are included.</p> <p>The SCPKTSNT register can be pegged as either per card or per association. Association totals exclude initial SCTP association set-up messages (INIT, INIT-ACK, COOKIE ECHO, and COOKIE-ACK) and ABORT messages if the association ID is known (the association ID is known when INITs are received for open server-mode associations or it is established).</p>	peg count
STATUS	<p>Indication of Data Validity:</p> <p>K indicates good data I indicates incomplete interval N indicates data not current</p>	status

UI Output Examples

```
rept-meas:type=comp:enttype=sctpasoc:aname=assoc1
```

```
stdcfg2b 07-12-31 01:00:04 EST UNKNOWN 38.0.0-XX.XX.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON SCTPASOC
REPORT PERIOD: LAST
REPORT INTERVAL: 07-12-31 00:30:00 THRU 00:59:59
```

```
SCTPASOC-COMP MEASUREMENTS: ASSOC: assoc1
```

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

```

ECASNEST = 0, DURASNEST = 0, DATCHKSN = 0,
RTXCHNKS = 0, DATCHKRC = 0, SCPKTSNT = 20,
SCPKTRCV = 20, SCOCTSNT = 0, SCOCTRCV = 0,
CNTLCHKS = 400, ORDCHKSN = 400, CNTLCHKR = 0,
ORDCHKRC = 0, GAPACKSR = 0, ASOCABTD = 0,
ASOCSHTD = 0, PEERFAIL = 0, ASMAXRTO = 0,
    
```

FTP Output Examples

Table 3-25 COMP SCTPASOC Column Headers

Field Name	Description
ASSOC	Association

FTP Example Output File Name: *comp-sctpasoc_20071115_1200.csv*

FTP Example Output File Format (showing optional 15 minute interval):

```

"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T",
"IVALEND", "NUMENTIDS"<cr><lf>
"ipmeas", "UNKNOWN ???.?-58.21.0", "2007-08-17", "19:30:03", "*****",
"COMPONENT MEASUREMENTS ON SCTPASOC", "LAST", "2007-08-17",
"19:15:00", "19:30:00", 3<cr><lf>
"STATUS", "ASSOC", "ECASNEST", "DURASNEST", "DATCHKSN", "RTXCHNKS", "DATCHKRC", "SCP
KTSNT",
"SCPKTRCV", "SCOCTSNT", "SCOCTRCV", "CNTLCHKS", "ORDCHKSN", "CNTLCHKR", "ORDCHKRC",
"GAPACKSR",
"ASOCABTD", "ASOCSHTD", "PEERFAIL", "ASMAXRTO"<cr><lf>
"K", "A1101", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "A1102", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "A1103", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
    
```

Assuming each data line will be:

$$4 \text{ char status} + 18 \text{ char association} + 18 \times (6 \text{ char data}) + 2 = 132 \text{ char}$$

For a report of 1000 associations, the typical file size is:

Table 3-26 Typical File Size: comp-sctpasoc.csv

System header	+	Report header	+	Report data	=	File Size
250	+	175	+	132000	=	132425 bytes

SCTPCARD COMP Report

The per card SCTP layer measurements and reports are shown below.

Command Examples

- **UI:** rept-meas:type=comp:enttype=sctpcard:loc=1204
- **FTP:** rept-ftp-meas:type=comp:enttype=sctpcard

Measurement Events**Table 3-27 Component SCTPCARD Measurements**

Event Name	Description	Unit
ASOCABTD	SCTP Aborted Associations - The number of times that SCTP associations have made a direct transition to the CLOSED state from any state using the primitive "Abort" (AnyState --Abort--> CLOSED), conveying an ungraceful termination of the association.	peg count
ASOCSHTD	SCTP Association Shutdowns - The number of times that SCTP associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state, conveying graceful termination of the association.	peg count
CNTLCHKR	SCTP Control Chunks Received - The number of SCTP control chunks received from the remote peer (excluding duplicates). No register will be pegged if a message intended for an association is received and that association is in the CLOSED state.	peg count
CNTLCHKR	SCTP Control Chunks Sent - The number of SCTP control chunks sent to the remote peer (excluding retransmissions), including chunks for which an association has not been formed.	peg count
DATCHKRC	Number of SCTP DATA chunks received from the remote SCTP peer (excluding duplicates and discards).	peg count

Table 3-27 (Cont.) Component SCTPCARD Measurements

Event Name	Description	Unit
DATCHKSN	Number of SCTP DATA chunks sent to the remote SCTP peer (excluding retransmissions).	peg count
ORDCHKRC	SCTP Ordered Data Chunks Received - The number of SCTP ordered data chunks received from the remote peer (excluding duplicates).	peg count
ORDCHKSN	SCTP Ordered Data Chunks Sent - The number of SCTP ordered data chunks sent to the remote peer (excluding retransmissions).	peg count
RTXCHNKS	SCTP Association Retransmitted Chunks - The number of SCTP data chunks retransmitted to the remote SCTP peer. When T3-rtx expires, the DATA chunks that triggered the T3 timer will be re-sent according with the retransmissions rules. Every DATA chunk that was included in the SCTP packet that triggered the T3-rtx timer must be added to the value of this counter.	peg count
SCOCTRCV	SCTP Packet Octets Received - The number of octets comprising valid SCTP packets received from the remote peer, including packets for which an association has not yet been formed.	octets
SCOCTSNT	SCTP Packet Octets Sent - The total number of octets comprising SCTP packets submitted to the IP layer for transmittal to the remote peer, including packets for which an association has not yet been formed.	octets

Table 3-27 (Cont.) Component SCTPCARD Measurements

Event Name	Description	Unit
SCPKTRCV	<p>SCTP Packets Received - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included.</p> <p>SCPKTRCV register excludes the pegging of SCTP Packets received when no instance exists on the card for any of the associations , i.e., the association parameter "OPEN" has value "NO" for all the associations configured on the card. Also, excludes pegging of set up messages (INIT and COOKIE-ECHO) that are part of association establishment procedure. (See UNASCTPK register.)</p>	peg count
SCPKTRER	<p>SCTP Packets Received With Checksum ErrorThe number of SCTP packets received from remote peers with an invalid checksum.</p>	peg count
SCPKTSNT	<p>SCTP Packets Sent - The total number of SCTP packets sent to the remote peer, i.e., submitted by the local SCTP instance to the IP layer for transmission. Retransmissions are included.</p> <p>SCPKTSNT register excludes initial SCTP association set-up messages (INIT-ACK and COOKIE-ACK). For M2PA association INIT packet is never pegged.</p>	peg count
STATUS	<p>Indication of Data Validity:</p> <p>K indicates good data</p> <p>I indicates incomplete interval</p> <p>N indicates data not current</p>	status

Table 3-27 (Cont.) Component SCTPCARD Measurements

Event Name	Description	Unit
UNASCTPK	<p>Unassociated (Out-of-the-Blue) SCTP PacketsThe number of "out-of-the-blue" SCTP packets received by the host, i.e., SCTP packets correctly formed with the correct checksum value, but for which the receiver (local SCTP) was not able to identify the association to which the packet belongs.</p> <p>UNASCTPK register includes the pegging of SCTP Packets received when no instance exists on the card for any of the associations, i.e., the association parameter "OPEN" has value "NO" for all the associations configured on the card. (See SCPKTRCV register).</p>	peg count

UI Output Examples

```
stdcfg2b 07-12-31 01:00:04 EST UNKNOWN 47
TYPE OF REPORT: COMPONENT MEASUREMENTS ON SCTPCARD
REPORT PERIOD: LAST
REPORT INTERVAL: 07-12-31 00:30:00 THRU 00:59:59
```

SCTPCARD-COMP MEASUREMENTS: LOC: 1204

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

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

FTP Output Examples

Table 3-28 COMP SCTPCARD Column Header

Field Name	Description
LOC	Location

FTP Example Output File Name: *comp-sctpcard_20071115_1200.csv*

Measurement Events

Table 3-30 Component UA Measurements

Event Name	Description	Unit
RXDATAMS	For M3UA, this register represents the number of DATA messages received from the ASP. For SUA, this register represents the total of CLDT and CLDR messages received from the ASP.	peg count
RXDATAOC	For M3UA, this register represents the number of DATA octets received from the ASP. For SUA, this register represents the total of CLDT and CLDR octets received from the ASP.	octets
RXMLRCMS	Number of messages received with multiple routing contexts (always pegged against the default AS).	peg count
STATUS	Indication of Data Validity: K indicates good data I indicates incomplete interval N indicates data not current	status
TXDATAMS	<ul style="list-style-type: none"> For M3UA, this register represents the number of DATA messages sent to the ASP. For SUA, this register represents the total of CLDT and CLDR messages sent to the ASP. 	peg count
TXDATAOC	<ul style="list-style-type: none"> For M3UA, this register represents the number of DATA octets sent to the ASP. For SUA, this register represents the total of CLDT and CLDR octets sent to the ASP. 	octets
UAASPMRX	Total ASPM messages received from the ASP (including ASPSM and ASPTM messages).	peg count
UAASPMTX	Total ASPM messages sent to the ASP (including ASPSM and ASPTM messages).	peg count
UAASPNAC	The number of times the ASP transitioned out of the ASP-Active state.	peg count
UAASPNAT	The duration that the ASP was not in the ASP-Active state.	seconds

Table 3-30 (Cont.) Component UA Measurements

Event Name	Description	Unit
UACNGCNT	The number of times an AS-ASSOC experienced congestion (this may include the AS entering congestion as a result of the ASSOC entering congestion).	peg count
UACNGTIM	The duration that an AS-ASSOC experienced congestion (this may include the AS entering congestion as a result of the ASSOC entering congestion).	seconds
UAMGMTRX	Total MGMT messages received from the ASP.	peg count
UAMGMTTX	Total MGMT messages sent to the ASP.	peg count
UANMOCTR	Total Network Management octets received from the ASP - The total number of non-DATA UA octets received from the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).	peg count
UANMOCTT	Total Network Management octets sent to the ASP - The total number of non-DATA UA octets sent to the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).	peg count
UANMMSGR	Total Network Management messages received from the ASP - The total number of non-DATA UA messages received from the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).	peg count
UANMMSGT	Total Network Management messages sent to the ASP - The total number of non-DATA UA messages sent to the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).	peg count
UASSNMRX	Total SSNM messages received from the ASP.	peg count
UASSNMTX	Total SSNM messages sent to the ASP.	peg count

UI Output Examples

```
stdcfg2b 07-12-31 01:00:04 EST UNKNOWN 38.0.0-XX.XX.0
TYPE OF REPORT: COMPONENT MEASUREMENTS ON UA
REPORT PERIOD: LAST
REPORT INTERVAL: 07-12-31 00:30:00 THRU 00:59:59
```


Table 3-32 Typical File Size: comp-ua.csv

System header	+	Report header	+	Report data	=	File Size
250	+	280	+	150000	=	150530 bytes

Network Management Measurements (NM)

Network Management Reports provide measurement data on **STP** traffic, Global Title Translations, and **MTP** Network Management.

Entity Types:STP, Lnkset, and Link

Accumulation Interval: 5 minutes

STP Retention Period: 5 minutes

Reporting Mode: Scheduled, On-demand, **SEAS** autonomous

Accessible Collection Period: Last (STP, LINK, LNKSET), Active (LINK, LNKSET)

STP NM Report

STP-NM measurements are a system total of the STP, GTT, and MTP network management traffic. STP collection is the aggregated register totals of OAM and LIM/SCCP cards. If any one of these cards are isolated/re-booted during the collection period, measurements data is not provided to the OAM or MCPM and the interval is marked as **I** because at least one of the cards did not provide data. Measurement intervals for which the OAM and all LIM/SCCP cards are IS-NR throughout the measurement interval generate **K** reports.

enttype=stp

Example Commands:

UI: rept-meas:type=nm:enttype=stp

FTP: rept-ftp-meas:type=nm:enttype=stp

Table 3-33 Network Management STP Measurements

Event Name	Description	Unit
GTTPERFD	<p>GTTs Performed - <i>Usually</i>, the total number of MSUs that successfully completed global title translation (GTT). Also includes G-Port and INPMSUs that got a match in either the G-Port, INP, or GTT DB.</p> <p><i>Sometimes</i>, GTTPERFD indicates the total number of global title translations (GTTs) performed on MSUs that successfully completed GTT, because several GTTs may happen for the same MSU. One scenario where multiple GTTs occur for an MSU occurs is when the ANSI/ITU SCCP Conversion Feature is activated. In this case, the count for GTTPERFD can be double what it would be without the feature, although the number of MSUs received by the EAGLE did not change.</p>	peg count
GTTUN0NS	<p>GTTs Unable to Perform - Diagnostic 0: No Translation for Address of Such Nature – Total number of times that the specified translation type in an MSU was not supported by the STP or the form of the GTT was incorrect for the given translation type.</p>	peg count
GTTUN1NT	<p>GTTs Unable to Perform - Diagnostic 1: No Translation for This Address – Number of times that a match for the global title could not be found in the translation table.</p>	peg count
MSIDPMATCH	<p>MSUs Returned – Total number of IDP messages returned to originating MSC. These messages bypass the prepaid engine since it has been determined that they meet the criteria for subscribers with unlimited prepaid calling plan.</p>	peg count
MSIDPNOMCH	<p>MSUs Relayed - Total number of IDP messages relayed to their destination.</p>	peg count

Table 3-33 (Cont.) Network Management STP Measurements

Event Name	Description	Unit
MSINVDPC	MSUs Rcvd – Invalid DPC - The number of MSUs received and discarded because the DPC could not be found in the STP routing table.	peg count
MSINVSIF	MSUs Discarded – InvalidSIF - Number of MSUs that have been received and discarded because of an invalid SIF .	peg count
MSINVDPC	MSUs Rcvd – InvalidDPC - Number of MSUs received and discarded because the DPC could not be found in the STP routing table.	peg count
MSINVLNK	MSUs Discarded – InvalidLink - Number of MSUs discarded because of an incorrect SLC . (The SLC refers to a nonexistent link or the same link.)	peg count
MSINVSIO	MSUs Rcvd – Invalid Service Indicator Octet (SIO) - Number of MSUs received and discarded because the service requested in the service indicator octet (SIO) was not supported by the STP .	peg count
MSINVSLC	MSUs Discarded – InvalidSLC - Number of MSUs discarded because of an invalid SLC code in the ECO/COO .	peg count
MSNACDPC	MSUs Discarded – InaccessibleDPC - The total number of MSUs discarded because of an inaccessible DPC .	peg count
MSSCCPFL	MSUs Discarded – Routing Failure - Number of MSUs discarded due to a routing failure.	peg count
MSUDSCRD	MSUs Discarded –Gateway Screening - The total number of MSUs that failed gateway screening and have been discarded.	peg count
MSULOST1	MSUs Discarded – Level 2/ Level 3 Queue Full - Number of MSUs discarded because the level 2 to level 3 queue was full.	peg count

Table 3-33 (Cont.) Network Management STP Measurements

Event Name	Description	Unit
MSULOST2	<p>MSUs Discarded –Route On Hold Buffer Overflow -</p> <p>Number of MSUs discarded because the routing buffer was in overflow.</p>	peg count
MSULOST3	<p>MSUs Discarded –</p> <ol style="list-style-type: none"> 1. LS On Hold Buffer Overflow - The number of MSUs discarded because the linkset-on-hold buffer was in overflow. The On Hold Buffer is used during changeover/changeback situations to ensure that traffic is sequenced correctly. During changeover and changeback, MSUs that were originally sent over links which are now failed (not IS-NR) are buffered while the changeover/changeback procedures are carried out. Once those procedures are completed, the traffic in the on-hold buffer is routed based on the current configuration. 2. LSL LIM does not have SCCP assignment for received SCCP traffic. 3. HSL – <ul style="list-style-type: none"> • All Class 1 (sequenced) GTT traffic addressed to EAGLE • A Class 0 GTT message for EAGLE arrives when the SCCP TVG queue is full • A GTT message in the SCCP TVG queue is more than 2 seconds old. 	peg count
MSULOST4	<p>MSUs Discarded – Rcv Queue Full -</p> <p>Number of MSUs discarded because the receive queue was full.</p>	peg count

Table 3-33 (Cont.) Network Management STP Measurements

Event Name	Description	Unit
NMTSKDSC0	Network Management Task Discard from Processor Overload - The total number of network management tasks (messages) discarded because of a processor overload (task priority = 0).	peg count
NMTSKDSC1	Network Management Task Discard from Processor Overload - The total number of network management tasks (messages) discarded because of a processor overload (task priority = 1).	peg count
NMTSKDSC2	Network Management Task Discard from Processor Overload - The total number of network management tasks (messages) discarded because of a processor overload (task priority = 2).	peg count
NMTSKDSC3	Network Management Task Discard from Processor Overload - The total number of network management tasks (messages) discarded because of a processor overload (task priority = 3).	peg count
OMSINVDPC	MSUs Originated – InvalidDPC - Number of MSUs originated with an invalid DPC .	peg count
ORIGMSUS	OriginatedMSUs - The total number of outgoing MSUs successfully passed to MTP level 2 for transmission, while carrying the STP point code in the OPC field.	peg count
ORMSUOCT	OriginateMSU Octets - The total number of outgoing octets associated with MSUs carrying the STP point code in the OPC field. This includes octets added in MTP level 2 processing.	octets
OVSZMSG	OversizedMTP 3 Messages - Oversized MTP 3 messages exceeding 272 octets (level 3) that are received by an HSL and are discarded.	peg count

Table 3-33 (Cont.) Network Management STP Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: K indicates good data I indicates incomplete interval N indicates data not current	status
THRSWMSU	Through-SwitchedMSUs - The total number of MSUs that did not carry the STP point code in the OPC or the DPC , and were successfully passed to MTP level 2 for transmission.	peg count
TRMDMSUS	TerminatedMSUs - The total number of incoming MSUs carrying the STP point code in the DPC .	peg count
TRMSUOCT	TerminatedMSU Octets - The total number of octets associated with incoming MSUs carrying the STP point code in the DPC . Includes octets removed in MTP level 2 processing.	octets
TSMSUOCT	Through-SwitchedMSU Octets - The total number of octets associated with MSUs that did not carry the STP point code in the OPC or the DPC , and were successfully passed to MTP level 2 for transmission	octets

UI Example Output:

```
eagle10506 03-04-15 17:13:02 EST EAGLE 34.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON STP
REPORT PERIOD: LAST
REPORT INTERVAL: 03-04-15, 17:05:00 THROUGH 17:09:59
STP-NM MEASUREMENTS
These measurements are from 03-04-15, 17:05:00 through 17:09:59.
ORIGMSUS = 80, TRMDMSUS = 80, THRSWMSU = 0,
ORMSUOCT = 1540, TRMSUOCT = 1540, TSMSUOCT = 0,
MSINVDPC = 0, MSINVSIO = 0, OMSINVDPC = 0,
MSINVLNK = 0, GTTPERFD = 0, GTTUNONS = 0,
GTTUN1NT = 0, MSSCCPFL = 0, MSINVSIF = 0,
MSNACDPC = 0, MSINVSLC = 0, MSUDSCRD = 0,
MSULOST1 = 0, MSULOST2 = 0, MSULOST3 = 0,
MSULOST4 = 0, NMTSKDSC0 = 0, NMTSKDSC1 = 0,
NMTSKDSC2 = 0, NMTSKDSC3 = 0, OVSZMSG = 0
;
eagle10506 03-04-15 17:13:03 EST EAGLE 34.0.0
```


Measurement Events

Table 3-35 Network Management Linkset Measurements

Event Name	Description	Unit
MOCTRCVD	<p>MSU Octets Received - Total number of octets associated with MSUs received, including those removed and those for which retransmission has been requested.</p> <ul style="list-style-type: none"> For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes. 	octets
MOCTTRAN	<p>MSU Octets Transmitted - Total number of octets associated with MSUs transmitted to the far-end. For all linkset classes, this includes octets for MTP level 3 SIO and SIF.</p> <ul style="list-style-type: none"> For MTP2 class linksets, octets included are those associated with MSUs transmitted AND acknowledged by level 2, as well as any retransmitted MSUs. Additional octets included are MTP level 2 flag, BSN/BIB, FSN/BIB, LI, and CRC octets. For SAAL and IPVHSL class linksets, octets are not included until the MSU is acknowledged by level 2. For IPVL and IPVLGW class linksets, octets are not included until the MSU is transmitted by level 2. For IPVLGW class linksets, SNMs (MSUs with SI=0) are NOT included. 	octets
MSGSTRAN	<p>MSUs Transmitted - Total number of MSUs transmitted to the far-end, including retransmissions.</p> <ul style="list-style-type: none"> For MTP2 class links, MSUs transmitted AND acknowledged by level 2 For SAAL, IPVL, IPVHSL, and IPVLGW class links, MTP level 3 messages offered for transmission after any required conversion from their respective M2PA, M3UA, or SUA formats 	peg count

Table 3-35 (Cont.) Network Management Linkset Measurements

Event Name	Description	Unit
MSGSRCVD	<p>MSUs Received - The total number of MSUs received, including those for which retransmission has been requested.</p> <ul style="list-style-type: none"> For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages 	peg count
STATUS	<p>Indication of Data Validity:</p> <p>K indicates good data I indicates incomplete interval N indicates data not current</p>	status

UI Reports

UI Example Output:

```
rept-meas:type=nm:enttype=lnkset:lsn=xxx

tekelecstp 12-02-20 17:36:25 EST EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:30:00 THROUGH 17:34:59

LNKSET-NM MEASUREMENTS: mtp2 (MTP2)

These measurements are from 12-02-20, 17:30:00 through 17:34:59.
MOCTTRAN = 0, MOCTRCVD = 0, MSGSTRAN
= 0,
MSGSRCVD = 0
;

tekelecstp 12-02-20 17:37:16 EST EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:30:00 THROUGH 17:34:59

LNKSET-NM MEASUREMENTS: ipsg (IPVL)

These measurements are from 12-02-20, 17:30:00 through 17:34:59.
MOCTTRAN = 0, MOCTRCVD = 0, MSGSTRAN
= 0,
MSGSRCVD = 0
;
```



```

tekelecstp 12-02-20 17:37:56 EST  EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:30:00 THROUGH 17:34:59

LNKSET-NM MEASUREMENTS: saal      (SAAL)

These measurements are from 12-02-20, 17:30:00 through 17:34:59.
MOCTTRAN  =          0, MOCTRCVD  =          0, MSGSTRAN  =          0,
MSGSRCVD  =          0

;

tekelecstp 12-02-20 17:38:14 EST  EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:30:00 THROUGH 17:34:59

LNKSET-NM MEASUREMENTS: ssedcm2   (IPVL)

These measurements are from 12-02-20, 17:30:00 through 17:34:59.
MOCTTRAN  =          0, MOCTRCVD  =          0, MSGSTRAN  =          0,
MSGSRCVD  =          0

;

tekelecstp 12-02-20 17:38:32 EST  EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:30:00 THROUGH 17:34:59

LNKSET-NM MEASUREMENTS: hcmimt1   (MTP2-UNCH)

These measurements are from 12-02-20, 17:30:00 through 17:34:59.
MOCTTRAN  =          0, MOCTRCVD  =          0, MSGSTRAN  =          0,
MSGSRCVD  =          0

;

```

FTP Reports

Table 3-36 FTP NM LNKSET Column Headers

Field Name	Description
LSN	Linkset name
LNKTYPE	Link type

FTP Example Output File Name: *nm-lnkset_20201005_0215.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENT
IDS"<cr><lf>
"tekelecstp", "EAGLE5 44.0.0-64.23.0", "2012-02-20", "17:39:16", "EST
", "NETWORK MANAGEMENT
MEASUREMENTS ON
LNKSET", "LAST", "2012-02-20", "17:30:00", "17:35:00", 6<cr><lf>
<cr><lf>
"STATUS", "LSN", "LNKTYPE", "MOCTTRAN", "MOCTRCVD", "MSGSTRAN", "MSGSRCVD"<cr
><lf>
"K", "mtp2", "MTP2", 0, 0, 0, 0<cr><lf>
"K", "ipsg", "IPVL", 0, 0, 0, 0<cr><lf>
"K", "m3uals", "IPVL", 0, 0, 0, 0<cr><lf>
"K", "hcmimt1", "MTP2-UNCH", 0, 0, 0, 0<cr><lf>
"K", "ssedcm2", "IPVL", 0, 0, 0, 0<cr><lf>
"K", "saal", "SAAL", 0, 0, 0, 0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 12 char LNKTYPE + 4*(6 char data) + 2 = 55 chars

Table 3-37 Typical File Size: nm-lnkset.csv

System header	+	Report header	+	Report data	=	File Size
250	+	71	+	27,500	=	27,821 bytes

LINK NM Report

Certain registers are reported for **HSLs** or **LSLs** only. Other registers have different interpretations for HSLs than for LSLs. These registers are summarized in [Table 3-38](#).

Table 3-38 HSL LSL Differences for Network Management Links

Event Name	LSL Usage	HSL Usage
DRBSYLNK	As described	N/A - Not reported
DRFEPRO	As described	N/A - Not reported
DRLCLPRO	As described	Initiated by
		MAAL - REPORT_LOCAL_PROCESSOR_OUTAGE

Command Examples

- UI
rept-meas:type=nm:enttype=link:loc=xxxx:link=x

```
rept-meas:type=nm:enttype=link:lsn=ls3
```

- FTP

```
rept-ftp-meas:type=nm:enttype=link
```

Measurement Events

Table 3-39 Network Management Link Measurements

Event Name	Description	Unit
DRFEPRO	Duration of Far-End Processor Outage - The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the far-end network element (SIPO received). <i>Not</i> reported for HSLs.	seconds
DRBSYLNK	Cumulative Duration of Busy Link Status- The total elapsed time between the receipt of a busy LSSU , and when the next message was acknowledged. This is the sum of all occurrences of busy link status. (MTP 2 links only.)	seconds
DRLCLPRO	Duration of Local Processor Outage - The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the near-end network element. For HSLs, this is initiated by MAAL-REPORT_LOCAL_ PROCESSOR_OUTAGE	seconds
DRLNKUNV	Duration of Links Unavailable - The total time a link was unavailable to MTP level 3 for any reason.	seconds
ECCNGLV1	Event Count for Entering Level 1 Link Congestion - The total number of times that link congestion level 1 was entered.	peg count
ECCNGLV2	Event Count for Entering Level 2 Link Congestion - The total number of times that link congestion level 2 was entered.	peg count
ECCNGLV3	Event Count for Entering Level 3 Link Congestion - The total number of times that link congestion level 3 was entered.	peg count

Table 3-39 (Cont.) Network Management Link Measurements

Event Name	Description	Unit
MSGDISC0	<p>For ANSI links: Priority 0 MSUs Discarded Due to Congestion - The total number of priority 0 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> • For SAAL class links, applies to MTP level 3 messages . <p>For ITU links: this register is not applicable.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count
MSGDISC1	<p>For ANSI links: Priority 1 MSUs Discarded Due to Congestion - The total number of priority 1 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> • For SAAL class links, applies to MTP level 3 messages . <p>For ITU links: this register is not applicable.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count

Table 3-39 (Cont.) Network Management Link Measurements

Event Name	Description	Unit
MSGDISC2	<p>For ANSI links: Priority 2 MSUs Discarded Due to Congestion - The total number of priority 2 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> For SAAL class links, applies to MTP level 3 messages . <p>For ITU links: this register is not applicable.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count
MSGDISC3	<p>For ANSI links: Priority 3 MSUs Discarded Due to Congestion - The total number of priority 3 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> For SAAL class links, applies to MTP level 3 messages . <p>For ITU links: this register is not applicable.</p> <p>Note: The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>	peg count

Table 3-39 (Cont.) Network Management Link Measurements

Event Name	Description	Unit
NMGWSDSABL	Number of Times GWS Disabled – The number of times that the GWS subsystem on the LIM card supporting the link was disabled because of a receive overload condition on the card. When this occurs, the GWS subsystem is disabled for all links on the card and this register is pegged for all links on the card regardless of whether GWS is enabled for that link. Gateway screening is disabled on the card to allow recovery from the receive overload condition and is re-enabled when the receive overload condition abates.	peg count
STATUS	Indication of Data Validity: K indicates good data I indicates incomplete interval N indicates data not current	status
TDCNGLV1	Total Duration of Level 1 Link Congestion - The total time the link was in level 1 congestion.	seconds
TDCNGLV2	Total Duration of Level 2 Link Congestion - The total time the link was in level 2 congestion.	seconds
TDCNGLV3	Total Duration of Level 3 Link Congestion - The total time the link was in level 3 congestion.	seconds

UI Reports

UI Example Output:

- rept-meas:type=nm:enttype=link:loc=xxxx:link=x

```
tekelecstp 12-02-20 17:18:12 EST EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:10:00 THROUGH 17:14:59

LINK-NM MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2
(MTP2)
```

```
These measurements are from 12-02-20, 17:10:00 through 17:14:59.
DRLNKUNV = 300, TDCNGLV1 = 0, TDCNGLV2
= 0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
```

```

=          0,
MSGDISC2  =          0, MSGDISC3  =          0, DRFEPRO  =
0,
DRBSYLNK  =          0, NMGWSDSABL =          0, DRLCLPRO  =          0
;

```

```

tekelecstp 12-03-21 00:35:08 EST  EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:34:59

```

```

LINK-NM MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg          (IPVL)

```

```

These measurements are from 12-03-21, 00:30:00 through 00:34:59.

```

```

DRLNKUNV  =          300, TDCNGLV1  =          0, TDCNGLV2  =
0,
TDCNGLV3  =          0, ECCNGLV1  =          0, ECCNGLV2  =
0,
ECCNGLV3  =          0, MSGDISC0  =          0, MSGDISC1  =
0,
MSGDISC2  =          0, MSGDISC3  =          0, NMGWSDSABL =
0,
DRLCLPRO  =          0
;

```

```

tekelecstp 12-03-21 00:36:02 EST  EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:34:59

```

```

LINK-NM MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2
(IPVLGW)

```

```

These measurements are from 12-03-21, 00:30:00 through 00:34:59.

```

```

DRLNKUNV  =          0, TDCNGLV1  =          0, TDCNGLV2  =
0,
TDCNGLV3  =          0, ECCNGLV1  =          0, ECCNGLV2  =
0,
ECCNGLV3  =          0, MSGDISC0  =          0, MSGDISC1  =
0,
MSGDISC2  =          0, MSGDISC3  =          0, NMGWSDSABL =
0,
DRLCLPRO  =          0
;

```

```

tekelecstp 12-03-21 00:36:33 EST  EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:34:59

```

LINK-NM MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal
(SAAL)

These measurements are from 12-03-21, 00:30:00 through 00:34:59.
 DRLNKUNV = 300, TDCNGLV1 = 0, TDCNGLV2
 = 0,
 TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
 = 0,
 ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
 = 0,
 MSGDISC2 = 0, MSGDISC3 = 0, NMGWSDSABL
 = 0,
 DRLCLPRO = 0
 ;

tekelecstp 12-03-21 00:37:12 EST EAGLE5 44.0.0
 TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
 REPORT PERIOD: LAST
 REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:34:59

LINK-NM MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1
(MTP2-UNCH)

These measurements are from 12-03-21, 00:30:00 through 00:34:59.
 DRLNKUNV = 300, TDCNGLV1 = 0, TDCNGLV2
 = 0,
 TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
 = 0,
 ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
 = 0,
 MSGDISC2 = 0, MSGDISC3 = 0, DRFEPRO
 = 0,
 DRBSYLNK = 0, NMGWSDSABL = 0, DRLCLPRO
 = 0
 ;

- rept-meas:type=nm:enttype=link:lsn=ls3

tekelecstp 12-02-20 17:28:02 EST EAGLE5 44.0.0
 TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
 REPORT PERIOD: LAST
 REPORT INTERVAL: 12-02-20, 17:20:00 THROUGH 17:24:59

LINK-NM MEASUREMENTS FOR LINKSET mtp2:

LINK-NM MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2
(MTP2)

These measurements are from 12-02-20, 17:20:00 through 17:24:59.
 DRLNKUNV = 300, TDCNGLV1 = 0, TDCNGLV2


```

=          0,
TDCNGLV3 =          0, ECCNGLV1 =          0, ECCNGLV2 =
0,
ECCNGLV3 =          0, MSGDISC0 =          0, MSGDISC1 =
0,
MSGDISC2 =          0, MSGDISC3 =          0, DRFEPRO =
0,
DRBSYLNK =          0, NMGWSDSABL =          0, DRLCLPRO =          0
;

```

```

tekelecstp 12-03-21 00:52:16 EST EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:45:00 THROUGH 00:49:59

```

LINK-NM MEASUREMENTS FOR LINKSET ipsg:

LINK-NM MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg (IPVL)

These measurements are from 12-03-21, 00:45:00 through 00:49:59.

```

DRLNKUNV =          300, TDCNGLV1 =          0, TDCNGLV2 =
0,
TDCNGLV3 =          0, ECCNGLV1 =          0, ECCNGLV2 =
0,
ECCNGLV3 =          0, MSGDISC0 =          0, MSGDISC1 =
0,
MSGDISC2 =          0, MSGDISC3 =          0, NMGWSDSABL =
0,
DRLCLPRO =          0
;

```

```

tekelecstp 12-03-21 00:52:58 EST EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:45:00 THROUGH 00:49:59

```

LINK-NM MEASUREMENTS FOR LINKSET saal:

LINK-NM MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal (SAAL)

These measurements are from 12-03-21, 00:45:00 through 00:49:59.

```

DRLNKUNV =          300, TDCNGLV1 =          0, TDCNGLV2 =
0,
TDCNGLV3 =          0, ECCNGLV1 =          0, ECCNGLV2 =
0,
ECCNGLV3 =          0, MSGDISC0 =          0, MSGDISC1 =
0,
MSGDISC2 =          0, MSGDISC3 =          0, NMGWSDSABL =
0,
DRLCLPRO =          0

```

;

tekelecstp 12-03-21 00:53:23 EST EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:45:00 THROUGH 00:49:59

LINK-NM MEASUREMENTS FOR LINKSET ssedcm2:

LINK-NM MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2
(IPVLGW)

These measurements are from 12-03-21, 00:45:00 through 00:49:59.

DRLNKUNV	=	0,	TDCNGLV1	=	0,	TDCNGLV2
=	0,					
TDCNGLV3	=	0,	ECCNGLV1	=	0,	ECCNGLV2
=	0,					
ECCNGLV3	=	0,	MSGDISC0	=	0,	MSGDISC1
=	0,					
MSGDISC2	=	0,	MSGDISC3	=	0,	NMGWSDSABL
=	0,					
DRCLPRO	=	0				

;

tekelecstp 12-02-20 17:30:59 EST EAGLE5 44.0.0
TYPE OF REPORT: NETWORK MANAGEMENT MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:25:00 THROUGH 17:29:59

LINK-NM MEASUREMENTS FOR LINKSET hcmimt1:

LINK-NM MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1
(MTP2-UNCH)

These measurements are from 12-02-20, 17:25:00 through 17:29:59.

DRLNKUNV	=	300,	TDCNGLV1	=	0,	TDCNGLV2
=	0,					
TDCNGLV3	=	0,	ECCNGLV1	=	0,	ECCNGLV2
=	0,					
ECCNGLV3	=	0,	MSGDISC0	=	0,	MSGDISC1
=	0,					
MSGDISC2	=	0,	MSGDISC3	=	0,	DRFEPRO
=	0,					
DRBSYLNK	=	0,	NMGWSDSABL	=	0,	DRCLPRO
=	0					

;

Accumulation Interval: 24 hours

STP Retention Period: 24 hours

Reporting Mode: On-demand, scheduled (FTP reports only)

Accessible Collection Period: Last

LINK AVLD Report

Command Examples

- UI

```
rept-meas:type=avld:enttype=link:loc=xxxx:link=x:nzo=no
```

- FTP

```
rept-ftp-meas:type=avld:enttype=link
```

Measurement Events

Table 3-42 Availability Link Measurements

Event Name	Description	Unit
DRDCLFLR	Cumulative Duration of Signaling Link Declared Failures All Types - The cumulative duration of all link failures.	seconds
DRFEPRO	Duration of Far-End Processor Outage - The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the far-end network element (SIPO received). Not reported for SAAL, IPVL class or IPVLGW class links.	seconds
DRLCLPRO	Duration of Local Processor Outage - The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the near-end network element.	seconds
DRLKINHB	Duration of Signaling LinkMgmt Inhibit - The duration that a signaling link was unavailable because a signaling link was inhibited. Not reported for IPVL, IPVLGW, or IPVHSL links.	seconds

Table 3-42 (Cont.) Availability Link Measurements

Event Name	Description	Unit
FARMGINH	Number of Far-End Management Inhibits - The total number of times that a link was inhibited by far-end management. Not reported for IPVL, IPVLGW, or IPVHSL links.	peg count
NDCLFLABN	Number of Signaling Link Failures – Abnormal FIB/BSN - Number of times the signaling link was taken out-of-service because of abnormal FIB/BSN received. A count was accumulated if two backward sequence number values in three consecutively received MSUs or FISUs are not the same as the previous one or any of the forward sequence numbers of the signal units in the retransmission buffer at the time they are retransmitted. Reported for MTP2 Links only. Occurrences of this condition while the link is not in-service are not accumulated in this register.	peg count
NDCLFALP	Link Failure – Alignment or Proving Failure - Number of times a signaling link was returned to out-of-service because of the excessive error rate detected by the alignment error rate monitor (AERM). Not reported for SAAL class links.	peg count
NDCLFINTR	Link Failure – Too Many Interrupts - The number of times a signaling link was out-of-service because an excessive number of link interrupts occurred.	peg count
NDCLFSYNC	Link Failure - Loss of Synchronization - Number of times that the link was taken out-of-service because of a loss of synchronization.	peg count

Table 3-42 (Cont.) Availability Link Measurements

Event Name	Description	Unit
NDCFLXDA	Number of Signaling Link Failures – Excessive Delay of Acknowledgment - The number of times a signaling link was out-of-service due to an excessive delay in acknowledgments. For SAAL and IPVHSL class links, timer NO_RESPONSE expired for POLL/STAT response. Not reported for IPVL and IPVLGW class links.	peg count
NDCFLXDC	Number of Signaling Link Failures - Excessive Duration of Congestion - The number of times a signaling link was out-of-service because the timer T6 (remote congestion) expired. <ul style="list-style-type: none"> For SAAL and IPVHSL class links, timer NO_CREDIT expired for POLL/STAT response. Not reported for IPVL and IPVLGW class links. 	peg count
NDCFLXER	Number of Signaling Link Failures – Excessive Error Rate - Number of times a signaling link was out-of-service because it reached the signal unit error rate monitor (SUERM) threshold.	peg count
NEARMGIH	Number of Near-End Management Inhibits - Number of times a link was unavailable to MTP level 3 because it was locally inhibited. Not reported for IPVL, IPVLGW, or IPVHSL links.	peg count
NMDCLFLR	Number of Signaling Link Declared Failures All Types - The cumulative total of all link failures.	peg count
NMFEPRO	Number of Far-End Processor Outages - The total number of far-end processor outages. Reported for MTP2 links only.	peg count
NMLCLPRO	Number of Local Processor Outages - The total number of local processor outages.	peg count

Table 3-42 (Cont.) Availability Link Measurements

Event Name	Description	Unit
PCRN1N2EXC	PCR N1 or N2 Count Exceeded - The total number of forced retransmissions when preventive cyclic retransmission (PCR) is used as the error correction method on a link. Reported for MTP2 links only.	peg count
STATUS	Indication of Data Validity: K indicates good data I indicates incomplete interval N indicates data not current	status
SURCVERR	Number of SUs Received in Error - SUs received with checksum errors, indicating transmission errors. (For MTP2 class links, applies to FISUs, LSSUs and MSUs. For SAAL class links and ATM HSLs, this register reflects the number of SSCOP PDUs received with errors).	peg count
SUSRECVD	Signaling Units Received - The total number of signaling units received. (For ATM HSLs this register reflects the number of SSCOP PDUs received).	peg count
SUSTRAN	Signaling Units Transmitted - The total number of signaling units transmitted. (For ATM HSLs this register reflects the number of SSCOP PDUs transmitted.)	peg count

UI Reports

Example Output:

- ```

rept-meas:type=avldth:enttype=link:loc=xxxx:link=x:nzo=no

tekelecstp 12-02-21 00:11:11 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2
(MTP2)

```

```

These measurements are from 12-02-20, 00:00:00 through 23:59:59.
Measurement data represents an incomplete interval.
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
DRFEPRO = 0, DRLCLPRO = 0
;

```

```

tekelecstp 12-02-21 00:11:30 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

```

```

LINK-AVLD MEASUREMENTS: LOC: 1103, LINK: A , LSN:
ipsg (IPVL)

```

```

These measurements are from 12-02-20, 00:00:00 through 23:59:59.
Measurement data represents an incomplete interval.
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
DRFEPRO = 0, DRLCLPRO = 0
;

```

```

tekelecstp 12-02-21 00:11:46 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

```

```

LINK-AVLD MEASUREMENTS: LOC: 1105, LINK: A , LSN:
m3uals (IPVLGW)

```

```

These measurements are from 12-02-20, 00:00:00 through 23:59:59.
Measurement data represents an incomplete interval.
NMDCLFLR = 0, DRDCLFLR = 0, DRLCLPRO
= 0
;

```

```

tekelecstp 12-02-21 00:12:02 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

```

```

LINK-AVLD MEASUREMENTS: LOC: 1112, LINK: A , LSN:
saal (SAAL)

```



These measurements are from 12-02-20, 00:00:00 through 23:59:59.  
Measurement data represents an incomplete interval.

NMDCLFLR = 0, DRDCLFLR = 0, DRLCLPRO = 0

;

tekelecstp 12-02-21 00:12:19 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2  
(IPVLGW)

These measurements are from 12-02-20, 00:00:00 through 23:59:59.  
Measurement data represents an incomplete interval.

NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =  
0,  
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB =  
0,  
DRLCLPRO = 0

;

tekelecstp 12-02-21 00:12:32 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-  
UNCH)

These measurements are from 12-02-20, 00:00:00 through 23:59:59.  
Measurement data represents an incomplete interval.

NMDCLFLR = 0, DRDCLFLR = 0, DRLCLPRO = 0

;

- rept-meas:type=avl:enttype=link:lsn=ls3

tekelecstp 12-02-20 17:49:42 EST EAGLE5 44.0.0  
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-02-20, 17:00:00 THROUGH 17:29:59

LINK-AVL MEASUREMENTS FOR LINKSET mtp2:

LINK-AVL MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2  
(MTP2)

These measurements are from 12-02-20, 17:00:00 through 17:29:59.

NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =  
0,

```

DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
NDCFLABN = 0, NDCLFSYNC = 0, NDCFLXDA
= 0,
NDCFLXER = 0, NDCFLXDC = 0, NDCLFALP
= 146,
NDCLFINTR = 0, NMFEPRO = 0, NMLCLPRO
= 0,
DRFEPRO = 0, DRLCLPRO = 0, SUSRECVD
= 0,
SUSTRAN = 1504478, PCRN1N2EXC = 0
;

```

```

tekelecstp 12-03-21 01:27:03 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

```

LINK-AVL MEASUREMENTS FOR LINKSET ipsg:

```

LINK-AVL MEASUREMENTS: LOC: 1103, LINK: A , LSN:
ipsg (IPVL)

```

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

```

NMDCLFLR = 0, DRDCLFLR = 0, NDCLFSYNC
= 0,
NDCLFALP = 0, NDCLFINTR = 0, NMLCLPRO
= 0,
DRLCLPRO = 0, SUSRECVD = 0, SUSTRAN
= 0
;

```

```

tekelecstp 12-03-21 01:28:18 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

```

LINK-AVL MEASUREMENTS FOR LINKSET saal:

```

LINK-AVL MEASUREMENTS: LOC: 1112, LINK: A , LSN:
saal (SAAL)

```

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

```

NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
NDCLFSYNC = 15, NDCFLXDA = 0, NDCFLXER
= 0,
NDCFLXDC = 0, NDCLFINTR = 0, NMLCLPRO
= 0,

```

```

DRLCLPRO = 0, SUSRECVD = 0, SUSTRAN = 1560
;

```

```

tekelecstp 12-03-21 01:28:44 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

```

LINK-AVL MEASUREMENTS FOR LINKSET ssedcm2:

LINK-AVL MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2  
(IPVLGW)

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

```

NMDCLFLR = 0, DRDCLFLR = 0, NDCLFSYNC =
0,
NDCLFALP = 0, NDCLFINTR = 0, NMLCLPRO =
0,
DRLCLPRO = 0, SUSRECVD = 0, SUSTRAN = 0
;

```

```

tekelecstp 12-03-21 01:29:09 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

```

LINK-AVL MEASUREMENTS FOR LINKSET hcmimt1:

LINK-AVL MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-  
UNCH)

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

```

NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =
0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB =
0,
NDCFLABN = 0, NDCLFSYNC = 0, NDCFLXDA =
0,
NDCFLXER = 0, NDCFLXDC = 0, NDCLFALP =
0,
NDCLFINTR = 0, NMFEPRO = 0, NMLCLPRO =
0,
DRFEPRO = 0, DRLCLPRO = 0, SUSRECVD =
1797679,
SUSTRAN = 1797679, PCRN1N2EXC = 0
;

```

## FTP Reports

**Table 3-43 FTP AVLD LINK Command Headers**

| Field Name | Description   |
|------------|---------------|
| LSN        | Linkset name  |
| LOC        | Card location |
| LINK       | Link port     |
| LNKTYPE    | Link type     |

FTP Example Output File Name: *avld-link\_20101004\_2400.csv*

Example output file format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENT
IDS"<cr><lf>
"tekelecstp", "EAGLE5 44.0.0-64.23.0", "2012-02-21", "00:17:33", "EST
", "DAILY AVAILABILITY
MEASUREMENTS ON
LINK", "LAST", "2012-02-20", "00:00:00", "24:00:00", 6<cr><lf>
<cr><lf>
"STATUS", "LSN", "LOC", "LINK", "LNKTYPE", "NEARMGIH", "FARMGINH", "NMDCLFLR",
"DRDCLFLR", "SURCVERR", "DRL
KINHB", "DRFEPRO", "DRLCLPRO"<cr><lf>
"K", "hcmim1", "1203", "A ", "MTP2-UNCH", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "ipsg", "1103", "A ", "IPVL", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "mtp2", "1104", "A ", "MTP2", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "m3uals", "1105", "A ", "IPVLGW", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "ssedcm2", "1107", "A ", "IPVLGW", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "saal", "1112", "A ", "SAAL", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 5 char LINK + 12 char LNKTYPE + 8\*(6 char data) + 2 = 91 chars

**Table 3-44 Typical File Size: avld-link.csv**

| System header | + | Report header | + | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 127           | + | 91,000      | = | 91,377 bytes |

## Day-To-Hour Availability Measurements (AVLDTH)

Day-To-Hour Availability (AVLDTH) Reports provide measurements pertaining to link management accumulating through the day.

**Entity Types: Link**

**Accumulation Interval:** Daily total to the last full hour

**STP Retention Period:** 1 hour

**Reporting Mode:** On-demand

**Accessible Collection Period:** Last

## LINK AVLDTH Report

### Command Examples

- UI

```
rept-meas:type=avldth:enttype=link:loc=xxxx:link=x:nzo=no
```

- FTP

```
rept-ftp-meas:type=avldth:enttype=link
```

### Measurement Events

**Table 3-45 Availability Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                | Unit    |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| DRDCLFLR   | <b>Cumulative Duration of Signaling Link Declared Failures All Types</b> - The cumulative duration of all link failures.                                                                                                                                   | seconds |
| DRFEPRO    | <b>Duration of Far-End Processor Outage</b> -<br>The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the far-end network element (SIPO received). Not reported for SAAL, IPVL class or IPVLGW class links. | seconds |
| DRLCLPRO   | <b>Duration of Local Processor Outage</b> -<br>The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the near-end network element.                                                                           | seconds |
| DRLKINHB   | <b>Duration of Signaling LinkMgmt Inhibit</b> - The duration that a signaling link was unavailable because a signaling link was inhibited. Not reported for IPVL, IPVLGW, or IPVHSL links.                                                                 | seconds |

Table 3-45 (Cont.) Availability Link Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| FARMGINH   | <b>Number of Far-End Management Inhibits</b> - The total number of times that a link was inhibited by far-end management. Not reported for IPVL, IPVLGW, or IPVHSL links.                                                                                                                                                                                                                                                                                                                                                                                                       | peg count |
| NDCLFLABN  | <b>Number of Signaling LinkFailures – Abnormal FIB/BSN</b> - Number of times the signaling link was taken out-of-service because of abnormal FIB/BSN received. A count was accumulated if two backward sequence number values in three consecutively received MSUs or FISUs are not the same as the previous one or any of the forward sequence numbers of the signal units in the retransmission buffer at the time they are retransmitted. Reported for MTP2 Links only. Occurrences of this condition while the link is not in-service are not accumulated in this register. | peg count |
| NDCLFALP   | <b>Link Failure – Alignment or Proving Failure</b> - Number of times a signaling link was returned to out-of-service because of the excessive error rate detected by the alignment error rate monitor ( <b>AERM</b> ). Not reported for SAAL class links.                                                                                                                                                                                                                                                                                                                       | peg count |
| NDCLFINTR  | <b>Link Failure – Too Many Interrupts</b> -<br>The number of times a signaling link was out-of-service because an excessive number of link interrupts occurred.                                                                                                                                                                                                                                                                                                                                                                                                                 | peg count |
| NDCLFSYNC  | <b>Link Failure - Loss of Synchronization</b> -<br>Number of times that the link was taken out-of-service because of a loss of synchronization.                                                                                                                                                                                                                                                                                                                                                                                                                                 | peg count |

Table 3-45 (Cont.) Availability Link Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NDCFLXDA   | <b>Number of Signaling Link Failures – Excessive Delay of Acknowledgment</b> - The number of times a signaling link was out-of-service due to an excessive delay in acknowledgments. For SAAL and IPVHSL class links, timer NO_RESPONSE expired for POLL/STAT response. Not reported for IPVL and IPVLGW class links.                                                             | peg count |
| NDCFLXDC   | <b>Number of Signaling Link Failures - Excessive Duration of Congestion</b> - The number of times a signaling link was out-of-service because the timer T6 (remote congestion) expired. <ul style="list-style-type: none"> <li>For SAAL and IPVHSL class links, timer NO_CREDIT expired for POLL/STAT response.</li> <li>Not reported for IPVL and IPVLGW class links.</li> </ul> | peg count |
| NDCFLXER   | <b>Number of Signaling Link Failures – Excessive Error Rate</b> - Number of times a signaling link was out-of-service because it reached the signal unit error rate monitor (SUERM) threshold.                                                                                                                                                                                    | peg count |
| NEARMGIH   | <b>Number of Near-End Management Inhibits</b> - Number of times a link was unavailable to MTP level 3 because it was locally inhibited. Not reported for IPVL, IPVLGW, or IPVHSL links.                                                                                                                                                                                           | peg count |
| NMDCLFLR   | <b>Number of Signaling Link Declared Failures All Types</b> - The cumulative total of all link failures.                                                                                                                                                                                                                                                                          | peg count |
| NMFEPRO    | <b>Number of Far-End Processor Outages</b> - The total number of far-end processor outages. Reported for MTP2 links only.                                                                                                                                                                                                                                                         | peg count |
| NMLCLPRO   | <b>Number of Local Processor Outages</b> - The total number of local processor outages.                                                                                                                                                                                                                                                                                           | peg count |

**Table 3-45 (Cont.) Availability Link Measurements**

| Event Name        | Description                                                                                                                                                                                                    | Unit      |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>PCRN1N2EXC</b> | <b>PCR N1 or N2 Count Exceeded</b><br>- The total number of forced retransmissions when preventive cyclic retransmission (PCR) is used as the error correction method on a link. Reported for MTP2 links only. | peg count |
| <b>STATUS</b>     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                              | status    |
| <b>SURCVERR</b>   | <b>Number of SUs Received in Error</b> - SUs received in which errors were detected. (For ATM HSLs this register reflects the number of SSCOP PDUs received with errors.)                                      | peg count |
| <b>SUSRECVD</b>   | <b>Signaling Units Received</b> - The total number of signaling units received. (For ATM HSLs this register reflects the number of SSCOP PDUs received.)                                                       | peg count |
| <b>SUSTRAN</b>    | <b>Signaling Units Transmitted</b> - The total number of signaling units transmitted. (For ATM HSLs this register reflects the number of SSCOP PDUs transmitted.)                                              | peg count |

### UI Reports

Example output:

- rept-meas:type=avldth:enttype=link:loc=xxxx:link=x:nzo=no

```

tekelecstp 12-02-21 00:11:11 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS: LOC: 1104, LINK: A , LSN:
mtp2 (MTP2)

These measurements are from 12-02-20, 00:00:00 through 23:59:59.
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
DRFEPRO = 0, DRLCLPRO = 0

;
```



tekelecstp 12-03-21 01:34:26 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg  
(IPVL)

These measurements are from 12-03-20, 00:00:00 through 23:59:59.  
NMDCLFLR = 0, DRDCLFLR = 0, DRLCLPRO = 0

;

tekelecstp 12-03-21 01:35:22 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal  
(SAAL)

These measurements are from 12-03-20, 00:00:00 through 23:59:59.  
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =  
0,  
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB =  
0,  
DRLCLPRO = 0

;

tekelecstp 12-03-21 01:35:48 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2  
(IPVLGW)

These measurements are from 12-03-20, 00:00:00 through 23:59:59.  
NMDCLFLR = 0, DRDCLFLR = 0, DRLCLPRO = 0

;

tekelecstp 12-03-12 13:14:15 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAY-TO-HOUR AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-12, 00:00:00 THROUGH 12:59:59

LINK-AVLDTH MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-

UNCH)

```

These measurements are from 12-03-12, 00:00:00 through 12:59:59.
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
DRFEPRO = 0, DRLCLPRO = 0
;

```

- rept-meas:type=avldth:enttype=link:lsn=xxxx

```

tekelecstp 12-02-21 00:14:55 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS FOR LINKSET mtp2:

LINK-AVLD MEASUREMENTS: LOC: 1104, LINK: A , LSN:
mtp2 (MTP2)

```

```

These measurements are from 12-02-20, 00:00:00 through 23:59:59.
Measurement data represents an incomplete interval.
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
DRFEPRO = 0, DRLCLPRO = 0
;

```

```

tekelecstp 12-03-21 01:36:45 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS FOR LINKSET ipsg:

LINK-AVLD MEASUREMENTS: LOC: 1103, LINK: A , LSN:
ipsg (IPVL)

```

```

These measurements are from 12-03-20, 00:00:00 through 23:59:59.
NMDCLFLR = 0, DRDCLFLR = 0, DRLCLPRO
= 0
;

```

```

tekelecstp 12-03-21 01:37:12 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST

```

REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS FOR LINKSET saal:

LINK-AVLD MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal  
(SAAL)

These measurements are from 12-03-20, 00:00:00 through 23:59:59.

NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =  
0,  
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB =  
0,  
DRLCLPRO = 0

;

tekelecstp 12-03-21 01:37:34 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS FOR LINKSET ssedcm2:

LINK-AVLD MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2  
(IPVLGW)

These measurements are from 12-03-20, 00:00:00 through 23:59:59.

NMDCLFLR = 0, DRDCLFLR = 0, DRLCLPRO = 0

;

tekelecstp 12-03-12 13:13:26 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-11, 00:00:00 THROUGH 23:59:59

LINK-AVLD MEASUREMENTS FOR LINKSET hcmimt1:

LINK-AVLD MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-  
UNCH)

These measurements are from 12-03-11, 00:00:00 through 23:59:59.

NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =  
0,  
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB =  
0,  
DRFEPRO = 0, DRLCLPRO = 0

;

## FTP Reports

**Table 3-46 FTP AVLDTH LINK Command Headers**

| Field Name | Description   |
|------------|---------------|
| LSN        | Linkset name  |
| LOC        | Card location |
| LINK       | Link port     |
| LNKTYPE    | Link type     |

FTP Example Output File Name: *avldth-link\_20101004\_2400.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENT
IDS"<cr><lf>
"tekelecstp", "EAGLE5 44.0.0-64.23.0", "2012-02-21", "00:17:33", "EST
", "DAILY AVAILABILITY
MEASUREMENTS ON
LINK", "LAST", "2012-02-20", "00:00:00", "24:00:00", 6<cr><lf>
<cr><lf>
"STATUS", "LSN", "LOC", "LINK", "LNKTYPE", "NEARMGIH", "FARMGINH", "NMDCLFLR",
"DRDCLFLR", "SURCVERR", "DRL
KINHB", "DRFEPRO", "DRLCLPRO"<cr><lf>
"K", "hcmimt1", "1203", "A ", "MTP2-UNCH", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "ipsg", "1103", "A ", "IPVL", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "mtp2", "1104", "A ", "MTP2", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "m3uals", "1105", "A ", "IPVLGW", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "ssedcm2", "1107", "A ", "IPVLGW", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "saal", "1112", "A ", "SAAL", 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 5 char LINK + 12 char LNKTYPE + 8\*(6 char data) + 2 = 91 chars

**Table 3-47 Typical File Size: avldth-link.csv**

| System header | + | Report header | + | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 127           | + | 91,000      | = | 91,377 bytes |

## Availability Measurements (AVL)

Availability Measurements (AVL) provide measurements relating to the availability of signaling links.

**Entity Types:** Link

**Accumulation Interval:** 30 minutes

**Optional Accumulation Interval:** Every 15 minutes

**STP Retention Period:** 24 hours

**Reporting Mode:** On-demand, scheduled (FTP reports)

**Accessible Collection Period:** Last, active, specific, or all

## LINK AVL Report

Certain registers are reported for **HSLs** or **LSLs** only. Other registers have different interpretations for **HSLs** than for **LSLs**. These registers are summarized in [Table 3-48](#).

**Table 3-48 Availability Link Register Usage By LINK Class**

| Event Name        | MTP2 Usage                                               | SAAL Usage                                              | IPVL and IPVLGW Usage                           | IPVHSL Usage                                    |
|-------------------|----------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| <b>DRFEPRO</b>    | As described                                             | N/A - not reported                                      | N/A - not reported                              | As described                                    |
| <b>DRLKINHB</b>   | As described                                             | As described                                            | N/A - not reported                              | As described                                    |
| <b>FARMGINH</b>   | As described                                             | As described                                            | N/A - not reported                              | As described                                    |
| <b>NDCFLABN</b>   | As described                                             | N/A - not reported                                      | N/A - not reported                              | N/A - not reported                              |
| <b>NDCFLXDA</b>   | Level 2 timer t7 expired                                 | Timer <b>NO_RESPONSE</b> expired for POLL/STAT response | Level 2 timer t7 expired                        | Level 2 timer t7 expired                        |
| <b>NDCFLXDC</b>   | Level 2 timer t6 expired                                 | Timer <b>NO_CREDIT</b> expired                          | Level 2 timer t6 expired                        | Level 2 timer t6 expired                        |
| <b>NDCLFALP</b>   | As described                                             | N/A - not reported                                      | As described                                    | As described                                    |
| <b>NDCLFSYNC</b>  | No data received on the line                             | DS1: LOS, LOF, or LCD indications                       | No data received on the line                    | No data received on the line                    |
| <b>NEARMGIH</b>   | As described                                             | As described                                            | N/A - not reported                              | As described                                    |
| <b>NMFEPRO</b>    | As described                                             | N/A - not reported                                      | As described                                    | As described                                    |
| <b>PCRN1N2EXC</b> | As described                                             | N/A - not reported                                      | N/A - not reported                              | N/A - not reported                              |
| <b>SURCVERR</b>   | Level 2 signaling units (all types) received with errors | <b>SSCOPPDUs</b> (all types) received with errors       | N/A - not reported                              | N/A - not reported                              |
| <b>SUSRECVD</b>   | Level 2 signaling units (all types) received             | SSCOPPDUs (all types) received                          | Level 2 signaling units (all types) received    | Level 2 signaling units (all types) received    |
| <b>SUSTRAN</b>    | Level 2 signaling units (all types) transmitted          | SSCOPPDUs (all types) transmitted                       | Level 2 signaling units (all types) transmitted | Level 2 signaling units (all types) transmitted |

### Command Examples

- UI  

```
rept-meas:type=avl:enttype=link:loc=xxxx:link=x
```
- FTP

```
rept-ftp-meas:type=avl:enttype=link
```

## Measurement Events

**Table 3-49 Availability Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| DRDCLFLR   | <b>Cumulative Duration of Signaling Link Declared Failures All Types</b> - The cumulative duration of all link failures.                                                                                                                                   | seconds   |
| DRFEPRO    | <b>Duration of Far-End Processor Outage</b> -<br>The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the far-end network element (SIPO received). Not reported for SAAL, IPVL class or IPVLGW class links. | seconds   |
| DRLCLPRO   | <b>Duration of Local Processor Outage</b> -<br>The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the near-end network element.                                                                           | seconds   |
| DRLKINHB   | <b>Duration of Signaling LinkMgmt Inhibit</b> - The duration that a signaling link was unavailable because a signaling link was inhibited. Not reported for IPVL, IPVLGW, or IPVHSL links.                                                                 | seconds   |
| FARMGINH   | <b>Number of Far-End Management Inhibits</b> - The total number of times that a link was inhibited by far-end management. Not reported for IPVL, IPVLGW, or IPVHSL links.                                                                                  | peg count |

Table 3-49 (Cont.) Availability Link Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NDCLFLABN  | <b>Number of Signaling LinkFailures – Abnormal FIB/BSN</b> - Number of times the signaling link was taken out-of-service because of abnormal FIB/BSN received. A count was accumulated if two backward sequence number values in three consecutively received MSUs or FISUs are not the same as the previous one or any of the forward sequence numbers of the signal units in the retransmission buffer at the time they are retransmitted. Reported for MTP2 Links only. Occurrences of this condition while the link is not in-service are not accumulated in this register. | peg count |
| NDCLFALP   | <b>Link Failure – Alignment or Proving Failure</b> - Number of times a signaling link was returned to out-of-service because of the excessive error rate detected by the alignment error rate monitor ( <b>AERM</b> ). Not reported for SAAL class links.                                                                                                                                                                                                                                                                                                                       | peg count |
| NDCLFINTR  | <b>Link Failure – Too Many Interrupts</b> -<br>The number of times a signaling link was out-of-service because an excessive number of link interrupts occurred.                                                                                                                                                                                                                                                                                                                                                                                                                 | peg count |
| NDCLFSYNC  | <b>Link Failure - Loss of Synchronization</b> -<br>Number of times that the link was taken out-of-service because of a loss of synchronization.                                                                                                                                                                                                                                                                                                                                                                                                                                 | peg count |

Table 3-49 (Cont.) Availability Link Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NDCFLXDA   | <b>Number of Signaling Link Failures – Excessive Delay of Acknowledgment</b> - The number of times a signaling link was out-of-service due to an excessive delay in acknowledgments. For SAAL and IPVHSL class links, timer NO_RESPONSE expired for POLL/STAT response. Not reported for IPVL and IPVLGW class links.                                                             | peg count |
| NDCFLXDC   | <b>Number of Signaling Link Failures - Excessive Duration of Congestion</b> - The number of times a signaling link was out-of-service because the timer T6 (remote congestion) expired. <ul style="list-style-type: none"> <li>For SAAL and IPVHSL class links, timer NO_CREDIT expired for POLL/STAT response.</li> <li>Not reported for IPVL and IPVLGW class links.</li> </ul> | peg count |
| NDCFLXER   | <b>Number of Signaling Link Failures – Excessive Error Rate</b> - Number of times a signaling link was out-of-service because it reached the signal unit error rate monitor (SUERM) threshold.                                                                                                                                                                                    | peg count |
| NEARMGIH   | <b>Number of Near-End Management Inhibits</b> - Number of times a link was unavailable to MTP level 3 because it was locally inhibited. Not reported for IPVL, IPVLGW, or IPVHSL links.                                                                                                                                                                                           | peg count |
| NMDCLFLR   | <b>Number of Signaling Link Declared Failures All Types</b> - The cumulative total of all link failures.                                                                                                                                                                                                                                                                          | peg count |
| NMFEPRO    | <b>Number of Far-End Processor Outages</b> - The total number of far-end processor outages. Reported for MTP2 links only.                                                                                                                                                                                                                                                         | peg count |
| NMLCLPRO   | <b>Number of Local Processor Outages</b> - The total number of local processor outages.                                                                                                                                                                                                                                                                                           | peg count |



Table 3-49 (Cont.) Availability Link Measurements

| Event Name | Description                                                                                                                                                                                                                                                                    | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PCRN1N2EXC | <b>PCR N1 or N2 Count Exceeded</b> - The total number of forced retransmissions when preventive cyclic retransmission (PCR) is used as the error correction method on a link. Reported for MTP2 links only.                                                                    | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                              | status    |
| SURCVERR   | <b>Number of SUs Received in Error</b> - SUs received with checksum errors, indicating transmission errors. (For MTP2 class links, applies to FISUs, LSSUs and MSUs. For SAAL class links and ATM HSLs, this register reflects the number of SSCOP PDUs received with errors). | peg count |
| SUSRECVD   | <b>Signaling Units Received</b> - The total number of signaling units received. (For ATM HSLs this register reflects the number of SSCOP PDUs received).                                                                                                                       | peg count |
| SUSTRAN    | <b>Signaling Units Transmitted</b> - The total number of signaling units transmitted. (For ATM HSLs this register reflects the number of SSCOP PDUs transmitted.)                                                                                                              | peg count |

**UI Reports**

UI Example Output:

 **Note:**

Only non-zero measurements are shown in the UI reports. The examples will show all registers with non-zero values.

- rept-meas:type=avl:enttype=link:loc=xxxx:link=x:nzo=no

```
tekelecstp 12-02-20 17:46:57 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:00:00 THROUGH 17:29:59
```

```
LINK-AVL MEASUREMENTS: LOC: 1104, LINK: A , LSN:
mtp2 (MTP2)
```

These measurements are from 12-02-20, 17:00:00 through 17:29:59.

```
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
NDCFLABN = 0, NDCLFSYNC = 0, NDCFLXDA
= 0,
NDCFLXER = 0, NDCFLXDC = 0, NDCLFALP
= 146,
NDCLFINTR = 0, NMFEPRO = 0, NMLCLPRO
= 0,
DRFEPRO = 0, DRLCLPRO = 0, SUSRECVD
= 0,
SUSTRAN = 1504478, PCRN1N2EXC = 0
```

;

```
tekelecstp 12-03-21 01:08:44 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59
```

```
LINK-AVL MEASUREMENTS: LOC: 1103, LINK: A , LSN:
ipsg (IPVL)
```

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

```
NMDCLFLR = 0, DRDCLFLR = 0, NDCLFSYNC
= 0,
NDCLFALP = 0, NDCLFINTR = 0, NMLCLPRO
= 0,
DRLCLPRO = 0, SUSRECVD = 0, SUSTRAN
= 0
```

;

```
tekelecstp 12-03-21 01:10:45 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59
```

```
LINK-AVL MEASUREMENTS: LOC: 1112, LINK: A , LSN:
saal (SAAL)
```

```

These measurements are from 12-03-21, 00:30:00 through 00:59:59.
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =
0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB =
0,
NDCLFSYNC = 15, NDCFLXDA = 0, NDCFLXER =
0,
NDCFLXDC = 0, NDCLFINTR = 0, NMLCLPRO =
0,
DRLCLPRO = 0, SUSRECVD = 0, SUSTRAN = 1560
;

```

```

tekelecstp 12-03-21 01:12:42 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

```

```

LINK-AVL MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2
(IPVLGW)

```

```

These measurements are from 12-03-21, 00:30:00 through 00:59:59.
NMDCLFLR = 0, DRDCLFLR = 0, NDCLFSYNC =
0,
NDCLFALP = 0, NDCLFINTR = 0, NMLCLPRO =
0,
DRLCLPRO = 0, SUSRECVD = 0, SUSTRAN = 0
;

```

```

tekelecstp 12-03-21 01:13:52 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

```

```

LINK-AVL MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-
UNCH)

```

```

These measurements are from 12-03-21, 00:30:00 through 00:59:59.
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR =
0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB =
0,
NDCFLABN = 0, NDCLFSYNC = 0, NDCFLXDA =
0,
NDCFLXER = 0, NDCFLXDC = 0, NDCLFALP =
0,
NDCLFINTR = 0, NMFEPRO = 0, NMLCLPRO =
0,
DRFEPRO = 0, DRLCLPRO = 0, SUSRECVD =
1797679,
SUSTRAN = 1797679, PCRN1N2EXC = 0

```

;

- rept-meas:type=avl:enttype=link:lsn=xxx

```
tekelecstp 12-02-20 17:49:42 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-20, 17:00:00 THROUGH 17:29:59
```

LINK-AVL MEASUREMENTS FOR LINKSET mtp2:

```
LINK-AVL MEASUREMENTS: LOC: 1104, LINK: A , LSN:
mtp2 (MTP2)
```

These measurements are from 12-02-20, 17:00:00 through 17:29:59.

```
NEARMGIH = 0, FARMGINH = 0, NMDCLFLR
= 0,
DRDCLFLR = 0, SURCVERR = 0, DRLKINHB
= 0,
NDCFLABN = 0, NDCLFSYNC = 0, NDCFLXDA
= 0,
NDCFLXER = 0, NDCFLXDC = 0, NDCLFALP
= 146,
NDCLFINTR = 0, NMFEPRO = 0, NMLCLPRO
= 0,
DRFEPRO = 0, DRLCLPRO = 0, SUSRECVD
= 0,
SUSTRAN = 1504478, PCRN1N2EXC = 0
```

;

```
tekelecstp 12-03-21 01:27:03 EST EAGLE5 44.0.0
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59
```

LINK-AVL MEASUREMENTS FOR LINKSET ipsg:

```
LINK-AVL MEASUREMENTS: LOC: 1103, LINK: A , LSN:
ipsg (IPVL)
```

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

```
NMDCLFLR = 0, DRDCLFLR = 0, NDCLFSYNC
= 0,
NDCLFALP = 0, NDCLFINTR = 0, NMLCLPRO
= 0,
DRLCLPRO = 0, SUSRECVD = 0, SUSTRAN
= 0
```

;

```
tekelecstp 12-03-21 01:28:18 EST EAGLE5 44.0.0
```

TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

LINK-AVL MEASUREMENTS FOR LINKSET saal:

LINK-AVL MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal  
(SAAL)

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

|           |   |     |           |   |    |          |   |      |
|-----------|---|-----|-----------|---|----|----------|---|------|
| NEARMGIH  | = | 0,  | FARMGINH  | = | 0, | NMDCLFLR | = |      |
| 0,        |   |     |           |   |    |          |   |      |
| DRDCLFLR  | = | 0,  | SURCVERR  | = | 0, | DRLKINHB | = |      |
| 0,        |   |     |           |   |    |          |   |      |
| NDCLFSYNC | = | 15, | NDCFLXDA  | = | 0, | NDCFLXER | = |      |
| 0,        |   |     |           |   |    |          |   |      |
| NDCFLXDC  | = | 0,  | NDCLFINTR | = | 0, | NMLCLPRO | = |      |
| 0,        |   |     |           |   |    |          |   |      |
| DRLCLPRO  | = | 0,  | SUSRECVD  | = | 0, | SUSTRAN  | = | 1560 |

;

tekelecstp 12-03-21 01:28:44 EST EAGLE5 44.0.0  
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

LINK-AVL MEASUREMENTS FOR LINKSET ssedcm2:

LINK-AVL MEASUREMENTS: LOC: 1107, LINK: A , LSN: ssedcm2  
(IPVLGW)

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

|          |   |    |           |   |    |           |   |   |
|----------|---|----|-----------|---|----|-----------|---|---|
| NMDCLFLR | = | 0, | DRDCLFLR  | = | 0, | NDCLFSYNC | = |   |
| 0,       |   |    |           |   |    |           |   |   |
| NDCLFALP | = | 0, | NDCLFINTR | = | 0, | NMLCLPRO  | = |   |
| 0,       |   |    |           |   |    |           |   |   |
| DRLCLPRO | = | 0, | SUSRECVD  | = | 0, | SUSTRAN   | = | 0 |

;

tekelecstp 12-03-21 01:29:09 EST EAGLE5 44.0.0  
TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-21, 00:30:00 THROUGH 00:59:59

LINK-AVL MEASUREMENTS FOR LINKSET hcmimt1:

LINK-AVL MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-  
UNCH)

These measurements are from 12-03-21, 00:30:00 through 00:59:59.

|          |   |    |          |   |    |          |   |  |
|----------|---|----|----------|---|----|----------|---|--|
| NEARMGIH | = | 0, | FARMGINH | = | 0, | NMDCLFLR | = |  |
|----------|---|----|----------|---|----|----------|---|--|



```
"K", "saal", "1112", "A
", "SAAL", 0, 1562, 0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 5 char LINK + 12 char LNKTYPE + 20\*(6 char data) + 2 = 163 chars

**Table 3-51 Typical File Size: av1-link.csv**

| System header | + | Report header | + | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 261           | + | 81,500      | = | 82,011 bytes |

## Daily Maintenance Measurements (MTCD)

The Daily Maintenance (**MTCD**) reports provide measurements useful in determining **STP** performance based on traffic.

**Entity Types:** STP, LINK, LNKSET, LNP, NP, EIR, MAPSCRN, SCTPASOC, SCTPCARD, UA, VFLEX, GTTAPATH, AIQ, **ATINPQ**, SIP, DEIR, ENUM, SFTHROT, SFAPP

**Default Accumulation Interval:** 24 hours

**STP Retention Period:**

- 24 hours: STP, LINK, LNKSET, SCTPASOC, SCTPCARD, UA, SIP, ENUM, SFTHROT, SFAPP
- 7 days: LNP, NP, EIR, MAPSCRN, VFLEX, ATINPQ, AIQ, GTTAPATH, DEIR

**Reporting Modes:** Scheduled and On-Demand

### Note:

Daily measurements are not available for the following features on the E5-OAM if the Integrated Measurements feature is not enabled:

- ATINPQ/PATINP
- AIQ
- EGMS
- VFLEX
- GTT Actions
- EIR
- LNP 384

**Accessible Collection Periods:** Last, Specific

## STP MTCD Report

### Example Commands:

```
UI : rept-meas:type=mtcd:enttype=stp
FTP : rept-ftp-meas:type=mtcd:enttype=stp
```

**Table 3-52 Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements**

| Event Name | Description                                                                                                                                                                                                                   | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| CRSYSAL    | <b>Critical System Alarms</b> - The total number of critical system alarms.                                                                                                                                                   | peg count |
| DRDCLFLR   | <b>Cumulative Duration of Signaling Link Declared Failures All Types</b> -<br>The cumulative duration of all link failures.                                                                                                   | seconds   |
| DURLKOTG   | <b>Duration of Link Outage</b> -<br>The total time a link was unavailable to <b>MTP</b> level 3 for any reason.                                                                                                               | seconds   |
| DTAMSULOST | <b>DTAMSU sLost</b> - The total number of <b>MSUs</b> that were discarded because the redirect function was turned off or the original <b>MSU</b> was too large to be encapsulated.                                           | peg count |
| GFGTMATCH  | <b>G-FlexGTTs with Match</b> -<br>The total number of <b>G-Flex Global Title Translation</b> successfully completed.                                                                                                          | peg count |
| GFGTNOMCH  | <b>G-FlexGTTs No Match</b> - The total number of <b>G-Flex</b> Global Title Translations completed that did not match an entry in the <b>GSM</b> database.                                                                    | peg count |
| GFGTNOLKUP | <b>G-FlexGTTs No Look-up</b> -<br>The total number of <b>G-Flex</b> Global Title Translations that could not be looked up in the <b>GSM</b> database because of an error, i.e., when the G-Flex SCCP CdPA verification fails. | peg count |



Table 3-52 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GTTPERFD   | <p><b>GTTs Performed</b> - Usually, the total number of <b>MSUs</b> that successfully completed global title translation (<b>GTT</b>). Also includes <b>G-Port</b> and <b>INPMSUs</b> that got a match in either the <b>G-Port</b>, <b>INP</b>, or <b>GTT DB</b>.</p> <p>Sometimes, GTTPERFD indicates the total number of global title translations (GTTs) performed on MSUs that successfully completed GTT, because several GTTs may happen for the same MSU. One scenario where multiple GTTs occur for an MSU occurs is when the ANSI/ITU SCCP Conversion Feature is activated. In this case, the count for GTTPERFD can be double what it would be without the feature, although the number of MSUs received by the EAGLE did not change.</p> | peg count |
| GTTUN0NS   | <p><b>GTTs Unable to Perform - Diagnostic 0: No Translation for Address of Such Nature</b> – Total number of times that the specified translation type in an <b>MSU</b> was not supported by the <b>STP</b> or the form of the <b>GTT</b> was incorrect for the given translation type. Also includes <b>G-Flex</b>, <b>INP</b> and <b>GTT MSUs</b> that did not match on new selectors (<b>GTI, NP, NAI</b>) in addition to ones not matching on <b>TT</b>.</p>                                                                                                                                                                                                                                                                                    | peg count |
| GTTUN1NT   | <p><b>GTTs Unable to Perform - Diagnostic 1: No Translation for This Address</b> – The sum total of times that <b>SCCP</b> could not find a translation in the translation table. This includes Global Title translations, <b>Point Code</b> translations, and Subsystem translations.</p> <p>In general, this register contains the sum of the <b>GTTUN1NT</b> register in the systot-tt report and the <b>CGGTTUN1NT</b></p>                                                                                                                                                                                                                                                                                                                      | peg count |

Table 3-52 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

| Event Name | Description                                                                                                                                                                                                                             | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSIDPNOMCH | <b>MSUs Relayed</b> - Total number of IDP messages relayed to their destination.                                                                                                                                                        | peg count |
| MSIDPMATCH | <b>MSUs Returned</b> – Total number of IDP messages returned to originating MSC. These messages bypass the prepaid engine since it has been determined that they meet the criteria for subscribers with unlimited prepaid calling plan. | peg count |
| MSINVDPC   | <b>MSUs Rcvd – InvalidDPC</b> - Number of <b>MSUs</b> received and discarded because the <b>DPC</b> could not be found in the <b>STP</b> routing table.                                                                                 | peg count |
| MSINVSIF   | <b>MSUs Discarded – InvalidSIF</b> - Number of <b>MSUs</b> that have been received and discarded because of an invalid <b>SIF</b> .                                                                                                     | peg count |
| MSINVSIO   | <b>MSUs Rcvd – Invalid Service Indicator Octet (SIO)</b> - Number of <b>MSUs</b> received and discarded because the service requested in the service indicator octet ( <b>SIO</b> ) was not supported by the <b>STP</b> .               | peg count |
| MASYSAL    | <b>Major system alarms</b> - The total number of major system alarms.                                                                                                                                                                   | peg count |
| MISYSAL    | <b>Minor system alarms</b> - The total number of minor system alarms.                                                                                                                                                                   | peg count |
| MSINVLNK   | <b>MSUs Discarded – InvalidLink</b> - Number of <b>MSUs</b> discarded because of an incorrect <b>SLC</b> . (The <b>SLC</b> refers to a nonexistent link or the same link.)                                                              | peg count |
| MSINVSLC   | <b>MSUs Discarded – InvalidSLC</b> - Number of <b>MSUs</b> discarded because of an invalid <b>SLC</b> code in the <b>ECO/COO</b> .                                                                                                      | peg count |

Table 3-52 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                      | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSNACDPC   | <b>MSUs Discarded – InaccessibleDPC -</b><br>The total number of <b>MSUs</b> discarded because of an inaccessible <b>DPC</b> .                                                                                                                                                                                                                                                                   | peg count |
| MSSCCPFL   | <b>MSUs Discarded – Routing Failure -</b><br>Number of <b>MSUs</b> discarded due to an <b>SCCP</b> routing failure. Also includes <b>G-Flex</b> , <b>INP MSUs</b> that got a match from either the <b>G-Flex</b> , <b>INP</b> or <b>GTT DB</b> but cannot be routed due to <b>PC</b> or <b>SS</b> congestion, <b>PC</b> or <b>SS</b> unavailable, <b>SS</b> unequipped, or an unqualified error. | peg count |
| MSUSCCPFLR | <b>MSUSCCP Failure - Total MSUs Discarded Due to SCCP Conversion Failure.</b>                                                                                                                                                                                                                                                                                                                    | peg count |
| MSUDSCRD   | <b>MSUs Discarded –Gateway Screening -</b><br>The total number of <b>MSUs</b> that failed gateway screening and were discarded. See linkset report for individual peg counts.                                                                                                                                                                                                                    | peg count |
| MSULOST1   | <b>MSUs Discarded – Level 2/ Level 3 Queue Full -</b><br>Number of <b>MSUs</b> discarded because the level 2 to level 3 queue was full.                                                                                                                                                                                                                                                          | peg count |
| MSULOST2   | <b>MSUs Discarded –Route On Hold Buffer Overflow -</b><br>Number of <b>MSUs</b> discarded because the routing buffer was in overflow.                                                                                                                                                                                                                                                            | peg count |

**Table 3-52 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements**

| Event Name      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Unit      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>MSULOST3</b> | <p><b>MSUs Discarded –</b></p> <ol style="list-style-type: none"> <li>1. <b>LS On Hold Buffer Overflow</b> - The number of MSUs discarded because the linkset-on-hold buffer was in overflow. The On Hold Buffer is used during changeover/changeback situations to ensure that traffic is sequenced correctly. During changeover and changeback, MSUs that were originally sent over links which are now failed (not IS-NR) are buffered while the changeover/changeback procedures are carried out. Once those procedures are completed, the traffic in the on-hold buffer is routed based on the current configuration.</li> <li>2. <b>LSL LIM does not have SCCP assignment</b> for received SCCP traffic.</li> <li>3. <b>HSL –</b> <ul style="list-style-type: none"> <li>• All Class 1 (sequenced) GTT traffic addressed to EAGLE</li> <li>• A Class 0 GTT message for EAGLE arrives when the SCCP TVG queue is full</li> <li>• A GTT message in the SCCP TVG queue is more than 2 seconds old.</li> </ul> </li> </ol> | peg count |
| <b>MSULOST4</b> | <p><b>MSUs Discarded – Rcv Queue Full -</b></p> <p>Number of <b>MSUs</b> discarded because the receive queue was full.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | peg count |
| <b>MSULOST5</b> | <p><b>MSUs Discarded –LIM Init -</b></p> <p>Number of <b>MSUs</b> discarded while the <b>LIM</b> card was initializing.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | peg count |

Table 3-52 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSULOST6   | <b>MSUs Discarded</b> – The number of MSUs discarded due to an error encountered during internal (IMT) transfer of MSU between cards.                                                                                                                                                                                                                      | peg count |
| MTPRESTS   | <b>MTP Restarts Initiated</b> - Number of times <b>MTP</b> restart was initiated by the <b>STP</b> . The count does not include the number of <b>MTP</b> restarts initiated as a result of messages from adjacent nodes.                                                                                                                                   | peg count |
| OMSINVDPC  | <b>MSUs Originated</b> - Invalid DPC - The number of MSUs originated with an invalid DPC.                                                                                                                                                                                                                                                                  | peg count |
| ORIGMSUS   | <b>OriginatedMSUs</b> - The total number of outgoing <b>MSUs</b> successfully passed to <b>MTP</b> level 2 for transmission, while carrying the <b>STP</b> point code in the <b>OPC</b> field. For IPGW links, this register includes counts for management messages such as RST messages. This register is not an aggregate of link or linkset registers. | peg count |
| OVSZMSG    | <b>OversizedMTP 3 Messages</b> - Oversized <b>MTP</b> 3 messages exceeding 272 octets (level 3) that are received by an <b>HSL</b> and are discarded.                                                                                                                                                                                                      | peg count |
| SCCPLOOP   | The total number of times that a <b>GTT translation matched a Point Code in the STP's loopset</b> entries resulting in either a notify or discard of an SCCP message.                                                                                                                                                                                      | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                                                                                                          | status    |

**Table 3-52 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements**

| Event Name | Description                                                                                                                                                                                                                                                    | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| THRSWMSU   | <b>Through-SwitchedMSUs</b> -<br>The total number of <b>MSUs</b> that did not carry the <b>STP</b> point code in the <b>OPC</b> or the <b>DPC</b> , and were successfully passed to <b>MTP</b> level 2 for transmission.                                       | peg count |
| TRMDMSUS   | <b>TerminatedMSUs</b> - The total number of incoming <b>MSUs</b> carrying the <b>STP</b> point code in the <b>DPC</b> .                                                                                                                                        | peg count |
| TTMAPPF    | <b>Translation Type Mapping Translations Performed</b> -<br>The total number of <b>Translation Type</b> Mapping translations performed (that is, a mapped <b>SS7</b> message translation type was found for the existing <b>SS7</b> message translation type). | peg count |
| UDTXUDTF   | Total number of messages for which UDT(S) to XUDT(S), XUDT(S) to UDT(S) or Segmented XUDT(S) to UDT(S) conversion has failed.                                                                                                                                  | peg count |
| XLXTELEI   | <b>X-List Entry Not Created</b> -<br>The total number of times that an X-List entry was not created because the <b>ELEI</b> for the cluster was set to 'yes'.                                                                                                  | peg count |
| XLXTSPACE  | <b>X-List Entry Not Created</b> -<br>The total number of times an X-List entry was not created due to lack of space in the route/destination table.                                                                                                            | peg count |

**UI Example Output:**

```
e1061001 11-01-23 00:10:07 MST EAGLE5 43.0.0-63.49.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON STP
REPORT PERIOD: LAST
REPORT INTERVAL: 11-01-22 00:00:00 THRU 23:59:59
```

STP-MTCD MEASUREMENTS

```
ORIGMSUS = 0, TRMDMSUS = 0, THRSWMSU
= 0,
MTPRESTS = 0, DTAMSULOST = 0, MSINVDPC
= 0,
MSINVSIO = 0, OMSINVDPC = 0, MSINVLNK
```

```

= 0,
MSINVSIF = 0, MSNACDPC = 0, MSINVSLC = 0,
GTTPERFD = 0, GTTUN0NS = 0, GTTUN1NT = 0,
MSSCCPFL = 0, MSULOST1 = 0, MSULOST2 = 0,
MSULOST3 = 0, MSULOST4 = 0, MSULOST5 = 0,
DRDCLFLR = 0, DURLKOTG = 7713, CRSYSAL = 10,
MASYSAL = 15, MISYSAL = 95, XLXTSPACE = 0,
XLXTELEI = 0, TTMAPPF = 0, MSUDSCRD = 0,
OVSZMSG = 0, GFGTMATCH = 0, GFGTNOMCH = 0,
GFGTNOLKUP = 0, MSUSCCPFLR = 0, MSIDPNOMCH = 0,
 MSIDPMATCH = 0, MSULOST6 = 0,
SCCPLOOP = 0, UDTXUDTF = 0

```

### FTP Example Output

FTP Example Output File Name: *mtcd-stp\_19990116\_2400.csv*

FTP Example Output File Format:

```

"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"e1061001", "EAGLE5 43.0.0-63.49.0", "2011-01-23", "01:11:43", "MST ", "DAILY
MAINTENANCE MEASUREMENTS ON STP", "LAST", "2011-01-22", "00:00:00", "24:00:00", 1

"STATUS", "ORIGMSUS", "TRMDMSUS", "THRSWMSU", "MTPRESTS", "DTAMSULOST", "MSINVDPC",
"MSINVSIO", "OMSINVDPC",
"MSINVLNK", "MSINVSIF", "MSNACDPC", "MSINVSLC", "GTTPERFD", "GTTUN0NS", "GTTUN1NT",
"MSSCCPFL", "MSULOST1",
"MSULOST2", "MSULOST3", "MSULOST4", "MSULOST5", "DRDCLFLR", "DURLKOTG", "CRSYSAL", "
MASYSAL", "MISYSAL",
"XLXTSPACE", "XLXTELEI", "TTMAPPF", "MSUDSCRD", "OVSZMSG", "GFGTMATCH", "GFGTNOMCH"
, "GFGTNOLKUP",
"MSUSCCPFLR", "MSIDPNOMCH", "MSIDPMATCH", "MSULOST6", "SCCPLOOP", "UDTXUDTF"
"K", 0,
0, 0

```

Typical file size:

Table 3-53 Typical File Size: *mtcd-stp.csv*

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 483           | + | 252         | = | 985 bytes |

## LINK MTCD Report

Certain registers are reported for MTP2, SAAL, IPVL, and IPVHSL classes. These registers are summarized in [Table 3-54](#).

**Table 3-54 Registers Reported per LINK CLASS for Daily (MTCD) and Day-To-Hour (MTCATH) Link Measurements**

| Event Name     | MTP2 Class | SAAL Class | IPVL Class | IPVLGW Class | IPVHSL Class |
|----------------|------------|------------|------------|--------------|--------------|
| ACHGOVRS       | X          | X          | X          | X            | X            |
| DRBSYLNK       | X          |            |            |              | X            |
| DRDCLFLR       | X          | X          | X          | X            | X            |
| DRFEPRO        | X          |            |            |              | X            |
| DRLCLPRO       | X          | X          | X          | X            | X            |
| DRLKINHB       | X          | X          |            |              | X            |
| ECCNGLV1       | X          | X          | X          | X            | X            |
| ECCNGLV2       | X          | X          | X          | X            | X            |
| ECCNGLV3       | X          | X          | X          | X            | X            |
| ECLNKCB        |            |            |            |              | X            |
| ECLNKXCO       |            |            |            |              | X            |
| FARMGINH       | X          | X          |            |              | X            |
| LMSUOCTRC<br>V |            |            | X          | X            | X            |
| LMSUOCTTR<br>N |            |            | X          | X            | X            |
| LMSURCV        |            |            | X          | X            | X            |
| LMSURCVDS<br>C |            |            | X          | X            | X            |
| LMSUTRN        |            |            | X          | X            | X            |
| LMSUTRNDS<br>C |            |            | X          | X            | X            |
| LNKAVAIL       | X          | X          | X          | X            | X            |
| M2PLKNIS       |            |            |            |              | X            |
| M2PUDMRC       |            |            |            |              | X            |
| M2PUDMTR       |            |            |            |              | X            |
| M2PUDOCR       |            |            |            |              | X            |
| M2PUDOCT       |            |            |            |              | X            |
| MOCTRCVD       | X          | X          | X          | X            | X            |
| MOCTTRAN       | X          | X          | X          | X            | X            |
| MSGDISC0       | X          | X          | X          | X            | X            |
| MSGDISC1       | X          | X          | X          | X            | X            |
| MSGDISC2       | X          | X          | X          | X            | X            |
| MSGDISC3       | X          | X          | X          | X            | X            |
| MSGSRCVD       | X          | X          | X          | X            | X            |
| MSGSTRAN       | X          | X          | X          | X            | X            |
| MSURCERR       | X          |            |            |              |              |
| MSURETRN       | X          |            |            |              |              |



**Table 3-54 (Cont.) Registers Reported per LINK CLASS for Daily (MTCD) and Day-To-Hour (MTCPTH) Link Measurements**

| Event Name     | MTP2 Class | SAAL Class | IPVL Class | IPVLGW Class | IPVHSL Class |
|----------------|------------|------------|------------|--------------|--------------|
| NDCFLABN       | X          |            |            |              |              |
| NDCFLXDA       | X          | X          |            |              | X            |
| NDCFLXDC       | X          | X          |            |              | X            |
| NDCFLXER       | X          | X          |            |              |              |
| NEARMGIH       | X          | X          |            |              | X            |
| NEGACKS        | X          |            |            |              |              |
| NMLCLPRO       | X          | X          | X          | X            | X            |
| NMDCLFLR       | X          | X          | X          | X            | X            |
| NMFEPRO        | X          |            |            |              | X            |
| OCTRETRN       | X          |            |            |              |              |
| PCRN1N2EX<br>C | X          |            |            |              |              |
| SDPDURTR       |            | X          |            |              |              |
| SURCVERR       | X          | X          |            |              |              |
| TDCNGLV1       | X          | X          | X          | X            | X            |
| TDCNGLV2       | X          | X          | X          | X            | X            |
| TDCNGLV3       | X          | X          | X          | X            | X            |
| TLNKACTV       | X          | X          | X          | X            | X            |

**Command Examples**

- FTP:

```
rept-ftp-meas:type=mtcd:enttype=link
```

**Measurement Events****Table 3-55 Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name | Description                                                                                                                                         | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ACHGOVRS   | <b>Number of Automatic Changeovers</b> - Number of times that a changeover procedure was used to divert traffic from one link to alternative links. | peg count |

Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

| Event Name | Description                                                                                                                                                                                                                                             | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| DRBSYLNK   | <b>Cumulative Duration of Busy Link Status-</b><br>The total elapsed time between the receipt of a busy <b>LSSU</b> , and when the next message was acknowledged. This is the sum of all occurrences of busy link status. Reported for MTP2 Links only. | seconds   |
| DRDCLFLR   | <b>Cumulative Duration of Signaling Link Declared Failures All Types -</b> The cumulative duration of all link failures.                                                                                                                                | seconds   |
| DRFEPRO    | <b>Duration of Far-End Processor Outage -</b><br>The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the far-end network element (SIPO received). Reported for MTP2 and IPVHSL class links ONLY.        | seconds   |
| DRLCLPRO   | <b>Duration of Local Processor Outage -</b><br>The cumulative duration that a link was unavailable to <b>MTP</b> level 3 because of a processor outage at the near-end network element.                                                                 | seconds   |
| DRLKINHB   | <b>Duration Link Inhibited -</b> The cumulative duration that a link was inhibited at the local or far-end network element.                                                                                                                             | seconds   |
| ECCNGLV1   | <b>Event Count for Entering Level 1 Link Congestion -</b> The total number of times that link congestion level 1 was entered.                                                                                                                           | peg count |
| ECCNGLV2   | <b>Event Count for Entering Level 2 Link Congestion -</b> The total number of times that link congestion level 2 was entered.                                                                                                                           | peg count |
| ECCNGLV3   | <b>Event Count for Entering Level 3 Link Congestion -</b> The total number of times that link congestion level 3 was entered.                                                                                                                           | peg count |
| ECLNKCB    | Number of times the link performed ChangeBack procedures, including time-controlled ChangeBacks.                                                                                                                                                        | peg count |

Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

| Event Name | Description                                                                                                                                                                                                              | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ECLNKXCO   | Number of times the link performed Extended ChangeOver procedure, including time-controlled ChangeOvers.                                                                                                                 | peg count |
| FARMGINH   | <b>Number of Far-End Management Inhibits</b> - Number of times a link was inhibited successfully from the far-end.                                                                                                       | peg count |
| GTTFORSM   | Total number of messages that are sent from a GTT enabled IPSP card to an SCCP card.                                                                                                                                     | peg count |
| GTTONLIM   | Total number of messages on which GTT is performed on a GTT enabled IPSP card.                                                                                                                                           | peg count |
| LMSUOCTRCV | The number of <b>octets received in large MSUs</b> . This register is pegged in addition to MOCTRCVD when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully received.          | octets    |
| LMSUOCTTRN | The number of <b>octets transmitted in large MSUs</b> . This register is pegged in addition to MOCTTRAN when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully transmitted.    | octets    |
| LMSURCV    | The number of <b>large MSUs received</b> . This register is pegged in addition to MSGSRCVD when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully received.                    | peg count |
| LMSURCVDSC | The number of <b>large MSUs discarded in the receive path</b> . This can occur when the Large MSU Support for IP Signaling feature is not on or when the MSU is larger than 4095 bytes or when a routing failure occurs. | peg count |
| LMSUTRN    | <b>The number of large MSUs transmitted</b> . This register is pegged in addition to MSGSTRAN when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully transmitted.              | peg count |

**Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements**

| <b>Event Name</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                      | <b>Unit</b> |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>LMSUTRDSC</b>  | The number of large MSUs discarded in the transmit path.                                                                                                                                                                                                                                                                                                | peg count   |
| <b>LNKAVAIL</b>   | <b>Link Available Time</b> - The total time the link was available to MTP level 3.                                                                                                                                                                                                                                                                      | seconds     |
| <b>M2PLKNIS</b>   | <b>M2PA Link Not-in-Service Duration</b> The duration the link was not in the in-service (INS) state at the M2PA layer (in seconds), i.e., during which the link was in any of the other defined M2PA states (such as IDLE, OOS, AIP, PROVING, ALIGNED READY, or RETRIEVAL).                                                                            | msec        |
| <b>M2PUDMRC</b>   | The number of M2PA UDMs received.                                                                                                                                                                                                                                                                                                                       | peg count   |
| <b>M2PUDMTR</b>   | The number of M2PA User Data Messages (UDMs) transmitted.                                                                                                                                                                                                                                                                                               | peg count   |
| <b>M2PUDOCR</b>   | The number of M2PA UDM octets received.                                                                                                                                                                                                                                                                                                                 | octets      |
| <b>M2PUDOCT</b>   | The number of M2PA User Data Message (UDM) octets transmitted.                                                                                                                                                                                                                                                                                          | octets      |
| <b>MOCTRCVD</b>   | <p><b>Message Octets Received</b> - Total number of octets associated with Messages received, including those removed for MTP level 2 processing and those for which retransmission has been requested.</p> <ul style="list-style-type: none"> <li>For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes.</li> </ul> | octets      |

**Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Unit   |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| MOCTTRAN   | <p><b>Message Octets Transmitted -</b> Total number of octets associated with MSUs transmitted to the far-end. For all linkset classes, this includes octets for MTP level 3 SIO and SIF.</p> <ul style="list-style-type: none"><li>• For MTP2 class linksets, octets included are those associated with Messages transmitted AND acknowledged by level 2, as well as any retransmitted Messages. Additional octets included are MTP level 2 flag, BSN/BIB, FSN/BIB, LI, and CRC octets.</li><li>• For SAAL and IPVHSL class linksets, octets are not included until the Message is acknowledged by level 2.</li><li>• For IPVL and IPVLGW class links, octets are not included until the Message is transmitted by level 2. For IPVLGW class linksets, SNMs (Messages with SI=0) are NOT included.</li></ul> | octets |

**Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSGDISC0   | <p>For ANSI links: <b>Priority 0 MSUs Discarded Due to Congestion</b> - The total number of priority 0 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>EAGLE supports this one ITU discard counter only. When the discard threshold is reached, all MSUs are discarded and counted in this register. Prior to the discard threshold being reached, no MSUs are discarded.</li> <li>The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</li> </ul> | peg count |
| MSGDISC1   | <p>For ANSI links: <b>Priority 1 MSUs Discarded Due to Congestion</b> - The total number of priority 1 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p>For ITU links: this register is not applicable.</p> <p><b>Note:</b> The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>                                                                                                                                                                                                                        | peg count |

Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

| Event Name      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Unit      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>MSGDISC2</b> | <p>For ANSI links: <b>Priority 2 MSUs Discarded Due to Congestion</b> - The total number of priority 2 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p>For ITU links: this register is not applicable.</p> <p><b>Note:</b> The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p> | peg count |
| <b>MSGDISC3</b> | <p>For ANSI links: <b>Priority 3 MSUs Discarded Due to Congestion</b> - The total number of priority 3 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p>For ITU links: this register is not applicable.</p> <p><b>Note:</b> The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p> | peg count |
| <b>MSGSRCVD</b> | <p><b>MSUs Received</b> - Total number of <b>MSUs</b> received, including those for which retransmission has been requested.</p> <ul style="list-style-type: none"> <li>For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages.</li> </ul>                                                                                                                                                                                                                                                                                                                                                      | peg count |

**Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements**

| <b>Event Name</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Unit</b> |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>MSGSTRAN</b>   | <p><b>MSUs Transmitted -</b><br/>Total number of <b>MSUs</b> transmitted to the far-end, including retransmissions.</p> <ul style="list-style-type: none"> <li>• For MTP2 class links, MSUs transmitted AND acknowledged by level 2.</li> <li>• For SAAL, IPVL, IPVHSL, and IPVLGW class linksets, MTP level 3 messages offered for transmission after any required conversion from their respective M2PA, M3UA, or SUA formats.</li> </ul>                                                                                                                                                     | peg count   |
| <b>MSURCERR</b>   | Number of <b>Message signal Units received in error - bad CRC</b> . This register applies to MTP2 links only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | peg count   |
| <b>MSURETRN</b>   | <b>MSUs Retransmitted</b> - Number of <b>MSUs</b> retransmitted because of errors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | peg count   |
| <b>NDCFLABN</b>   | <p><b>Number of Signaling Link Failures - Abnormal FIB/BSN -</b><br/>The number of times the signaling link was taken out-of-service because of abnormal FIB/BSN received. A count was accumulated if two backward sequence number values in three consecutively received MSUs or FISUs are not the same as the previous one or any of the forward sequence numbers of the signal units in the retransmission buffer at the time they are retransmitted. Reported for MTP2 links only. Occurrences of this condition while the link is not in-service are not accumulated in this register.</p> | peg count   |



Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                               | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NDCFLXDA   | <p><b>Number of Signaling Link Failures - Excessive Delay of Acknowledgment</b> - Number of times a signaling link was out-of-service due to an excessive delay in acknowledgments.</p> <ul style="list-style-type: none"> <li>For MTP2 and IPVHSL class links, level 2 t7 expired level</li> <li>For SAAL class links, timer NO_RESPONSE expired for POLL/STAT response</li> <li>Not reported for IPVL and IPVLGW class links</li> </ul> | peg count |
| NDCFLXDC   | <p><b>Number of Signaling Link Failures - Excessive Duration of Congestion</b></p> <ul style="list-style-type: none"> <li>For MTP2 and IPVHSL class links, the number of times a signaling link was out-of-service because the Level 2 timer T6 (remote congestion) expired</li> <li>For SAAL class links, the number of times timer NO_CREDIT expired</li> <li>Not reported for IPVL and IPVLGW class links</li> </ul>                   | peg count |
| NDCFLXER   | <p><b>Number of Signaling Link Failures - Excessive Error Rate</b> - Number of times a signaling link was out-of-service because it reached the signal unit error rate monitor (<b>SUERM</b>) threshold. Reported for MTP2 and SAAL links only.</p>                                                                                                                                                                                       | peg count |
| NEARMGIH   | <p><b>Number of Near-End Management Inhibits</b> - Number of times a link was unavailable to MTP level 3 because it was locally inhibited. Not reported for IPVL and IPVLGW class links.</p>                                                                                                                                                                                                                                              | peg count |
| NEGACKS    | <p><b>Number of Negative Acknowledgments Received</b> - Number of times the BSN in an MSU was inverted, indicating a retransmission request. This register is NOT applicable to HSLs.</p>                                                                                                                                                                                                                                                 | peg count |
| NMLCLPRO   | <p><b>Number of Local Processor Outages</b> - The total number of local processor outages in this STP.</p>                                                                                                                                                                                                                                                                                                                                | peg count |

**Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                    | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NMDCLFLR   | <b>Number of Signaling Link Declared Failures All Types</b> - The cumulative total of all link failures.                                                                                                                                                                                                                                                                                                       | peg count |
| NMFEPRO    | <b>Number of Far-End Processor Outages</b> -<br>Number of far-end processor outages that have occurred. Reported for MTP2 links only                                                                                                                                                                                                                                                                           | peg count |
| OCTRETRN   | <b>Number of MSU octets retransmitted.</b> This register is NOT reported for SAAL class links.                                                                                                                                                                                                                                                                                                                 | peg count |
| PCRN1N2EXC | <b>PCR N1 or N2 Count Exceeded</b> - The total number of forced retransmissions when preventive cyclic retransmission ( <b>PCR</b> ) is used as the error correction method on a link. This register is not applicable to HSLs.                                                                                                                                                                                | peg count |
| SDPDURTR   | <b>SSCOP SD PDUs Retransmitted</b> - The number of SSCOP sequenced Data PDUs that were retransmitted, based on an accumulated count of such retransmissions conveyed to LM. This measurement replaces the MTP level 2 negative acknowledgments.                                                                                                                                                                | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                                                                                                                                                                  | status    |
| SURCVERR   | <b>Number of Signal Units Received In Error</b> - Number of Signal Units Received In Error - The number of signal units received with checksum errors, indicating transmission errors.<br><ul style="list-style-type: none"> <li>For MTP2 class links, applies to FISUs, LSSUs, and MSUs.</li> <li>For SAAL class links, this register reflects the number of SSCOP PDUs received with any errors .</li> </ul> | peg count |
| TDCNGLV1   | <b>Total Duration of Level 1 Link Congestion</b> - The total time the link was in level 1 congestion.                                                                                                                                                                                                                                                                                                          | seconds   |

**Table 3-55 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                        | Unit    |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| TDCNGLV2   | <b>Total Duration of Level 2 Link Congestion</b> - The total time the link was in level 2 congestion.                                                                                                                                                                                                                                              | seconds |
| TDCNGLV3   | <b>Total Duration of Level 3 Link Congestion</b> - The total time the link was in level 3 congestion.                                                                                                                                                                                                                                              | seconds |
| TLNKACTV   | <b>Link active time</b> - total time the link is active and transmitting MSUs. <ul style="list-style-type: none"> <li>For SAAL class links, the time the link is active and giving MSUs to SAAL for transmission.</li> <li>For IP7 links, TLNKACTV is based on 10MB Ethernet link speed. Hence the report will be relative to 10MB/sec.</li> </ul> | seconds |

**UI Reports**

- rept-meas:type=mtcd:enttype=link:loc=xxxx:link=x

```
tekelecstp 12-02-12 00:07:37 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11 00:00:00 THRU 23:59:59
```

```
LINK-MTCD MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-UNCH)
```

```
MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN = 0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD = 0,
TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3 = 0,
ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3 = 0,
MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2 = 0,
MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL = 0,
ACHGOVRS = 0, NEARMGIH = 0, FARMGINH = 0,
NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR = 0,
NEGACKS = 0, DRLKINHB = 0, NDCFLABN = 0,
NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC = 0,
```

```

 NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO
= 0,
 DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK
= 0,
 PCRN1N2EXC = 0

```

;

```

tekelecstp 12-02-12 00:07:40 EST EAGLE5 44.0.0
LINK-MTCD MEASUREMENTS: LOC: 1103, LINK: A , LSN:

```

```

ipsg (IPVL)

 MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN
= 0,
 MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2
= 0,
 TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
 ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
= 0,
 MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
 LNKAVAIL = 0, ACHGOVRS = 0, NMDCLFLR
= 0,
 DRDCLFLR = 0, NMLCLPRO = 0, DRLCLPRO
= 0,
 LMSUTRN = 0, LMSURCV = 0, LMSUOCTTRN
= 0,
 LMSUOCTRCV = 0, LMSUTRNDSC = 0, LMSURCVDSC
= 0

```

;

```

tekelecstp 12-02-12 00:07:42 EST EAGLE5 44.0.0
LINK-MTCD MEASUREMENTS: LOC: 1104, LINK: A , LSN:

```

```

mtp2 (MTP2)

 MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN
= 0,
 OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD
= 0,
 TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3
= 0,
 ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3
= 0,
 MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2
= 0,
 MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL
= 0,
 ACHGOVRS = 0, NEARMGIH = 0, FARMGINH
= 0,
 NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR
= 0,
 NEGACKS = 0, DRLKINHB = 0, NDCFLABN
= 0,

```

```

NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC =
0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =
0,
DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK =
0,
PCRN1N2EXC = 0
;

```

```

tekelecstp 12-02-12 00:07:44 EST EAGLE5 44.0.0
LINK-MTCD MEASUREMENTS: LOC: 1105, LINK: A , LSN: ssedcm1
(IPVHSL)

```

```

MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2 =
0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2 =
0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1 =
0,
MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV =
0,
LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH =
0,
FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR =
0,
DRLKINHB = 0, NDCFLXDA = 0, NDCFLXDC =
0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =
0,
DRLCLPRO = 0, DRBSYLNK = 0, LMSUTRN =
0,
LMSURCV = 0, LMSUOCTTRN = 0, LMSUOCTRCV =
0,
LMSUTRNDSC = 0, LMSURCVDSC = 0, M2PUDMTR =
0,
M2PUDOCT = 0, M2PUDMRC = 0, M2PUDOCR =
0,
M2PLKNIS = 1281, ECLNKCB = 0, ECLNKXCO = 0
;

```

```

tekelecstp 12-02-12 00:07:46 EST EAGLE5 44.0.0
LINK-MTCD MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal
(SAAL)

```

```

MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2 =
0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2 =
0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1 =

```

```

0,
MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH
= 0,
FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR
= 0,
SURCVERR = 0, DRLKINHB = 0, NDCFLXDA
= 0,
NDCFLXER = 0, NDCFLXDC = 0, NMLCLPRO
= 0,
DRLCLPRO = 0, SDPDURTR = 0

;

```

- `rept-meas:type=mtcd:enttype=link:lsn=yyyy`

```

tekelecstp 12-02-12 00:10:12 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11, 00:00:00 THROUGH 23:59:59

LINK-MTCD MEASUREMENTS FOR LINKSET mtp2:

LINK-MTCD MEASUREMENTS: LOC: 1104, LINK: A , LSN:
mtp2 (MTP2)

These measurements are from 12-02-11, 00:00:00 through 23:59:59.
MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN
= 0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD
= 0,
TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3
= 0,
ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3
= 0,
MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2
= 0,
MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL
= 0,
ACHGOVRS = 0, NEARMGIH = 0, FARMGINH
= 0,
NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR
= 0,
NEGACKS = 0, DRLKINHB = 0, NDCFLABN
= 0,
NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC
= 0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO
= 0,
DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK
= 0,
PCRN1N2EXC = 0

;

```

tekelecstp 12-02-12 00:11:21 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-02-11, 00:00:00 THROUGH 23:59:59

LINK-MTCD MEASUREMENTS FOR LINKSET ipsg:

LINK-MTCD MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg  
(IPVL)

These measurements are from 12-02-11, 00:00:00 through 23:59:59.

MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN =  
0,  
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD =  
0,  
TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3 =  
0,  
ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3 =  
0,  
MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2 =  
0,  
MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL =  
0,  
ACHGOVRS = 0, NEARMGIH = 0, FARMGINH =  
0,  
NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR =  
0,  
NEGACKS = 0, DRLKINHB = 0, NDCFLABN =  
0,  
NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC =  
0,  
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =  
0,  
DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK =  
0,  
PCRN1N2EXC = 0

;

tekelecstp 12-03-21 00:22:24 EST EAGLE5 44.0.0  
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK  
REPORT PERIOD: LAST  
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

LINK-MTCD MEASUREMENTS FOR LINKSET saal:

LINK-MTCD MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal  
(SAAL)

These measurements are from 12-03-20, 00:00:00 through 23:59:59.

MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =  
0,

```

MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2
= 0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
= 0,
MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH
= 0,
FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR
= 0,
SURCVERR = 0, DRLKINHB = 0, NDCFLXDA
= 0,
NDCFLXER = 0, NDCFLXDC = 0, NMLCLPRO
= 0,
DRLCLPRO = 0, SDPDURTR = 0

;

```

```

tekelecstp 12-03-21 00:24:34 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

```

LINK-MTCD MEASUREMENTS FOR LINKSET ssedcm1:

```

LINK-MTCD MEASUREMENTS: LOC: 1105, LINK: A , LSN:
ssedcm1 (IPVHSL)

```

These measurements are from 12-03-20, 00:00:00 through 23:59:59.

```

MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN
= 0,
MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2
= 0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
= 0,
MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH
= 0,
FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR
= 0,
DRLKINHB = 0, NDCFLXDA = 0, NDCFLXDC
= 0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO
= 0,
DRLCLPRO = 0, DRBSYLNK = 0, LMSUTRN
= 0,
LMSURCV = 0, LMSUOCTTRN = 0, LMSUOCTRCV
= 0,
LMSUTRNDSC = 0, LMSURCVDSC = 0, M2PUDMTR

```



```
= 0,
M2PUDOCT = 0, M2PUDMRC = 0, M2PUDOCR =
0,
M2PLKNIS = 4223, ECLNKCB = 0, ECLNKXCO = 0
;

```

```
tekelecstp 12-03-21 00:27:06 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-03-20, 00:00:00 THROUGH 23:59:59

```

LINK-MTCD MEASUREMENTS FOR LINKSET hcmimt1:

LINK-MTCD MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-UNCH)

These measurements are from 12-03-20, 00:00:00 through 23:59:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN =
0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD =
0,
TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3 =
0,
ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3 =
0,
MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2 =
0,
MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL =
0,
ACHGOVRS = 0, NEARMGIH = 0, FARMGINH =
0,
NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR =
0,
NEGACKS = 0, DRLKINHB = 0, NDCFLABN =
0,
NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC =
0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =
0,
DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK =
0,
PCRN1N2EXC = 0
;

```

### FTP Reports

FTP Example Output File Name: *mtcd-link\_20101004\_2400.csv*



# LNKSET MTCD Report

## Command Examples

- FTP example command:

```
rept-ftp-meas:type=mtcd:enttype=lnkset
```

## Measurement Events

**Table 3-57 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) Linkset Measurements**

| Event Name | Description                                                                                                                                                                                                                                                       | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SCCPLOOP   | The total number of times that a <b>GTT translation matched a Point Code in the STP's loopset</b> entries resulting in either a notify or discard of an SCCP message.                                                                                             | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                     | status    |
| ZTTMAPI    | <b>Translation Type Mapping Translation Performed - MSUs</b><br>Received on the Gateway Linkset - The total number of <b>Translation Type</b> Mapping translations performed for incoming Message Signal Units ( <b>MSUs</b> ) received on the specified linkset. | peg count |
| ZTTMAPO    | <b>Translation Type Mapping Translation Performed - MSUs</b><br>Transmitted on the Gateway Linkset - The total number of translations performed on outgoing Message Signal Units ( <b>MSUs</b> ) for the specified linkset.                                       | peg count |

## UI Reports

```
rept-meas:type=mtcd:enttype=lnkset:lsn=xxxx
```

```
tekelecstp 12-02-12 00:07:51 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11 00:00:00 THRU 23:59:59
```

```
LNKSET-MTCD MEASUREMENTS: mtp2 (MTP2)
```

```
ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP = 0
```

```

;

tekelecstp 12-02-12 00:07:52 EST EAGLE5 44.0.0
LNKSET-MTCD MEASUREMENTS: ipsg (IPVL)

ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP
= 0

;

tekelecstp 12-02-12 00:07:53 EST EAGLE5 44.0.0
LNKSET-MTCD MEASUREMENTS: ssedcm1 (IPVHSL)

ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP
= 0

;

tekelecstp 12-02-12 00:07:54 EST EAGLE5 44.0.0
LNKSET-MTCD MEASUREMENTS: saal (SAAL)

ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP
= 0

;

tekelecstp 12-02-12 00:07:55 EST EAGLE5 44.0.0
LNKSET-MTCD MEASUREMENTS: hcmimt1 (MTP2-UNCH)

ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP
= 0

;

```

## FTP Reports

FTP Example Output File Name: *mtcd-lnkset\_20101004\_2400.csv*

FTP Example Output File Format:

```

"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IV
ALSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-12","00:28:19","EST
","DAILY MAINTENANCE
MEASUREMENTS ON
LNKSET","LAST","2012-02-11","00:00:00","24:00:00",5<cr><lf>

"STATUS","LSN","LNKTYPE","ZTTMAPO","ZTTMAPI","SCCPLOOP"<cr><lf>
"K","mtp2","MTP2",0,0,0<cr><lf>
"K","ipsg","IPVL",0,0,0<cr><lf>
"K","ssedcm1","IPVHSL",0,0,0<cr><lf>
"K","saal","SAAL",0,0,0<cr><lf>
"K","hcmimt1","MTP2-UNCH",0,0,0<cr><lf>

```

Assuming each data line will be:

4 char status + 13 char LSN + 12 char LNKTYPE + 3\*(6 char data) + 2 = 49 chars

**Table 3-58 Typical File Size: mtcd-lnkset.csv**

|                      |   |                      |   |                    |   |                  |
|----------------------|---|----------------------|---|--------------------|---|------------------|
| <b>System header</b> | + | <b>Report header</b> | + | <b>Report data</b> | = | <b>File Size</b> |
| 250                  | + | 58                   | + | 24,500             | = | 24,808 bytes     |

## LNP MTCD Report

The enttype=lnp entity generates four separate reports per period. The command example will generate the following daily reports:

- Daily **LNP** System Wide Measurements
- Daily **LNP** Measurements Per **SSP**
- Daily **LNP** Measurements Per **LRN**
- Daily **LNP** Measurements Per **NPA**



**Note:**

The E5-OAM Integrated Measurements feature deprecates the use of the FTA for measurements, so "lnp" is not a valid argument for the rept-meas command "enttype" parameter when the feature is turned on.

LNP reports are supported only by the FTP reporting capability.

For LNP\_SYS and LNP\_SSP reports, reports status relies on all SCCP cards regardless of the database type (i.e., RTDB/EPAP or RIDB/ELAP) in the system.

For LRN and LNP\_NPA\_NXX reports, ELAP SM cards are considered, which is the total number of SCCP cards that are IS-NR connected to an ELAP database.

If any of the above cards are ISOLATED/OOS during a measurement interval, the respective report is marked **I**. The report is marked **K** only when all the cards under consideration are IS\_NR throughout the measurement interval.

Example Command: `rept-ftp-meas:type=mtcd:enttype=lnp[:day=xxx:period=specific]`

**Table 3-59 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP System Wide Measurements**

| Event Name | Description                                                                    | Unit      |
|------------|--------------------------------------------------------------------------------|-----------|
| LNPQRCV    | <i>Trigger Based</i><br>The total number of queries received by <b>LNPQS</b> . | peg count |

**Table 3-59 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP System Wide Measurements**

| Event Name      | Description                                                                                                                                                                                  | Unit           |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                 | <i>Triggerless</i><br>Number of encapsulated <b>IAM</b> messages received by <b>LNPQS</b>                                                                                                    | peg count      |
| <b>LNPQDSC</b>  | <i>Trigger Based</i><br>The number of invalid queries that are discarded because no reply can be generated.                                                                                  | peg count      |
|                 | <i>Triggerless</i><br>All invalid <b>IAM</b> messages are routed without <b>LNP</b> ; <b>LNPQTCPE</b> is pegged.                                                                             | not applicable |
| <b>LNPQTCPE</b> | <i>Trigger Based</i><br>The number of error replies with <b>TCAP</b> error codes.                                                                                                            | peg count      |
|                 | <i>Triggerless</i><br>The number of invalid encapsulated <b>IAM</b> messages received by <b>LNPQS</b> . Note that these messages are routed to their destinations with no <b>LNP</b> lookup. | peg count      |
| <b>LNPSREP</b>  | <i>Trigger Based</i><br>The number of successful replies.                                                                                                                                    | peg count      |
|                 | <i>Triggerless</i><br>The number of successful <b>IAM</b> messages.                                                                                                                          | peg count      |
| <b>LNPQUNPA</b> | <i>Trigger Based</i><br>The number of correct queries received for non-ported <b>DN</b> when <b>NPA-NXX</b> is not provisioned.                                                              | peg count      |
|                 | <i>Triggerless</i><br>The number of correct encapsulated <b>IAM</b> messages received for a non-ported <b>DN</b> , when the <b>NPA-NXX</b> is not provisioned.                               | peg count      |
| <b>STATUS</b>   | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                | status         |

Table 3-60 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements

| Event Name  | Description                                                                                                       | Unit      |
|-------------|-------------------------------------------------------------------------------------------------------------------|-----------|
| SSPQRCV     | Trigger Based<br>Number of correct queries received per originating <b>SSP</b> .                                  | peg count |
|             | Triggerless<br>The number of correct encapsulated <b>IAM</b> messages received by <b>LNPQS</b> per <b>OPC</b> .   | peg count |
| CLASSGTRQ   | Number of valid <b>CLASS GTT</b> received per originating <b>SSP</b> .                                            | peg count |
| LIDBGTRQ    | Number of valid <b>LIDB GTT</b> received per originating <b>SSP</b> .                                             | peg count |
| SSPQRCVP    | Number of correct queries received for ported <b>TNs</b> , per originating <b>SSP</b> .                           | peg count |
| SSPQRCVNP   | Number of correct queries received for non-ported <b>TNs</b> , per originating <b>SSP</b> .                       | peg count |
| CLASSGTRQP  | Number of <b>CLASS Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .     | peg count |
| CLASSGTRQNP | Number of <b>CLASS Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> . | peg count |
| LIDBGTRQP   | Number of <b>LIDB Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .      | peg count |
| LIDBGTRQNP  | Number of <b>LIDB Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> .  | peg count |
| CNAMGTRQP   | Number of <b>CNAM Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .      | peg count |
| CNAMGTRQNP  | Number of <b>CNAM Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> .  | peg count |
| ISVMGTRQP   | Number of <b>ISVM Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .      | peg count |
| ISVMGTRQNP  | Number of <b>ISVM Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> .  | peg count |
| WSMSCGTRQP  | Number of <b>WSMSC Global Title Translations</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .    | peg count |

**Table 3-60 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements**

| Event Name         | Description                                                                                                                                   | Unit      |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>WSMSCGTRQNP</b> | Number of <b>WSMSC</b> Global Title Translations received for non-ported <b>TNs</b> , per originating <b>SSP</b>                              | peg count |
| STATUS             | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| PC TYPE            | The TYPE of the point code. Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                                    | text      |

The following equations apply:

$$\text{SSPQRCV} = \text{SSPQRCVP} + \text{SSPQRCVNP}$$

$$\text{CLASSGTRQ} = \text{CLASSGTRQP} + \text{CLASSGTRQNP}$$

$$\text{LIDBGTRQ} = \text{LIDBGTRQP} + \text{LIDBGTRQNP}$$

**Table 3-61 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP LRN Measurements**

| Event Name     | Description                                                                                                                                   | Unit      |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>LRNQRCV</b> | <i>Trigger Based</i><br>The number of correct queries received per <b>LRN</b> .                                                               | peg count |
|                | <i>Triggerless</i><br>The number of correct encapsulated <b>IAM</b> messages received per <b>LRN</b> .                                        | peg count |
| STATUS         | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |

**Table 3-62 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP NPA Measurements**

| Event Name     | Description                                                                         | Unit      |
|----------------|-------------------------------------------------------------------------------------|-----------|
| <b>NPAQRCV</b> | The number of correct queries received per <b>NPANXX</b> for non-ported <b>DN</b> . | peg count |



**Table 3-62 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP NPA Measurements**

| Event Name | Description                                                                                                                  | Unit   |
|------------|------------------------------------------------------------------------------------------------------------------------------|--------|
| STATUS     | Indication of Data Validity:<br><br>K indicates good data<br>I indicates incomplete interval<br>N indicates data not current | status |

## FTP Reports

### Daily LNP System Wide Measurements

FTP Example Output File Name: `mtcd-lnp_19990116_2400.csv`

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"DAILY MAINTENANCE MEASUREMENTS ON LNP SYSTEM", "LAST",
"1999-01-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "LNPQRCV", "LNPQDSC", "LNPQTCPE", "LNPSREP", "LNPQUNPA"<cr><lf>
"K", 429496729, 429496729, 429496729, 429496729, 429496729<cr><lf>
```

Typical file size is:

**Table 3-63 Typical File Size: `mtcd-lnp.csv`**

| System header |   | Report header |   | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 63            | + | 34          | = | 347 bytes |

## Daily LNP Measurements Per SSP

FTP Example Output File Name: `mtcd-ssp_19990116_2400.csv`

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"DAILY MAINTENANCE MEASUREMENTS ON LNP
SSP", "LAST", "1999-01-16", "00:00:00", "24:00:00", 200<cr><lf>
<cr><lf>
"STATUS", "SSP", "PC_TYPE", "SSPQRCV", "CLASSGTRQ", "LIDBGTRQ", "SSPQRCVP", "SSPQRCV
NP", "CLASSGTRQP",
```

```
"CLASSGTRQNP", "LIDBGTRQP", "LIDBGTRQNP", "CNAMGTRQP", "CNAMGTRQNP", "ISVMGT
RQP",
"ISVMGTRQNP", "WSMSCGTRQP", "WSMSCGTRQNP"<cr><lf>
"K", "002-002-100", "ANSI", 123456789, 456789, 99999, 123456789, 456789, 99999,
123456789, 456789,
99999, 123456789, 456789, 99999, 123456789, 456789, 99999<cr><lf>
.
"K", "002-005-123", "ANSI", 123456789, 456789, 99999, 123456789, 456789, 99999,
123456789, 456789,
99999, 123456789, 456789, 99999, 123456789, 456789, 99999<cr><lf>
```

Assuming each data line will be:

4 char status + 14 char **SSP** + 10 char PC type+ 15\*(6 char data) + 2 = 120 chars

For a report of 200 SSPs, the typical file size is:

**Table 3-64 Typical File Size: mtcd-ssp.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 160           | + | 24000       | = | 24410 bytes |

## Daily LNP Measurements Per LRN

**FTP Example Output File Name:** *mtcd-lrn\_19990116\_2400.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"DAILY MAINTENANCE MEASUREMENTS ON LNP
LRN", "LAST", "1999-01-16", "00:00:00", "24:00:00", 600<cr><lf>
<cr><lf>
"STATUS", "LRN", "LRNQRCV"<cr><lf>
"K", 9194560000, 123456789<cr><lf>
"K", 4087550001, 23456789<cr><lf>
"K", 5155550000, 456789<cr><lf>
.
"K", 3022330001, 345<cr><lf>
"K", 7032110002, 99999<cr><lf>
"K", 8123048059, 4294967295<cr><lf>
```

Assuming each data line will be:

4 char status + 11 char **LRN** + 6 char data + 2 = 23 chars

For a report of 600 LRNs, the typical file size is:

**Table 3-65 Typical File Size: mtcd-lrn.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 27            | + | 13800       | = | 14077 bytes |

## Daily LNP Measurements Per NPA

**FTP Example Output File Name:** *mtcd-mpa\_19990116\_2400.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"DAILY MAINTENANCE MEASUREMENTS ON LNP NPANXX", "LAST",
"1999-01-16", "00:00:00", "24:00:00", 600<cr><lf>
<cr><lf>
"STATUS", "NPANXX", "NPAQRCV"<cr><lf>
"K", 919456, 123456789<cr><lf>
"K", 408755, 23456789<cr><lf>
"K", 515555, 456789<cr><lf>
.
"K", 302233, 345<cr><lf>
"K", 703211, 99999<cr><lf>
"K", 812304, 4294967295<cr><lf>
```

Assuming each data line will be:

4 char status + 7 char **NPANXX** + 6 char data + 2 = 19 chars

For a report of 600 **LRNs**, the typical file size is:

**Table 3-66 Typical File Size: mtcd-mpa.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 30            | + | 11400       | = | 11680 bytes |

## NP MTCD Report

The daily Number Portability measurements specify the entity type NP (*enttype=np*) which generates two separate reports per period. These reports for basic OAM measurements are generated to CSV files in the FTA. The command example will generate the following daily reports:

- Daily System Wide Measurements
- Daily Measurements Per **SSP**

NP\_SSP and NP\_SYS reports consider system-wide SCCP cards regardless of the database type (i.e., RTDB/EPAP or RIDB/ELAP) in the system.

If any of the above cards are ISOLATED/OOS during a measurement interval, the respective report is marked **I**. The report is marked **K** only when all the cards under consideration are IS\_NR throughout the measurement interval.

### Command Examples

- UI

```
rept-meas:type=mtcd:enttype=np:period=specific:day=xxx
```

- FTP

```
rept-ftp-
meas:type=mtcd:enttype=np[:period=specific:day=xxx]
```

### Measurement Events

- System Wide Measurements

indicates system registers that may be pegged. Register counts for features not turned on will always be zero.

**Table 3-67 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                                                                                | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| APSMRQERR  | Number of SMSREQ messages resulting in error.                                                                                                                                                              | peg count |
| APSMRQREP  | Number of SMSREQ messages resulting in SMSREQ_ACK or SMSREQ_NACK.                                                                                                                                          | peg count |
| APSMSRCV   | Number of <b>SMS</b> Request messages received.                                                                                                                                                            | peg count |
| APSMSREL   | Number of <b>SMS</b> Request messages relayed.                                                                                                                                                             | peg count |
| GPNOCL     | Number of non-call related messages relayed by G-Port.                                                                                                                                                     | Peg Count |
| GPNOCLGT   | Number of non-call related messages that fell through to GTT.                                                                                                                                              | Peg Count |
| GPSRERR    | Number of call related messages that cause an error response message(SRI-Send Routing Information NEGATIVE ACK) because of G-Port service failure. This does not include peg counts to register GPSRERRPP. | Peg Count |

**Table 3-67 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                                                                                                    | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GPSRREPPP  | Number of call related (SRI-Send Routing Information) messages that received G-Port service specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRREP.                      | Peg Count |
| GPSRGTT    | Number of call related (SRI-Send Routing Information) messages that fell through to GTT. This does not include peg counts to register GPSRGTTTPP.                                                                              | Peg Count |
| GPSRGTTTPP | Number of call related (SRI-Send Routing Information) messages that fell through to GTT specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRGTT.                          | Peg Count |
| GPSRRCV    | Number of call related (SRI-Send Routing Information) messages received. This does not include peg counts to register GPSRRCVPP.                                                                                               | Peg Count |
| GPSRRCVPP  | Number of call related (SRI-Send Routing Information) messages received specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRRCV.                                          | Peg Count |
| GPSRREP    | Number of call related (SRI-Send Routing Information) messages that received G-Port service. This does not include peg counts to register GPSRREPPP.                                                                           | Peg Count |
| GPSRERRPP  | Number of call related messages that cause an error response message (SRI-Send Routing Information NEGATIVE ACK) specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRERR. | Peg Count |

**Table 3-67 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                                                                                                          | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GPSRSMERR  | Number of SRI_SM messages resulting in error.                                                                                                                                                                                        | peg count |
| GPSRSMRCV  | Number of SRI_SM messages received.                                                                                                                                                                                                  | peg count |
| GPSRSMREP  | Number of SRI_SM messages resulting in SRI_SM_ACK or SRI_SM_NACK.                                                                                                                                                                    | peg count |
| INPQDSC    | Number of invalid queries that are discarded as no reply can be generated.                                                                                                                                                           | peg count |
| INPQRCV    | Number of total queries received by INPQS.                                                                                                                                                                                           | peg count |
| INPQSCRD   | Number of queries received by INPQS that meet the condition for circular route detection.                                                                                                                                            | peg count |
| INPQTCPE   | Number of error replies with TCAP error code.                                                                                                                                                                                        | peg count |
| INPSREP    | Number of successful replies to INP non-queried queries. These replies will be either INP Connect, INP Continue, or INP ReleaseCall (every time an INAP RELEASECALL response is generated due to circular route detection by INPQS). | peg count |
| IS41LRERR  | Number of <b>IS-41</b> location request - error response messages sent.                                                                                                                                                              | peg count |
| IS41LRMRCV | Number of <b>IS-41</b> location request messages received                                                                                                                                                                            | peg count |
| IS41LRRTRN | Number of <b>IS-41</b> location request - return result messages sent                                                                                                                                                                | peg count |
| MNPCRCD    | Number of times Circular Route is Detected                                                                                                                                                                                           | peg count |
| SMSMOGERR  | Number of MO_SMS messages received that result in an error                                                                                                                                                                           | peg count |
| SMSMOGRCV  | Number of MO_SMS messages received that result in a modification of the outgoing MO_SMS                                                                                                                                              | peg count |
| SMSMOIERR  | Number of SMDPP messages received that result in an error                                                                                                                                                                            | peg count |

**Table 3-67 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                              | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SMSMOIRCV  | Number of SMDPP messages received that result in a modification of the outgoing SMDPP.                                                                   | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current            | status    |
| TIFFPFXRLS | Total number of MSUs processed by TIF and blocklisted by the FPFXRLS Service Action                                                                      | peg count |
| TIFNFNDRLS | Total number of MSUs processed by TIF and blocklisted by the BLNFNDRLS Service Action                                                                    | peg count |
| TIFNOCGRLS | Total number of MSUs processed by TIF and blocklisted by the NOCGPNRLS Service Action                                                                    | peg count |
| TIFRLS     | Total number of MSUs processed by TIF and blocklisted by the BLRLS Service Action                                                                        | peg count |
| TIFSSCRRLS | Number of MSUs processed by TIF and found to be blocklisted by SELSCR Service Action                                                                     | peg count |
| TIFSSCRRLY | Number of MSUs processed by TIF and relayed by SELSCR Service Action                                                                                     | peg count |
| TINPERR    | Number of IAM messages received that required TIFTINP processing but resulted in execution of an error case.                                             | peg count |
| TINPMGEN   | Number of IAM messages received that required TIFTINP processing and resulted in the modification of the IAM message or the generation of a REL message. | peg count |
| TINPMRCV   | Number of IAM messages received that require TIFTINP processing.                                                                                         | peg count |

The following equations apply:

$$\text{INPQRCV} = \text{INPQDSC} + \text{INPQTCPE} + \text{INPSREP}$$

$$\text{GPSRRCV} = \text{GPSRGTT} + \text{GPSRREP} + \text{GPSRERR}$$

$$\text{GPSRRCVPP} = \text{GPSRGTTTPP} + \text{GPSRREPPP} + \text{GPSRERRPP}$$

$$\text{GPSRSMRCV} = \text{GPSRSMRLY} + \text{GPSRSMREP} + \text{GPSRSMERR}$$

- Per SSP Measurements

These measurements are available on a per SSP PC basis where SSP PC is the CGPA PC, if it exists, or it is the MTP OPC.

**Table 3-68 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers**

| Event Name      | Description                                                                                                                                                                             | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>APLRACK</b>  | Number of call related <b>LOCREQ</b> messages acknowledged.                                                                                                                             | peg count |
| <b>APLRRLY</b>  | Number of call related <b>LOCREQ</b> messages relayed.                                                                                                                                  | peg count |
| <b>APNOCL</b>   | Number of non-call non- <b>LOCREQ</b> related messages relayed.                                                                                                                         | peg count |
| <b>APNOCLGT</b> | Number of non-call non- <b>LOCREQ</b> related messages that fell through to <b>GTT</b> .                                                                                                | peg count |
| APSMRQERR       | Number of SMSREQ messages resulting in error.                                                                                                                                           | peg count |
| APSMRQREP       | Number of SMSREQ messages resulting in SMSREQ_ACK or SMSREQ_NACK                                                                                                                        | peg count |
| APSMSRCV        | Number of SMSREQ messages received                                                                                                                                                      | peg count |
| <b>GPNOCL</b>   | Number of non-call related messages relayed by <b>G-Port</b> .                                                                                                                          | peg count |
| <b>GPNOCLGT</b> | Number of non-call related messages that fell through to <b>GTT</b> .                                                                                                                   | peg count |
| GPSRACK         | Number of call related (SRI-Send Routing Information ACK) responses. This does not include peg counts to register GPSRACKPP.                                                            | peg count |
| GPSRACKPP       | Number of call related (SRI-Send Routing Information ACK) responses specifically for feature 61544: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRACK. | peg count |



Table 3-68 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers

| Event Name       | Description                                                                                                                                                                                            | Unit      |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GPSRNACK         | Number of call related SRI Negative ACK responses in case of successful G-Port service.                                                                                                                | peg count |
| <b>GPSRRLY</b>   | Number of call related ( <b>SRI</b> -Send Routing Information) messages relayed.                                                                                                                       | peg count |
| GPSRSMERR        | Number of SRI_SM messages resulting in error.                                                                                                                                                          | peg count |
| GPSRSMRCV        | Number of SRI_SM messages received.                                                                                                                                                                    | peg count |
| GPSRSMREP        | Number of SRI_SM messages resulting in SRI_SM_ACK or SRI_SM_NACK                                                                                                                                       | peg count |
| <b>INPMRCRD</b>  | Number of messages sent to MR service that fall through to GTT due to circular route detection.                                                                                                        | peg count |
| <b>INPMRGTT</b>  | Number of messages sent to <b>MR</b> service that fall through to GTT. This includes the number of messages sent to <b>MR</b> service that fall through to <b>GTT</b> due to circular route detection. | peg count |
| <b>INPMRTR</b>   | Number of messages sent to MR service that receive MR translation.                                                                                                                                     | peg count |
| <b>INPQSCONN</b> | Number of non-errored <b>QS</b> messages with <b>QS</b> Connect responses, per originating <b>SSP</b> .                                                                                                | peg count |
| <b>INPQSCONT</b> | Number of non-errored <b>QS</b> messages with <b>QS</b> Continue responses, per originating <b>SSP</b> .                                                                                               | peg count |
| <b>INPQSCRD</b>  | Number of messages sent to INP QS that meet the condition for circular route detection.                                                                                                                | peg count |
| <b>INPQSREL</b>  | Number of messages sent to INP QS that result in successful generation of <b>INAP RELEASECALL</b> response due to circular route detection by <b>INPQS</b> .                                           | peg count |
| MNPCRDR          | Number of times Circular Route is Detected.                                                                                                                                                            | peg count |

**Table 3-68 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers**

| Event Name | Description                                                                                                                                   | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PC Type    | TYPE of the point code. Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                                        | text      |
| SMSMOGERR  | Number of MO_SMS messages received that result in an error                                                                                    | peg count |
| SMSMOGRCV  | Number of MO_SMS messages received that result in a modification of the outgoing MO_SMS                                                       | peg count |
| SMSMOIERR  | Number of SMDPP messages received that result in an error                                                                                     | peg count |
| SMSMOIRCV  | Number of SMDPP messages received that result in a modification of the outgoing SMDPP                                                         | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| TIFRANGEBL | Total number of MSUs processed by TIF and blocklisted by the FPFXRLS or NOCGPNRLS Service Action                                              | peg count |
| TIFSBSCRBL | Total number of MSUs processed by TIF and found to be blocklisted by BLRLS or BLNFNDRLS Service Actions                                       | peg count |
| TIFSELSCR  | Number of IAM messages processed by TIF which resulted in either an ISUP message generation or the MSU being relayed by SELSCR Service Action | peg count |
| TINPERR    | Number of IAM messages received that required TIFTINP processing but resulted in execution of an error case.                                  | peg count |

**Table 3-68 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers**

| Event Name | Description                                                                                                                                              | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| TINPMGEN   | Number of IAM messages received that required TIFTINP processing and resulted in the modification of the IAM message or the generation of a REL message. | peg count |
| TINPMRCV   | Number of IAM messages received that require TIFTINP processing.                                                                                         | peg count |

The following equation applies to NP registers:

$$\text{GPSRREP} = \sum \text{GPSRACK} + \sum \text{GPSRRLY} + \sum \text{GPSRNACK}$$

### UI Reports

- Daily System Wide Measurements

UI Example Output File Name:xxx\_*NP*.CSV

UI Example Output File Format:

```
"e1061001 10-08-18 00:06:56 EST EAGLE5 42.0.0-63.32.0 "
"TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON NP SYSTEM"
"REPORT PERIOD: LAST"
"REPORT INTERVAL: 10-08-17, 00:00:00 THROUGH 23:59:59 "

"INPQRCV", "INPQDSC", "INPQTCPE", "INPSREP", "GPSRRCV", "GPSRGTT", "GPSRREP", "GP
SRERR", "GPNACL",
"GPNACLGT", "IS41LRERR", "IS41LRMRCV", "IS41LRRTRN", "GPSRRCVPP", "GPSRGTTTPP", "
GPSRREPPP",
"GPSRERRPP", "APSMSRCV", "APSMSREL", "TINPMRCV", "TINPMGEN", "TINPERR", "SMSMOIR
CV", "SMSMOIERR",
"SMSMOGRCV", "SMSMOGERR", "GPSRSMREP", "GPSRSMERR", "GPSRSMRCV", "APSMRQREP", "A
PSMRQERR",
"INPQSCRD", "MNPCRD",
0,
```

- Daily Measurements Per SSP

UI Example output File Name:xxx\_*SSP*.CSV

UI Example Output File Format:

```
"e1061001 10-08-18 00:06:56 EST EAGLE5 42.0.0-63.32.0 "
"TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON NP SSP"
"REPORT PERIOD: LAST"
"REPORT INTERVAL: 10-08-17, 00:00:00 THROUGH 23:59:59 "
"Measurement data represents an incomplete interval."
"NUMBER OF ENTIDS: 1"

"SSP", "INPQSCONN", "INPQSCONT", "INPMRTR", "INPMRGTT", "GPSRACK", "GPSRRLY", "GP
```





**Table 3-71 Typical File Size: mtcd-ssp.csv**

| System header | + | Report header | + | Report data           | = | File Size                          |
|---------------|---|---------------|---|-----------------------|---|------------------------------------|
| 250           | + | 356           | + | (216 * #Point Codes ) | = | 606 + ( 216 * #Point Codes ) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-72 Typical File Size: mtcd-ssp.csv**

| System header | + | Report header | + | Report data  | = | File Size   |
|---------------|---|---------------|---|--------------|---|-------------|
| 250           | + | 356           | + | (216 * 200 ) | = | 43806 bytes |

## EIR MTCD Report

The **EIR** measurements specify the entity type **EIR**, and generate one daily report. The commands are specified with xxx as a three-letter abbreviation for a day of the week (**MON**, **TUE**, **WED**, **THU**, **FRI**, **SAT**, or **SUN**). The retention period for daily measurement records is seven days.

FTP Example Command:

```
rept-ftp-meas:type=mtcd:enttype=eir[:day=xxxx:period=specific]
```

[Table 3-73](#) lists the **EIR** events and their descriptions.

**Table 3-73 Daily Maintenance (MCTD) and Hourly Maintenance (MTCH) EIR Measurements**

| Event Name       | Description                                                                                                                           | Unit      |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>IMEIRCV</b>   | Total number of <b>MAP_CHECK_IMEI</b> messages received                                                                               | peg count |
| <b>WHITEIMEI</b> | Total number of searches that resulted in a match with a "allow listed" <b>IMEI</b>                                                   | peg count |
| <b>GRAYIMEI</b>  | Total number of searches that resulted in a match with a "gray listed" <b>IMEI</b>                                                    | peg count |
| <b>BLACKIMEI</b> | Total number of searches that resulted in a match with a "block listed" <b>IMEI</b>                                                   | peg count |
| <b>BLKALIMEI</b> | Total number of searches that resulted in a match with a "block listed" <b>IMEI</b> , but were allowed due to <b>IMSI</b> Check match | peg count |

**Table 3-73 (Cont.) Daily Maintenance (MCTD) and Hourly Maintenance (MTCH) EIR Measurements**

| Event Name        | Description                                                                                                                                                            | Unit      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>BLKNALIMEI</b> | Total number of searches that resulted in a match with a "block listed" <b>IMEI</b> , and the <b>IMSI</b> in the database did not match the <b>IMSI</b> in the message | peg count |
| <b>UNKNIMEI</b>   | Total number of searches that resulted in a match with an "unknown" <b>IMEI</b>                                                                                        | peg count |
| <b>NOMTCHIMEI</b> | Total number of searches that resulted in no match in the database.<br><b>NOMTCHIMEI</b> is pegged whenever an <b>IMEI</b> is not found in the database.               | peg count |
| <b>STATUS</b>     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                          | status    |

The following equation applies:

$$\mathbf{IMEIRCV = WHITEIMEI + GRAYIMEI + BLACKIMEI + UNKNIMEI + BLKALIMEI + BLKNALIMEI + ERRORS}$$

where ERRORS are not pegged in any measurement register and include check\_imei queries with response type REJECT, RETURN ERROR (IMEI status anything other than unknown and not matched)

**FTP Example Output File Name:** *mtcd-eir\_20030816\_2400.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-51.1.0", "2003-08-17", "15:51:37", "EST",
"DAILY MAINTENANCE MEASUREMENTS ON EIR SYSTEM", "LAST", "2003-08-16",
"00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"IMEIRCV", "WHITEIMEI", "GRAYIMEI", "BLACKIMEI", "BLKALIMEI", "BLKNALIMEI", "UNKNIM
EI", "NOMTCHIMEI"<cr><lf>
4294967295, 4294967295, 4294967295, 4294967295, 4294967295, 4294967295, 4294967295,
4294967295<cr><lf>
```

Typical file size is:

**Table 3-74 Typical File Size: mtcd-eir.csv**

| System header |   | Report header |   | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 256           | + | 95            | + | 89          | = | 440 bytes |

## MAPSCRN MTCD Report

The enttype=mapscrn entity generates two separate reports per period.

The reports for basic OAM measurements are generated as CSV files in the FTA. The command example generates the following daily measurement reports when the **GSM MAP** Screening feature is activated:

- Daily **MAP** Screening System Wide Measurements
- Daily **MAP** Screening Measurements Per Server

The command example generates the following daily measurement reports when the **GSM MAP/Enhanced GSM MAP** Screening feature is activated:

- Daily **MAP** Screening System Wide Measurements
- Daily **MAP** Screening Measurements Per Path

All the **FTP** reports are listed together.

### Example Commands:

- FTP: rept-ftp-meas:type=mtcd:enttype=mapscrn



### Note:

When **MTP MAP** Screening is enabled and on, the registers in [Table 3-75](#) and [Table 3-78](#) include the sum total of **MTP**-routed and **GTT**-routed messages for the particular event.

**Table 3-75 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening System Wide Measurements**

| Event Name       | Description                                                                                                                                                                                                           | Unit  |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>MSCRNPASS</b> | Total number of messages that count Passed <b>MAP</b> screening                                                                                                                                                       | count |
| <b>MSCRNRJNE</b> | Total number of messages that count got Rejected by <b>MAP</b> screening because an entry was not found in the <b>MAP</b> screening table (i.e., rejected as System wide <b>MAP</b> Opcode action is <b>DISCARD</b> ) | count |



**Table 3-75 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH)  
MAP Screening System Wide Measurements**

| Event Name       | Description                                                                                                                                                                                                                                          | Unit   |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>MSCRNRJFP</b> | Total number of messages that got Rejected by <b>MAP</b> screening due to forbidden parameters in the message.                                                                                                                                       | count  |
| <b>MSCRNPAFP</b> | Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as <b>PASS</b> .                                                                                                                   | count  |
| <b>MSCRNPANE</b> | Total number of messages, where an entry was not found in the <b>MAP</b> screening table but the Message was not rejected as screening action was marked as <b>PASS</b> (i.e., not rejected as System wide <b>MAP</b> Opcode action is <b>PASS</b> ) | count  |
| <b>MSCRNRJOP</b> | Total number of message that got rejected as Message <b>MAP</b> Opcode was not found in the <b>MAP</b> Opcode table (system wide action - <b>DISCARD</b> for the non matching <b>OPCODES</b> )                                                       | count  |
| <b>MSCRNDUP</b>  | Total number of messages that were selected by <b>MAP</b> Screening for the Duplicate screening action.                                                                                                                                              | count  |
| <b>MSCRNFOR</b>  | Total number of messages that were selected by <b>MAP</b> Screening for the Forward screening action.                                                                                                                                                | count  |
| <b>MSCRNDAD</b>  | Total number of messages that were selected by <b>MAP</b> Screening for the Duplicate and Discard screening action.                                                                                                                                  | count  |
| STATUS           | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                    | status |

Server Entity Identification information in [Table 3-76](#) is used to clarify the server. The Maintenance **MAP** Screening Per Server Measurements are applicable.

**Table 3-76 Server Entity Identification**

| Entity Name                                                            | Description                                                                                                                                                                                                  |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERVER</b>                                                          | The screened origination address of the calling party address ( <b>CGPA</b> ) assigned when the <b>GSM MAP</b> screen was entered.                                                                           |
| <b>NP</b>                                                              | The screened number plan value ( <b>NPV</b> ) assigned to the server address when the <b>GSM MAP</b> screen was entered. This field is filled with the default identifier * if no value was assigned.        |
| <b>NAI</b>                                                             | The screened nature of address value ( <b>NAIV</b> ) assigned to the server address when the <b>GSM MAP</b> screen was entered. This field is filled with the default identifier * if no value was assigned. |
| <b>OPCODE</b>                                                          | The operation code number assigned when the <b>GSM MAP</b> opcode was entered.                                                                                                                               |
| Measurements does not report entries created for a range of addresses. |                                                                                                                                                                                                              |

Server Path Entity Identification information in [Table 3-77](#) is used to clarify the path. The Maintenance **MAP** Screening Per Path Measurements are applicable.

**Table 3-77 Path Entity Identification**

| Entity Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PATH</b> | <p>The screened origination address of the calling party address (<b>CGPA-NP-NAI</b>), or a combination of screened destination address of the called party address (<b>CDPA-NP-NAI</b>) and the screened origination addresses assigned when the <b>GSM MAP</b> screen was entered.</p> <p>The possible fields within the path are delimited as follows to allow for efficient sorting:</p> <ul style="list-style-type: none"> <li>• When both the origination and destination addresses are present (as either single server entries or provisioned wildcard entries) the origination address is preceded by a caret (^) and the destination address is preceded by a "greater than" sign (&gt;):<br/> <code>^CGPA-NP-NAI&gt;CDPA-NP-NAI</code></li> <li>• When only the origination address is present (occurs when the <b>CDPA</b> is a default wildcard) it is preceded by a "less than" sign (&lt;):<br/> <code>&lt;CGPA-NP-NAI</code></li> </ul> |

Table 3-77 (Cont.) Path Entity Identification

| Entity Name   | Description                                                                                                                                                                                                                                                                                                                                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CGPA</b>   | The calling party global title address assigned when the <b>GSM MAP</b> screen was entered. Any or all of the three fields ( <b>GTA, NP, NAI</b> ) can be filled with the identifier (*) if a wildcard value is assigned for that field. There is no default wildcard value for the <b>CGPA</b> .                                               |
| <b>CDPA</b>   | The called party global title address assigned when the <b>GSM MAP</b> screen was entered. Any or all of the three fields ( <b>GTA, NP, NAI</b> ) can be filled with the identifier (*) if a wildcard value is assigned for that field. If the <b>CDPA</b> value is not assigned, the default wildcard value, which is not printed, is assumed. |
| <b>NP</b>     | The screened number plan value ( <b>NPV</b> ) assigned to the path address when the <b>GSM MAP</b> screen was entered. The identifier (*) is used to signify a wildcard <b>NP</b> .                                                                                                                                                             |
| <b>NAI</b>    | The screened nature of address value ( <b>NAIV</b> ) assigned to the path address when the <b>GSM MAP</b> screen was entered. The identifier (*) is used to signify a wildcard <b>NAI</b> .                                                                                                                                                     |
| <b>OPCODE</b> | The operation code number assigned when the <b>GSM MAP</b> opcode was entered. The identifier (*) is used to signify a wildcard opcode.                                                                                                                                                                                                         |

 **Note:**

Measurements does not report entries created for a range of addresses.

Measurements does not report default wildcard **CDPA** address in entries containing them.

There can never be a default wildcard **CGPA** entry. All wildcard **CGPA** entries must be explicitly provisioned. There can never be an entry with only a **CDPA** path listed.

The string formats were designed to allow efficient automated post processing of measurements reports. A brief note explaining the format is included in the report.

Table 3-78 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening Per Server Measurements

| Event Name       | Description                                               | Unit  |
|------------------|-----------------------------------------------------------|-------|
| <b>MSCRNPASS</b> | Total number of messages that Passed <b>MAP</b> screening | count |

**Table 3-78 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening Per Server Measurements**

| Event Name       | Description                                                                                                                                   | Unit   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>MSCRNRJFP</b> | Total number of messages that got Rejected by <b>MAP</b> screening due to forbidden parameters in the message.                                | count  |
| <b>MSCRNDUP</b>  | Total number of messages per server that were selected by <b>MAP</b> Screening for the Duplicate screening action.                            | count  |
| <b>MSCRNFOR</b>  | Total number of messages per server that were selected by <b>MAP</b> Screening for the Forward screening action.                              | count  |
| <b>MSCRNDAD</b>  | Total number of messages per server that were selected by <b>MAP</b> Screening for the Duplicate screening action.                            | count  |
| <b>MSCRNPAFP</b> | Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as <b>PASS</b> .            | count  |
| STATUS           | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status |

### FTA Reports

#### Daily MAP Screening System Wide Measurements

FTA Example Output File Name: *SAT\_MAP.csv*

FTA Example Output File Format:

```
"e1061001 10-08-22 00:01:03 EST EAGLE5 42.0.0-63.33.0 "
"TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON MAPSCRN SYSTEM"
"REPORT PERIOD: LAST"
"REPORT INTERVAL: 10-08-21, 00:00:00 THROUGH 23:59:59 "
"Measurement data represents an incomplete interval."

"MSCRNPASS", "MSCRNRJOP", "MSCRNRJNE", "MSCRNRJFP", "MSCRNPAFP", "MSCRNPANE"
, "MSCRNFOR", "MSCRNDUP", "MSCRNDAD",
0, 0, 0, 0, 0, 0, 0, 0, 0,
```

#### Daily MAP Screening Measurements Per Server

Example output File Name: *SAT\_SERV.csv*

**Example Output File Format:**

```
"e1061001 10-08-22 00:01:03 EST EAGLE5 42.0.0-63.33.0 "
"TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON MAPSCRN PER-SERVER"
"REPORT PERIOD: LAST"
"REPORT INTERVAL: 10-08-21, 00:00:00 THROUGH 23:59:59 "
"Measurement data represents an incomplete interval."
"NUMBER OF ENTIDS: 14"

"SERVER-NP-NAI-
OPCODE", "MSCRNPASS", "MSCRNRJFP", "MSCRNFOR", "MSCRNDUP", "MSCRNDAD", MSCRNPAFP
"123456789012345-*-*-0", 0, 0, 0, 0, 0, 0
"234567890123456-*-*-0", 0, 0, 0, 0, 0, 0
"345678901234567-*-*-0", 0, 0, 0, 0, 0, 0
"456789012345678-*-*-0", 0, 0, 0, 0, 0, 0
"567890123456789-*-*-0", 0, 0, 0, 0, 0, 0
"678901234567890-*-*-0", 0, 0, 0, 0, 0, 0
"789012345678901-*-*-0", 0, 0, 0, 0, 0, 0
"123456789012345-*-*-1", 0, 0, 0, 0, 0, 0
"234567890123456-*-*-1", 0, 0, 0, 0, 0, 0
"345678901234567-*-*-1", 0, 0, 0, 0, 0, 0
"456789012345678-*-*-1", 0, 0, 0, 0, 0, 0
"567890123456789-*-*-1", 0, 0, 0, 0, 0, 0
"678901234567890-*-*-1", 0, 0, 0, 0, 0, 0
"789012345678901-*-*-1", 0, 0, 0, 0, 0, 0
```

**FTP Reports**

**Daily MAP Screening System Wide Measurements**

FTP Example Output File Name: *mtcd-map\_19990116\_2400.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T",
"IVALEND", "NUMENTIDS"
"e1061001", "EAGLE5 42.0.0-63.33.0", "2010-08-21", "00:00:58", "EST ", "DAILY
MAINTENANCE MEASUREMENTS ON MAPSCRN
SYSTEM", "LAST", "2010-08-20", "00:00:00", "24:00:00", 1

"STATUS", "MSCRNPASS", "MSCRNRJOP", "MSCRNRJNE", "MSCRNRJFP", "MSCRNPAFP", "MSCRNPA
NE",
"MSCRNFOR", "MSCRNDUP", "MSCRNDAD"
"K", 0, 0, 0, 0, 0, 0, 0, 0, 0,
```

Typical file size is:

**Table 3-79 Typical File Size: mtcd-map.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 116           | + | 60          | = | 426 bytes |



**Table 3-81 Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                   | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ACTVESTB   | <b>SCTP Association Active Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the COOKIEECHOED state (COOKIE-ECHOED --> ESTABLISHED). In this case the upper layer (i.e., the local M2PA) was the initiator of the association establishment between the SCTP peers. | peg count |
| ASMAXRTO   | <b>SCTP Association Maximum Observed Retransmission Timeout</b> - The maximum observed value of the SCTP state variable Retransmission Timeout (RTO) in milliseconds (ms) for SCTP packets transmitted (but not retransmitted) to the remote peer endpoint's destination transport address during the measurement interval.                   | msec      |
| ASOCABTD   | <b>SCTP Aborted Associations</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from any state using the primitive "Abort" (AnyState --Abort--> CLOSED), conveying an ungraceful termination of the association.                                                                              | peg count |
| ASOCSHTD   | <b>SCTP Association Shutdowns</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state, conveying graceful termination of the association.                                                                                       | peg count |
| CNTLCHKR   | <b>SCTP Control Chunks Received</b> - The number of SCTP control chunks received from the remote peer (excluding duplicates).                                                                                                                                                                                                                 | peg count |

Table 3-81 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| CNTLCHKS   | <b>SCTP Control Chunks Sent</b> - The number of SCTP control chunks sent to the remote peer (excluding retransmissions) after an association has been formed. CNTLCHKR register excludes initial SCTP association set-up messages (INIT and COOKIE-ECHO).                                                                                                                                                                                                                                                                                                       | peg count |
| DATCHKRC   | Number of <b>SCTP DATA chunks received</b> from the remote SCTP peer (excluding duplicates and discards).                                                                                                                                                                                                                                                                                                                                                                                                                                                       | peg count |
| DATCHKSN   | Number of <b>SCTP DATA chunks sent</b> to the remote SCTP peer (excluding retransmissions).                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | peg count |
| DURASNEST  | Duration the association was not in the Established state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | peg count |
| ECASNEST   | Number of times the association transitioned out of the Established state.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | peg count |
| GAPACKSR   | <b>SCTP Gap Acknowledgements Received</b> - The number of Gap Acknowledgement blocks in Selective Acknowledgement (SACK) control chunks received from the remote SCTP peer, indicating gaps in the peer's received subsequences of DATA chunks as represented by their Transport Sequence Numbers (TSNs) (The inclusion of this measurement is intended to allow network personnel to assess the message-delivery performance of the IPVHSL relative to gap acknowledgment limits, if used as performance criteria for link proving and in-service monitoring). | peg count |
| ORDCHKRC   | <b>SCTP Ordered Data Chunks Received</b> - The number of SCTP ordered data chunks received from the remote peer (excluding duplicates).                                                                                                                                                                                                                                                                                                                                                                                                                         | peg count |
| ORDCHKSN   | <b>SCTP Ordered Data Chunks Sent</b> - The number of SCTP ordered data chunks sent to the remote peer (excluding retransmissions).                                                                                                                                                                                                                                                                                                                                                                                                                              | peg count |



**Table 3-81 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| PASVESTB   | <b>SCTP Association Passive Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the CLOSED state (CLOSED --> ESTABLISHED), indicating that the remote peers initiated association establishment.                                                                                                          | peg count |
| PEERFAIL   | <b>SCTP Association Peer Endpoint Failures</b> - The number of peer endpoint failure detection events for the association as triggered by the crossing of threshold Assoc. Max. Retrans.                                                                                                                                                                                          | peg count |
| RTXCHNKS   | <b>SCTP Association Retransmitted Chunks</b> - The number of SCTP data chunks retransmitted to the remote SCTP peer. When T3-rtx expires, the DATA chunks that triggered the T3 timer will be re-sent according with the retransmissions rules. Every DATA chunk that was included in the SCTP packet that triggered the T3-rtx timer must be added to the value of this counter. | peg count |
| SCOCTRCV   | <b>SCTP Packet Octets Received</b> - The number of octets comprising valid SCTP packets received from the remote peer after an association has been formed.                                                                                                                                                                                                                       | octets    |
| SCOCTSNT   | <b>SCTP Packet Octets Sent</b> - The total number of octets comprising SCTP packets submitted to the IP layer for transmittal to the remote peer for a specific association.                                                                                                                                                                                                      | octets    |

**Table 3-81 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SCPKTRCV   | <p><b>SCTP Packets Received</b> - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included.</p> <p>SCPKTRCV register excludes the pegging of SCTP Packets received when no instance exists on the card for any of the links, i.e., the association parameter "OPEN" has value "NO" for all the links configured on the card. Also, excludes pegging of set up messages (INIT and COOKIE-ECHO) that are part of association establishment procedure.</p> | peg count |
| SCPKTSNT   | <p><b>SCTP Packets Sent</b> - The total number of SCTP packets sent to the remote peer, i.e., submitted by the local SCTP instance to the IP layer for transmission. Retransmissions are included.</p> <p>SCPKTSNT register excludes initial SCTP association set-up messages (INIT-ACK and COOKIE-ACK) and ABORT messages. For M2PA association INIT packet is never pegged.</p>                                                                                                                                | peg count |
| STATUS     | <p>Indication of Data Validity:</p> <p><b>K</b> indicates good data<br/><b>I</b> indicates incomplete interval<br/><b>N</b> indicates data not current</p>                                                                                                                                                                                                                                                                                                                                                       | status    |

### UI Reports

#### UI Example Output:

```

stdcfg2b 07-12-31 06:07:04 EST UNKNOWN 38.0.0-XX.XX.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON SCTPASOC
REPORT PERIOD: LAST
REPORT INTERVAL: 07-12-31 00:00:00 THRU 23:59:59

SCTPASOC-MTCD MEASUREMENTS: ASSOC: assoc1

These measurements are from 07-12-31, 00:00:00 through 23:59:59.
ECASNEST = 0, DURASNEST = 0, DATCHKSN
= 0,
RTXCHNKS = 0, DATCHKRC = 0, SCPKTSNT
= 20,

```

```

SCPKTRCV = 20, SCOCTSNT = 0, SCOCTRCV = 0,
CNTLCHKRS = 400, ORDCHKSN = 400, CNTLCHKR = 0,
ORDCHKRC = 0, GAPACKSR = 0, ACTVESTB = 0,
PASVESTB = 0, ASOCABTD = 0, ASOCSHTD = 0,
PEERFAIL = 0, ASMAXRTO = 0

```

;

### FTP Reports

**Table 3-82 FTP MTCD/MTCDTH SCTPASOC Column Header**

| Field Name | Description      |
|------------|------------------|
| ASSOC      | Association name |

FTP Example Output File Name: *mtcd-sctpasoc\_20071115\_2400.csv*

FTP Example Output File Format:

```

"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T",
"IVALEND", "NUMENTIDS"<cr><lf>
"ipmeas", "UNKNOWN ???.?-58.21.0", "2007-08-18", "00:00:18", "*****",
"DAILY MAINTENANCE MEASUREMENTS ON SCTPASOC", "LAST", "2007-08-17",
"00:00:00", "24:00:00", 3<cr><lf>
"STATUS", "ASSOC", "ECASNEST", "DURASNEST", "DATCHKSN", "RTXCHNKS", "DATCHKRC", "SCP
KTSNT",
"SCPKTRCV", "SCOCTSNT", "SCOCTRCV", "CNTLCHKRS", "ORDCHKSN", "CNTLCHKR", "ORDCHKRC",
"GAPACKSR", "ACTVESTB", "PASVESTB", "ASOCABTD", "ASOCSHTD", "PEERFAIL", "ASMAXRTO"<
cr><lf>

"K", "A1101", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "A1102", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "A1103", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>

```

Assuming each data line will be:

4 char status + 18 char association + 20\*(6 char data) + 2 = 144 chars

For a report of 1000 associations, typical file size is:

**Table 3-83 Typical File Size: *mtcd-sctpasoc.csv***

| System header |   | Report header |   | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 195           | + | 144000      | = | 144445 bytes |

## SCTPCARD MTCD Report

### Command Examples

- **UI:**rept-meas:type=mtcd:enttype=sctpcard:loc=1201
- **FTP:**rept-ftp-meas:type=mtcd:enttype=sctpcard

### Measurement Events

Table 3-84 lists the **SCTPCARD** events and their descriptions.

**Table 3-84 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements**

| Event Name      | Description                                                                                                                                                                                                                                                                                                                                   | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>ACTVESTB</b> | <b>SCTP Association Active Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the COOKIEECHOED state (COOKIE-ECHOED --> ESTABLISHED). In this case the upper layer (i.e., the local M2PA) was the initiator of the association establishment between the SCTP peers. | peg count |
| <b>ASOCABTD</b> | <b>SCTP Aborted Associations</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from any state using the primitive "Abort" (AnyState --Abort--> CLOSED), conveying an ungraceful termination of the association.                                                                              | peg count |
| <b>ASOCSHTD</b> | <b>SCTP Association Shutdowns</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state, conveying graceful termination of the association.                                                                                       | peg count |
| <b>CNTLCHKR</b> | <b>SCTP Control Chunks Received</b> - The number of SCTP control chunks received from the remote peer (excluding duplicates).                                                                                                                                                                                                                 | peg count |

**Table 3-84 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| CNTLCHK    | <b>SCTP Control Chunks Sent</b> - The number of SCTP control chunks sent to the remote peer (excluding retransmissions), including chunks for which an association has not yet been formed.                                                                                                                                                                                       | peg count |
| DATCHKRC   | Number of <b>SCTP DATA chunks received</b> from the remote SCTP peer (excluding duplicates and discards).                                                                                                                                                                                                                                                                         | peg count |
| DATCHKSN   | Number of <b>SCTP DATA chunks sent</b> to the remote SCTP peer (excluding retransmissions).                                                                                                                                                                                                                                                                                       | peg count |
| ORDCHKRC   | <b>SCTP Ordered Data Chunks Received</b> - The number of SCTP ordered data chunks received from the remote peer (excluding duplicates).                                                                                                                                                                                                                                           | peg count |
| ORDCHKSN   | <b>SCTP Ordered Data Chunks Sent</b> - The number of SCTP ordered data chunks sent to the remote peer (excluding retransmissions).                                                                                                                                                                                                                                                | peg count |
| PASVESTB   | <b>SCTP Association Passive Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the CLOSED state (CLOSED --> ESTABLISHED), indicating that the remote peers initiated association establishment.                                                                                                          | peg count |
| RTXCHKNS   | <b>SCTP Association Retransmitted Chunks</b> - The number of SCTP data chunks retransmitted to the remote SCTP peer. When T3-rtx expires, the DATA chunks that triggered the T3 timer will be re-sent according with the retransmissions rules. Every DATA chunk that was included in the SCTP packet that triggered the T3-rtx timer must be added to the value of this counter. | peg count |

**Table 3-84 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SCOCTRCV   | <b>SCTP Packet Octets Received</b> - The number of octets comprising valid SCTP packets received from the remote peer, including packets for which an association has not yet been formed.                                                                                                                                                                                                                                                                                                                              | octets    |
| SCOCTSNT   | <b>SCTP Packet Octets Sent</b> - The total number of octets comprising SCTP packets submitted to the IP layer for transmittal to the remote peer, including packets for which an association has not been formed.                                                                                                                                                                                                                                                                                                       | octets    |
| SCPKTRCV   | <b>SCTP Packets Received</b> - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included.<br><br>SCPKTRCV register excludes the pegging of SCTP Packets received when no instance exists on the card for any of the associations, i.e., the association parameter "OPEN" has value "NO" for all the associations configured on the card. Also, excludes pegging of set up messages (INIT and COOKIE-ECHO) that are part of association establishment procedure. | peg count |
| SCPKTRER   | <b>SCTP Packets Received With Checksum Error</b> - The number of SCTP packets received from remote peers with an invalid checksum                                                                                                                                                                                                                                                                                                                                                                                       | peg count |
| SCPKTSNT   | <b>SCTP Packets Sent</b> - The total number of SCTP packets sent to the remote peer, i.e., submitted by the local SCTP instance to the IP layer for transmission. Retransmissions are included.<br><br>SCPKTSNT register excludes initial SCTP association set-up messages (INIT-ACK and COOKIE-ACK). For M2PA association INIT packet is never pegged.                                                                                                                                                                 | peg count |

**Table 3-84 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| STATUS     | Indication of Data Validity:<br><br>K indicates good data<br>I indicates incomplete interval<br>N indicates data not current                                                                                                                                                                                                                                                                                                                                                                                                                                                      | status    |
| UNASCTPK   | <b>Unassociated (Out-of-the-Blue) SCTP Packets</b> - The number of "out-of-the-blue" SCTP packets received by the host, i.e., SCTP packets correctly formed with the correct checksum value, but for which the receiver (local SCTP) was not able to identify the association to which the packet belongs.<br><br>UNASCTPK register includes the pegging of SCTP Packets received when no instance exists on the card for any of the associations, i.e., the association parameter "OPEN" has value "NO" for all the associations configured on the card (See SCPKTRCV register). | peg count |

**UI Reports**

**UI Example Output:**

```
stdcfg2b 07-12-31 EST UNKNOWN 38.0.0-XX.XX.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON SCTPCARD
REPORT PERIOD: LAST
REPORT INTERVAL: 07-12-31 00:00:00 THRU 23:59:59
```

SCTPCARD-MTCD MEASUREMENTS: LOC: 1201

These measurements are from 07-12-31, 00:00:00 through 23:59:59.

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

;

### FTP Reports

FTP Example Output File Name: *mtcd-sctpcard\_20071115\_2400.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND",
"NUMENTIDS"<cr><lf>
"tekelecstp", "38.0.0-XX.XX.0", "2007-12-31", "12:12:10", "EST",
"DAILY MAINTENANCE MEASUREMENTS ON SCTPCARD", "LAST", "2007-12-30",
"00:00:00", "24:00:00", 3<cr><lf>
<cr><lf>
"STATUS", "LOC", "DATCHKSN", "RTXCHNKS", "DATCHKRC", "SCPKTSNT", "SCPKTRCV", "
SCPKTRER",
"UNASCTPK", "SCOCTSNT", "SCOCTRCV", "CNTLCHKS", "ORDCHKSN", "CNTLCHKR", "ORDC
HKRC", "ACTVESTB",
"PASVESTB", "ASOCABTD", "ASOCSHTD"<cr><lf>
"K", "1101", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "1102", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "1103", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
```

Assuming each data line will be:

$$4 \text{ char status} + 7 \text{ char location} + 17 \times (6 \text{ char data}) + 2 = 115 \text{ chars}$$

For a report of 80 cards, typical file size is:

**Table 3-85 Typical File Size: *mtcd-sctpcard.csv***

| System header |   | Report header |   | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 250           | + | 185           | + | 9200        | = | 9635 bytes |

## UA MTCD Report

### Command Examples

- **UI:**rept-meas:type=mtcd:enttype=ua:aname=assoc1:asname=appsrvr1
- **FTP:**rept-ftp-meas:type=mtcd:enttype=ua

### Measurement Events

Table 3-86 lists the **UA** events and their descriptions.



**Table 3-86 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) UA Measurements**

| Event Name | Description                                                                                                                                                                                               | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| RXDATAMS   | For M3UA, this register represents the number of <b>DATA messages received from the ASP</b> .<br><br>For SUA, this register represents the total of <b>CLDT and CLDR messages received from the ASP</b> . | peg count |
| RXDATAOC   | For M3UA, this register represents the number of <b>DATA octets received from the ASP</b> .<br><br>For SUA, this register represents the total of <b>CLDT and CLDR octets received from the ASP</b> .     | octets    |
| RXMLRCMS   | Number of <b>messages received with multiple routing contexts</b> (always pegged against the default AS).                                                                                                 | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                         | status    |
| TXDATAMS   | For M3UA, this register represents the number of <b>DATA messages sent to the ASP</b> .<br><br>For SUA, this register represents the total of <b>CLDT and CLDR messages sent to the ASP</b> .             | peg count |
| TXDATAOC   | For M3UA, this register represents the number of <b>DATA octets sent to the ASP</b> .<br><br>For SUA, this register represents the total of <b>CLDT and CLDR octets sent to the ASP</b> .                 | octets    |
| UAASPMRX   | Total <b>ASPM messages received from the ASP</b> (including ASPSM and ASPTM messages).                                                                                                                    | peg count |
| UAASPMTX   | Total <b>ASPM messages sent to the ASP</b> (including ASPSM and ASPTM messages).                                                                                                                          | peg count |
| UAASPNAC   | The number of times the <b>ASP transitioned out of the ASP-Active state</b> .                                                                                                                             | peg count |
| UAASPNAT   | The duration that the ASP was not in the ASP-Active state.                                                                                                                                                | seconds   |

**Table 3-86 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCPTH) UA Measurements**

| Event Name      | Description                                                                                                                                                                          | Unit      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>UACNGCNT</b> | The number of times an <b>AS-ASSOC experienced congestion</b> (this may include the AS entering congestion as a result of the ASSOC entering congestion).                            | peg count |
| <b>UACNGTIM</b> | The duration that an <b>AS-ASSOC experienced congestion</b> (this may include the AS entering congestion as a result of the ASSOC entering congestion).                              | seconds   |
| <b>UAMGMTRX</b> | Total MGMT messages received from the ASP.                                                                                                                                           | peg count |
| <b>UAMGMTTX</b> | Total MGMT messages sent to the ASP.                                                                                                                                                 | peg count |
| <b>UANMOCTR</b> | <b>Total Network Management octets received from the ASP</b> - The total number of non-DATA UA octets received from the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).     | peg count |
| <b>UANMOCTT</b> | <b>Total Network Management octets sent to the ASP</b> - The total number of non-DATA UA octets sent to the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).                 | peg count |
| <b>UANMMSGR</b> | <b>Total Network Management messages received from the ASP</b> - The total number of non-DATA UA messages received from the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM). | peg count |
| <b>UANMMSGT</b> | <b>Total Network Management messages sent to the ASP</b> - The total number of non-DATA UA messages sent to the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).             | peg count |
| <b>UASSNMRX</b> | Total SSNM messages received from the ASP.                                                                                                                                           | peg count |
| <b>UASSNMTX</b> | Total SSNM messages sent to the ASP.                                                                                                                                                 | peg count |

**UI Reports**

```
stdcfg2b 07-12-31 06:07:04 EST UNKNOWN 38.0.0-XX.XX.0
UA-MTCD MEASUREMENTS: AS: appsrvr1 ASSOC: assoc1
```



- Daily V-Flex Measurements Per **SSP**

Example Commands:

```
FTP: rept-ftp-
meas:type=mtcd:enttype=vflex[:period=specific:day=xxx]
```

**Table 3-88 Daily Maintenance V-Flex System Wide Measurements**

| Event Name | Description                                                                                                                                       | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| VFCNTRSP   | Total number of IDP Connect responses sent by VFLEX service.                                                                                      | peg count |
| VFERRRSP   | Total number of IDP queries received with errors (those resulted in TCAP Error response from VFLEX).                                              | peg count |
| VFIDPQRCV  | Total number of IDP queries received for VFLEX service.                                                                                           | peg count |

**Table 3-89 Daily Maintenance V-Flex Per SSP Measurements**

| Event Name | Description                                                                                                                                       | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| VFIMSISDN  | Total number of IDP queries received for VFLEX service with invalid MSISDN.                                                                       | peg count |
| VFVMSISDN  | Total number of IDP queries received for VFLEX service with valid MSISDN.                                                                         | peg count |

## FTP Reports

### Daily V-Flex System Wide Measurements

FTP Example Output File Name: *mtcd-vflex\_20070816\_2400.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
```

```
"tekelecstp", "37.6.0-58.20.0", "2007-08-17", "11:32:53", "EST", "DAILY
MAINTENANCE MEASUREMENTS ON VFLEX
SYSTEM", "LAST", "2007-08-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "VFIDPQRCV", "VFCNCTRSP", "VFERRRSP"<cr><lf>
"K", 20, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 3\*(6 char data) + 2 = 24 chars, the typical file size is:

**Table 3-90 Typical File Size: mtcd-vflex.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 260           | + | 45            | + | 24          | = | 347       |

### Daily V-Flex Measurements Per SSP

**FTP Example Output File Name: mtcd-vflexssp\_20070816\_2400.csv**

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "37.6.0-58.20.0", "2007-08-17", "11:32:58", "EST", "DAILY
MAINTENANCE MEASUREMENTS ON VFLEX
SSP", "LAST", "2007-08-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "SSP", "VFVMSISDN", "VFVMSISDN"<cr><lf>
"K", "001-101-002", 10, 10<cr><lf>
```



**Note:**

The field identifier SSP designates the Service Switching Point.

Assuming each data line will be: 4 char status + 14 char SSP + 2\*(6 char data) + 2 = 32 chars, the typical file size is:

**Table 3-91 Typical File Size: mtcd-vflex-ssp.csv**

| System header | + | Report header | + | Report data       | = | File Size                       |
|---------------|---|---------------|---|-------------------|---|---------------------------------|
| 257           | + | 40            | + | 32 * #Point Codes | = | 297 + (32 * #Point Codes) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-92 Typical File Size: mtcd-vflexssp.csv**

| System header | + | Report header | + | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 257           | + | 40            | + | 32 * 200    | = | 6697 bytes |

## ATINPQ MTCD Report

The enttype=atinpq entity generates two separate reports per period. These reports are generated as CSV files and FTP'd to the customer FTP server. The command example will generate the following daily reports:

- Daily ATINPQ System Wide Measurements
- Daily ATINPQ Per SSP Measurements

### Example Commands:

- FTP

```
rept-ftp-
meas:type=mtcd:enttype=atinpq[:period=specific:day=xxx]
```

### Measurement Events

**Table 3-93 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ATINPQ Registers**

| Event Name | Description                                                                                                                                                                                                            | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ATINPQRCV  | Total number of ATINP queries received for ATINPQ service. This peg is incremented only if ATINP feature is enabled and the incoming message opcode is ATI.                                                            | peg count |
| ATINPQACK  | Total number of ATI ACK messages sent by the ATINPQ service. This peg is incremented only if the ATINP feature is enabled.                                                                                             | peg count |
| ATINPQERR  | Total number of incoming ATI messages that did not result in either ATI ACK or ATI NACK with error code of either Unknown Subscriber or ATI Not Allowed. This peg is incremented only if the ATINP feature is enabled. | peg count |

**Table 3-93 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ATINPQ Registers**

| Event Name | Description                                                                                                                  | Unit   |
|------------|------------------------------------------------------------------------------------------------------------------------------|--------|
| STATUS     | Indication of Data Validity:<br><br>K indicates good data<br>I indicates incomplete interval<br>N indicates data not current | status |
| PC TYPE    | The TYPE of the point code.<br>Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                | text   |

## Daily ATINPQ Reports

### System Wide Report

- Example Output File Name:

*mtcd-atinpq\_20080616\_2400.csv*

- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "39.0.0-61.5.0", "2008-06-17", "11:32:53", "EST", "DAILY
MAINTENANCE MEASUREMENTS ON ATINPQ
SYSTEM", "LAST", "2008-06-17", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "ATINPQRCV", "ATINPQACK", "ATINPQERR"<cr><lf>
"K", 20, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 3\*(6 char data) + 2 = 24 chars, the typical file size is:

**Table 3-94 Typical File Size: mtcd-atinpq.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 260           | + | 45            | + | 24          | = | 347       |

### Per SSP Report

- Example Output File Name:

*mtcd-atinpqssp\_20080616\_2400.csv*

- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
```

```
"tekelecstp", "39.0.0-61.5.0", "2008-06-17", "11:32:58", "EST", "DAILY
MAINTENANCE MEASUREMENTS ON ATINPQ
SSP", "LAST", "2008-06-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "SSP", "ATINPQRCV", "ATINPQACK", "ATINPQERR"<cr><lf>
"K", "001-101-002", 10, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 14 char SSP + 3\*(6 char data) + 2 = 38 chars, the typical file size is:

**Table 3-95 Typical File Size: mtcd-atinpq.csv**

| System header | + | Report header | + | Report data         | = | File Size                       |
|---------------|---|---------------|---|---------------------|---|---------------------------------|
| 257           | + | 40            | + | (38 * #Point Codes) | = | 297 + (38 * #Point Codes) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-96 Typical File Size: atinpq 200 SSPs**

| System header | + | Report header | + | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 257           | + | 40            | + | (38 * 200)  | = | 7897 bytes |

## AIQ MTCD Report

The entity type for ANSI41 AIQ measurements is "AIQ", which generates two reports per period. The commands to generate the daily on-demand measurement report can be specified with an optional day parameter, xxx, providing a three-letter abbreviation for a day of the week (MON, TUE, WED, THU, FRI, SAT, or SUN). The specific period, period=specific, parameter is required when the optional day parameter is used.

The measurements reports supported are:

- Per System Totals
- Per SSP Totals

The measurement report types supported are:

- Daily measurement report type "mtcd"
- Hourly measurement report type "mtch"

The on demand reports and scheduled reports are rejected until the AIQ feature is enabled. The command `chg-mtc-measopts:mtchaiq=on:mtcdaiq=on` starts scheduled reports generation. Both on-demand and scheduled reports at hourly and daily boundary (MTCH and MTCD) generate two reports, namely Per System totals and Per SSP totals.



**Example Commands:**

- FTP: `rept-ftp-meas:type=mtcd:enttype=aiq[:period=specific:day=xxx]`  
This command creates both the Per System and Per SSP Totals daily reports.

**Measurement Events**

**Table 3-97 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) AIQ Registers**

| Event Name | Description                                                                                                                                                                                | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| AIQRCV     | Total number of AnalyzedInformation messages received for AIQ service. This peg is incremented only if ANSI41 AIQ feature is enabled.                                                      | peg count |
| AIQSUC     | Total number of Return Result sent by the AIQ service. This peg is incremented only if the ANSI41 AIQ feature is enabled.                                                                  | peg count |
| AIQERR     | Total number of ANSI41 AIQ queries resulting in a negative response (Return Error or Reject) generation by AIQ service. This peg is incremented only if the ANSI41 AIQ feature is enabled. | peg count |
| PC TYPE    | The TYPE of the point code. Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                                                                                 | text      |

**Daily AIQ Reports**

**System Wide Report**

- Example Output File Name:  
`mtcd-aiq_20090820_2400.csv`
- Example Output File Format:  

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "41.0.0-62.34.51", "2009-08-20", "11:32:53", "EST", "DAILY
MAINTENANCE MEASUREMENTS ON AIQ
SYSTEM", "LAST", "2009-08-20", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "AIQRCV", "AIQSUC", "AIQERR"<cr><lf>
"K", 20, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 3\*(6 char data) + 2 = 24 chars, the typical file size is:

**Table 3-98 Typical File Size: mtc-d-atinpq.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 260           | + | 38            | + | 24          | = | 322       |

**Per SSP Report**

- Example Output File Name:  
*mtcd-aiqssp\_20090820\_2400.csv*
- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "41.0.0-62.34.51", "2009-08-20", "11:32:58", "EST", "DAILY
MAINTENANCE MEASUREMENTS ON AIQ
SSP", "LAST", "2009-08-19", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "SSP", "AIQRCV", "AIQSUC", "AIQERR"<cr><lf>
"K", "001-101-002", 20, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 14 char SSP + 3\*(6 char data) + 2 = 38 chars, the typical file size is:

**Table 3-99 Typical File Size: mtc-d-aiq.csv**

| System header | + | Report header | + | Report data           | = | File Size                         |
|---------------|---|---------------|---|-----------------------|---|-----------------------------------|
| 257           | + | 44            | + | ( 38 * #Point codes ) | = | 301 + ( 38 * #Point Codes ) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-100 Typical File Size: aiq 200 SSPs**

| System header | + | Report header | + | Report data  | = | File Size  |
|---------------|---|---------------|---|--------------|---|------------|
| 257           | + | 44            | + | ( 38 * 200 ) | = | 7901 bytes |

## GTTAPATH MTCD Report

The entity type for GTT Actions Per-Path measurements is "gttapath", which generates two reports per period. The commands to generate the daily on-demand measurement report can be specified with an optional day parameter, xxx, providing a three-letter abbreviation for a day of the week (MON, TUE, WED, THU, FRI, SAT, or SUN). The specific period, period=specific, parameter is required when the optional day parameter is used.

The measurement report supported are:

- Per System Totals
- Per Path Totals

The measurement report types supported are:

- Daily measurement report type “mtcd”
- Hourly measurement report type “mtch”

The on-demand reports and scheduled reports are rejected until the GTT Duplicate and/or Discard and/or Forward Action feature is enabled. Turning ON the feature is not required, because one of the register “GTTACTNA” might get pegged in case GTT action fails because of the feature not being in the ON state.

The command `chg-mtc-measopts:mtchgttpath=on:mtcdgttpath=on` starts scheduled reports generation. Both on-demand and scheduled reports at hourly and daily boundary (MTCH and MTCD) generate two reports: Per System Totals and Per-Path.

**Example Commands:**

```
FTP : rept-ftp-
meas:type=mtcd:enttype=gttpath[:period=specific:day=xxx] where
[:period=specific:day=xxx] is optional.
```

This example command creates *both* the Per-Path System Totals and the Per-Path Totals daily reports (the report date corresponds to the day entered in the command).

**Table 3-101 MTCD/MTCH GTT Actions System-Wide Measurements**

| Event Name  | Description                                                                                                                                                                                     | Unit      |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GTTADISC0   | <b>GTT Actions – MSUs Discarded</b> - The total number of messages discarded by the DISCARD GTT Action.                                                                                         | peg count |
| GTTADISC1   | <b>GTT Actions – MSUs Discarded</b> - The total number of messages discarded by the UDTS GTT Action.                                                                                            | peg count |
| GTTADISC2   | <b>GTT Actions – MSUs Discarded</b> - The total number of messages discarded by the TCAP Error GTT Action                                                                                       | peg count |
| GTTADUP     | <b>GTT Actions – MSUs Duplicated</b> - The total number of messages for which Duplicate MSU was sent. Multiple duplicate actions in an action set shall also increment this register only once. | peg count |
| GTTAFWD     | <b>GTT Actions – MSUs Forwarded</b> - The total number of messages <i>forwarded</i> by Forward GTT Action.                                                                                      | peg count |
| GTTASET     | <b>GTT Actions</b> - The total number of messages <i>receiving</i> any GTT action.                                                                                                              | peg count |
| GTTASRVGFLX | The total number of messages serviced by GFLEX GTT Action.                                                                                                                                      | peg count |

**Table 3-101 (Cont.) MTCD/MTCH GTT Actions System-Wide Measurements**

| Event Name  | Description                                                                         | Unit      |
|-------------|-------------------------------------------------------------------------------------|-----------|
| GTTASRVGPRT | The total number of messages serviced by GPORT GTT Action.                          | peg count |
| GTTASRVMSR  | The total number of messages serviced by SMSMR GTT Action.                          | peg count |
| GTTASFLOG   | The total number of messages serviced by SFLOG GTT Action.                          | peg count |
| GTTAMSVTO   | The total number of messages that successfully pass SCPVAL GTT Action.              | peg count |
| GTTAMSVDI   | The total number of messages discarded by SCPVAL GTT Action.                        | peg count |
| GTTAMSVNA   | The total number of messages where validation was not applied by SCPVAL GTT Action. | peg count |

**Table 3-102 MTCD/MTCH GTT Actions Per-Path Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                             | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GTTACTNA   | GTT Actions - The total number of messages for which no GTT action was successfully performed.<br><br>This register shall be pegged for a message if either of these occurs: <ul style="list-style-type: none"> <li>No GTT Action set was associated with the final GTT translation</li> <li>No GTT Action in the associated GTT Action set could be executed successfully (for any reason).</li> </ul> | peg count |
| GTTADISC0  | GTT Actions – MSUs Discarded - The total number of messages discarded by the DISCARD GTT Action.                                                                                                                                                                                                                                                                                                        | peg count |
| GTTADISC1  | GTT Actions – MSUs Discarded - The total number of messages discarded by the UDTS GTT Action.                                                                                                                                                                                                                                                                                                           | peg count |
| GTTADISC2  | GTT Actions – MSUs Discarded - The total number of messages discarded by the TCAP Error GTT Action                                                                                                                                                                                                                                                                                                      | peg count |



Assuming each data line will be: 4 char status + 13 \* (6 char data) + 2 = 84 chars, the typical file size is:

**Table 3-103 Typical File Size: mtcd-gttasys.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 167           | + | 84          | = | 501 bytes |

**Per Path Report**

- Example Output File Name: *mtcd-gttapath\_20140124\_2200.csv*

**Table 3-104 Entity Identification (PATH-CDSN-SCDGTA-CGSN-SCGGTA-OPSN-PKG-OPCODE-<A>/F)**

| String Format  | Definition                                                                                                                                    |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| PATH           | The GTT path name assigned when GTTACT path was entered.                                                                                      |
| CDSN           | The called party global title translations set name assigned when GTTACT path was entered.                                                    |
| SCDGTA         | The called party start global title address (SCDGTA) assigned when GTTACT path entered for a non-ranged entry<br><i>or</i>                    |
| SCDGTA->ECDGTA | The ranged called party start global title address (SCDGTA) and End global title address (ECDGTA) assigned when the GTTACT path was entered.  |
| CGSN           | The calling party global title translations set name assigned when GTTACT path was entered.                                                   |
| SCGGTA         | The calling party start global title address assigned when GTTACT path entered for a non-ranged entry<br><i>or</i>                            |
| SCDGTA->ECDGTA | The ranged calling party start global title address (SCGGTA) and End global title address (ECGGTA) assigned when the GTTACT path was entered. |
| OPSN           | The global title translations set name of TCAP operation code assigned when GTTACT path was entered                                           |
| PKG            | The ANSI/ITU TCAP package type assigned when GTTACT Path was entered.                                                                         |
| OPCODE         | TCAP operation code assigned when GTTACT path was entered.                                                                                    |



**Table 3-105 Typical File Size: mtcd-gttapath.csv**

| System header | + | Report header | + | Report data (1000 paths) | = | File Size     |
|---------------|---|---------------|---|--------------------------|---|---------------|
| 250           | + | 237           | + | 253,000                  | = | 253,487 bytes |

## SIP MTCD Report

Example Commands:

```
UI: rept-meas:type=mtcd:enttype=sip
```

```
FTP:rept-ftp-meas:type=mtcd:enttype=sip
```

**\*\* The following changes are for 43.0 and later. \*\***

### Changes for PR 156835: Point Code and CIC Translation

- Added registers PCTDPCLKP and PCTOPCLKP

**Table 3-106 Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements**

| Event Name         | Description                                                                                                       | Unit      |
|--------------------|-------------------------------------------------------------------------------------------------------------------|-----------|
| <b>INVITERCVD</b>  | The total number of SIP invite received (Including re-transmits)                                                  | peg count |
| <b>CANCRDVD</b>    | Number of cancel received                                                                                         | peg count |
| <b>PROVRSPSENT</b> | Number of 1xx responses sent                                                                                      | peg count |
| <b>OKRSPSENT</b>   | Number of 2xx responses sent                                                                                      | peg count |
| <b>RDRCTSENT</b>   | Number of 302 responses sent                                                                                      | peg count |
| <b>CLNFAILSENT</b> | Number of 4xx responses sent                                                                                      | peg count |
| <b>SRVERRSENT</b>  | Number of 5xx responses sent                                                                                      | peg count |
| <b>NPSUCC</b>      | Number of <b>SIP</b> invite messages for which <b>rxdb</b> lookup was successfully performed and RN/ASD was found | peg count |
| <b>NPBYPASSSUC</b> | Number of <b>SIP</b> invite messages for which <b>rxdb</b> lookup was not performed                               | peg count |
| <b>INVALIDDDN</b>  | Number of <b>SIP</b> invite messages for which <b>rxdb</b> lookup returned RN not found                           | peg count |
| <b>NPRNNF</b>      | Number of <b>SIP</b> invite messages for which <b>rxdb</b> lookup returned RN not found                           | peg count |



UI Example Output:

```
tekelecstp 13-01-11 00:07:56 EST EAGLE5 45.0.0-64.49.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON SIP
REPORT PERIOD: LAST
REPORT INTERVAL: 03-01-10, 00:00:00 through 23:59:59

SIP-MTCD MEASUREMENTS

INVITERCVD = 0, CANCRCVD = 0, PROVRSSENT=
0,
OKRSPSENT = 0, RDRCTSENT = 0, CLNFAILSENT=
0,
SRVERRSENT = 0, NPSUCC = 0, NPBYPASSSUC= 0,
INVALIDDN = 0, NPRNNF = 0
```

FTP Example Output File Name: *mtcd-sip\_20131004\_2400.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 45.0.0-64.49.0", "2013-01-11", "00:10:54", "EST ", "DAILY
MAINTENANCE MEASUREMENTS ON SIP", "LAST",
"2013-01-10", "00:00:00", "24:00:00", 1

"STATUS", "INVITERCVD", "CANCRCVD", "PROVRSSENT", "OKRSPSENT", "RDRCTSENT", "CLNFA
ILSENT", "SRVERRSENT", "NPSUCC",
"NPBYPASSSUC", "INVALIDDN", "NPRNNF"
"K", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
```

Assuming the data line will be:

4 char status + 11\*(avg. 6 chars per field) + 2 = 72 chars

Typical file size:

**Table 3-107 Typical File Size: mtcd-sip.csv**

| System Header | + | Report Header | + | Report Data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 145           | + | 72          | = | 467 bytes |

## DEIR MTCD Report

The **DEIR** measurements specify the entity type **deir** and include two daily reports:

- Per system (DEIRSYS)
- Per diameter connection (DEIRCONN)

[Table 3-108](#) lists the events added in all DEIR measurements reports.

The retention period is 7 days for the daily reports.

FTP Example Command:

```
rept-ftp-meas:type=mtcd:enttype=deir
```

**Table 3-108 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) DEIR Measurements**

| Event Name | Description                                                                                                                                         | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ECRRCV     | Total number of ME-Identity-Check requests (ECR) received by the EIR.                                                                               | Peg count |
| WHITEIMEI  | Total number of searches that resulted in a match with a "allow listed" IMEI.                                                                       | Peg count |
| GRAYIMEI   | Total number of searches that resulted in a match with a "gray listed" IMEI.                                                                        | Peg count |
| BLACKIMEI  | Total number of searches that resulted in a match with a "block listed" IMEI.                                                                       | Peg count |
| BLKALIMEI  | Total number of searches that resulted in a match with a "block listed" IMEI, but were allowed due to IMSI Check match.                             | Peg count |
| BLKNALIMEI | Total number of searches that resulted in a match with a "block listed" IMEI, and the IMSI in the database did not match the IMSI in the message.   | Peg count |
| UNKNIMEI   | Total number of searches that resulted in a match with an "unknown" IMEI.                                                                           | Peg count |
| NOMTCHIMEI | Total number of searches that resulted in no match in the database.                                                                                 | Peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> - indicates good data<br><b>I</b> - indicates incomplete interval<br><b>N</b> - indicates data not current | Status    |

Example Output File Names:

|                                                        |                                 |
|--------------------------------------------------------|---------------------------------|
| Daily DEIR system totals measurements report           | mtcd-deirsys_yyyymmdd_2400.csv  |
| Daily DEIR per diameter connection measurements report | mtcd-deirconn_yyyymmdd_2400.csv |

FTP example output file format for DEIR system total report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 45.1.0-64.74.1", "2013-06-20", "10:48:59 AM", "MST
", "DAILY MAINTENANCE MEASUREMENTS ON DEIR
SYSTEM", "SPECIFIC", "2013-06-19", "00:00:00", "24:00:00", 1

"STATUS", "ECRCV", "WHITEIMEI", "GRAYIMEI", "BLACKIMEI", "BLKALIMEI", "BLKNALIMEI"
, "UNKNIMEI", "NOMTCHIMEI"
"K", 23723, 7687, 0, 16036, 0, 0, 0, 7687
```

Assuming each data line will be:

4 char status + 8 \* (6 char data) + 2 = 54 chars

Typical file size is:

**Table 3-109 Typical File Size: mtcd-deirsys.csv**

| System header |   | Report header |   | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 104           | + | 54          | = | 417 bytes |

FTP example output file format for per diameter connection report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 45.1.0-64.74.1", "2013-06-20", "10:38:59 AM", "MST
", "DAILY MAINTENANCE MEASUREMENTS ON DEIR
PER-CONNECTION", "SPECIFIC", "2013-06-19", "00:00:00", "24:00:00", 5

"STATUS", "DCNAME", "ECRCV", "WHITEIMEI", "GRAYIMEI", "BLACKIMEI", "BLKALIMEI", "BL
KNALIMEI", "UNKNIMEI", "NOMTCHIMEI"
"K", "d1", 100, 100, 0, 0, 0, 0, 0, 0
"K", "d2", 768, 768, 0, 0, 0, 0, 0, 768
"K", "d3", 0, 0, 0, 0, 0, 0, 0, 0
"K", "d4", 500, 0, 0, 500, 0, 0, 0, 0
"K", "d5", 1000, 0, 1000, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 18 char (Diameter connection) + 8 \* (6 char data) + 2 = 72 chars

Typical file size is:

**Table 3-110 Typical File Size: mtcd-deirconn.csv**

| System header |   | Report header |   | Report data (512 connections) | = | File Size   |
|---------------|---|---------------|---|-------------------------------|---|-------------|
| 250           | + | 113           | + | 36864 bytes                   | = | 37227 bytes |

## ENUM MTCD Report

The **ENUM** measurements specify the entity type **enum** and include four daily reports:

- Per system (ENUMSYS)  
Table 3-111 lists the events added per system.
- Per card (ENUMCARD)  
Table 3-112 lists the events added for each card.
- Per entity (ENUMENT)  
Table 3-113 lists the events added for each entity ID in the entity ID table or each DN block in the DN block profile table.
- Per ACL (ENUMACL)  
Table 3-114 lists the events added for each ACL entry in the ACL table.

The retention period is 24 hours.

FTP Example Command:

```
rept-ftp-meas:type=mtcd:enttype=enum
```

**Table 3-111 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM System Level Measurements**

| Event Name  | Description                                                                | Unit      |
|-------------|----------------------------------------------------------------------------|-----------|
| ENUMQRYRX   | Total number of ENUM queries received                                      | Peg count |
| ENUMNAPTRRX | Total number of NAPTR queries received                                     | Peg count |
| ENUMNSRX    | Total number of NS queries received                                        | Peg count |
| ENUMCNAMERX | Total number of CNAME queries received                                     | Peg count |
| ENUMQRYRJTD | Total number of ENUM queries rejected by ENUM server                       | Peg count |
| ENUMCNGDISC | Total number of ENUM queries discarded due to congestion                   | Peg count |
| ENUMACLDISC | Total number of ENUM queries discarded due to ACL validation failure       | Peg count |
| ENUMTXRC0   | Total number of successful ENUM responses sent                             | Peg count |
| ENUMTXRC1   | Total number of ENUM error responses sent due to ENUM query format error   | Peg count |
| ENUMTXRC2   | Total number of ENUM error responses sent due to ENUM server failure       | Peg count |
| ENUMTXRC3   | Total number of ENUM error responses sent due to non-existent domain error | Peg count |

**Table 3-111 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM System Level Measurements**

| Event Name  | Description                                                                                                                  | Unit      |
|-------------|------------------------------------------------------------------------------------------------------------------------------|-----------|
| ENUMTXRC4   | Total number of ENUM error responses sent due to not implemented error                                                       | Peg count |
| ENUMTXRC5   | Total number of ENUM error responses sent due to refusal by ENUM server                                                      | Peg count |
| ENUMTXDEFPR | Total number ENUM responses sent with default ENUM profile                                                                   | Peg count |
| STATUS      | Indication of Data Validity:<br><br>K indicates good data<br>I indicates incomplete interval<br>N indicates data not current | Status    |

**Table 3-112 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM Card Level Measurements**

| Event Name  | Description                                                                | Unit      |
|-------------|----------------------------------------------------------------------------|-----------|
| ENUMCQRYRX  | Total number of ENUM queries received                                      | Peg count |
| ENUMCNAPTRX | Total number of NAPTR queries received                                     | Peg count |
| ENUMCNSRX   | Total number of NS queries received                                        | Peg count |
| ENUMCCNAMRX | Total number of CNAME queries received                                     | Peg count |
| ENUMCQRRJTD | Total number of ENUM queries rejected by ENUM server                       | Peg count |
| ENUMCCNGDSC | Total number of ENUM queries discarded due to congestion                   | Peg count |
| ENUMCACLDSC | Total number of ENUM queries discarded due to ACL validation failure       | Peg count |
| ENUMCTXRC0  | Total number of successful ENUM responses sent                             | Peg count |
| ENUMCTXRC1  | Total number of ENUM error responses sent due to ENUM query format error   | Peg count |
| ENUMCTXRC2  | Total number of ENUM error responses sent due to ENUM server failure       | Peg count |
| ENUMCTXRC3  | Total number of ENUM error responses sent due to non-existent domain error | Peg count |

**Table 3-112 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM Card Level Measurements**

| Event Name  | Description                                                                                                                                   | Unit      |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ENUMCTXRC4  | Total number of ENUM error responses sent due to not implemented error                                                                        | Peg count |
| ENUMCTXRC5  | Total number of ENUM error responses sent due to refusal by ENUM server                                                                       | Peg count |
| ENUMCTXDEFP | Total number ENUM responses sent with default ENUM profile                                                                                    | Peg count |
| STATUS      | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | Status    |

**Table 3-113 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM Entity Level Measurements**

| Event Name         | Description                                                                                                                                   | Unit      |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>ENUMENTMSGS</b> | Total number of ENUM queries received or ENUM responses sent per entity                                                                       | Peg count |
| STATUS             | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | Status    |

**Table 3-114 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM ACL Level Measurements**

| Event Name  | Description                                                              | Unit      |
|-------------|--------------------------------------------------------------------------|-----------|
| ENUMACLQRCV | Total number of ENUM queries received                                    | Peg count |
| ENUMACLQRJD | Total number of ENUM queries rejected by ENUM server                     | Peg count |
| ENUMACLRC0  | Total number of successful ENUM responses sent                           | Peg count |
| ENUMACLRC1  | Total number of ENUM error responses sent due to ENUM query format error | Peg count |
| ENUMACLRC2  | Total number of ENUM error responses sent due to ENUM server failure     | Peg count |

**Table 3-114 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM ACL Level Measurements**

| Event Name | Description                                                                                                                                       | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ENUMACLRC3 | Total number of ENUM error responses sent due to non-existent domain error                                                                        | Peg count |
| ENUMACLRC4 | Total number of ENUM error responses sent due to not implemented error                                                                            | Peg count |
| ENUMACLRC5 | Total number of ENUM error responses sent due to refusal by ENUM server                                                                           | Peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | Status    |

Example Output File Names:

|                                              |                                 |
|----------------------------------------------|---------------------------------|
| Daily ENUM system totals measurements report | mtcd-enumsys_yyyymmdd_2400.csv  |
| Daily ENUM per card measurements report      | mtcd-enumcard_yyyymmdd_2400.csv |
| Daily ENUM per entity measurements report    | mtcd-enument_yyyymmdd_2400.csv  |
| Daily ENUM per acl measurements report       | mtcd-enumacl_yyyymmdd_2400.csv  |

FTP example output file format for system total report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ????.?-65.27.0", "2014-08-22", "22:01:32", "MST ", "DAILY
MAINTENANCE MEASUREMENTS ON ENUM
SYSTEM", "LAST", "2014-08-22", "00:00:00", "24:00:00", 1

"STATUS", "ENUMQRYRX", "ENUMNAPTRRX", "ENUMNSRX", "ENUMCNAMERX", "ENUMQRYRJTD", "EN
UMCNGDISC", "ENUMACLDISC",
"ENUMTXRC0", "ENUMTXRC1", "ENUMTXRC2", "ENUMTXRC3", "ENUMTXRC4", "ENUMTXRC5", "ENUM
TXDEFPR"
"K", 2134, 0, 2134, 0, 0, 0, 0, 2134, 0, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 14 \* (6 char data) + 2 = 90 chars

Typical file size is:

**Table 3-115 Typical File Size: mtcd-enumsys.csv**

| System header |   | Report header |   | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 189           | + | 90 bytes    | = | 529 bytes |

FTP example output file format for per card report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ????.?-65.27.0", "2014-08-22", "22:01:35", "MST
", "DAILY MAINTENANCE MEASUREMENTS ON ENUM
PER-CARD", "LAST", "2014-08-22", "00:00:00", "24:00:00", 2

"STATUS", "LOC", "ENUMCQRYRX", "ENUMCNAPTRX", "ENUMCNSRX", "ENUMCCNAMRX", "EN
UMCQRRJTD", "ENUMCCNGDSC", "ENUMCACLDSC",
"ENUMCTXRC0", "ENUMCTXRC1", "ENUMCTXRC2", "ENUMCTXRC3", "ENUMCTXRC4", "ENUMC
TXRC5", "ENUMCTXDEFP"
"K", "1101", 2134, 0, 2134, 0, 0, 0, 0, 2134, 0, 0, 0, 0, 0, 0
"K", "1105", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 7 char (card) + 14 \* (6 char data) + 2 = 95 chars

Typical file size is:

**Table 3-116 Typical File Size: mtcd-enumcard.csv**

| System header |   | Report header |   | Report data (250 card) | = | File Size   |
|---------------|---|---------------|---|------------------------|---|-------------|
| 250           | + | 203           | + | 23750 bytes            | = | 24203 bytes |

FTP example output file format for per entity report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ????.?-65.27.0", "2014-08-22", "22:01:33", "MST
", "DAILY MAINTENANCE MEASUREMENTS ON ENUM
PER-ENTITY", "LAST", "2014-08-22", "00:00:00", "24:00:00", 2

"STATUS", "ENTITY ID", "SDN", "EDN", "ENUMENTMSGs"
"K", "123456789012345", "", "", 0
"K", "123456789123456", "", "", 2134
```

Assuming each data line will be:

4 char status + 3\* (18 char Entity ID/SDN/EDN) + (6 char data) + 2 = 66 chars

Typical file size is:



**Table 3-117 Typical File Size: mtcd-enument.csv**

| System header |   | Report header |   | Report data (1024 entries) | = | File Size   |
|---------------|---|---------------|---|----------------------------|---|-------------|
| 250           | + | 48            | + | 67584 bytes                | = | 67882 bytes |

FTP example output file format for per ACL report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ???-65.27.0", "2014-08-22", "22:01:34", "MST ", "DAILY
MAINTENANCE MEASUREMENTS ON ENUM
PER-ACL", "LAST", "2014-08-22", "00:00:00", "24:00:00", 1

"STATUS", "IP
ADDRESS", "ENUMACLQRCV", "ENUMACLQRJD", "ENUMACLRC0", "ENUMACLRC1", "ENUMACLRC2", "
ENUMACLRC3",
"ENUMACLRC4", "ENUMACLRC5"
"K", "10.*.*.*", 2134, 0, 2134, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 18 char (IP Address) + 8 \* (6 char data) + 2 = 72 chars

Typical file size is:

**Table 3-118 Typical File Size: mtcd-enumacl.csv**

| System header |   | Report header |   | Report data (100 entries) | = | File Size  |
|---------------|---|---------------|---|---------------------------|---|------------|
| 250           | + | 129           | + | 7200 bytes                | = | 7579 bytes |

## SFTHROT MTCD Report

The entity type for SFTHROT measurements is `SFTHROT`, which generates one report per period.

The measurement report supported is:

- Per Throttling Action System Totals

The measurement report Type supported is:

- MTCD - Daily measurement report type

Example Commands:

FTP: `rept-ftp-meas:type=mtcd:enttype=sfthrot`

**Table 3-119 Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements**

| Event Name | Description                                                                                    | Unit      |
|------------|------------------------------------------------------------------------------------------------|-----------|
| GTTATHTO   | The total number of messages serviced by a particular Throttling GTT Action.                   | peg count |
| GTTATHDI   | The total number of messages discarded because the Throttling GTT Action was in BLOCKED state. | peg count |

FTP Example Output File Name: *mtcd-sfthrot\_20150813\_2400.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "EAGLE5 46.3.0.0-66.8.0", "8/14/2015", "0:00:03", "EST" ,
"DAILY MAINTENANCE MEASUREMENTS ON
SFTHROT", "LAST", "8/13/2015", "0:00:00", "24:00:00", 32<cr><lf>

"STATUS", "THROTTLING ACTION", "GTTATHTO", "GTTATHDI"<cr><lf>
"K", "sf1", 0, 0<cr><lf>
.
"K", "sf32", 0, 0<cr><lf>
```

Assuming the data line will be:

4 char status + 12 char TA + 2 \* (6 char data) + 2 = 30 chars

Typical file size:

**Table 3-120 Typical File Size: *mtcd-sfthrot.csv***

| System Header | + | Report Header | + | Report Data (32 Throttling Actions) | = | File Size  |
|---------------|---|---------------|---|-------------------------------------|---|------------|
| 250           | + | 52            | + | 960 bytes                           | = | 1262 bytes |

## SFAPP MTCD Report

The entity type for SFAPP GTT Action is *SFAPP*, which generates one report per period.

The measurement report supported is:

- Per SFAPP GTT Action Totals

The measurement report Type supported is:

- MTCPTH - Daily measurement report type

Example Commands:

FTP: rept-ftp-meas:type=mtcd:enttype=sfapp

**Table 3-121 Daily Maintenance (MTCPTH) and Day-To-Hour Maintenance (MTCPTH) Measurements**

| Event Name  | Description                                                      | Unit      |
|-------------|------------------------------------------------------------------|-----------|
| SFAPPSUCC   | Total number of messages which pass validation for a GTT action. | peg count |
| SFAPPFAIL   | Total number of messages which fail validation for a GTT action. | peg count |
| SFAPPERROR1 | Total number of CAT3.1/CAT3.2 messages having decode error.      | peg count |
| SFAPPERROR2 | Total number of ATI_ACK messages having error.                   | peg count |

FTP Example Output File Name: mtcd-sfapp\_20171211\_2400.csv

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "EAGLE 46.5.1.5.0-73.6.0", "2017-12-12", "00:00:25", "MST ", "DAILY
MAINTENANCE MEASUREMENTS ON
SFAPP", "LAST", "2017-12-11", "00:00:00", "24:00:00", 2<cr><lf>

"STATUS", "GTT
ACTION", "SFAPPSUCC", "SFAPPFAIL", "SFAPPERROR1", "SFAPPERROR2"<cr><lf>
"I", "sfapp1", 0, 1, 0, 19<cr><lf>
"I", "def_sfapp", 0, 0, 0, 3<cr><lf>
```

Assuming the data line will be:

4 char status + 12 char (GTT action) + 4 \* (6 char data) + 2 = 40 chars

Typical file size:

**Table 3-122 Typical File Size: mtcd-sfapp.csv**

|               |   |               |   |                          |   |            |
|---------------|---|---------------|---|--------------------------|---|------------|
| System Header | + | Report Header | + | Report Data (33 entries) | = | File Size  |
| 250           | + | 75            | + | 1320 bytes               | = | 1645 bytes |

## Day-to-Hour Maintenance Measurements (MTCPTH)

The Maintenance Day-to-Hour (MTCPTH) report provides the current value of various maintenance measurements accumulating during the day.

**Entity Types:** STP, Link, Lnkset, , SCTPASOC, SCTPCARD, UA

**Accumulation Interval:** Cumulative Daily Total to the last full hour.  
**STP Retention Period:** 1 hour  
**Reporting Mode:** On-demand  
**Accessible Collection Periods:** Last

## STP MTCDDTH Report

### Example Commands:

```
UI: rept-meas:type=mtcdth:enttype=stp
FTP: rept-ftp-meas:type=mtcdth:enttype=stp
```

**Table 3-123 Daily Maintenance (MTCDD) and Day-To-Hour Maintenance (MTCDDTH) Measurements**

| Event Name | Description                                                                                                                                                                                                                | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| CRSYSAL    | <b>Critical System Alarms</b> - The total number of critical system alarms.                                                                                                                                                | peg count |
| DRDCLFLR   | <b>Cumulative Duration of Signaling Link Declared Failures All Types</b> - The cumulative duration of all link failures.                                                                                                   | seconds   |
| DURLKOTG   | <b>Duration of Link Outage</b> - The total time a link was unavailable to <b>MTP</b> level 3 for any reason.                                                                                                               | seconds   |
| DTAMSULOST | <b>DTAMSUsLost</b> - The total number of <b>MSUs</b> that were discarded because the redirect function was turned off or the original <b>MSU</b> was too large to be encapsulated.                                         | peg count |
| GFGTMATCH  | <b>G-FlexGTTs with Match</b> - The total number of <b>G-Flex Global Title Translation</b> successfully completed.                                                                                                          | peg count |
| GFGTNOMCH  | <b>G-FlexGTTs No Match</b> - The total number of <b>G-Flex</b> Global Title Translations completed that did not match an entry in the <b>GSM</b> database.                                                                 | peg count |
| GFGTNOLKUP | <b>G-FlexGTTs No Look-up</b> - The total number of <b>G-Flex</b> Global Title Translations that could not be looked up in the <b>GSM</b> database because of an error, i.e., when the G-Flex SCCP CdPA verification fails. | peg count |

Table 3-123 (Cont.) Daily Maintenance (MTCPT) and Day-To-Hour Maintenance (MTCPTH) Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GTTPERFD   | <p><b>GTTs Performed</b> - <i>Usually</i>, the total number of <b>MSUs</b> that successfully completed global title translation (<b>GTT</b>). Also includes <b>G-Port</b> and <b>INPMSUs</b> that got a match in either the <b>G-Port</b>, <b>INP</b>, or <b>GTT DB</b>.</p> <p><i>Sometimes</i>, GTTPERFD indicates the total number of global title translations (GTTs) performed on MSUs that successfully completed GTT, because several GTTs may happen for the same MSU. One scenario where multiple GTTs occur for an MSU occurs is when the ANSI/ITU SCCP Conversion Feature is activated. In this case, the count for GTTPERFD can be double what it would be without the feature, although the number of MSUs received by the EAGLE did not change.</p> | peg count |
| GTTUNONS   | <p><b>GTTs Unable to Perform - Diagnostic 0: No Translation for Address of Such Nature</b> – Total number of times that the specified translation type in an <b>MSU</b> was not supported by the <b>STP</b> or the form of the <b>GTT</b> was incorrect for the given translation type. Also includes <b>G-Flex</b>, <b>INP</b> and <b>GTT MSUs</b> that did not match on new selectors (<b>GTT,INP,NAI</b>) in addition to ones not matching on <b>TT</b>.</p>                                                                                                                                                                                                                                                                                                   | peg count |
| GTTUN1NT   | <p><b>GTTs Unable to Perform - Diagnostic 1: No Translation for This Address</b> – The sum total of times that <b>SCCP</b> could not find a translation in the translation table. This includes Global Title translations, <b>Point Code</b> translations, and Subsystem translations.</p> <p>In general, this register contains the sum of the <b>GTTUN1NT</b> register in the systot-tt report and the <b>CGGTTUN1NT</b></p>                                                                                                                                                                                                                                                                                                                                    | peg count |

**Table 3-123 (Cont.) Daily Maintenance (MTCPT) and Day-To-Hour Maintenance (MTCPTH) Measurements**

| <b>Event Name</b> | <b>Description</b>                                                                                                                                                                                                                      | <b>Unit</b> |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>MSIDPNOMCH</b> | <b>MSUs Relayed</b> - Total number of IDP messages relayed to their destination.                                                                                                                                                        | peg count   |
| <b>MSIDPMATCH</b> | <b>MSUs Returned</b> – Total number of IDP messages returned to originating MSC. These messages bypass the prepaid engine since it has been determined that they meet the criteria for subscribers with unlimited prepaid calling plan. | peg count   |
| <b>MSINVDPC</b>   | <b>MSUs Rcvd – InvalidDPC</b> - Number of <b>MSUs</b> received and discarded because the <b>DPC</b> could not be found in the <b>STP</b> routing table.                                                                                 | peg count   |
| <b>MSINVSIF</b>   | <b>MSUs Discarded – InvalidSIF</b> - Number of <b>MSUs</b> that have been received and discarded because of an invalid <b>SIF</b> .                                                                                                     | peg count   |
| <b>MSINVSIO</b>   | <b>MSUs Rcvd – Invalid Service Indicator Octet (SIO)</b> - Number of <b>MSUs</b> received and discarded because the service requested in the service indicator octet ( <b>SIO</b> ) was not supported by the <b>STP</b> .               | peg count   |
| <b>MASYSAL</b>    | <b>Major system alarms</b> - The total number of major system alarms.                                                                                                                                                                   | peg count   |
| <b>MISYSAL</b>    | <b>Minor system alarms</b> - The total number of minor system alarms.                                                                                                                                                                   | peg count   |
| <b>MSINVLNK</b>   | <b>MSUs Discarded – InvalidLink</b> - Number of <b>MSUs</b> discarded because of an incorrect <b>SLC</b> . (The <b>SLC</b> refers to a nonexistent link or the same link.)                                                              | peg count   |
| <b>MSINVSLC</b>   | <b>MSUs Discarded – InvalidSLC</b> - Number of <b>MSUs</b> discarded because of an invalid <b>SLC</b> code in the <b>ECO/COO</b> .                                                                                                      | peg count   |

Table 3-123 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                      | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSNACDPC   | <b>MSUs Discarded – InaccessibleDPC -</b><br>The total number of <b>MSUs</b> discarded because of an inaccessible <b>DPC</b> .                                                                                                                                                                                                                                                                   | peg count |
| MSSCCPFL   | <b>MSUs Discarded – Routing Failure -</b><br>Number of <b>MSUs</b> discarded due to an <b>SCCP</b> routing failure. Also includes <b>G-Flex</b> , <b>INP MSUs</b> that got a match from either the <b>G-Flex</b> , <b>INP</b> or <b>GTT DB</b> but cannot be routed due to <b>PC</b> or <b>SS</b> congestion, <b>PC</b> or <b>SS</b> unavailable, <b>SS</b> unequipped, or an unqualified error. | peg count |
| MSUSCCPFLR | <b>MSUSCCP Failure - Total MSUs Discarded Due to SCCP Conversion Failure.</b>                                                                                                                                                                                                                                                                                                                    | peg count |
| MSUDSCRD   | <b>MSUs Discarded –Gateway Screening -</b><br>The total number of <b>MSUs</b> that failed gateway screening and were discarded. See linkset report for individual peg counts.                                                                                                                                                                                                                    | peg count |
| MSULOST1   | <b>MSUs Discarded – Level 2/ Level 3 Queue Full -</b><br>Number of <b>MSUs</b> discarded because the level 2 to level 3 queue was full.                                                                                                                                                                                                                                                          | peg count |
| MSULOST2   | <b>MSUs Discarded –Route On Hold Buffer Overflow -</b><br>Number of <b>MSUs</b> discarded because the routing buffer was in overflow.                                                                                                                                                                                                                                                            | peg count |

**Table 3-123 (Cont.) Daily Maintenance (MTCPT) and Day-To-Hour Maintenance (MTCPTH) Measurements**

| Event Name      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Unit      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>MSULOST3</b> | <p><b>MSUs Discarded –</b></p> <ol style="list-style-type: none"> <li>1. <b>LS On Hold Buffer Overflow</b> - The number of MSUs discarded because the linkset-on-hold buffer was in overflow. The On Hold Buffer is used during changeover/changeback situations to ensure that traffic is sequenced correctly. During changeover and changeback, MSUs that were originally sent over links which are now failed (not IS-NR) are buffered while the changeover/changeback procedures are carried out. Once those procedures are completed, the traffic in the on-hold buffer is routed based on the current configuration.</li> <li>2. <b>LSL LIM</b> does not have SCCP assignment for received SCCP traffic.</li> <li>3. <b>HSL –</b> <ul style="list-style-type: none"> <li>• All Class 1 (sequenced) GTT traffic addressed to EAGLE</li> <li>• A Class 0 GTT message for EAGLE arrives when the SCCP TVG queue is full</li> <li>• A GTT message in the SCCP TVG queue is more than 2 seconds old.</li> </ul> </li> </ol> | peg count |
| <b>MSULOST4</b> | <p><b>MSUs Discarded – Rcv Queue Full -</b></p> <p>Number of <b>MSUs</b> discarded because the receive queue was full.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | peg count |
| <b>MSULOST5</b> | <p><b>MSUs Discarded –LIM Init -</b></p> <p>Number of <b>MSUs</b> discarded while the <b>LIM</b> card was initializing.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | peg count |



Table 3-123 (Cont.) Daily Maintenance (MTCPT) and Day-To-Hour Maintenance (MTCPTH) Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSULOST6   | <b>MSUs Discarded</b> – The number of MSUs discarded due to an error encountered during internal (IMT) transfer of MSU between cards.                                                                                                                                                                                                                      | peg count |
| MTPRESTS   | <b>MTP Restarts Initiated</b> - Number of times <b>MTP</b> restart was initiated by the <b>STP</b> . The count does not include the number of <b>MTP</b> restarts initiated as a result of messages from adjacent nodes.                                                                                                                                   | peg count |
| OMSINVDPC  | <b>MSUs Originated</b> - Invalid DPC - The number of MSUs originated with an invalid DPC.                                                                                                                                                                                                                                                                  | peg count |
| ORIGMSUS   | <b>OriginatedMSUs</b> - The total number of outgoing <b>MSUs</b> successfully passed to <b>MTP</b> level 2 for transmission, while carrying the <b>STP</b> point code in the <b>OPC</b> field. For IPGW links, this register includes counts for management messages such as RST messages. This register is not an aggregate of link or linkset registers. | peg count |
| OVSZMSG    | <b>OversizedMTP 3 Messages</b> - Oversized <b>MTP</b> 3 messages exceeding 272 octets (level 3) that are received by an <b>HSL</b> and are discarded.                                                                                                                                                                                                      | peg count |
| SCCPLOOP   | The total number of times that a <b>GTT translation matched a Point Code in the STP's loopset</b> entries resulting in either a notify or discard of an SCCP message.                                                                                                                                                                                      | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                                                                                                              | status    |

**Table 3-123 (Cont.) Daily Maintenance (MTC D) and Day-To-Hour Maintenance (MTC DTH) Measurements**

| Event Name | Description                                                                                                                                                                                                                                                    | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| THRSWMSU   | <b>Through-SwitchedMSUs</b> -<br>The total number of <b>MSUs</b> that did not carry the <b>STP</b> point code in the <b>OPC</b> or the <b>DPC</b> , and were successfully passed to <b>MTP</b> level 2 for transmission.                                       | peg count |
| TRMDMSUS   | <b>TerminatedMSUs</b> - The total number of incoming <b>MSUs</b> carrying the <b>STP</b> point code in the <b>DPC</b> .                                                                                                                                        | peg count |
| TTMAPPF    | <b>Translation Type Mapping Translations Performed</b> -<br>The total number of <b>Translation Type</b> Mapping translations performed (that is, a mapped <b>SS7</b> message translation type was found for the existing <b>SS7</b> message translation type). | peg count |
| UDTXUDTF   | Total number of messages for which UDT(S) to XUDT(S), XUDT(S) to UDT(S) or Segmented XUDT(S) to UDT(S) conversion has failed.                                                                                                                                  | peg count |
| XLXTELEI   | <b>X-List Entry Not Created</b> -<br>The total number of times that an X-List entry was not created because the <b>ELEI</b> for the cluster was set to 'yes'.                                                                                                  | peg count |
| XLXTSPACE  | <b>X-List Entry Not Created</b> -<br>The total number of times an X-List entry was not created due to lack of space in the route/destination table.                                                                                                            | peg count |

**UI Reports**

**UI Example Output:**

```
e1061001 11-01-23 01:10:37 MST EAGLE5 43.0.0-63.49.0
TYPE OF REPORT: DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON STP
REPORT PERIOD: LAST
REPORT INTERVAL: 11-01-23, 00:00:00 THROUGH 00:59:59

STP-MTC DTH MEASUREMENTS

These measurements are from 11-01-23, 00:00:00 through 00:59:59.
ORIGMSUS = 0, TRMDMSUS = 0, THRSWMSU
= 0,
```



**Table 3-125 Registers Reported per LINK CLASS for Daily (MTCPT) and Day-To-Hour (MTCPTH) Link Measurements**

| Event Name         | MTP2 Class | SAAL Class | IPVL Class | IPVLGW Class | IPVHSL Class |
|--------------------|------------|------------|------------|--------------|--------------|
| ACHGOVRS           | X          | X          | X          | X            | X            |
| DRBSYLNK           | X          |            |            |              | X            |
| DRDCLFLR           | X          | X          | X          | X            | X            |
| DRFEPRO            | X          |            |            |              | X            |
| DRLCLPRO           | X          | X          | X          | X            | X            |
| DRLKINHB           | X          | X          |            |              | X            |
| ECCNGLV1           | X          | X          | X          | X            | X            |
| ECCNGLV2           | X          | X          | X          | X            | X            |
| ECCNGLV3           | X          | X          | X          | X            | X            |
| ECLNKCB            |            |            |            |              | X            |
| ECLNKXCO           |            |            |            |              | X            |
| FARMGINH           | X          | X          |            |              | X            |
| LMSUOCTRC<br>V     |            |            | X          | X            | X            |
| LMSUOCTTR<br>N     |            |            | X          | X            | X            |
| LMSURCV            |            |            | X          | X            | X            |
| LMSURCVDS<br>C     |            |            | X          | X            | X            |
| LMSUTRN            |            |            | X          | X            | X            |
| LMSUTRND<br>S<br>C |            |            | X          | X            | X            |
| LNKAVAIL           | X          | X          | X          | X            | X            |
| M2PLKNIS           |            |            |            |              | X            |
| M2PUDMRC           |            |            |            |              | X            |
| M2PUDMTR           |            |            |            |              | X            |
| M2PUDOCR           |            |            |            |              | X            |
| M2PUDOCT           |            |            |            |              | X            |
| MOCTRCVD           | X          | X          | X          | X            | X            |
| MOCTTRAN           | X          | X          | X          | X            | X            |
| MSGDISC0           | X          | X          | X          | X            | X            |
| MSGDISC1           | X          | X          | X          | X            | X            |
| MSGDISC2           | X          | X          | X          | X            | X            |
| MSGDISC3           | X          | X          | X          | X            | X            |
| MSGSRCVD           | X          | X          | X          | X            | X            |
| MSGSTRAN           | X          | X          | X          | X            | X            |
| MSURCERR           | X          |            |            |              |              |
| MSURETRN           | X          |            |            |              |              |

**Table 3-125 (Cont.) Registers Reported per LINK CLASS for Daily (MTCPTD) and Day-To-Hour (MTCPTH) Link Measurements**

| Event Name     | MTP2 Class | SAAL Class | IPVL Class | IPVLGW Class | IPVHSL Class |
|----------------|------------|------------|------------|--------------|--------------|
| NDCFLABN       | X          |            |            |              |              |
| NDCFLXDA       | X          | X          |            |              | X            |
| NDCFLXDC       | X          | X          |            |              | X            |
| NDCFLXER       | X          | X          |            |              |              |
| NEARMGIH       | X          | X          |            |              | X            |
| NEGACKS        | X          |            |            |              |              |
| NMLCLPRO       | X          | X          | X          | X            | X            |
| NMDCLFLR       | X          | X          | X          | X            | X            |
| NMFEPRO        | X          |            |            |              | X            |
| OCTRETRN       | X          |            |            |              |              |
| PCRN1N2EX<br>C | X          |            |            |              |              |
| SDPDURTR       |            | X          |            |              |              |
| SURCVERR       | X          | X          |            |              |              |
| TDCNGLV1       | X          | X          | X          | X            | X            |
| TDCNGLV2       | X          | X          | X          | X            | X            |
| TDCNGLV3       | X          | X          | X          | X            | X            |
| TLNKACTV       | X          | X          | X          | X            | X            |

### Command Examples

- UI
 

```
rept-meas:type=mtcdth:enttype=link:loc=xxxx:link=x
rept-meas:type=mtcdth:enttype=link:lsn=lsn123
rept-meas:type=mtcdth:enttype=link:rsn=rs1
```
- FTP
 

```
rept-ftp-meas:type=mtcdth:enttype=link
```

### Measurement Events

**Table 3-126 Maintenance Daily (MTCPTD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name | Description                                                                                                                                         | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ACHGOVRS   | <b>Number of Automatic Changeovers</b> - Number of times that a changeover procedure was used to divert traffic from one link to alternative links. | peg count |

**Table 3-126 (Cont.) Maintenance Daily (MTCPTD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                             | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| DRBSYLNK   | <b>Cumulative Duration of Busy Link Status-</b><br>The total elapsed time between the receipt of a busy <b>LSSU</b> , and when the next message was acknowledged. This is the sum of all occurrences of busy link status. Reported for MTP2 Links only. | seconds   |
| DRDCLFLR   | <b>Cumulative Duration of Signaling Link Declared Failures All Types -</b> The cumulative duration of all link failures.                                                                                                                                | seconds   |
| DRFEPRO    | <b>Duration of Far-End Processor Outage -</b><br>The cumulative duration that a link was unavailable to MTP level 3 because of a processor outage at the far-end network element (SIPO received). Reported for MTP2 and IPVHSL class links ONLY.        | seconds   |
| DRLCLPRO   | <b>Duration of Local Processor Outage -</b><br>The cumulative duration that a link was unavailable to <b>MTP</b> level 3 because of a processor outage at the near-end network element.                                                                 | seconds   |
| DRLKINHB   | <b>Duration Link Inhibited -</b> The cumulative duration that a link was inhibited at the local or far-end network element.                                                                                                                             | seconds   |
| ECCNGLV1   | <b>Event Count for Entering Level 1 Link Congestion -</b> The total number of times that link congestion level 1 was entered.                                                                                                                           | peg count |
| ECCNGLV2   | <b>Event Count for Entering Level 2 Link Congestion -</b> The total number of times that link congestion level 2 was entered.                                                                                                                           | peg count |
| ECCNGLV3   | <b>Event Count for Entering Level 3 Link Congestion -</b> The total number of times that link congestion level 3 was entered.                                                                                                                           | peg count |
| ECLNKCB    | Number of times the link performed ChangeBack procedures, including time-controlled ChangeBacks.                                                                                                                                                        | peg count |

Table 3-126 (Cont.) Maintenance Daily (MTC D) and Maintenance Day-to-Hour (MTC DTH) Link Measurements

| Event Name | Description                                                                                                                                                                                                              | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ECLNKXCO   | Number of times the link performed Extended ChangeOver procedure, including time-controlled ChangeOvers.                                                                                                                 | peg count |
| FARMGINH   | <b>Number of Far-End Management Inhibits</b> - Number of times a link was inhibited successfully from the far-end.                                                                                                       | peg count |
| GTTFORSM   | Total number of messages that are sent from a GTT enabled IPSP card to an SCCP card.                                                                                                                                     | peg count |
| GTTONLIM   | Total number of messages on which GTT is performed on a GTT enabled IPSP card.                                                                                                                                           | peg count |
| LMSUOCTRCV | The number of <b>octets received in large MSUs</b> . This register is pegged in addition to MOCTRCVD when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully received.          | octets    |
| LMSUOCTTRN | The number of <b>octets transmitted in large MSUs</b> . This register is pegged in addition to MOCTTRAN when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully transmitted.    | octets    |
| LMSURCV    | The number of <b>large MSUs received</b> . This register is pegged in addition to MSGSRCVD when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully received.                    | peg count |
| LMSURCVDSC | The number of <b>large MSUs discarded in the receive path</b> . This can occur when the Large MSU Support for IP Signaling feature is not on or when the MSU is larger than 4095 bytes or when a routing failure occurs. | peg count |
| LMSUTRN    | <b>The number of large MSUs transmitted</b> . This register is pegged in addition to MSGSTRAN when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully transmitted.              | peg count |

**Table 3-126 (Cont.) Maintenance Daily (MTCPTD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name       | Description                                                                                                                                                                                                                                                                                                                                               | Unit      |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>LMSUTRDSC</b> | The number of large MSUs discarded in the transmit path.                                                                                                                                                                                                                                                                                                  | peg count |
| <b>LNKAVAIL</b>  | <b>Link Available Time</b> - The total time the link was available to MTP level 3.                                                                                                                                                                                                                                                                        | seconds   |
| <b>M2PLKNIS</b>  | <b>M2PA Link Not-in-Service Duration</b> The duration the link was not in the in-service (INS) state at the M2PA layer (in seconds), i.e., during which the link was in any of the other defined M2PA states (such as IDLE, OOS, AIP, PROVING, ALIGNED READY, or RETRIEVAL).                                                                              | msec      |
| <b>M2PUDMRC</b>  | The number of M2PA UDMs received.                                                                                                                                                                                                                                                                                                                         | peg count |
| <b>M2PUDMTR</b>  | The number of M2PA User Data Messages (UDMs) transmitted.                                                                                                                                                                                                                                                                                                 | peg count |
| <b>M2PUDOCR</b>  | The number of M2PA UDM octets received.                                                                                                                                                                                                                                                                                                                   | octets    |
| <b>M2PUDOCT</b>  | The number of M2PA User Data Message (UDM) octets transmitted.                                                                                                                                                                                                                                                                                            | octets    |
| <b>MOCTRCVD</b>  | <p><b>Message Octets Received</b> - Total number of octets associated with Messages received, including those removed for MTP level 2 processing and those for which retransmission has been requested.</p> <ul style="list-style-type: none"> <li>• For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes.</li> </ul> | octets    |



**Table 3-126 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Unit   |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| MOCTTRAN   | <p><b>Message Octets Transmitted -</b> Total number of octets associated with MSUs transmitted to the far-end. For all linkset classes, this includes octets for MTP level 3 SIO and SIF.</p> <ul style="list-style-type: none"><li>• For MTP2 class linksets, octets included are those associated with Messages transmitted AND acknowledged by level 2, as well as any retransmitted Messages. Additional octets included are MTP level 2 flag, BSN/BIB, FSN/BIB, LI, and CRC octets.</li><li>• For SAAL and IPVHSL class linksets, octets are not included until the Message is acknowledged by level 2.</li><li>• For IPVL and IPVLGW class links, octets are not included until the Message is transmitted by level 2. For IPVLGW class linksets, SNMs (Messages with SI=0) are NOT included.</li></ul> | octets |

**Table 3-126 (Cont.) Maintenance Daily (MTCPTD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSGDISC0   | <p>For ANSI links: <b>Priority 0 MSUs Discarded Due to Congestion</b> - The total number of priority 0 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>EAGLE supports this one ITU discard counter only. When the discard threshold is reached, all MSUs are discarded and counted in this register. Prior to the discard threshold being reached, no MSUs are discarded.</li> <li>The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</li> </ul> | peg count |
| MSGDISC1   | <p>For ANSI links: <b>Priority 1 MSUs Discarded Due to Congestion</b> - The total number of priority 1 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p>For ITU links: this register is not applicable.</p> <p><b>Note:</b> The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p>                                                                                                                                                                                                                        | peg count |

Table 3-126 (Cont.) Maintenance Daily (MTCPT) and Maintenance Day-to-Hour (MTCPTH) Link Measurements

| Event Name      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Unit      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>MSGDISC2</b> | <p>For ANSI links: <b>Priority 2 MSUs Discarded Due to Congestion</b> - The total number of priority 2 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p>For ITU links: this register is not applicable.</p> <p><b>Note:</b> The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p> | peg count |
| <b>MSGDISC3</b> | <p>For ANSI links: <b>Priority 3 MSUs Discarded Due to Congestion</b> - The total number of priority 3 MSUs discarded due to congestion (any level).</p> <ul style="list-style-type: none"> <li>For SAAL class links, applies to MTP level 3 messages .</li> </ul> <p>For ITU links: this register is not applicable.</p> <p><b>Note:</b> The MSUs or Messages may be discarded on the transmit/outbound link, which indicates congestion via the ECCNGLVLx or TDCNGLVx registers or it may appear on inbound links routing traffic to those congested links. The latter will not indicate either ECCNGLVLx or TDCNGLVx.</p> | peg count |
| <b>MSGSRCVD</b> | <p><b>MSUs Received</b> - Total number of <b>MSUs</b> received, including those for which retransmission has been requested.</p> <ul style="list-style-type: none"> <li>For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages.</li> </ul>                                                                                                                                                                                                                                                                                                                                                      | peg count |

**Table 3-126 (Cont.) Maintenance Daily (MTCPTD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| <b>Event Name</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Unit</b> |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>MSGSTRAN</b>   | <p><b>MSUs Transmitted -</b><br/>Total number of <b>MSUs</b> transmitted to the far-end, including retransmissions.</p> <ul style="list-style-type: none"> <li>• For MTP2 class links, MSUs transmitted AND acknowledged by level 2.</li> <li>• For SAAL, IPVL, IPVHSL, and IPVLGW class linksets, MTP level 3 messages offered for transmission after any required conversion from their respective M2PA, M3UA, or SUA formats.</li> </ul>                                                                                                                                                     | peg count   |
| <b>MSURCERR</b>   | Number of <b>Message signal Units received in error - bad CRC</b> . This register applies to MTP2 links only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | peg count   |
| <b>MSURETRN</b>   | <b>MSUs Retransmitted</b> - Number of <b>MSUs</b> retransmitted because of errors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | peg count   |
| <b>NDCFLABN</b>   | <p><b>Number of Signaling Link Failures - Abnormal FIB/BSN -</b><br/>The number of times the signaling link was taken out-of-service because of abnormal FIB/BSN received. A count was accumulated if two backward sequence number values in three consecutively received MSUs or FISUs are not the same as the previous one or any of the forward sequence numbers of the signal units in the retransmission buffer at the time they are retransmitted. Reported for MTP2 links only. Occurrences of this condition while the link is not in-service are not accumulated in this register.</p> | peg count   |

**Table 3-126 (Cont.) Maintenance Daily (MTCPTD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                               | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NDCFLXDA   | <p><b>Number of Signaling Link Failures - Excessive Delay of Acknowledgment</b> - Number of times a signaling link was out-of-service due to an excessive delay in acknowledgments.</p> <ul style="list-style-type: none"> <li>For MTP2 and IPVHSL class links, level 2 t7 expired level</li> <li>For SAAL class links, timer NO_RESPONSE expired for POLL/STAT response</li> <li>Not reported for IPVL and IPVLGW class links</li> </ul> | peg count |
| NDCFLXDC   | <p><b>Number of Signaling Link Failures - Excessive Duration of Congestion</b></p> <ul style="list-style-type: none"> <li>For MTP2 and IPVHSL class links, the number of times a signaling link was out-of-service because the Level 2 timer T6 (remote congestion) expired</li> <li>For SAAL class links, the number of times timer NO_CREDIT expired</li> <li>Not reported for IPVL and IPVLGW class links</li> </ul>                   | peg count |
| NDCFLXER   | <p><b>Number of Signaling Link Failures - Excessive Error Rate</b> - Number of times a signaling link was out-of-service because it reached the signal unit error rate monitor (<b>SUERM</b>) threshold. Reported for MTP2 and SAAL links only.</p>                                                                                                                                                                                       | peg count |
| NEARMGIH   | <p><b>Number of Near-End Management Inhibits</b> - Number of times a link was unavailable to MTP level 3 because it was locally inhibited. Not reported for IPVL and IPVLGW class links.</p>                                                                                                                                                                                                                                              | peg count |
| NEGACKS    | <p><b>Number of Negative Acknowledgments Received</b> - Number of times the BSN in an MSU was inverted, indicating a retransmission request. This register is NOT applicable to HSLs.</p>                                                                                                                                                                                                                                                 | peg count |
| NMLCLPRO   | <p><b>Number of Local Processor Outages</b> - The total number of local processor outages in this STP.</p>                                                                                                                                                                                                                                                                                                                                | peg count |

**Table 3-126 (Cont.) Maintenance Daily (MTCPTD) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                     | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NMDCLFLR   | <b>Number of Signaling Link Declared Failures All Types</b> - The cumulative total of all link failures.                                                                                                                                                                                                                                                                                                        | peg count |
| NMFEPRO    | <b>Number of Far-End Processor Outages</b> -<br>Number of far-end processor outages that have occurred. Reported for MTP2 links only                                                                                                                                                                                                                                                                            | peg count |
| OCTRETRN   | <b>Number of MSU octets retransmitted.</b> This register is NOT reported for SAAL class links.                                                                                                                                                                                                                                                                                                                  | peg count |
| PCRN1N2EXC | <b>PCR N1 or N2 Count Exceeded</b> - The total number of forced retransmissions when preventive cyclic retransmission ( <b>PCR</b> ) is used as the error correction method on a link. This register is not applicable to HSLs.                                                                                                                                                                                 | peg count |
| SDPDURTR   | <b>SSCOP SD PDUs Retransmitted</b> - The number of SSCOP sequenced Data PDUs that were retransmitted, based on an accumulated count of such retransmissions conveyed to LM. This measurement replaces the MTP level 2 negative acknowledgments.                                                                                                                                                                 | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                                                                                                                                                                   | status    |
| SURCVERR   | <b>Number of Signal Units Received In Error</b> - Number of Signal Units Received In Error - The number of signal units received with checksum errors, indicating transmission errors.<br><ul style="list-style-type: none"><li>• For MTP2 class links, applies to FISUs, LSSUs, and MSUs.</li><li>• For SAAL class links, this register reflects the number of SSCOP PDUs received with any errors .</li></ul> | peg count |
| TDCNGLV1   | <b>Total Duration of Level 1 Link Congestion</b> - The total time the link was in level 1 congestion.                                                                                                                                                                                                                                                                                                           | seconds   |

**Table 3-126 (Cont.) Maintenance Daily (MTCPT) and Maintenance Day-to-Hour (MTCPTH) Link Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                        | Unit    |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| TDCNGLV2   | <b>Total Duration of Level 2 Link Congestion</b> - The total time the link was in level 2 congestion.                                                                                                                                                                                                                                              | seconds |
| TDCNGLV3   | <b>Total Duration of Level 3 Link Congestion</b> - The total time the link was in level 3 congestion.                                                                                                                                                                                                                                              | seconds |
| TLNKACTV   | <b>Link active time</b> - total time the link is active and transmitting MSUs. <ul style="list-style-type: none"> <li>For SAAL class links, the time the link is active and giving MSUs to SAAL for transmission.</li> <li>For IP7 links, TLNKACTV is based on 10MB Ethernet link speed. Hence the report will be relative to 10MB/sec.</li> </ul> | seconds |

**UI Reports**

- rept-meas:type=mtcdth:enttype=link:loc=xxxx:link=x

```
tekelecstp 12-02-12 00:07:37 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11 00:00:00 THRU 23:59:59

LINK-MTCD MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-
UNCH)

MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN =
0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD =
0,
TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3 =
0,
ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3 =
0,
MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2 =
0,
MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL =
0,
ACHGOVRS = 0, NEARMGIH = 0, FARMGINH =
0,
NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR =
0,
NEGACKS = 0, DRLKINHB = 0, NDCFLABN =
0,
NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC =
0,
```

```

 NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO
= 0,
 DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK
= 0,
 PCRN1N2EXC = 0

;

 tekelecstp 12-02-12 00:07:40 EST EAGLE5 44.0.0
 LINK-MTCD MEASUREMENTS: LOC: 1103, LINK: A , LSN:
ipsg (IPVL)

 MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN
= 0,
 MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2
= 0,
 TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
 ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
= 0,
 MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
 LNKAVAIL = 0, ACHGOVRS = 0, NMDCLFLR
= 0,
 DRDCLFLR = 0, NMLCLPRO = 0, DRLCLPRO
= 0,
 LMSUTRN = 0, LMSURCV = 0, LMSUOCTTRN
= 0,
 LMSUOCTRCV = 0, LMSUTRNDSC = 0, LMSURCVDSC
= 0

;

 tekelecstp 12-02-12 00:07:42 EST EAGLE5 44.0.0
 LINK-MTCD MEASUREMENTS: LOC: 1104, LINK: A , LSN:
mtp2 (MTP2)

 MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN
= 0,
 OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD
= 0,
 TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3
= 0,
 ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3
= 0,
 MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2
= 0,
 MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL
= 0,
 ACHGOVRS = 0, NEARMGIH = 0, FARMGINH
= 0,
 NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR
= 0,
 NEGACKS = 0, DRLKINHB = 0, NDCFLABN
= 0,

```



```

 NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC =
0,
 NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =
0,
 DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK =
0,
 PCRN1N2EXC = 0

```

```
;
```

```
tekelecstp 12-02-12 00:07:44 EST EAGLE5 44.0.0
```

```
LINK-MTCD MEASUREMENTS: LOC: 1105, LINK: A , LSN: ssedcm1
(IPVHSL)
```

```

 MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
 MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2 =
0,
 TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2 =
0,
 ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1 =
0,
 MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV =
0,
 LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH =
0,
 FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR =
0,
 DRLKINHB = 0, NDCFLXDA = 0, NDCFLXDC =
0,
 NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =
0,
 DRLCLPRO = 0, DRBSYLNK = 0, LMSUTRN =
0,
 LMSURCV = 0, LMSUOCTTRN = 0, LMSUOCTRCV =
0,
 LMSUTRNDSC = 0, LMSURCVDSC = 0, M2PUDMTR =
0,
 M2PUDOCT = 0, M2PUDMRC = 0, M2PUDOCR =
0,
 M2PLKNIS = 1281, ECLNKCB = 0, ECLNKXCO = 0

```

```
;
```

```
tekelecstp 12-02-12 00:07:46 EST EAGLE5 44.0.0
```

```
LINK-MTCD MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal
(SAAL)
```

```

 MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
 MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2 =
0,
 TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2 =
0,
 ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1 =

```

```

0,
MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH
= 0,
FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR
= 0,
SURCVERR = 0, DRLKINHB = 0, NDCFLXDA
= 0,
NDCFLXER = 0, NDCFLXDC = 0, NMLCLPRO
= 0,
DRLCLPRO = 0, SDPDURTR = 0

;

```

- rept-meas:type=mtcdth:enttype=link:lsn=xxx

```

tekelecstp 12-02-12 00:10:12 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11, 00:00:00 THROUGH 23:59:59

```

LINK-MTCD MEASUREMENTS FOR LINKSET mtp2:

```

LINK-MTCD MEASUREMENTS: LOC: 1104, LINK: A , LSN:
mtp2 (MTP2)

```

These measurements are from 12-02-11, 00:00:00 through 23:59:59.

```

MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN
= 0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD
= 0,
TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3
= 0,
ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3
= 0,
MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2
= 0,
MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL
= 0,
ACHGOVRS = 0, NEARMGIH = 0, FARMGINH
= 0,
NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR
= 0,
NEGACKS = 0, DRLKINHB = 0, NDCFLABN
= 0,
NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC
= 0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO
= 0,
DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK
= 0,
PCRN1N2EXC = 0

;

```

```
tekelecstp 12-02-12 00:11:21 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11, 00:00:00 THROUGH 23:59:59
```

LINK-MTCD MEASUREMENTS FOR LINKSET ipsg:

LINK-MTCD MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg  
(IPVL)

These measurements are from 12-02-11, 00:00:00 through 23:59:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MSURETRN =
0,
OCTRETRN = 0, MOCTTRAN = 0, MOCTRCVD =
0,
TDCNGLV1 = 0, TDCNGLV2 = 0, TDCNGLV3 =
0,
ECCNGLV1 = 0, ECCNGLV2 = 0, ECCNGLV3 =
0,
MSGDISC0 = 0, MSGDISC1 = 0, MSGDISC2 =
0,
MSGDISC3 = 0, TLNKACTV = 0, LNKAVAIL =
0,
ACHGOVRS = 0, NEARMGIH = 0, FARMGINH =
0,
NMDCLFLR = 0, DRDCLFLR = 0, SURCVERR =
0,
NEGACKS = 0, DRLKINHB = 0, NDCFLABN =
0,
NDCFLXDA = 0, NDCFLXER = 0, NDCFLXDC =
0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =
0,
DRLCLPRO = 0, MSURCERR = 0, DRBSYLNK =
0,
PCRN1N2EXC = 0
```

;

```
tekelecstp 12-02-12 00:11:55 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11, 00:00:00 THROUGH 23:59:59
```

LINK-MTCD MEASUREMENTS FOR LINKSET saal:

LINK-MTCD MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal  
(SAAL)

These measurements are from 12-02-11, 00:00:00 through 23:59:59.

```
MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2 =
```

```

0,
= TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
= ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
= 0,
= MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
= LNKAVAIL = 0, ACHGOVRS = 0, NMDCLFLR
= 0,
= DRDCLFLR = 0, NMLCLPRO = 0, DRLCLPRO
= 0,
= LMSUTRN = 0, LMSURCV = 0, LMSUOCTTRN
= 0,
= LMSUOCTRCV = 0, LMSUTRNDSC = 0, LMSURCVDSC
= 0
;

```

```

tekelecstp 12-02-12 00:12:30 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11, 00:00:00 THROUGH 23:59:59

```

LINK-MTCD MEASUREMENTS FOR LINKSET ssedcm1:

```

LINK-MTCD MEASUREMENTS: LOC: 1105, LINK: A , LSN:
ssedcm1 (IPVHSL)

```

These measurements are from 12-02-11, 00:00:00 through 23:59:59.

```

MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN
= 0,
= MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2
= 0,
= TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2
= 0,
= ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1
= 0,
= MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV
= 0,
= LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH
= 0,
= FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR
= 0,
= SURCVERR = 0, DRLKINHB = 0, NDCFLXDA
= 0,
= NDCFLXER = 0, NDCFLXDC = 0, NMLCLPRO
= 0,
= DRLCLPRO = 0, SDPDURTR = 0
;

```

```

tekelecstp 12-02-12 00:13:00 EST EAGLE5 44.0.0
TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LINK

```

```

REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-11, 00:00:00 THROUGH 23:59:59

LINK-MTCD MEASUREMENTS FOR LINKSET hcmimt1:

LINK-MTCD MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1 (MTP2-
UNCH)

These measurements are from 12-02-11, 00:00:00 through 23:59:59.
MSGSTRAN = 0, MSGSRCVD = 0, MOCTTRAN =
0,
MOCTRCVD = 0, TDCNGLV1 = 0, TDCNGLV2 =
0,
TDCNGLV3 = 0, ECCNGLV1 = 0, ECCNGLV2 =
0,
ECCNGLV3 = 0, MSGDISC0 = 0, MSGDISC1 =
0,
MSGDISC2 = 0, MSGDISC3 = 0, TLNKACTV =
0,
LNKAVAIL = 0, ACHGOVRS = 0, NEARMGIH =
0,
FARMGINH = 0, NMDCLFLR = 0, DRDCLFLR =
0,
DRLKINHB = 0, NDCFLXDA = 0, NDCFLXDC =
0,
NMFEPRO = 0, NMLCLPRO = 0, DRFEPRO =
0,
DRLCLPRO = 0, DRBSYLNK = 0, LMSUTRN =
0,
LMSURCV = 0, LMSUOCTTRN = 0, LMSUOCTRCV =
0,
LMSUTRNDSC = 0, LMSURCVDSC = 0, M2PUDMTR =
0,
M2PUDOCT = 0, M2PUDMRC = 0, M2PUDOCR =
0,
M2PLKNIS = 0, ECLNKCB = 0, ECLNKXCO = 0
;

```

### FTP Reports

**Table 3-127 FTP MTCATH LINK Command Headers**

| Field Name | Description   |
|------------|---------------|
| LSN        | Linkset name  |
| LOC        | Card location |
| LINK       | Link port     |
| LNKTYPE    | Link type     |

FTP Example Output File Name: *mtcdth-link\_20101004\_2400.csv*



## LNKSET MTCPTH Report

### Command Examples

- UI

```
rept-meas:type=mtcdth:enttype=lnkset:lsn=ayyyyyyy
```

- FTP

```
rept-ftp-meas:type=mtcdth:enttype=lnkset
```

**Table 3-129 Maintenance Day-to-Hour Linkset Measurements**

| Event Name | Description                                                                                                                                                                                                   | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SCCPLOOP   | The total number of times that a <b>GTT translation matched a Point Code in the STP's loopset</b> entries resulting in either a notify or discard of an SCCP message.                                         | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                 | status    |
| ZTTMAPI    | <b>Translation Type Mapping Translation Incoming</b> - The total number of <b>Translation Type Mapping</b> translations performed on incoming Message Signal Units ( <b>MSUs</b> ) for the specified linkset. | peg count |
| ZTTMAPO    | <b>Translation Type Mapping Translation Outgoing</b> - The total number of <b>Translation Type Mapping</b> translations performed on outgoing Message Signal Units ( <b>MSUs</b> ) for the specified linkset. | peg count |

### Measurement Events

**Table 3-130 Daily Maintenance (MTCPTD) and Day-to-Hour Maintenance (MTCPTH) Linkset Measurements**

| Event Name | Description                                                                                                                                                           | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SCCPLOOP   | The total number of times that a <b>GTT translation matched a Point Code in the STP's loopset</b> entries resulting in either a notify or discard of an SCCP message. | peg count |

**Table 3-130 (Cont.) Daily Maintenance (MTCPT) and Day-to-Hour Maintenance (MTCPTH) Linkset Measurements**

| Event Name | Description                                                                                                                                                                                                                                                       | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                 | status    |
| ZTTMAPI    | <b>Translation Type Mapping Translation Performed - MSUs</b><br>Received on the Gateway Linkset - The total number of <b>Translation Type</b> Mapping translations performed for incoming Message Signal Units ( <b>MSUs</b> ) received on the specified linkset. | peg count |
| ZTTMAPO    | <b>Translation Type Mapping Translation Performed - MSUs</b><br>Transmitted on the Gateway Linkset - The total number of translations performed on outgoing Message Signal Units ( <b>MSUs</b> ) for the specified linkset.                                       | peg count |

**UI Reports**

**UI Example Output:**

- Example of rept-meas:type=mtcdth:enttype=lnkset:lsn=xxx

```
tekelecstp 12-02-12 00:07:51 EST EAGLE5 44.0.0
 TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON LNKSET
 REPORT PERIOD: LAST
 REPORT INTERVAL: 12-02-11 00:00:00 THRU 23:59:59

 LNKSET-MTCD MEASUREMENTS: mtp2 (MTP2)

 ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP
= 0

;

tekelecstp 12-02-12 00:07:52 EST EAGLE5 44.0.0-64.23.0
 LNKSET-MTCD MEASUREMENTS: ipsg (IPVL)

 ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP
= 0

;

tekelecstp 12-02-12 00:07:53 EST EAGLE5 44.0.0
 LNKSET-MTCD MEASUREMENTS: ssedcm1 (IPVHSL)
```



```

ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP = 0
;

tekelecstp 12-02-12 00:07:54 EST EAGLE5 44.0.0
LNKSET-MTCD MEASUREMENTS: saal (SAAL)

ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP = 0
;

tekelecstp 12-02-12 00:07:55 EST EAGLE5 44.0.0
LNKSET-MTCD MEASUREMENTS: hcmimt1 (MTP2-UNCH)

ZTTMAPO = 0, ZTTMAPI = 0, SCCPLOOP = 0
;

```

### FTP Reports

FTP Example Output File Name: *mtcdth-lnkset\_20101005\_0100.csv*

FTP Example Output File Format:

```

"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVALSTAR
T","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-12","01:02:37","EST ","DAY-TO-
HOOR MAINTENANCE
MEASUREMENTS ON LNKSET","LAST","2012-02-12","00:00:00","01:00:00",5<cr><lf>
<cr><lf>
"STATUS","LSN","LNKTYPE","ZTTMAPO","ZTTMAPI","SCCPLOOP"<cr><lf>
"K","mtp2","MTP2",0,0,0<cr><lf>
"K","ipsg","IPVL",0,0,0<cr><lf>
"K","ssedcm1","IPVHSL",0,0,0<cr><lf>
"K","saal","SAAL",0,0,0<cr><lf>
"K","hcmimt1","MTP2-UNCH",0,0,0<cr><lf>

```

Assuming each data line will be:

4 char status + 13 char LSN + 12 char LKNTYPE + 3\*(6 char data) + 2 = 49 chars

For a report of 500 linksets, the typical file size is:

**Table 3-131 Typical File Size: *mtcdth-lnkset.csv***

| System header | + | Report header | + | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 58            | + | 24,500      | = | 24,808 bytes |

## SCTPASOC MTCDDTH Report

### Command Examples

- UI: `rept-meas:type=mtcdth:enttype=sctpasoc:aname=assoc1`
- FTP: `rept-ftp-meas:type=mtcdth:enttype=sctpasoc`

### Measurement Events

Table 3-132 lists the **SCTPASOC** events and their descriptions.

**Table 3-132 Daily Maintenance (MTCDD) and Day-to-Hour (MTCDDTH) SCTPASOC Measurements**

| Event Name      | Description                                                                                                                                                                                                                                                                                                                                   | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>ACTVESTB</b> | <b>SCTP Association Active Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the COOKIEECHOED state (COOKIE-ECHOED --> ESTABLISHED). In this case the upper layer (i.e., the local M2PA) was the initiator of the association establishment between the SCTP peers. | peg count |
| <b>ASMAXRTO</b> | <b>SCTP Association Maximum Observed Retransmission Timeout</b> - The maximum observed value of the SCTP state variable Retransmission Timeout (RTO) in milliseconds (ms) for SCTP packets transmitted (but not retransmitted) to the remote peer endpoint's destination transport address during the measurement interval.                   | msec      |
| <b>ASOCABTD</b> | <b>SCTP Aborted Associations</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from any state using the primitive "Abort" (AnyState --Abort--> CLOSED), conveying an ungraceful termination of the association.                                                                              | peg count |

**Table 3-132 (Cont.) Daily Maintenance (MTCPT) and Day-to-Hour (MTCPTH) SCTPASOC Measurements**

| Event Name | Description                                                                                                                                                                                                                                               | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ASOCSHTD   | <b>SCTP Association Shutdowns</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state, conveying graceful termination of the association.   | peg count |
| CNTLCHKR   | <b>SCTP Control Chunks Received</b> - The number of SCTP control chunks received from the remote peer (excluding duplicates).                                                                                                                             | peg count |
| CNTLCHK    | <b>SCTP Control Chunks Sent</b> - The number of SCTP control chunks sent to the remote peer (excluding retransmissions) after an association has been formed. CNTLCHKR register excludes initial SCTP association set-up messages (INIT and COOKIE-ECHO). | peg count |
| DATCHKRC   | Number of <b>SCTP DATA chunks received</b> from the remote SCTP peer (excluding duplicates and discards).                                                                                                                                                 | peg count |
| DATCHKSN   | Number of <b>SCTP DATA chunks sent</b> to the remote SCTP peer (excluding retransmissions).                                                                                                                                                               | peg count |
| DURASNEST  | Duration the association was not in the Established state.                                                                                                                                                                                                | peg count |
| ECASNEST   | Number of times the association transitioned out of the Established state.                                                                                                                                                                                | peg count |

**Table 3-132 (Cont.) Daily Maintenance (MTCPT) and Day-to-Hour (MTCPTH) SCTPASOC Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GAPACKSR   | <b>SCTP Gap Acknowledgements Received</b> - The number of Gap Acknowledgement blocks in Selective Acknowledgement (SACK) control chunks received from the remote SCTP peer, indicating gaps in the peer's received subsequences of DATA chunks as represented by their Transport Sequence Numbers (TSNs) (The inclusion of this measurement is intended to allow network personnel to assess the message-delivery performance of the IPVHSL relative to gap acknowledgment limits, if used as performance criteria for link proving and in-service monitoring). | peg count |
| ORDCHKRC   | <b>SCTP Ordered Data Chunks Received</b> - The number of SCTP ordered data chunks received from the remote peer (excluding duplicates).                                                                                                                                                                                                                                                                                                                                                                                                                         | peg count |
| ORDCHKSN   | <b>SCTP Ordered Data Chunks Sent</b> - The number of SCTP ordered data chunks sent to the remote peer (excluding retransmissions).                                                                                                                                                                                                                                                                                                                                                                                                                              | peg count |
| PASVESTB   | <b>SCTP Association Passive Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the CLOSED state (CLOSED --> ESTABLISHED), indicating that the remote peers initiated association establishment.                                                                                                                                                                                                                                                                                        | peg count |
| PEERFAIL   | <b>SCTP Association Peer Endpoint Failures</b> - The number of peer endpoint failure detection events for the association as triggered by the crossing of threshold Assoc. Max. Retrans.                                                                                                                                                                                                                                                                                                                                                                        | peg count |

Table 3-132 (Cont.) Daily Maintenance (MTCDD) and Day-to-Hour (MTCDDTH) SCTPASOC Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| RTXCHNKS   | <b>SCTP Association Retransmitted Chunks</b> - The number of SCTP data chunks retransmitted to the remote SCTP peer. When T3-rtx expires, the DATA chunks that triggered the T3 timer will be re-sent according with the retransmissions rules. Every DATA chunk that was included in the SCTP packet that triggered the T3-rtx timer must be added to the value of this counter.                                                                                                                         | peg count |
| SCOCTRCV   | <b>SCTP Packet Octets Received</b> - The number of octets comprising valid SCTP packets received from the remote peer after an association has been formed.                                                                                                                                                                                                                                                                                                                                               | octets    |
| SCOCTSNT   | <b>SCTP Packet Octets Sent</b> - The total number of octets comprising SCTP packets submitted to the IP layer for transmittal to the remote peer for a specific association.                                                                                                                                                                                                                                                                                                                              | octets    |
| SCPKTRCV   | <b>SCTP Packets Received</b> - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included.<br><br>SCPKTRCV register excludes the pegging of SCTP Packets received when no instance exists on the card for any of the links, i.e., the association parameter "OPEN" has value "NO" for all the links configured on the card. Also, excludes pegging of set up messages (INIT and COOKIE-ECHO) that are part of association establishment procedure. | peg count |

**Table 3-132 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDDTH) SCTPASOC Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SCPKTSNT   | <p><b>SCTP Packets Sent</b> - The total number of SCTP packets sent to the remote peer, i.e., submitted by the local SCTP instance to the IP layer for transmission. Retransmissions are included.</p> <p>SCPKTSNT register excludes initial SCTP association set-up messages (INIT-ACK and COOKIE-ACK) and ABORT messages. For M2PA association INIT packet is never pegged.</p> | peg count |
| STATUS     | <p>Indication of Data Validity:</p> <p><b>K</b> indicates good data<br/> <b>I</b> indicates incomplete interval<br/> <b>N</b> indicates data not current</p>                                                                                                                                                                                                                      | status    |

**UI Reports**

**UI Example Output:**

```

stdcfg2b 07-12-31 06:07:04 EST UNKNOWN 38.0.0-XX.XX.0
TYPE OF REPORT: DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON SCTPASOC
REPORT PERIOD: LAST
REPORT INTERVAL: 07-12-31 00:00:00 THRU 05:59:59

SCTPASOC-MTCDDTH MEASUREMENTS: ASSOC: assoc1

These measurements are from 07-12-31, 00:00:00 through 05:59:59.
ECASNEST = 0, DURASNEST = 0, DATCHKSN
= 0,
RTXCHNKS = 0, DATCHKRC = 0, SCPKTSNT
= 20,
SCPKTRCV = 20, SCOCTSNT = 0, SCOCTRCV
= 0,
CNTLCHKSN = 400, ORDCHKSN = 400, CNTLCHKR
= 0,
ORDCHKRC = 0, GAPACKSR = 0, ACTVESTB
= 0,
PASVESTB = 0, ASOCABTD = 0, ASOCSHTD
= 0,
PEERFAIL = 0, ASMAXRTO = 0

;

```



**Table 3-134 Daily Maintenance (MTCPTD) and Day-to-Hour Maintenance (MTCPTH) SCTPCARD Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                   | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ACTVESTB   | <b>SCTP Association Active Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the COOKIEECHOED state (COOKIE-ECHOED --> ESTABLISHED). In this case the upper layer (i.e., the local M2PA) was the initiator of the association establishment between the SCTP peers. | peg count |
| ASOCABTD   | <b>SCTP Aborted Associations</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from any state using the primitive "Abort" (AnyState --Abort--> CLOSED), conveying an ungraceful termination of the association.                                                                              | peg count |
| ASOCSHTD   | <b>SCTP Association Shutdowns</b> - The number of times that SCTP associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state, conveying graceful termination of the association.                                                                                       | peg count |
| CNTLCHKR   | <b>SCTP Control Chunks Received</b> - The number of SCTP control chunks received from the remote peer (excluding duplicates).                                                                                                                                                                                                                 | peg count |
| CNTLCHK S  | <b>SCTP Control Chunks Sent</b> - The number of SCTP control chunks sent to the remote peer (excluding retransmissions), including chunks for which an association has not yet been formed.                                                                                                                                                   | peg count |
| DATCHKRC   | Number of <b>SCTP DATA chunks received</b> from the remote SCTP peer (excluding duplicates and discards).                                                                                                                                                                                                                                     | peg count |



Table 3-134 (Cont.) Daily Maintenance (MTCPT) and Day-to-Hour Maintenance (MTCPTH) SCTPCARD Measurements

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| DATCHKSN   | Number of <b>SCTP DATA chunks sent</b> to the remote SCTP peer (excluding retransmissions).                                                                                                                                                                                                                                                                                       | peg count |
| ORDCHKRC   | <b>SCTP Ordered Data Chunks Received</b> - The number of SCTP ordered data chunks received from the remote peer (excluding duplicates).                                                                                                                                                                                                                                           | peg count |
| ORDCHKSN   | <b>SCTP Ordered Data Chunks Sent</b> - The number of SCTP ordered data chunks sent to the remote peer (excluding retransmissions).                                                                                                                                                                                                                                                | peg count |
| PASVESTB   | <b>SCTP Association Passive Establishments</b> - The number of times that SCTP associations have made a direct transition to the ESTABLISHED state from the CLOSED state (CLOSED --> ESTABLISHED), indicating that the remote peers initiated association establishment.                                                                                                          | peg count |
| RTXCHNKS   | <b>SCTP Association Retransmitted Chunks</b> - The number of SCTP data chunks retransmitted to the remote SCTP peer. When T3-rtx expires, the DATA chunks that triggered the T3 timer will be re-sent according with the retransmissions rules. Every DATA chunk that was included in the SCTP packet that triggered the T3-rtx timer must be added to the value of this counter. | peg count |
| SCOCTRCV   | <b>SCTP Packet Octets Received</b> - The number of octets comprising valid SCTP packets received from the remote peer, including packets for which an association has not yet been formed.                                                                                                                                                                                        | octets    |

**Table 3-134 (Cont.) Daily Maintenance (MTCPT) and Day-to-Hour Maintenance (MTCPTH) SCTPCARD Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| SCOCTSNT   | <b>SCTP Packet Octets Sent</b> -<br>The total number of octets comprising SCTP packets submitted to the IP layer for transmittal to the remote peer, including packets for which an association has not been formed.                                                                                                                                                                                                                                                                                                       | octets    |
| SCPKTRCV   | <b>SCTP Packets Received</b> -<br>The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included.<br><br>SCPKTRCV register excludes the pegging of SCTP Packets received when no instance exists on the card for any of the associations, i.e., the association parameter "OPEN" has value "NO" for all the associations configured on the card. Also, excludes pegging of set up messages (INIT and COOKIE-ECHO) that are part of association establishment procedure. | peg count |
| SCPKRER    | <b>SCTP Packets Received With Checksum Error</b> - The number of SCTP packets received from remote peers with an invalid checksum                                                                                                                                                                                                                                                                                                                                                                                          | peg count |
| SCPKTSNT   | <b>SCTP Packets Sent</b> - The total number of SCTP packets sent to the remote peer, i.e., submitted by the local SCTP instance to the IP layer for transmission. Retransmissions are included.<br><br>SCPKTSNT register excludes initial SCTP association set-up messages (INIT-ACK and COOKIE-ACK). For M2PA association INIT packet is never pegged.                                                                                                                                                                    | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                                                                                                                                                                                                                                                                                          | status    |

**Table 3-134 (Cont.) Daily Maintenance (MTCPT) and Day-to-Hour Maintenance (MTCPTH) SCTPCARD Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| UNASCTPK   | <p><b>Unassociated (Out-of-the-Blue) Sctp Packets</b> - The number of "out-of-the-blue" Sctp packets received by the host, i.e., Sctp packets correctly formed with the correct checksum value, but for which the receiver (local Sctp) was not able to identify the association to which the packet belongs.</p> <p>UNASCTPK register includes the pegging of Sctp Packets received when no instance exists on the card for any of the associations, i.e., the association parameter "OPEN" has value "NO" for all the associations configured on the card (See SCPKTRCV register).</p> | peg count |

**UI Reports**

**UI Example Output:**

```
stdcfg2b 07-12-31 EST UNKNOWN 38.0.0-XX.XX.0
TYPE OF REPORT: DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON SCTPCARD
REPORT PERIOD: LAST
REPORT INTERVAL: 07-12-31 00:00:00 THRU 03:59:59

SCTPCARD-MTCPTH MEASUREMENTS: LOC: 1201
```

```
These measurements are from 07-12-31, 00:00:00 through 03:59:59.
DATCHKSN = 0, RTXCHNKS = 0, DATCHKRC = 0,
SCPKTSNT = 20, SCPKTRCV = 20, SCPKTRER = 0,
UNASCTPK = 0, SCOCTSNT = 0, SCOCTRCV = 0,
CNTLCHKSN = 400, ORDCHKSN = 400, CNTLCHKR = 0,
ORDCHKRC = 0, ACTVESTB = 0, PASVESTB = 0,
ASOCABTD = 0, ASOCSHTD = 0
```

;

**FTP Reports**

**FTP Example Output File Name:** *mtcdth-sctpcard\_20071115\_0400.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND",
```



Table 3-136 (Cont.) Daily Maintenance (MTCPT) and Day-to-Hour Maintenance (MTCPTH) UA Measurements

| Event Name | Description                                                                                                                                                                                           | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| RXDATAOC   | For M3UA, this register represents the number of <b>DATA octets received from the ASP</b> .<br><br>For SUA, this register represents the total of <b>CLDT and CLDR octets received from the ASP</b> . | octets    |
| RXMLRCMS   | Number of <b>messages received with multiple routing contexts</b> (always pegged against the default AS).                                                                                             | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                     | status    |
| TXDATAMS   | For M3UA, this register represents the number of <b>DATA messages sent to the ASP</b> .<br><br>For SUA, this register represents the total of <b>CLDT and CLDR messages sent to the ASP</b> .         | peg count |
| TXDATAOC   | For M3UA, this register represents the number of <b>DATA octets sent to the ASP</b> .<br><br>For SUA, this register represents the total of <b>CLDT and CLDR octets sent to the ASP</b> .             | octets    |
| UAASPMRX   | Total <b>ASPM messages received from the ASP</b> (including ASPSM and ASPTM messages).                                                                                                                | peg count |
| UAASPMTX   | Total <b>ASPM messages sent to the ASP</b> (including ASPSM and ASPTM messages).                                                                                                                      | peg count |
| UAASPNAC   | The number of times the <b>ASP transitioned out of the ASP-Active state</b> .                                                                                                                         | peg count |
| UAASPNAT   | The duration that the ASP was not in the ASP-Active state.                                                                                                                                            | seconds   |

**Table 3-136 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) UA Measurements**

| Event Name | Description                                                                                                                                                                          | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| UACNGCNT   | The number of times an <b>AS-ASSOC experienced congestion</b> (this may include the AS entering congestion as a result of the ASSOC entering congestion).                            | peg count |
| UACNGTIM   | The duration that an <b>AS-ASSOC experienced congestion</b> (this may include the AS entering congestion as a result of the ASSOC entering congestion).                              | seconds   |
| UAMGMTRX   | Total MGMT messages received from the ASP.                                                                                                                                           | peg count |
| UAMGMTTX   | Total MGMT messages sent to the ASP.                                                                                                                                                 | peg count |
| UANMOCTR   | <b>Total Network Management octets received from the ASP</b> - The total number of non-DATA UA octets received from the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).     | peg count |
| UANMOCTT   | <b>Total Network Management octets sent to the ASP</b> - The total number of non-DATA UA octets sent to the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).                 | peg count |
| UANMMSGR   | <b>Total Network Management messages received from the ASP</b> - The total number of non-DATA UA messages received from the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM). | peg count |
| UANMMSGT   | <b>Total Network Management messages sent to the ASP</b> - The total number of non-DATA UA messages sent to the ASP (i.e., sum of the ASPM, ASPTM, SSNM, MGMT, and RKM).             | peg count |
| UASSNMRX   | Total SSNM messages received from the ASP.                                                                                                                                           | peg count |
| UASSNMTX   | Total SSNM messages sent to the ASP.                                                                                                                                                 | peg count |



## Hourly Maintenance Measurements (MTCH)

The Maintenance Hour (**MTCH**) report provides the value of various maintenance measurements accumulated during a specific hour.

**Entity Types:** LNP, NP, EIR, MAPSCRN, VFLEX, ATINPQ, AIQ, GTTAPATH, DEIR, ENUM

**Accumulation Interval:** 60 minutes

**STP Retention Period:** 24 hours

**Reporting Modes:** On-demand, Scheduled (FTP reports only)

**Accessible Collection Periods:** Last, Specific

### LNP MTCH Report

The enttype=lnp entity generates four separate reports per period. FTP reports are generated as CSV files and FTP'd to the customer FTP server. The command example will generate the following hourly reports:

- Hourly **LNP** System Wide Measurements
- Hourly **LNP** Measurements Per **SSP**
- Hourly **LNP** Measurements Per **LRN**
- Hourly **LNP** Measurements Per **NPA**

The E5-OAM Integrated Measurements feature deprecates the use of the FTA for measurements, so "lnp" is not a valid argument for the rept-meas command "enttype" parameter when the feature is turned on.

For LNP\_SYS and LNP\_SSP reports, reports status relies on all SCCP cards regardless of the database type (i.e., RTDB/EPAP or RIDB/ELAP) in the system.

For LRN and LNP\_NPA\_NXX reports, ELAP SM cards are considered, which is the total number of SCCP cards that are IS-NR connected to an ELAP database.

If any of the above cards are ISOLATED/OOS during a measurement interval, the respective report is marked **I**. The report is marked **K** only when all the cards under consideration are IS\_NR throughout the measurement interval.

#### Example Commands:

**UI:** rept-meas:type=mtch:enttype=lnp:period=last

**FTP:** rept-ftp-meas:type=mtch:enttype=lnp:period=last

**Table 3-138 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP System Wide Measurements**

| Event Name | Description                                                                    | Unit      |
|------------|--------------------------------------------------------------------------------|-----------|
| LNPQRCV    | <i>Trigger Based</i><br>The total number of queries received by <b>LNPQS</b> . | peg count |



Table 3-138 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH)  
LNP System Wide Measurements

| Event Name      | Description                                                                                                                                                                                  | Unit           |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                 | <i>Triggerless</i><br>Number of encapsulated <b>IAM</b> messages received by <b>LNPQS</b>                                                                                                    | peg count      |
| <b>LNPQDSC</b>  | <i>Trigger Based</i><br>The number of invalid queries that are discarded because no reply can be generated.                                                                                  | peg count      |
|                 | <i>Triggerless</i><br>All invalid <b>IAM</b> messages are routed without <b>LNP</b> ; <b>LNPQTCPE</b> is pegged.                                                                             | not applicable |
| <b>LNPQTCPE</b> | <i>Trigger Based</i><br>The number of error replies with <b>TCAP</b> error codes.                                                                                                            | peg count      |
|                 | <i>Triggerless</i><br>The number of invalid encapsulated <b>IAM</b> messages received by <b>LNPQS</b> . Note that these messages are routed to their destinations with no <b>LNP</b> lookup. | peg count      |
| <b>LNPSREP</b>  | <i>Trigger Based</i><br>The number of successful replies.                                                                                                                                    | peg count      |
|                 | <i>Triggerless</i><br>The number of successful <b>IAM</b> messages.                                                                                                                          | peg count      |
| <b>LNPQUNPA</b> | <i>Trigger Based</i><br>The number of correct queries received for non-ported <b>DN</b> when <b>NPA-NXX</b> is not provisioned.                                                              | peg count      |
|                 | <i>Triggerless</i><br>The number of correct encapsulated <b>IAM</b> messages received for a non-ported <b>DN</b> , when the <b>NPA-NXX</b> is not provisioned.                               | peg count      |
| <b>STATUS</b>   | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                            | status         |

Table 3-139 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements

| Event Name  | Description                                                                                                       | Unit      |
|-------------|-------------------------------------------------------------------------------------------------------------------|-----------|
| SSPQRCV     | Trigger Based<br>Number of correct queries received per originating <b>SSP</b> .                                  | peg count |
|             | Triggerless<br>The number of correct encapsulated <b>IAM</b> messages received by <b>LNPQS</b> per <b>OPC</b> .   | peg count |
| CLASSGTRQ   | Number of valid <b>CLASS GTT</b> received per originating <b>SSP</b> .                                            | peg count |
| LIDBGTRQ    | Number of valid <b>LIDB GTT</b> received per originating <b>SSP</b> .                                             | peg count |
| SSPQRCVP    | Number of correct queries received for ported <b>TNs</b> , per originating <b>SSP</b> .                           | peg count |
| SSPQRCVNP   | Number of correct queries received for non-ported <b>TNs</b> , per originating <b>SSP</b> .                       | peg count |
| CLASSGTRQP  | Number of <b>CLASS Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .     | peg count |
| CLASSGTRQNP | Number of <b>CLASS Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> . | peg count |
| LIDBGTRQP   | Number of <b>LIDB Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .      | peg count |
| LIDBGTRQNP  | Number of <b>LIDB Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> .  | peg count |
| CNAMGTRQP   | Number of <b>CNAM Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .      | peg count |
| CNAMGTRQNP  | Number of <b>CNAM Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> .  | peg count |
| ISVMGTRQP   | Number of <b>ISVM Global Title Translation</b> received for ported <b>TNs</b> , per originating <b>SSP</b> .      | peg count |

**Table 3-139 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements**

| Event Name  | Description                                                                                                                                       | Unit      |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ISVMGTRQNP  | Number of <b>ISVM Global Title Translation</b> received for non-ported <b>TNs</b> , per originating <b>SSP</b> .                                  | peg count |
| WSMSCGTRQP  | Number of <b>WSMSC</b> Global Title Translations received for ported <b>TNs</b> , per originating <b>SSP</b>                                      | peg count |
| WSMSCGTRQNP | Number of <b>WSMSC</b> Global Title Translations received for non-ported <b>TNs</b> , per originating <b>SSP</b>                                  | peg count |
| STATUS      | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| PC TYPE     | The TYPE of the point code. Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                                        | text      |

The following equations apply:

$$\text{SSPQRCV} = \text{SSPQRCVP} + \text{SSPQRCVNP}$$

$$\text{CLASSGTRQ} = \text{CLASSGTRQP} + \text{CLASSGTRQNP}$$

$$\text{LIDBGTRQ} = \text{LIDBGTRQP} + \text{LIDBGTRQNP}$$

**Table 3-140 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP LRN Measurements**

| Event Name | Description                                                                                                                                       | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| LRNQRCV    | <i>Trigger Based</i><br>The number of correct queries received per <b>LRN</b> .                                                                   | peg count |
|            | <i>Triggerless</i><br>The number of correct encapsulated <b>IAM</b> messages received per <b>LRN</b> .                                            | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |

**Table 3-141 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP NPA Measurements**

| Event Name | Description                                                                                                                                       | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NPAQRCV    | The number of correct queries received per <b>NPANXX</b> for non-ported <b>DN</b> .                                                               | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |

## FTP Reports

### Hourly LNP System Wide Measurements

FTP Example Output File Name: mtch-lnp\_19990116\_2400.csv

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"HOURLY MAINTENANCE MEASUREMENTS ON LNP SYSTEM", "LAST",
"1999-01-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "LNPQRCV", "LNPQDSC", "LNPQTCPE", "LNPSREP", "LNPQUNPA"<cr><lf>
"K", 429496729, 429496729, 429496729, 429496729, 429496729<cr><lf>
```

Typical file size is:

**Table 3-142 Typical File Size: mtch-lnp.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 63            | + | 34          | = | 347 bytes |

## Hourly LNP Measurements Per SSP

FTP Example Output File Name: mtch-ssp\_19990116\_2400.csv

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"HOURLY MAINTENANCE MEASUREMENTS ON LNP
```

```
SSP", "LAST", "1999-01-16", "00:00:00", "24:00:00", 200<cr><lf>
<cr><lf>
"STATUS", "SSP", "PC_TYPE", "SSPQRCV", "CLASSGTRQ", "LIDBGTRQ", "SSPQRCVP", "SSPQRCV
NP", "CLASSGTRQP", "CLASSGTRQNP", "LIDBGTRQP",
"LIDBGTRQNP", "CNAMGTRQP", "CNAMGTRQNP", "ISVMGTRQP",
"ISVMGTRQNP", "WSMSCGTP", "WSMSCGTNP"<cr><lf>
"K", "002-002-100", "ANSI", 123456789, 456789, 99999, 123456789, 456789, 99999, 123456
789, 456789,
99999, 123456789, 456789, 99999, 123456789, 456789, 99999<cr><lf>
.
"K", "002-005-123", "ANSI", 123456789, 456789, 99999, 123456789, 456789, 99999, 123456
789, 456789,
99999, 123456789, 456789, 99999, 123456789, 456789, 99999<cr><lf>
```

Assuming each data line will be:

4 char status + 14 char **SSP** + 10 char PC type + 15\*(6 char data) + 2 = 120 chars

For a report of 200 **SSPs**, the typical file size is:

**Table 3-143 Typical File Size: mtch-ssp.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 160           | + | 24000       | = | 24410 bytes |

## Hourly LNP Measurements Per LRN

**FTP Example Output File Name:** *mtch-lrn\_19990116\_2400.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"HOURLY MAINTENANCE MEASUREMENTS ON LNP
LRN", "LAST", "1999-01-16", "00:00:00", "24:00:00", 600<cr><lf>
<cr><lf>
"STATUS", "LRN", "LRNQRCV"<cr><lf>
"K", 9194560000, 123456789<cr><lf>
"K", 4087550001, 23456789<cr><lf>
"K", 5155550000, 456789<cr><lf>
.
"K", 3022330001, 345<cr><lf>
"K", 7032110002, 99999<cr><lf>
"K", 8123048059, 4294967295<cr><lf>
```

Assuming each data line will be:

4 char status + 11 char **LRN** + 6 char data + 2 = 23 chars

For a report of 600 **LRNs**, the typical file size is:

**Table 3-144 Typical File Size: mtch-lrn.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 27            | + | 13800       | = | 14077 bytes |

## Hourly LNP Measurements Per NPA

**FTP Example Output File Name:** *mtch-mpa\_19990116\_2400.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"HOURLY MAINTENANCE MEASUREMENTS ON LNP NPANXX", "LAST",
"1999-01-16", "00:00:00", "24:00:00", 600<cr><lf>
<cr><lf>
"STATUS", "NPANXX", "NPAQRCV"<cr><lf>
"K", 919456, 123456789<cr><lf>
"K", 408755, 23456789<cr><lf>
"K", 515555, 456789<cr><lf>
.
"K", 302233, 345<cr><lf>
"K", 703211, 99999<cr><lf>
"K", 812304, 4294967295<cr><lf>
```

Assuming each data line will be:

4 char status + 7 char **NPANXX** + 6 char data + 2 = 19 chars

For a report of 600 **LRNs**, the typical file size is:

**Table 3-145 Typical File Size: mtch-mpa.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 30            | + | 11400       | = | 11680 bytes |

## NP MTCH Report

The hourly Number Portability measurements specify the entity type NP (*enttype=np*) which generates two separate reports per period. These reports for basic OAM measurements are generated as CSV files in the FTA. The command example will generate the following hourly reports:

- Hourly System Wide Measurements
- Hourly Measurements Per SSP

NP\_SSP and NP\_SYS reports consider system-wide SCCP cards regardless of the database type (i.e., RTDB/EPAP or RIDB/ELAP) in the system.

If any of the above cards are ISOLATED/OOS during a measurement interval, the respective report is marked **I**. The report is marked **K** only when all the cards under consideration are IS\_NR throughout the measurement interval.

### Command Examples

- UI

```
rept-meas:type=mtch:enttype=np:period=specific:day=xxx
```

- FTP

```
rept-ftp-meas:type=mtch:enttype=np[:period=specific:day=xxx]
```

### Measurement Events

- System Wide Measurements

indicates system registers that may be pegged. Register counts for features not turned on will always be zero.

**Table 3-146 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                                                                                | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| APSMRQERR  | Number of SMSREQ messages resulting in error.                                                                                                                                                              | peg count |
| APSMRQREP  | Number of SMSREQ messages resulting in SMSREQ_ACK or SMSREQ_NACK.                                                                                                                                          | peg count |
| APSMSRCV   | Number of <b>SMS</b> Request messages received.                                                                                                                                                            | peg count |
| APSMSREL   | Number of <b>SMS</b> Request messages relayed.                                                                                                                                                             | peg count |
| GPNOCL     | Number of non-call related messages relayed by G-Port.                                                                                                                                                     | Peg Count |
| GPNOCLGT   | Number of non-call related messages that fell through to GTT.                                                                                                                                              | Peg Count |
| GPSRERR    | Number of call related messages that cause an error response message(SRI-Send Routing Information NEGATIVE ACK) because of G-Port service failure. This does not include peg counts to register GPSRERRPP. | Peg Count |
| GPSRREPPP  | Number of call related (SRI-Send Routing Information) messages that received G-Port service specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRREP.  | Peg Count |

**Table 3-146 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                                                                                                    | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GPSRGTT    | Number of call related (SRI-Send Routing Information) messages that fell through to GTT. This does not include peg counts to register GPSRGTTTP.                                                                               | Peg Count |
| GPSRGTTTP  | Number of call related (SRI-Send Routing Information) messages that fell through to GTT specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRGTT.                          | Peg Count |
| GPSRRCV    | Number of call related (SRI-Send Routing Information) messages received. This does not include peg counts to register GPSRRCVPP.                                                                                               | Peg Count |
| GPSRRCVPP  | Number of call related (SRI-Send Routing Information) messages received specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRRCV.                                          | Peg Count |
| GPSRREP    | Number of call related (SRI-Send Routing Information) messages that received G-Port service. This does not include peg counts to register GPSRREPPP.                                                                           | Peg Count |
| GPSRERRPP  | Number of call related messages that cause an error response message (SRI-Send Routing Information NEGATIVE ACK) specifically for feature: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRERR. | Peg Count |
| GPSRSMERR  | Number of SRI_SM messages resulting in error.                                                                                                                                                                                  | peg count |
| GPSRSMRCV  | Number of SRI_SM messages received.                                                                                                                                                                                            | peg count |
| GPSRSMREP  | Number of SRI_SM messages resulting in SRI_SM_ACK or SRI_SM_NACK.                                                                                                                                                              | peg count |
| INPQDSC    | Number of invalid queries that are discarded as no reply can be generated.                                                                                                                                                     | peg count |
| INPQRCV    | Number of total queries received by INPQS.                                                                                                                                                                                     | peg count |



**Table 3-146 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                                                                                                          | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| INPQSCRD   | Number of queries received by INPQS that meet the condition for circular route detection.                                                                                                                                            | peg count |
| INPQTCPE   | Number of error replies with TCAP error code.                                                                                                                                                                                        | peg count |
| INPSREP    | Number of successful replies to INP non-queried queries. These replies will be either INP Connect, INP Continue, or INP ReleaseCall (every time an INAP RELEASECALL response is generated due to circular route detection by INPQS). | peg count |
| IS41LRERR  | Number of <b>IS-41</b> location request - error response messages sent.                                                                                                                                                              | peg count |
| IS41LRMRCV | Number of <b>IS-41</b> location request messages received                                                                                                                                                                            | peg count |
| IS41LRRTRN | Number of <b>IS-41</b> location request - return result messages sent                                                                                                                                                                | peg count |
| MNPCRCD    | Number of times Circular Route is Detected                                                                                                                                                                                           | peg count |
| SMSMOGERR  | Number of MO_SMS messages received that result in an error                                                                                                                                                                           | peg count |
| SMSMOGRCV  | Number of MO_SMS messages received that result in a modification of the outgoing MO_SMS                                                                                                                                              | peg count |
| SMSMOIERR  | Number of SMDPP messages received that result in an error                                                                                                                                                                            | peg count |
| SMSMOIRCV  | Number of SMDPP messages received that result in a modification of the outgoing SMDPP.                                                                                                                                               | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                        | status    |
| TIFFPFXRLS | Total number of MSUs processed by TIF and blocklisted by the FPFXRLS Service Action                                                                                                                                                  | peg count |

**Table 3-146 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers**

| Event Name | Description                                                                                                                                              | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| TIFNFNDRLS | Total number of MSUs processed by TIF and blocklisted by the BLNFNDRLS Service Action                                                                    | peg count |
| TIFNOCGRLS | Total number of MSUs processed by TIF and blocklisted by the NOCGPNRLS Service Action                                                                    | peg count |
| TIFRLS     | Total number of MSUs processed by TIF and blocklisted by the BLRLS Service Action                                                                        | peg count |
| TIFSSCRRLS | Number of MSUs processed by TIF and found to be blocklisted by SELSCR Service Action                                                                     | peg count |
| TIFSSCRRLY | Number of MSUs processed by TIF and relayed by SELSCR Service Action                                                                                     | peg count |
| TINPERR    | Number of IAM messages received that required TIFTINP processing but resulted in execution of an error case.                                             | peg count |
| TINPMGEN   | Number of IAM messages received that required TIFTINP processing and resulted in the modification of the IAM message or the generation of a REL message. | peg count |
| TINPMRCV   | Number of IAM messages received that require TIFTINP processing.                                                                                         | peg count |

The following equations apply:

$$\text{INPQRCV} = \text{INPQDSC} + \text{INPQTCPE} + \text{INPSREP}$$

$$\text{GPSRRCV} = \text{GPSRGTT} + \text{GPSRREP} + \text{GPSRERR}$$

$$\text{GPSRRCVPP} = \text{GPSRGTTTPP} + \text{GPSRREPPP} + \text{GPSRERRPP}$$

$$\text{GPSRSMRCV} = \text{GPSRSMRLY} + \text{GPSRSMREP} + \text{GPSRSMERR}$$

- Per SSP Measurements

These measurements are available on a per SSP PC basis where SSP PC is the CGPA PC, if it exists, or it is the MTP OPC.

**Table 3-147 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers**

| Event Name      | Description                                                                                                                                                                             | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>APLRACK</b>  | Number of call related <b>LOCREQ</b> messages acknowledged.                                                                                                                             | peg count |
| <b>APLRRLY</b>  | Number of call related <b>LOCREQ</b> messages relayed.                                                                                                                                  | peg count |
| <b>APNOCL</b>   | Number of non-call non- <b>LOCREQ</b> related messages relayed.                                                                                                                         | peg count |
| <b>APNOCLGT</b> | Number of non-call non- <b>LOCREQ</b> related messages that fell through to <b>GTT</b> .                                                                                                | peg count |
| APSMRQERR       | Number of SMSREQ messages resulting in error.                                                                                                                                           | peg count |
| APSMRQREP       | Number of SMSREQ messages resulting in SMSREQ_ACK or SMSREQ_NACK                                                                                                                        | peg count |
| APSMSRCV        | Number of SMSREQ messages received                                                                                                                                                      | peg count |
| <b>GPNOCL</b>   | Number of non-call related messages relayed by <b>G-Port</b> .                                                                                                                          | peg count |
| <b>GPNOCLGT</b> | Number of non-call related messages that fell through to <b>GTT</b> .                                                                                                                   | peg count |
| GPSRACK         | Number of call related (SRI-Send Routing Information ACK) responses. This does not include peg counts to register GPSRACKPP.                                                            | peg count |
| GPSRACKPP       | Number of call related (SRI-Send Routing Information ACK) responses specifically for feature 61544: G-Port SRI query for Prepaid. This does not include peg counts to register GPSRACK. | peg count |
| GPSRNACK        | Number of call related SRI Negative ACK responses in case of successful G-Port service.                                                                                                 | peg count |
| <b>GPSRRLY</b>  | Number of call related ( <b>SRI</b> -Send Routing Information) messages relayed.                                                                                                        | peg count |
| GPSRSMERR       | Number of SRI_SM messages resulting in error.                                                                                                                                           | peg count |
| GPSRSMRCV       | Number of SRI_SM messages received.                                                                                                                                                     | peg count |

**Table 3-147 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers**

| Event Name | Description                                                                                                                                                                       | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GPSRSMREP  | Number of SRI_SM messages resulting in SRI_SM_ACK or SRI_SM_NACK                                                                                                                  | peg count |
| INPMRCRD   | Number of messages sent to MR service that fall through to GTT due to circular route detection.                                                                                   | peg count |
| INPMRGTT   | Number of messages sent to MR service that fall through to GTT. This includes the number of messages sent to MR service that fall through to GTT due to circular route detection. | peg count |
| INPMRTR    | Number of messages sent to MR service that receive MR translation.                                                                                                                | peg count |
| INPQSCONN  | Number of non-errored QS messages with QS Connect responses, per originating SSP.                                                                                                 | peg count |
| INPQSCONT  | Number of non-errored QS messages with QS Continue responses, per originating SSP.                                                                                                | peg count |
| INPQSCRD   | Number of messages sent to INP QS that meet the condition for circular route detection.                                                                                           | peg count |
| INPQSREL   | Number of messages sent to INP QS that result in successful generation of INAP RELEASECALL response due to circular route detection by INPQS.                                     | peg count |
| MNPCRCD    | Number of times Circular Route is Detected.                                                                                                                                       | peg count |
| PC Type    | TYPE of the point code. Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                                                                            | text      |
| SMSMOGERR  | Number of MO_SMS messages received that result in an error                                                                                                                        | peg count |
| SMSMOGRCV  | Number of MO_SMS messages received that result in a modification of the outgoing MO_SMS                                                                                           | peg count |
| SMSMOIERR  | Number of SMDPP messages received that result in an error                                                                                                                         | peg count |
| SMSMOIRCV  | Number of SMDPP messages received that result in a modification of the outgoing SMDPP                                                                                             | peg count |

**Table 3-147 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers**

| Event Name | Description                                                                                                                                              | Unit      |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current            | status    |
| TIFRANGEBL | Total number of MSUs processed by TIF and blocklisted by the FPFXRLS or NOCGPNRLS Service Action                                                         | peg count |
| TIFSBSCRBL | Total number of MSUs processed by TIF and found to be blocklisted by BLRLS or BLNFNDRLS Service Actions                                                  | peg count |
| TIFSELSCR  | Number of IAM messages processed by TIF which resulted in either an ISUP message generation or the MSU being relayed by SELSCR Service Action            | peg count |
| TINPERR    | Number of IAM messages received that required TIFTINP processing but resulted in execution of an error case.                                             | peg count |
| TINPMGEN   | Number of IAM messages received that required TIFTINP processing and resulted in the modification of the IAM message or the generation of a REL message. | peg count |
| TINPMRCV   | Number of IAM messages received that require TIFTINP processing.                                                                                         | peg count |

The following equation applies to NP registers:

$$\text{GPSRREP} = \sum \text{GPSRACK} + \sum \text{GPSRRLY} + \sum \text{GPSRNACK}$$

### UI Reports

- Hourly System Wide Measurements

UI Example Output File Name: *M60\_NP.csv*

UI Example Output File Format:

```
"e1061001 10-08-23 00:02:22 EST EAGLE5 42.0.0-63.33.0 "
"TYPE OF REPORT: HOURLY MAINTENANCE MEASUREMENTS ON NP SYSTEM"
"REPORT PERIOD: LAST"
"REPORT INTERVAL: 10-08-22, 23:00:00 THROUGH 23:59:59 "
"Measurement data represents an incomplete interval."
```





**Table 3-149 Typical File Size: mtch-ssp.csv**

| System header | + | Report header | + | Report data           | = | File Size                        |
|---------------|---|---------------|---|-----------------------|---|----------------------------------|
| 250           | + | 356           | + | (216 * #Point Codes ) | = | 606 + (216 * #Point Codes) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-150 Typical File Size: mtch-ssp.csv**

| System header | + | Report header | + | Report data  | = | File Size   |
|---------------|---|---------------|---|--------------|---|-------------|
| 250           | + | 356           | + | (216 * 200 ) | = | 43806 bytes |

## EIR MTCH Report

The **EIR** measurements specify the entity type **EIR**, and generate one report per period. The commands are specified with yy as a two-number abbreviation for any hour of a 24-hour day (00 through 23 for the hours 0000 through 2300). The retention period for hourly measurement records is 24 hours.

### Example Commands:

```
FTP: rept-ftp-meas:type=mtch:enttype=eir:
[hh=yy:period=specific]
```

[Table 3-151](#) lists the **EIR** events and their descriptions.

**Table 3-151 Daily Maintenance (MCTD) and Hourly Maintenance (MTCH) EIR Measurements**

| Event Name       | Description                                                                                                                           | Unit      |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>IMEIRCV</b>   | Total number of <b>MAP_CHECK_IMEI</b> messages received                                                                               | peg count |
| <b>WHITEIMEI</b> | Total number of searches that resulted in a match with a "allow listed" <b>IMEI</b>                                                   | peg count |
| <b>GRAYIMEI</b>  | Total number of searches that resulted in a match with a "gray listed" <b>IMEI</b>                                                    | peg count |
| <b>BLACKIMEI</b> | Total number of searches that resulted in a match with a "block listed" <b>IMEI</b>                                                   | peg count |
| <b>BLKALIMEI</b> | Total number of searches that resulted in a match with a "block listed" <b>IMEI</b> , but were allowed due to <b>IMSI</b> Check match | peg count |



**Table 3-151 (Cont.) Daily Maintenance (MCTD) and Hourly Maintenance (MTCH) EIR Measurements**

| Event Name        | Description                                                                                                                                                            | Unit      |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>BLKNALIMEI</b> | Total number of searches that resulted in a match with a "block listed" <b>IMEI</b> , and the <b>IMSI</b> in the database did not match the <b>IMSI</b> in the message | peg count |
| <b>UNKNIMEI</b>   | Total number of searches that resulted in a match with an "unknown" <b>IMEI</b>                                                                                        | peg count |
| <b>NOMTCHIMEI</b> | Total number of searches that resulted in no match in the database.<br><b>NOMTCHIMEI</b> is pegged whenever an <b>IMEI</b> is not found in the database.               | peg count |
| <b>STATUS</b>     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                      | status    |

The following equation applies:

$$\text{IMEIRCV} = \text{WHITEIMEI} + \text{GRAYIMEI} + \text{BLACKIMEI} + \text{UNKNIMEI} + \text{BLKALIMEI} + \text{BLKNALIMEI} + \text{ERRORS}$$

where ERRORS are not pegged in any measurement register and include check\_imei queries with response type REJECT, RETURN ERROR (IMEI status anything other than unknown and not matched)

## FTP Reports

**FTP Example Output File Name:** mtch-eir\_20030818\_2300.csv

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-51.1.0", "2003-08-19", "15:51:37", "EST",
"HOURLY MAINTENANCE MEASUREMENTS ON EIR SYSTEM", "LAST", "2003-08-18",
"23:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"IMEIRCV", "WHITEIMEI", "GRAYIMEI", "BLACKIMEI", "BLKALIMEI", "BLKNALIMEI", "UNKNIMEI", "NOMTCHIMEI"<cr><lf>
4294967295, 4294967295, 4294967295, 4294967295, 4294967295, 4294967295, 4294967295,
4294967295<cr><lf>
```

Typical file size is:

**Table 3-152 Typical File Size: mtch-eir.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 256           | + | 95            | + | 89          | = | 440 bytes |

## MAPSCRN MTCH Report

The enttype=mapscrn entity generates two separate reports per period.

The reports for basic OAM measurements are generated as CSV files in the FTA. FTP reports are generated as CSV files and FTP'd to the customer FTP server. The command example generates the following hourly measurement reports when the **GSM MAP** Screening feature is activated:

- Hourly **MAP** Screening System Wide Measurements
- Hourly **MAP** Screening Measurements Per Server

The command example will generate the following hourly measurement reports when the **GSM MAP/Enhanced GSM MAP** Screening feature is activated:

- Hourly **MAP** Screening System Wide Measurements
- Hourly **MAP** Screening Measurements Per Path

### Example Commands:

```
UI: rept-meas:type=mtch:enttype=mapscrn
FTP: rept-ftp-meas:type=mtch:enttype=mapscrn
```

### Note:

When **MTP MAP** Screening is enabled and on, the registers in [Table 3-153](#) and [Table 3-156](#) include the sum total of **MTP**-routed and **GTT**-routed messages for the particular event.

**Table 3-153 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening System Wide Measurements**

| Event Name       | Description                                                                                                                                                                                                           | Unit |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>MSCRNPASS</b> | Total number of messages that count Passed <b>MAP</b> screening                                                                                                                                                       |      |
| <b>MSCRNRJNE</b> | Total number of messages that count got Rejected by <b>MAP</b> screening because an entry was not found in the <b>MAP</b> screening table (i.e., rejected as System wide <b>MAP</b> Opcode action is <b>DISCARD</b> ) |      |

**Table 3-153 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH)  
MAP Screening System Wide Measurements**

| Event Name       | Description                                                                                                                                                                                                                                          | Unit   |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>MSCRNRJFP</b> | Total number of messages that got Rejected by <b>MAP</b> screening due to forbidden parameters in the message.                                                                                                                                       | count  |
| <b>MSCRNPAFP</b> | Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as <b>PASS</b> .                                                                                                                   | count  |
| <b>MSCRNPANE</b> | Total number of messages, where an entry was not found in the <b>MAP</b> screening table but the Message was not rejected as screening action was marked as <b>PASS</b> (i.e., not rejected as System wide <b>MAP</b> Opcode action is <b>PASS</b> ) | count  |
| <b>MSCRNRJOP</b> | Total number of message that got rejected as Message <b>MAP</b> Opcode was not found in the <b>MAP</b> Opcode table (system wide action - <b>DISCARD</b> for the non matching <b>OPCODES</b> )                                                       | count  |
| <b>MSCRNDUP</b>  | Total number of messages that were selected by <b>MAP</b> Screening for the Duplicate screening action.                                                                                                                                              | count  |
| <b>MSCRNFOR</b>  | Total number of messages that were selected by <b>MAP</b> Screening for the Forward screening action.                                                                                                                                                | count  |
| <b>MSCRNDAD</b>  | Total number of messages that were selected by <b>MAP</b> Screening for the Duplicate and Discard screening action.                                                                                                                                  | count  |
| STATUS           | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                                                    | status |

Server Entity Identification information in [Table 3-154](#) is used to clarify the server. The Maintenance **MAP** Screening Per Server Measurements are applicable.

**Table 3-154 Server Entity Identification**

| Entity Name                                                            | Description                                                                                                                                                                                                  |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERVER</b>                                                          | The screened origination address of the calling party address ( <b>CGPA</b> ) assigned when the <b>GSM MAP</b> screen was entered.                                                                           |
| <b>NP</b>                                                              | The screened number plan value ( <b>NPV</b> ) assigned to the server address when the <b>GSM MAP</b> screen was entered. This field is filled with the default identifier * if no value was assigned.        |
| <b>NAI</b>                                                             | The screened nature of address value ( <b>NAIV</b> ) assigned to the server address when the <b>GSM MAP</b> screen was entered. This field is filled with the default identifier * if no value was assigned. |
| <b>OPCODE</b>                                                          | The operation code number assigned when the <b>GSM MAP</b> opcode was entered.                                                                                                                               |
| Measurements does not report entries created for a range of addresses. |                                                                                                                                                                                                              |

Server Path Entity Identification information in [Table 3-155](#) is used to clarify the path. The Maintenance **MAP** Screening Per Path Measurements are applicable.

**Table 3-155 Path Entity Identification**

| Entity Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PATH</b> | <p>The screened origination address of the calling party address (<b>CGPA-NP-NAI</b>), or a combination of screened destination address of the called party address (<b>CDPA-NP-NAI</b>) and the screened origination addresses assigned when the <b>GSM MAP</b> screen was entered.</p> <p>The possible fields within the path are delimited as follows to allow for efficient sorting:</p> <ul style="list-style-type: none"> <li>When both the origination and destination addresses are present (as either single server entries or provisioned wildcard entries) the origination address is preceded by a caret (^) and the destination address is preceded by a "greater than" sign (&gt;):<br/> <code>^CGPA-NP-NAI&gt;CDPA-NP-NAI</code></li> <li>When only the origination address is present (occurs when the <b>CDPA</b> is a default wildcard) it is preceded by a "less than" sign (&lt;):<br/> <code>&lt;CGPA-NP-NAI</code></li> </ul> |

Table 3-155 (Cont.) Path Entity Identification

| Entity Name   | Description                                                                                                                                                                                                                                                                                                                                     |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CGPA</b>   | The calling party global title address assigned when the <b>GSM MAP</b> screen was entered. Any or all of the three fields ( <b>GTA, NP, NAI</b> ) can be filled with the identifier (*) if a wildcard value is assigned for that field. There is no default wildcard value for the <b>CGPA</b> .                                               |
| <b>CDPA</b>   | The called party global title address assigned when the <b>GSM MAP</b> screen was entered. Any or all of the three fields ( <b>GTA, NP, NAI</b> ) can be filled with the identifier (*) if a wildcard value is assigned for that field. If the <b>CDPA</b> value is not assigned, the default wildcard value, which is not printed, is assumed. |
| <b>NP</b>     | The screened number plan value ( <b>NPV</b> ) assigned to the path address when the <b>GSM MAP</b> screen was entered. The identifier (*) is used to signify a wildcard <b>NP</b> .                                                                                                                                                             |
| <b>NAI</b>    | The screened nature of address value ( <b>NAIV</b> ) assigned to the path address when the <b>GSM MAP</b> screen was entered. The identifier (*) is used to signify a wildcard <b>NAI</b> .                                                                                                                                                     |
| <b>OPCODE</b> | The operation code number assigned when the <b>GSM MAP</b> opcode was entered. The identifier (*) is used to signify a wildcard opcode.                                                                                                                                                                                                         |

 **Note:**

Measurements does not report entries created for a range of addresses.

Measurements does not report default wildcard **CDPA** address in entries containing them.

There can never be a default wildcard **CGPA** entry. All wildcard **CGPA** entries must be explicitly provisioned. There can never be an entry with only a **CDPA** path listed.

The string formats were designed to allow efficient automated post processing of measurements reports. A brief note explaining the format is included in the report.

Table 3-156 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening Per Server Measurements

| Event Name       | Description                                               | Unit  |
|------------------|-----------------------------------------------------------|-------|
| <b>MSCRNPASS</b> | Total number of messages that Passed <b>MAP</b> screening | count |

**Table 3-156 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening Per Server Measurements**

| Event Name       | Description                                                                                                                                   | Unit   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>MSCRNRJFP</b> | Total number of messages that got Rejected by <b>MAP</b> screening due to forbidden parameters in the message.                                | count  |
| <b>MSCRNDUP</b>  | Total number of messages per server that were selected by <b>MAP</b> Screening for the Duplicate screening action.                            | count  |
| <b>MSCRNFOR</b>  | Total number of messages per server that were selected by <b>MAP</b> Screening for the Forward screening action.                              | count  |
| <b>MSCRNDAD</b>  | Total number of messages per server that were selected by <b>MAP</b> Screening for the Duplicate screening action.                            | count  |
| <b>MSCRNPAFP</b> | Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as <b>PASS</b> .            | count  |
| STATUS           | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status |

## FTP Reports

### Hourly MAP Screening System Wide Measurements

FTP Example Output File Name: mtch-map\_19990116\_2400.csv

FTP Example Output File Name: mtch-map\_19990116\_2400.csv

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"
"e1061001", "EAGLE5 42.0.0-63.33.0", "2010-08-21", "00:00:52", "EST
", "HOURLY MAINTENANCE MEASUREMENTS ON MAPSCRN
SYSTEM", "LAST", "2010-08-20", "23:00:00", "24:00:00", 1

"STATUS", "MSCRNPASS", "MSCRNRJOP", "MSCRNRJNE", "MSCRNRJFP", "MSCRNPAPF", "M
SCRNPANE", "MSCRNFOR", "MSCRNDUP", "MSCRNDAD"
"K", 0, 0, 0, 0, 0, 0, 0, 0, 0,
```

Typical file size is:

**Table 3-157 Typical File Size: mtch-map.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 116           | + | 60          | = | 426 bytes |

### Hourly MAP Screening Measurements Per Path

FTP Example Output File Name: *mtch-path\_19990116\_2400.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"e1061001", "EAGLE5 42.0.0-63.33.0", "2010-08-21", "00:00:53", "EST ", "HOURLY
MAINTENANCE MEASUREMENTS ON MAPSCRN PER-
SERVER", "LAST", "2010-08-20", "23:00:00", "24:00:00", 11
```

"For a path containing CGPA only, PATH-OPCODE = <CGPA-NP-NAI-OPCODE"  
 "For a path containing both CGPA and CDPA, PATH-OPCODE = ^CGPA-NP-NAI>CDPA-  
 NP-NAI-OPCODE"

```
"STATUS", "PATH-
OPCODE", "MSCRNPASS", "MSCRNRJFP", "MSCRNFOR", "MSCRNDUP", "MSCRNDAD", "MSCRNPAPF"
"K", "<123456789012345-*--0", 0, 0, 0, 0, 0, 0
"K", "<234567890123456-*--0", 0, 0, 0, 0, 0, 0
"K", "<345678901234567-*--0", 0, 0, 0, 0, 0, 0
"K", "<456789012345678-*--0", 0, 0, 0, 0, 0, 0
"K", "<567890123456789-*--0", 0, 0, 0, 0, 0, 0
"K", "<678901234567890-*--0", 0, 0, 0, 0, 0, 0
"K", "<789012345678901-*--0", 0, 0, 0, 0, 0, 0
"K", "<123456789012345-*--1", 0, 0, 0, 0, 0, 0
"K", "<234567890123456-*--1", 0, 0, 0, 0, 0, 0
"K", "<345678901234567-*--1", 0, 0, 0, 0, 0, 0
"K", "<456789012345678-*--1", 0, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 40 char **PATH-OPCODE** + 6\*(6 char data) + 2 = 82 chars

For a report of 20 paths, the typical file size is:

**Table 3-158 Typical File Size: mtch-path.csv**

| System header | + | Report header | + | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 250           | + | 251           | + | 1640        | = | 2141 bytes |

## VFLEX MTCH Report

The enttype=vflex entity generates two separate reports per period. These reports are generated as **CSV** files and FTP'd to the customer FTP server. The command example will generate the following daily reports:

- Hourly **V-Flex** System Wide Measurements
- Hourly V-Flex Measurements Per **SSP**

Example Commands:

```
FTP: rept-ftp-
meas:type=mtch:enttype=vflex[:period=specific:day=xxx]
```

**Table 3-159 Daily Maintenance V-Flex System Wide Measurements**

| Event Name | Description                                                                                                                                   | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| VFCNTRSP   | Total number of IDP Connect responses sent by VFLEX service.                                                                                  | peg count |
| VFERRRSP   | Total number of IDP queries received with errors (those resulted in TCAP Error response from VFLEX).                                          | peg count |
| VFIDPQRCV  | Total number of IDP queries received for VFLEX service.                                                                                       | peg count |

**Table 3-160 Daily Maintenance V-Flex Per SSP Measurements**

| Event Name | Description                                                                                                                                   | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| VFIMSISDN  | Total number of IDP queries received for VFLEX service with invalid MSISDN.                                                                   | peg count |
| VFVMSISDN  | Total number of IDP queries received for VFLEX service with valid MSISDN.                                                                     | peg count |



## FTP Reports

### Hourly V-Flex System Wide Measurements

FTP Example Output File Name: *mtch-vflex\_20070816\_2400.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "37.6.0-58.20.0", "2007-08-17", "11:32:53", "EST", "HOURLY
MAINTENANCE MEASUREMENTS ON VFLEX
SYSTEM", "LAST", "2007-08-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "VFIDPQRCV", "VFCNCTRSP", "VFERRRSP"<cr><lf>
"K", 20, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 3\*(6 char data) + 2 = 24 chars, the typical file size is:

**Table 3-161 Typical File Size: *mtch-vflex.csv***

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 260           | + | 45            | + | 24          | = | 347       |

## Hourly V-Flex Measurements Per SSP

MP Example Output File Name: *mtch-vflexssp\_20070816\_2400.csv*

MP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "37.6.0-58.20.0", "2007-08-17", "11:32:58", "EST", "HOURLY
MAINTENANCE MEASUREMENTS ON VFLEX
SSP", "LAST", "2007-08-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "SSP", "VFVMSISDN", "VFVMSISDN"<cr><lf>
"K", "001-101-002", 10, 10<cr><lf>
```



**Note:**

The field identifier SSP designates the Service Switching Point.

Assuming each data line will be: 4 char status + 14 char SSP + 2\*(6 char data) + 2 = 32 chars, the typical file size is:

**Table 3-162 Typical File Size: mtch-vflexssp.csv**

| System header | + | Report header | + | Report data       | = | File Size                       |
|---------------|---|---------------|---|-------------------|---|---------------------------------|
| 257           | + | 40            | + | 32 * #Point Codes | = | 297 + (32 * #Point Codes) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-163 Typical File Size: mtch-vflexssp.csv**

| System header | + | Report header | + | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 257           | + | 40            | + | 32 * 200    | = | 6697 bytes |

## ATINPQ MTCH Report

The enttype=atinpq entity generates two separate reports per period. These reports are generated as CSV files and FTP'd to the customer FTP server. The command example will generate the following daily reports:

- Hourly ATINPQ System Wide Measurements
- Hourly ATINPQ Per SSP Measurements

### Example Commands:

- FTP
 

```
rept-ftp-
meas:type=mtch:enttype=atinpq[:period=specific:hh=xxx]
```

### Measurement Events

**Table 3-164 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ATINPQ Registers**

| Event Name | Description                                                                                                                                                 | Unit      |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ATINPQRCV  | Total number of ATINP queries received for ATINPQ service. This peg is incremented only if ATINP feature is enabled and the incoming message opcode is ATI. | peg count |
| ATINPQACK  | Total number of ATI ACK messages sent by the ATINPQ service. This peg is incremented only if the ATINP feature is enabled.                                  | peg count |

**Table 3-164 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ATINPQ Registers**

| Event Name | Description                                                                                                                                                                                                            | Unit      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ATINPQERR  | Total number of incoming ATI messages that did not result in either ATI ACK or ATI NACK with error code of either Unknown Subscriber or ATI Not Allowed. This peg is incremented only if the ATINP feature is enabled. | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                                                      | status    |
| PC TYPE    | The TYPE of the point code. Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                                                                                                             | text      |

## Hourly ATINPQ Reports

### System Wide Report

- Example Output File Name:

*mtch-atinpq\_20080616\_2400.csv*

- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "39.0.0-61.5.0", "2008-06-17", "11:32:53", "EST", "HOURLY
MAINTENANCE MEASUREMENTS ON ATINPQ
SYSTEM", "LAST", "2008-06-17", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "ATINPQRCV", "ATINPQACK", "ATINPQERR"<cr><lf>
"K", 20,10,10<cr><lf>
```

Assuming each data line will be: 4 char status + 3\*(6 char data) + 2 = 24 chars, the typical file size is:

**Table 3-165 Typical File Size: mtch-atinpq.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 260           | + | 45            | + | 24          | = | 347       |

### Per SSP Report

- Example Output File Name:  
*mtch-atinpqssp\_20080616\_2400.csv*
- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "39.0.0-61.5.0", "2008-06-17", "11:32:58", "EST", "HOURLY
MAINTENANCE MEASUREMENTS ON ATINPQ
SSP", "LAST", "2008-06-16", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "SSP", "ATINPQRCV", "ATINPQACK", "ATINPQERR"<cr><lf>
"K", "001-101-002", 10, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 14 char SSP + 3\*(6 char data) + 2 = 38 chars, the typical file size is:

**Table 3-166 Typical File Size: mtch-atinpq.csv**

| System header | + | Report header | + | Report data         | = | File Size                       |
|---------------|---|---------------|---|---------------------|---|---------------------------------|
| 257           | + | 40            | + | (38 * #Point Codes) | = | 297 + (38 * #Point Codes) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-167 Typical File Size: atinpq 200 SSPs**

| System header | + | Report header | + | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 257           | + | 40            | + | (38 * 200)  | = | 7897 bytes |

## AIQ MTCH Report

The entity type for ANSI41 AIQ measurements is "AIQ", which generates two reports per period. The commands to generate the hourly on-demand measurement report can be specified with an optional hour parameter, xxxx, providing a four-digit hour (0100, 0200, 2300, and so on). The specific period, period=specific, parameter is required when the optional hour parameter is used.

The measurements reports supported are:

- Per System Totals
- Per SSP Totals

The measurement report types supported are:

- Daily measurement report type "mtcd"

- Hourly measurement report type "mtch"

The on demand reports and scheduled reports are rejected until the AIQ feature is enabled. The command `chg-mtc-measopts:mtchaiq=on:mtcdaiq=on` starts scheduled reports generation. Both on-demand and scheduled reports at hourly and daily boundary (MTCH and MTCD) generate two reports, namely Per System totals and Per SSP totals.

**Example Commands:**

- UI: Not applicable.
- FTP: `rept-ftp-meas:type=mtcd:enttype=aiq[:period=specific:hh=xxxx]`  
This command creates both the Per System and Per SSP Totals hourly reports.

**Measurement Events**

**Table 3-168 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) AIQ Registers**

| Event Name | Description                                                                                                                                                                                | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| AIQRVCV    | Total number of AnalyzedInformation messages received for AIQ service. This peg is incremented only if ANSI41 AIQ feature is enabled.                                                      | peg count |
| AIQSUCC    | Total number of Return Result sent by the AIQ service. This peg is incremented only if the ANSI41 AIQ feature is enabled.                                                                  | peg count |
| AIQERR     | Total number of ANSI41 AIQ queries resulting in a negative response (Return Error or Reject) generation by AIQ service. This peg is incremented only if the ANSI41 AIQ feature is enabled. | peg count |
| PC TYPE    | The TYPE of the point code. Valid values are ANSI, ITUI, ITUN, and ITUN24.                                                                                                                 | text      |

**Daily AIQ Reports**

**System Wide Report**

- Example Output File Name:

*mtcd-aiq\_20090820\_2400.csv*

- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "41.0.0-62.34.51", "2009-08-20", "11:32:53", "EST", "DAILY MAINTENANCE MEASUREMENTS ON AIQ SYSTEM", "LAST", "2009-08-20", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
```

```
"STATUS", "AIQRCV", "AIQSUC", "AIQERR"<cr><lf>
"K", 20, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 3\*(6 char data) + 2 = 24 chars, the typical file size is:

**Table 3-169 Typical File Size: mtcd-atinpq.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 260           | + | 38            | + | 24          | = | 322       |

**Per SSP Report**

- Example Output File Name:  
*mtcd-aiqssp\_20090820\_2400.csv*

- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "41.0.0-62.34.51", "2009-08-20", "11:32:58", "EST", "DAILY
MAINTENANCE MEASUREMENTS ON AIQ
SSP", "LAST", "2009-08-19", "00:00:00", "24:00:00", 1<cr><lf>
<cr><lf>
"STATUS", "SSP", "AIQRCV", "AIQSUC", "AIQERR"<cr><lf>
"K", "001-101-002", 20, 10, 10<cr><lf>
```

Assuming each data line will be: 4 char status + 14 char SSP + 3\*(6 char data) + 2 = 38 chars, the typical file size is:

**Table 3-170 Typical File Size: mtcd-aiq.csv**

| System header | + | Report header | + | Report data           | = | File Size                         |
|---------------|---|---------------|---|-----------------------|---|-----------------------------------|
| 257           | + | 44            | + | ( 38 * #Point codes ) | = | 301 + ( 38 * #Point Codes ) bytes |

For a report of 200 SSPs, typical file size is:

**Table 3-171 Typical File Size: aiq 200 SSPs**

| System header | + | Report header | + | Report data  | = | File Size  |
|---------------|---|---------------|---|--------------|---|------------|
| 257           | + | 44            | + | ( 38 * 200 ) | = | 7901 bytes |

## GTTPATH MTCH Report

The entity type for GTT Actions Per-Path measurements is “gttpath”, which generates two reports per period. The commands to generate the hourly on-demand measurement report can be specified with an optional hour parameter, xxxx, providing a four-digit hour (0100, 0200, 2300, and so on). The specific period, period=specific, parameter is required when the optional hour parameter is used.

The measurement report supported are:

- Per System Totals
- Per Path Totals

The measurement report types supported are:

- Daily measurement report type “mtcd”
- Hourly measurement report type “mtch”

The on-demand reports and scheduled reports are rejected until the GTT Duplicate and/or Discard and/or Forward Action feature is enabled. Turning ON the feature is not required, because one of the register “GTTACTNA” might get pegged in case GTT action fails because of the feature not being in the ON state.

The command `chg-mtc-measopts:mtchgttpath=on:mtcdgttpath=on` starts scheduled reports generation. Both on-demand and scheduled reports at hourly and daily boundary (MTCH and MTCD) generate two reports: Per System Totals and Per-Path.

### Example Commands:

UI: Not applicable.

**FTP:** `rept-ftp-`

`meas:type=mtch:enttype=gttpath[:period=specific:hh=xxxx]` where `[:period=specific:hh=xxxx]` is optional.

This example command creates *both* the Per-Path System Totals and the Per-Path Totals daily reports (the report date corresponds to the day entered in the command).

**Table 3-172 MTCD/MTCH GTT Actions System-Wide Measurements**

| Event Name | Description                                                                                               | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------|-----------|
| GTTADISC0  | <b>GTT Actions – MSUs Discarded</b> - The total number of messages discarded by the DISCARD GTT Action.   | peg count |
| GTTADISC1  | <b>GTT Actions – MSUs Discarded</b> - The total number of messages discarded by the UDS GTT Action.       | peg count |
| GTTADISC2  | <b>GTT Actions – MSUs Discarded</b> - The total number of messages discarded by the TCAP Error GTT Action | peg count |

**Table 3-172 (Cont.) MTCD/MTCH GTT Actions System-Wide Measurements**

| Event Name  | Description                                                                                                                                                                                     | Unit      |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GTTADUP     | <b>GTT Actions – MSUs Duplicated</b> - The total number of messages for which Duplicate MSU was sent. Multiple duplicate actions in an action set shall also increment this register only once. | peg count |
| GTTAFWD     | <b>GTT Actions – MSUs Forwarded</b> - The total number of messages <i>forwarded</i> by Forward GTT Action.                                                                                      | peg count |
| GTTASET     | <b>GTT Actions</b> - The total number of messages <i>receiving</i> any GTT action.                                                                                                              | peg count |
| GTTASRVGLX  | The total number of messages serviced by GFLEX GTT Action.                                                                                                                                      | peg count |
| GTTASRVGPRT | The total number of messages serviced by GPORT GTT Action.                                                                                                                                      | peg count |
| GTTASRVMSR  | The total number of messages serviced by SMSMR GTT Action.                                                                                                                                      | peg count |
| GTTASFLOG   | The total number of messages serviced by SFLOG GTT Action.                                                                                                                                      | peg count |
| GTTAMSVTO   | The total number of messages that successfully pass SCPVAL GTT Action.                                                                                                                          | peg count |
| GTTAMSVDI   | The total number of messages discarded by SCPVAL GTT Action.                                                                                                                                    | peg count |
| GTTAMSVNA   | The total number of messages where validation was not applied by SCPVAL GTT Action.                                                                                                             | peg count |

**Table 3-173 MTCD/MTCH GTT Actions Per-Path Measurements**

| Event Name | Description                                                                                                                                                                                                                                                                                                                                                                                             | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GTTACTNA   | GTT Actions - The total number of messages for which no GTT action was successfully performed.<br><br>This register shall be pegged for a message if either of these occurs: <ul style="list-style-type: none"> <li>No GTT Action set was associated with the final GTT translation</li> <li>No GTT Action in the associated GTT Action set could be executed successfully (for any reason).</li> </ul> | peg count |



Table 3-173 (Cont.) MTCD/MTCH GTT Actions Per-Path Measurements

| Event Name  | Description                                                                                                                                                                                                                                | Unit      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| GTTADISC0   | GTT Actions – MSUs Discarded -<br>The total number of messages discarded by the DISCARD GTT Action.                                                                                                                                        | peg count |
| GTTADISC1   | GTT Actions – MSUs Discarded -<br>The total number of messages discarded by the UDTS GTT Action.                                                                                                                                           | peg count |
| GTTADISC2   | GTT Actions – MSUs Discarded -<br>The total number of messages discarded by the TCAP Error GTT Action                                                                                                                                      | peg count |
| GTTADUP     | GTT Actions – MSUs Duplicated -<br>The total number of messages for which Duplicate MSU was sent.<br><br>This register shall be pegged for a message only once for which either a single or multiple duplicate GTT Actions were performed. | peg count |
| GTTAFWD     | GTT Actions – MSUs Forwarded -<br>The total number of messages forwarded by Forward GTT Action.                                                                                                                                            | peg count |
| GTTASRVGLX  | The total number of messages serviced by GFLEX GTT Action.                                                                                                                                                                                 | peg count |
| GTTASRVGPRT | The total number of messages serviced by GPORT GTT Action.                                                                                                                                                                                 | peg count |
| GTTASRVSMSR | The total number of messages serviced by SMSMR GTT Action.                                                                                                                                                                                 | peg count |
| GTTASFLOG   | The total number of messages serviced by SFLOG GTT Action.                                                                                                                                                                                 | peg count |
| GTTAMSVTO   | The total number of messages that successfully pass SCPVAL GTT Action.                                                                                                                                                                     | peg count |
| GTTAMSVDI   | The total number of messages discarded by SCPVAL GTT Action.                                                                                                                                                                               | peg count |
| GTTAMSVNA   | The total number of messages where validation was not applied by SCPVAL GTT Action.                                                                                                                                                        | peg count |

## Hourly GTTAPATH Reports

The command `rept-ftp-meas:type=mtch:enttype=gttapath` produces the system-wide report and the per-path report shown here.

### System Wide Report

- Example Output File Name: `mtch-gttasys_20140228_2400.csv`

- Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 46.0.0-65.6.0", "2014-02-28", "00:10:33", "EST
", "HOURLY MAINTENANCE MEASUREMENTS ON GTTACTION
SYSTEM", "LAST", "2014-02-28", "23:00:00", "23:59:59", 1

"STATUS", "GTTADISC0", "GTTADISC1", "GTTADISC2", "GTTADUP", "GTTAFWD", "GT
TASET", "GTTASRVGFLX", "GTTASRVGPRT", "GTTASRVMSR"
"K", 0, 0, 0, 0, 0, 0, 0, 0, 0
```

Assuming each data line will be: 4 char status + 9\*(6 char data) + 2 = 60 chars,  
the typical file size is:

**Table 3-174 Typical File Size: mtch-gttasys.csv**

| System header | + | Report header | + | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 117           | + | 60          | = | 427 bytes |

#### Per Path Report

- Example Output File Name: *mtch-gttapath\_20140124\_2200.csv*

**Table 3-175 Entity Identification (PATH-CDSN-SCDGTA-CGSN-SCGGTA-OPSN-PKG-OPCODE-<A>/F)**

| String Format  | Definition                                                                                                                                   |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| PATH           | The GTT path name assigned when GTTACT path was entered.                                                                                     |
| CDSN           | The called party global title translations set name assigned when GTTACT path was entered.                                                   |
| SCDGTA         | The called party start global title address (SCDGTA) assigned when GTTACT path entered for a non-ranged entry<br><i>or</i>                   |
| SCDGTA->ECDGTA | The ranged called party start global title address (SCDGTA) and End global title address (ECDGTA) assigned when the GTTACT path was entered. |
| CGSN           | The calling party global title translations set name assigned when GTTACT path was entered.                                                  |
| SCGGTA         | The calling party start global title address assigned when GTTACT path entered for a non-ranged entry<br><i>or</i>                           |

**Table 3-175 (Cont.) Entity Identification (PATH-CDSN-SCDGTA-CGSN-SCGGTA-OPSN-PKG-OPCODE-<A>/F)**

| String Format  | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SCDGTA->ECDGTA | The ranged calling party start global title address (SCGGTA) and End global title address (ECGGTA) assigned when the GTTACT path was entered.                                                                                                                                                                                                                                                                                                                                                               |
| OPSN           | The global title translations set name of TCAP operation code assigned when GTTACT path was entered                                                                                                                                                                                                                                                                                                                                                                                                         |
| PKG            | The ANSI/ITU TCAP package type assigned when GTTACT Path was entered.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OPCODE         | TCAP operation code assigned when GTTACT path was entered.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <A>/F          | '<A>' stands for Application Context Name (ACN) assigned when GTTACT path entered if package type is ITU TCAP. It is preceded by a "less than" sign(<) and followed by a "greater than" sign (>).<br><br>'F' stands for ANSI TCAP family field assigned if package type is ANSI TCAP when GTTACT Path was entered.<br><br>Backslash '/' will not be displayed in the report data. Its only signifies that either <A> or F will be displayed at a time based on the package type displayed in the PKG entry. |

 **Note:**

- If any entry has no value assigned then default value “#” will be displayed for it.
- These string formats allow efficient automated post processing of measurements reports; they are not designed to be easily readable. A brief note explaining the format is included in the report.

• **Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALS
TART", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 46.0.0-65.6.0", "2014-01-24", "00:10:35", "EST
", "HOURLY MAINTENANCE MEASUREMENTS ON GTTACTION PER-
PATH", "LAST", "2014-01-24", "23:00:00", "23:59:59", 6
```

```
For a path containing GTA ranges, PATH-CDSN-SCDGTA-CGSN-CGGTA-OPSN-PKG-
OPCODE-<A>/F = PATH-CDSN-SCDGTA->ECDGTA-CGSN-SCGGTA->ECGTA-OPSN-PKG-
OPCODE-<A>/F
"STATUS", "PATH-CDSN-SCDGTA-CGSN-CGGTA-OPSN-PKG-OPCODE-<A>/
F", "GTTACTNA", "GTTADISC0", "GTTADISC1",
"GTTADISC2", "GTTADUP", "GTTAFWD", "GTTASRVGFLX", "GTTASRVGPR", "GTTASRVMSR"
"K", "path1-cdlim1-12345-cglim2-123-oplim3-ituuni-
```



**Table 3-177 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) DEIR Measurements**

| Event Name | Description                                                                                                                                             | Unit      |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| BLKNALIMEI | Total number of searches that resulted in a match with a "block listed" IMEI, and the IMSI in the database did not match the IMSI in the message.       | Peg count |
| UNKNIMEI   | Total number of searches that resulted in a match with an "unknown" IMEI.                                                                               | Peg count |
| NOMTCHIMEI | Total number of searches that resulted in no match in the database.                                                                                     | Peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> - indicates good data<br><b>I</b> - indicates incomplete interval<br><b>N</b> - indicates data not current | Status    |

Example Output File Names:

|                                                         |                                  |
|---------------------------------------------------------|----------------------------------|
| Hourly DEIR system total measurements report            | mtch-deirsys_yyyyymmdd_hhmm.csv  |
| Hourly DEIR per diameter connection measurements report | mtch-deirconn_yyyyymmdd_hhmm.csv |

FTP example output file format for DEIR system total report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 45.1.0-64.74.1", "2013-06-20", "10:48:59 AM", "MST
", "HOURLY MAINTENANCE MEASUREMENTS ON DEIR
SYSTEM", "SPECIFIC", "2013-06-19", "21:00:00", "22:00:00", 1

"STATUS", "ECRRCV", "WHITEIMEI", "GRAYIMEI", "BLACKIMEI", "BLKALIMEI", "BLKNALIMEI"
, "UNKNIMEI", "NOMTCHIMEI"
"K", 23723, 7687, 0, 16036, 0, 0, 0, 7687
```

Assuming each data line will be:

4 char status + 8 \* (6 char data) + 2 = 54 chars

Typical file size is:

**Table 3-178 Typical File Size: mtch-deirsys.csv**

| System header |   | Report header |   | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 104           | + | 54          | = | 417 bytes |

FTP example output file format for per diameter connection report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"
"tekelecstp", "EAGLE5 45.1.0-64.74.1", "2013-06-20", "10:38:59 AM", "MST
", "HOURLY MAINTENANCE MEASUREMENTS ON DEIR
PER-CONNECTION", "SPECIFIC", "2013-06-19", "21:00:00", "22:00:00", 5

"STATUS", "DCNAME", "ECRCV", "WHITEIMEI", "GRAYIMEI", "BLACKIMEI", "BLKALIME
I", "BLKNALIMEI", "UNKNIMEI", "NOMTCHIMEI"
"K", "d1", 100, 100, 0, 0, 0, 0, 0, 0
"K", "d2", 768, 768, 0, 0, 0, 0, 0, 768
"K", "d3", 0, 0, 0, 0, 0, 0, 0, 0
"K", "d4", 500, 0, 0, 500, 0, 0, 0, 0
"K", "d5", 1000, 0, 1000, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 18 char (Diameter connection) + 8 \* (6 char data) + 2 = 72 chars

Typical file size is:

**Table 3-179 Typical File Size: mtch-deirconn.csv**

| System header |   | Report header |   | Report data (512 connections) | = | File Size   |
|---------------|---|---------------|---|-------------------------------|---|-------------|
| 250           | + | 113           | + | 36864 bytes                   | = | 37227 bytes |

## ENUM MTCH Report

The **ENUM** measurements specify the entity type **enum** and include four hourly reports:

- Per system (ENUMSYS)  
[Table 3-180](#) lists the events added per system.
- Per card (ENUMCARD)  
[Table 3-181](#) lists the events added for each card.
- Per entity (ENUMENT)  
[Table 3-182](#) lists the events added for each entity ID in the entity ID table or each DN block in the DN block profile table.
- Per ACL (ENUMACL)  
[Table 3-183](#) lists the events added for each ACL entry in the ACL table.

The retention period is 24 hours.

FTP Example Command:

```
rept-ftp-meas:type=mtch:enttype=enum
```

**Table 3-180 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM System Level Measurements**

| Event Name  | Description                                                                                                                                   | Unit      |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ENUMQRYRX   | Total number of ENUM queries received                                                                                                         | Peg count |
| ENUMNAPTRRX | Total number of NAPTR queries received                                                                                                        | Peg count |
| ENUMNSRX    | Total number of NS queries received                                                                                                           | Peg count |
| ENUMCNAMERX | Total number of CNAME queries received                                                                                                        | Peg count |
| ENUMQRYRJTD | Total number of ENUM queries rejected by ENUM server                                                                                          | Peg count |
| ENUMCNGDISC | Total number of ENUM queries discarded due to congestion                                                                                      | Peg count |
| ENUMACLDISC | Total number of ENUM queries discarded due to ACL validation failure                                                                          | Peg count |
| ENUMTXRC0   | Total number of successful ENUM responses sent                                                                                                | Peg count |
| ENUMTXRC1   | Total number of ENUM error responses sent due to ENUM Query format error                                                                      | Peg count |
| ENUMTXRC2   | Total number of ENUM error responses sent due to ENUM Server failure                                                                          | Peg count |
| ENUMTXRC3   | Total number of ENUM error responses sent due to non-existent domain error                                                                    | Peg count |
| ENUMTXRC4   | Total number of ENUM error responses sent due to not implemented error                                                                        | Peg count |
| ENUMTXRC5   | Total number of ENUM error responses sent due to refusal by ENUM server                                                                       | Peg count |
| ENUMTXDEFPR | Total number ENUM responses sent with default ENUM profile                                                                                    | Peg count |
| STATUS      | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | Status    |

**Table 3-181 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM Card Level Measurements**

| Event Name  | Description                                                                                                                                       | Unit      |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ENUMCQRYRX  | Total number of ENUM queries received                                                                                                             | Peg count |
| ENUMCNAPTRX | Total number of NAPTR queries received                                                                                                            | Peg count |
| ENUMCNSRX   | Total number of NS queries received                                                                                                               | Peg count |
| ENUMCCNAMRX | Total number of CNAME queries received                                                                                                            | Peg count |
| ENUMCQRRJTD | Total number of ENUM queries rejected by ENUM server                                                                                              | Peg count |
| ENUMCCNGDSC | Total number of ENUM queries discarded due to congestion                                                                                          | Peg count |
| ENUMCACLDSC | Total number of ENUM queries discarded due to ACL validation failure                                                                              | Peg count |
| ENUMCTXRC0  | Total number of successful ENUM responses sent                                                                                                    | Peg count |
| ENUMCTXRC1  | Total number of ENUM error responses sent due to ENUM query format error                                                                          | Peg count |
| ENUMCTXRC2  | Total number of ENUM error responses sent due to ENUM server failure                                                                              | Peg count |
| ENUMCTXRC3  | Total number of ENUM error responses sent due to non-existent domain error                                                                        | Peg count |
| ENUMCTXRC4  | Total number of ENUM error responses sent due to not implemented error                                                                            | Peg count |
| ENUMCTXRC5  | Total number of ENUM error responses sent due to refusal by ENUM server                                                                           | Peg count |
| ENUMCTXDEFP | Total number ENUM responses sent with default ENUM profile                                                                                        | Peg count |
| STATUS      | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | Status    |



**Table 3-182 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM Entity Level Measurements**

| Event Name         | Description                                                                                                                                   | Unit      |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>ENUMENTMSGS</b> | Total number of ENUM queries received or ENUM responses sent per entity                                                                       | Peg count |
| STATUS             | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | Status    |

**Table 3-183 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM ACL Level Measurements**

| Event Name  | Description                                                                                                                                   | Unit      |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| ENUMACLQRCV | Total number of ENUM queries received                                                                                                         | Peg count |
| ENUMACLQRJD | Total number of ENUM queries rejected by ENUM server                                                                                          | Peg count |
| ENUMACLRC0  | Total number of successful ENUM responses sent                                                                                                | Peg count |
| ENUMACLRC1  | Total number of ENUM error responses sent due to ENUM query format error                                                                      | Peg count |
| ENUMACLRC2  | Total number of ENUM error responses sent due to ENUM server failure                                                                          | Peg count |
| ENUMACLRC3  | Total number of ENUM error responses sent due to non-existent domain error                                                                    | Peg count |
| ENUMACLRC4  | Total number of ENUM error responses sent due to not implemented error                                                                        | Peg count |
| ENUMACLRC5  | Total number of ENUM error responses sent due to refusal by ENUM server                                                                       | Peg count |
| STATUS      | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | Status    |

Example Output File Names:

|                                               |                                 |
|-----------------------------------------------|---------------------------------|
| Hourly ENUM system totals measurements report | mtch-enumsys_yyyymmdd_hhmm.csv  |
| Hourly ENUM per card measurements report      | mtch-enumcard_yyyymmdd_hhmm.csv |
| Hourly ENUM per entity measurements report    | mtch-enument_yyyymmdd_hhmm.csv  |
| Hourly ENUM per acl measurements report       | mtch-enumacl_yyyymmdd_hhmm.csv  |

FTP example output file format for system total report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ???.?-65.27.0", "2014-08-22", "22:01:32", "MST
", "HOURLY MAINTENANCE MEASUREMENTS ON ENUM
SYSTEM", "LAST", "2014-08-22", "21:00:00", "22:00:00", 1

"STATUS", "ENUMQRYRX", "ENUMNAPTRRX", "ENUMNSRX", "ENUMCNAMERX", "ENUMQRYRJT
D", "ENUMCNGDISC", "ENUMACLDISC",
"ENUMTXRC0", "ENUMTXRC1", "ENUMTXRC2", "ENUMTXRC3", "ENUMTXRC4", "ENUMTXRC5"
, "ENUMTXDEFPR"
"K", 2134, 0, 2134, 0, 0, 0, 0, 2134, 0, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 14 \* (6 char data) + 2 = 90 chars

Typical file size is:

**Table 3-184 Typical File Size: mtch-enumsys.csv**

| System header |   | Report header |   | Report data | = | File Size |
|---------------|---|---------------|---|-------------|---|-----------|
| 250           | + | 189           | + | 90 bytes    | = | 529 bytes |

FTP example output file format for per card report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IV
ALSTART", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ???.?-65.27.0", "2014-08-22", "22:01:35", "MST
", "HOURLY MAINTENANCE MEASUREMENTS ON ENUM
PER-CARD", "LAST", "2014-08-22", "21:00:00", "22:00:00", 2

"STATUS", "LOC", "ENUMCQRYRX", "ENUMCNAPTRX", "ENUMCNSRX", "ENUMCCNAMRX", "EN
UMCQRRJTD", "ENUMCCNGDSC", "ENUMCACLDSC",
"ENUMCTXRC0", "ENUMCTXRC1", "ENUMCTXRC2", "ENUMCTXRC3", "ENUMCTXRC4", "ENUMC
TXRC5", "ENUMCTXDEFP"
"K", "1101", 2134, 0, 2134, 0, 0, 0, 0, 2134, 0, 0, 0, 0, 0, 0
"K", "1105", 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 7 char (card) + 14 \* (6 char data) + 2 = 95 chars

Typical file size is:

**Table 3-185 Typical File Size: mtch-enumcard.csv**

| System header |   | Report header |   | Report data (250 card) | = | File Size   |
|---------------|---|---------------|---|------------------------|---|-------------|
| 250           | + | 203           | + | 23750 bytes            | = | 24203 bytes |

FTP example output file format for per entity report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ????.?-65.27.0", "2014-08-22", "22:01:33", "MST ", "HOURLY
MAINTENANCE MEASUREMENTS ON ENUM
PER-ENTITY", "LAST", "2014-08-22", "21:00:00", "22:00:00", 2

"STATUS", "ENTITY ID", "SDN", "EDN", "ENUMENTMSGs"
"K", "123456789012345", "", "", 0
"K", "123456789123456", "", "", 2134
```

Assuming each data line will be:

4 char status + 3\* (18 char Entity ID/SDN/EDN) + (6 char data) + 2 = 66 chars

Typical file size is:

**Table 3-186 Typical File Size: mtch-enument.csv**

| System header |   | Report header |   | Report data (1024 entries) | = | File Size   |
|---------------|---|---------------|---|----------------------------|---|-------------|
| 250           | + | 48            | + | 67584 bytes                | = | 67882 bytes |

FTP example output file format for per ACL report:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENTIDS"
"tekelecstp", "UNKNOWN ????.?-65.27.0", "2014-08-22", "22:01:34", "MST ", "HOURLY
MAINTENANCE MEASUREMENTS ON ENUM
PER-ACL", "LAST", "2014-08-22", "21:00:00", "22:00:00", 1

"STATUS", "IP
ADDRESS", "ENUMACLQRCV", "ENUMACLQRJD", "ENUMACLRC0", "ENUMACLRC1", "ENUMACLRC2", "
ENUMACLRC3",
"ENUMACLRC4", "ENUMACLRC5"
"K", "10.*.*.*", 2134, 0, 2134, 0, 0, 0, 0, 0
```

Assuming each data line will be:

4 char status + 18 char (IP Address) + 8 \* (6 char data) + 2 = 72 chars

Typical file size is:

**Table 3-187 Typical File Size: mtch-enumacl.csv**

| System header |   | Report header |   | Report data (100 entries) | = | File Size  |
|---------------|---|---------------|---|---------------------------|---|------------|
| 250           | + | 129           | + | 7200 bytes                | = | 7579 bytes |

## Gateway Measurements (GTWY)

The **GTWY** measurement report collects and reports gateway-related data from the **STP**. The gateway related data collected for this report is the network management and global title translation load on the EAGLE, and the source of this load. The level and source of pass through **TCAP** traffic is also collected. The **MTP** cards measure this data which is reported when requested.

**Entity Types:**STP, ORIGNI, ORIGINIC, LNKSET, LSDESTNI, LSORIGINI, and LSONISMT

**Accumulation Interval:** 30 minutes

**Optional Accumulation Interval:** Every 15 minutes

**STP Retention Period:** 24 hours

**Reporting Mode:** Scheduled, On-demand

**Accessible Collection Period:** Last, Specific

## STP GTWY Report

STP GTYW reports are an aggregation of the counters from OAM, SCCP, and LIM cards. If any of the cards are ISOLATED/OOS during a measurement interval, the report is marked **I**. The report is marked **K** only when the OAM, SCCP, and LIM cards are IS-NR throughout the entire measurement interval.

Example Commands:

- UI

```
rept-meas:type=gtwy:enttype=stp
```

- FTP

```
rept-ftp-meas:type=gtwy:enttype=stp
```

### Measurement Events

**Table 3-188 Gateway STP Measurements**

| Event Name      | Description                                                                                                         | Unit      |
|-----------------|---------------------------------------------------------------------------------------------------------------------|-----------|
| <b>GTTPFDIC</b> | Number of Global Title Translations ( <b>GTTs</b> ) performed on messages received from an interconnecting network. | peg count |
| <b>MSUDSCRD</b> | Number of <b>MSUs</b> discarded due to screening failure.                                                           | peg count |
| <b>MSURJOPC</b> | Number of <b>MSUs</b> rejected due to screening - disallowed <b>OPC</b> .                                           | peg count |
| <b>MSURJDPC</b> | Number of <b>MSUs</b> rejected due to screening - disallowed <b>DPC</b> .                                           | peg count |

Table 3-188 (Cont.) Gateway STP Measurements

| Event Name | Description                                                                                                                                                                          | Unit      |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| MSURJSIO   | Number of <b>MSUs</b> rejected due to screening - invalid service information octet ( <b>SIO</b> ).                                                                                  | peg count |
| MSURJCPA   | Number of <b>MSUs</b> rejected due to screening - invalid calling party address.                                                                                                     | peg count |
| MSURJAPC   | Number of subsystem prohibited ( <b>SSP</b> ) and subsystem allowed ( <b>SSA</b> ) <b>MSUs</b> rejected due to screening - invalid affected point code.                              | peg count |
| MSURJPCS   | Number of subsystem status test ( <b>SST</b> ) <b>MSUs</b> rejected due to screening - invalid affected point code and <b>SSN</b> .                                                  | peg count |
| MSURJDST   | Number of <b>MTP-NM MSUs</b> rejected due to screening - invalid affected destination field.                                                                                         | peg count |
| MSURJTT    | Number of <b>SCCP MSUs</b> rejected due to screening - invalid translation type.                                                                                                     | peg count |
| MSURJDSN   | Number of <b>SCCP MSUs</b> rejected due to screening - disallowed <b>DPC/SSN</b> in called party address.                                                                            | peg count |
| MSURJTFC   | Number of transfer controlled ( <b>TFC</b> ) <b>MSUs</b> rejected due to screening - invalid affected destination field.                                                             | peg count |
| MSURJSRT   | Number of signaling routeset test ( <b>SRST</b> ) <b>MSUs</b> rejected due to screening - invalid affected destination field.                                                        | peg count |
| STATUS     | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                                    | status    |
| TTMAPPF    | Number of translation type mapping translations performed. For example, a mapped <b>SS7</b> message translation type was found for the existing <b>SS7</b> message translation type. | peg count |



## ORIGNI GTWY Report

### Command Examples

- UI

```
rept-meas:type=gtwy:enttype=origni:ni=200
```

- FTP

```
rept-ftp-meas:type=gtwy:enttype=origni
```

### Measurement Events

**Table 3-190 Gateway ORIGNI Measurements**

| Event Name      | Description                                                                                                                                   | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>GTPFDPC</b>  | Number of global title translations ( <b>GTTs</b> ) performed - result is a <b>DPC</b> of an interconnecting network.                         | peg count |
| <b>GTTUNT</b>   | Number of <b>GTTs</b> unable to perform on messages received from an interconnecting network - no translation table for the translation type. | peg count |
| <b>GTPFDIC</b>  | Number of <b>GTTs</b> performed on messages received from an interconnecting network.                                                         | peg count |
| <b>GTTUNADR</b> | Number of <b>GTTs</b> unable to perform on messages received from an interconnecting network - no translation for this address.               | peg count |
| <b>STATUS</b>   | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |

### UI Reports

#### UI Example Output:

```
tekelecstp 03-12-19 12:31:12 EST EAGLE 34.0.0
TYPE OF REPORT: GATEWAY MEASUREMENTS ON ORIGNI
REPORT PERIOD: LAST
REPORT INTERVAL: 03-12-19, 12:00:00 THROUGH 12:29:59
```

```
ORIGNI-GTWY MEASUREMENTS: NI: 5
```

```
These measurements are from 03-12-19, 12:00:00 through 12:29:59.
GTPFDPC = 0, GTTUNT = 0, GTPFDIC = 834033,
GTTUNADR = 834034
```

```
;
tekelecstp 03-12-19 12:31:13 EST EAGLE 34.0.0
END OF ON-DEMAND ORIGNI-GTWY MEASUREMENT REPORT
;
```

### FTP Reports

**FTP Example Output File Name:** *gtwy-origni\_19990117\_1530.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"GATEWAY MEASUREMENTS ON
ORIGNI", "LAST", "1999-01-17", "15:00:00", "15:30:00", 100<cr><lf>
<cr><lf>
"STATUS", "NI", "GTTDFPC", "GTTUNT", "GTTDFDIC", "GTTUNADR"<cr><lf>
"K", 100, 0, 0, 834033, 834034<cr><lf>
.
"K", 200, 0, 0, 834033, 834034<cr><lf>
```

Assuming each data line will be:

4 char status + 4 char **NI** + 4\*(6 char data) + 2 = 34 chars

For a report of 100 **NIs**, typical file size is:

**Table 3-191 Typical File Size: *gtwy-origni.csv***

| System header | + | Report header | + | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 250           | + | 59            | + | 3400        | = | 3709 bytes |

## ORIGNINC GTWY Report

### Command Examples

- UI  

```
rept-meas:type=gtwy:enttype=origninc:ni=4:nc=200
```
- FTP  

```
rept-ftp-meas:type=gtwy:enttype=origninc
```



## Measurement Events

**Table 3-192 Gateway ORIGNINC Measurements**

| Event Name      | Description                                                                                                                                   | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>GTPFDPC</b>  | Number of global title translations ( <b>GTTs</b> ) performed - result is a <b>DPC</b> of an interconnecting network.                         | peg count |
| <b>GTTUNT</b>   | Number of <b>GTTs</b> unable to perform on messages received from an interconnecting network - no translation table for the translation type. | peg count |
| <b>GTPFDIC</b>  | Number of <b>GTTs</b> performed on messages received from an interconnecting network.                                                         | peg count |
| <b>GTTUNADR</b> | Number of <b>GTTs</b> unable to perform on messages received from an interconnecting network - no translation for this address.               | peg count |
| <b>STATUS</b>   | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |

## UI Reports

### UI Example Output:

```

tekelecstp 03-12-19 12:31:37 EST EAGLE 34.0.0
TYPE OF REPORT: GATEWAY MEASUREMENTS ON ORIGNINC
REPORT PERIOD: LAST
REPORT INTERVAL: 03-12-19, 12:00:00 THROUGH 12:29:59

ORIGNINC-GTWY MEASUREMENTS: NI: 5, NC: 5

These measurements are from 03-12-19, 12:00:00 through 12:29:59.
GTPFDPC = 0, GTTUNT = 0, GTPFDIC = 834033,
GTTUNADR = 834034

;
tekelecstp 03-12-19 12:31:38 EST EAGLE 34.0.0
END OF ON-DEMAND ORIGNINC-GTWY MEASUREMENT REPORT
;

```

## FTP Reports

FTP Example Output File Name: *gtwy-origninc\_19990117\_1530.csv*

**FTP Example Output File Format:**

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE",
"IVALSTART", "IVALEND", "NUMENTIDS"<cr><lf>
"tekelecstp", "34.0.0-39.1.0", "1999-01-17", "15:51:37", "EST",
"GATEWAY MEASUREMENTS ON
ORIGNINC", "LAST", "1999-01-17", "15:00:00", "15:30:00", 100<cr><lf>
<cr><lf>
"STATUS", "NI", "NC", "GTTFPDPC", "GTTUNT", "GTTFPDIC", "GTTUNADR"<cr><lf>
"K", 4, 200, 0, 0, 834033, 834034<cr><lf>
.
"K", 25, 200, 0, 0, 834033, 834034<cr><lf>
```

Assuming each data line will be:

4 char status + 4 char NI + 4 char NC + 4\*(6 char data) + 2 = 38 chars

For a report of 100 NI/NCs, the typical file size is:

**Table 3-193 Typical File Size: gtwy-origninc.csv**

| System header | + | Report header | + | Report data | = | File Size  |
|---------------|---|---------------|---|-------------|---|------------|
| 250           | + | 64            | + | 3800        | = | 4114 bytes |

## LNKSET GTWY Report



**Note:**

The determination of which linksets are included in this report is controlled by the state of the `gtwylsfltr` field in the measurement control table. By default, only gateway linksets are included. This can be changed with the `chg-meas:gtwylsfltr={ both | stp | seas | none }` command. See the *Commands User's Guide* for details on using this command.

**Command Examples**

- UI  
`rept-meas:type=gtwy:enttype=lnkset:lsn=ls1201a`
- FTP  
`rept-ftp-meas:type=gtwy:enttype=lnkset`

## Measurement Events

Table 3-194 Gateway Linkset Measurements

| Event Name | Description                                                                                                                                   | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| TFPTRAN    | The number of transfer prohibited ( <b>TFP</b> ) and transfer cluster prohibited (TCP) MSUs transmitted.                                      | peg count |
| TFPRECD    | The number of TFP and <b>TCP</b> MSUs received.                                                                                               | peg count |
| TFRTRAN    | The number of transfer restricted ( <b>TFR</b> ) and transfer cluster restricted ( <b>TCR</b> ) MSUs transmitted.                             | peg count |
| TFRRECD    | The number of TFR and TCR MSUs received.                                                                                                      | peg count |
| TFATRAN    | The number of transfer allowed ( <b>TFA</b> ) and transfer cluster allowed ( <b>TCA</b> ) MSUs transmitted.                                   | peg count |
| TFARECD    | The number of TFA and TCA MSUs received.                                                                                                      | peg count |
| SRSTTRAN   | The number of signaling routeset test ( <b>SRST</b> ) and cluster signaling routeset test ( <b>CSRST</b> ) MSUs transmitted.                  | peg count |
| SRSTRECD   | The number of <b>SRST</b> and <b>CSRST</b> MSUs received.                                                                                     | peg count |
| SRSCTRAN   | The number of signaling routeset congestion test ( <b>SRSCT</b> ) MSUs transmitted.                                                           | peg count |
| SRSCTRCD   | The number of SRSCT MSUs received.                                                                                                            | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| TSTMTRCD   | The number of testing and maintenance (T&M) <b>MSUs</b> received.                                                                             | peg count |
| SSPTRAN    | The number of subsystem prohibited ( <b>SSP</b> ) MSUs transmitted.                                                                           | peg count |
| SSPRECD    | The number of SSP MSUs received.                                                                                                              | peg count |
| SSATRAN    | The number of subsystem allowed ( <b>SSA</b> ) MSUs transmitted.                                                                              | peg count |

**Table 3-194 (Cont.) Gateway Linkset Measurements**

| Event Name     | Description                                                                                                                                                 | Unit      |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>SSARECD</b> | The number of SSA MSUs received.                                                                                                                            | peg count |
| <b>SSTTRAN</b> | The number of subsystem status test (SST) MSUs transmitted.                                                                                                 | peg count |
| <b>SSTRECD</b> | The number of <b>SST</b> MSUs received.                                                                                                                     | peg count |
| <b>SLTRECD</b> | The number of signaling link tests received.                                                                                                                | peg count |
| <b>STATUS</b>  | <b>Indication of Data Validity</b><br><b>K</b> – indicates good data<br><b>I</b> – indicates incomplete interval;<br><b>N</b> – indicates data not current. | status    |



**Note:**

Output is identical for all linkset types.

**UI Reports**

- Example of `rept-meas:type=gtwy:enttype=lnkset:lsn=xxxx`

```
tekelecstp 12-02-21 02:00:53 EST EAGLE5 44.0.0
TYPE OF REPORT: GATEWAY MEASUREMENTS ON LNKSET
REPORT PERIOD: LAST
REPORT INTERVAL: 12-02-21, 01:30:00 THROUGH 01:59:59
```

```
LNKSET-GTWY MEASUREMENTS: gtwy (MTP2)
```

```
These measurements are from 12-02-21, 01:30:00 through 01:59:59.
```

```
TFPTRAN = 0, TFPRECD = 0, TFRTRAN
= 0,
TFRRECD = 0, TFATRAN = 0, TFARECD
= 0,
SRSTTRAN = 0, SRSTRECD = 0, SLTRECD
= 0,
SRSCTRAN = 0, SRSCTRCD = 0, TSTMTRCD
= 0,
SSPTRAN = 0, SSPRECD = 0, SSATRAN
= 0,
SSARECD = 0, SSTTRAN = 0, SSTRECD
= 0
;
```

```
tekelecstp 12-02-21 02:30:52 EST EAGLE5 44.0.0
TYPE OF REPORT: GATEWAY MEASUREMENTS ON LNKSET
```



## LSDESTNI GTWY Report

### Note:

The determination of which linksets are included in this report is controlled by the state of the `gtwylsfltr` field in the measurement control table. By default, only gateway linksets are included. This can be changed with the `chg-meas:gtwylsfltr={ both | stp | seas | none }` command. See the *Commands User's Guide* for details on using this command. The **NI** parameter is not part of the output for **ITU GTWY** linksets.

### Command Examples

- UI

```
rept-meas:type=gtwy:enttype=lsdestni:lsn=ls1201:ni=5
```

- FTP

```
rept-ftp-meas:type=gtwy:enttype=lsdestni
```

### Measurement Events

**Table 3-196 Gateway LSDESTNI Measurements**

| Event Name      | Description                                                                                                                                   | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>MSURCVNA</b> | The number of <b>MSUs</b> received from another network - not addressed to the <b>BCC</b> network.                                            | peg count |
| <b>OCTRCVNA</b> | The number of <b>MSU</b> octets received from another network - not addressed to the <b>BCC</b> network.                                      | octets    |
| <b>MSUTRNNA</b> | The number of <b>MSUs</b> transmitted - addressed to a network other than the adjacent receiving network.                                     | peg count |
| <b>OCTTRNNA</b> | The number of <b>MSU</b> octets transmitted - addressed to a network other than the adjacent receiving network.                               | octets    |
| STATUS          | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |

**Table 3-196 (Cont.) Gateway LSDESTNI Measurements**

| Event Name | Description                                                                            | Unit      |
|------------|----------------------------------------------------------------------------------------|-----------|
| TFCGTRAN   | The number transfer controlled (TFC) MSUs transmitted - originated by the gateway STP. | peg count |

### UI Reports

#### UI Example Output:

```

tekelecstp 03-12-19 12:30:16 EST EAGLE 34.0.0
TYPE OF REPORT: GATEWAY MEASUREMENTS ON LSDESTNI
REPORT PERIOD: LAST
REPORT INTERVAL: 03-12-19, 12:00:00 THROUGH 12:29:59

LSDESTNI-GTWY MEASUREMENTS: LSN: ls1201, NI: 5

These measurements are from 03-12-19, 12:00:00 through 12:29:59.
MSURCVNA = 5040000, OCTRCVNA = 201600K, MSUTRNNA = 834033,
OCTTRNNA = 14757021, TFCGTRAN = 0

;
tekelecstp 03-12-19 12:30:18 EST EAGLE 34.0.0
END OF ON-DEMAND LSDESTNI-GTWY MEASUREMENT REPORT
;

```

### FTP Reports

**FTP Example Output File Name:** *gtwy-lsdestni\_19990117\_1530.csv*

**FTP Example Output File Format:**

```

"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE",
"IVALSTART","IVALEND","NUMENTIDS"<cr><lf>
"tekelecstp","34.0.0-39.1.0","1999-01-17","15:51:37","EST",
"GATEWAY MEASUREMENTS ON
LSDESTNI","LAST","1999-01-17","15:00:00","15:30:00",400<cr><lf>
<cr><lf>
"STATUS","LSN","LSTYPE","NI","MSURCVNA","OCTRCVNA","MSUTRNNA","OCTTRNNA","TFC
GTRAN"<cr><lf>
"K","ls1201","ANSI",5,5040000,201600K,834033,14757021,0<cr><lf>
.
"K","lsitu","ITU",,5040000,201600K,834033,14757021,0<cr><lf>

```

Assuming each data line will be:

4 char status + 8 char **LSN** + 6 char **LSTYPE** + 4 char **NI** + 5\*(6 char data) + 2 = 54 chars

For a report of 400 **LSDESTNIs**, the typical file size is:

**Table 3-197 Typical File Size: gtwy-lsdestni.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 86            | + | 21600       | = | 21936 bytes |

## LSORIGNI GTWY Report



### Note:

The determination of which linksets are included in this report is not controlled by the state of the gtwylsfltr field in the measurement control table. **LSONISMT** register **MSUISPMT** counts are rolled into the **MSUDSCRD** register. It is possible to have counts for **MSUDSCRD**, but no counts for any other registers in this report due to the **MSUISPMT** register count in the **LSONISMT** report.

The **NI** parameter is not part of the output for **ITU GTWY** linksets.

The **NI** parameter is not part of the output for **ITU GTWY** linksets.

### Command Examples

- UI

```
rept-meas:type=gtwy:enttype=lsorigni:lsn=ls1201:ni=12
```

- FTP

```
rept-ftp-meas:type=gtwy:enttype=lsorigni
```

### Measurement Events

**Table 3-198 Gateway LSORGINI Measurements**

| Event Name      | Description                                                                          | Unit      |
|-----------------|--------------------------------------------------------------------------------------|-----------|
| <b>TFCGRECD</b> | The number of transfer controlled ( <b>TFC</b> ) <b>MSUs</b> received                | peg count |
| <b>MSURJOPC</b> | The number of <b>MSUs</b> rejected due to screening - disallowed <b>OPC</b> .        | peg count |
| <b>MSURJDPC</b> | The number of <b>MSUs</b> rejected due to screening - disallowed <b>DPC</b> .        | peg count |
| <b>MSURJCPA</b> | The number of <b>MSUs</b> rejected due to screening - invalid calling party address. | peg count |



Table 3-198 (Cont.) Gateway LSORGINI Measurements

| Event Name      | Description                                                                                                                                                 | Unit      |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>MSURJAPC</b> | The number of subsystem prohibited ( <b>SSP</b> ) and subsystem allowed ( <b>SSA</b> ) <b>MSUs</b> rejected due to screening - invalid affected point code. | peg count |
| <b>MSURJPCS</b> | The number of subsystem status test ( <b>SST</b> ) <b>MSUs</b> rejected due to screening - invalid affected point code and <b>SSN</b> .                     | peg count |
| <b>MSURJHC</b>  | Number of <b>MSUs</b> discarded due to screening H0H1                                                                                                       | peg count |
| <b>MSURJTFC</b> | The number of <b>TFC MSUs</b> rejected due to screening - invalid affected destination field.                                                               | peg count |
| <b>MSURJSRT</b> | The number of signaling routeset test ( <b>SRST</b> ) <b>MSUs</b> rejected due to screening - invalid affected destination field.                           | peg count |
| <b>MSUDSCRD</b> | The number of <b>MSUs</b> rejected due to screening failure.                                                                                                | peg count |
| <b>MSURJSIO</b> | The number of <b>MSUs</b> rejected due to screening - invalid service information octet ( <b>SIO</b> ).                                                     | peg count |
| <b>MSURJDST</b> | The number of <b>MTP-NM MSUs</b> rejected due to screening - invalid affected destination field.                                                            | peg count |
| <b>MSURJTT</b>  | The number of <b>SCCP MSUs</b> rejected due to screening - invalid translation type.                                                                        | peg count |
| <b>MSURJDSN</b> | The number of <b>SCCP MSUs</b> rejected due to screening - disallowed <b>DPC/SSN</b> .                                                                      | peg count |
| STATUS          | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current           | status    |
| <b>TFCGRECD</b> | The number of transfer controlled ( <b>TFC</b> ) <b>MSUs</b> received                                                                                       | peg count |



**Table 3-199 Typical File Size: gtwy-lsorigni.csv**

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 173           | + | 43200       | = | 43623 bytes |

## LSONISMT GTWY Report



### Note:

The determination of which linksets are included in this report is not controlled by the state of the gtwylsfltr field in the measurement control table. **MSUISPMT** counts are rolled into the **MSUDSCRD** register of the **LSORIGNI** and **STP** reports.

The **NI** parameter is not part of the output for **ITU GTWY** linksets.

The **NI** parameter is not part of the output for **ITU GTWY** linksets.

### Command Examples

- UI  
`rept-meas:type=gtwy:enttype=lsonismt:lsn=ls1201a:ni=43`
- FTP  
`rept-ftp-meas:type=gtwy:enttype=lsonismt`

### Measurement Events

**Table 3-200 Gateway LSONISMT Measurements**

| Event Name      | Description                                                                                | Unit      |
|-----------------|--------------------------------------------------------------------------------------------|-----------|
| <b>MSUISPMT</b> | Number of <b>ISDNUP MSUs</b> rejected due to screening -- invalid <b>ISUP</b> message type | peg count |

### UI Reports

#### UI Example Output:

```
tekelecstp 03-12-19 12:29:26 EST EAGLE 34.0.0
TYPE OF REPORT: GATEWAY MEASUREMENTS ON LSONISMT
REPORT PERIOD: LAST
REPORT INTERVAL: 02-12-19, 12:00:00 THROUGH 12:29:59

LSONISMT-GTWY MEASUREMENTS: LSN: ls1201a, NI: 43, ISMT: 6

These measurements are from 02-12-19, 12:00:00 through 12:29:59.
MSUISPMT = 45397
```

```

;
 LSONISMT-GTWY MEASUREMENTS: LSN: ls1201a, NI: 43, ISMT: 7

 These measurements are from 02-12-19, 12:00:00 through 12:29:59.
 MSUISPMT = 61423
;
 tekelecstp 02-12-19 12:41:21 EST EAGLE 34.0.0
 END OF ON-DEMAND LSONISMT-GTWY MEASUREMENT REPORT
;

```

### FTP Reports

FTP Example Output File Name: *gtwy-lsonismt\_20021217\_1530.csv*

```

"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE",
"IVALSTART","IVALEND","NUMENTIDS"<cr><lf>
"tekelecstp","30.0.0-48.1.0","2002-12-17","15:51:37","EST",
"GATEWAY MEASUREMENTS ON
LSONISMT","LAST","2002-12-17","15:00:00","15:30:00",400<cr><lf>
<cr><lf>
"STATUS","LSN","LSTYPE","NI","ISMT","MSUISPMT"<cr><lf>
"K","ls1201","ANSI",5,6,34033<cr><lf>
.
"K","lsitu","ITU",,7,57021<cr><lf>

```

Assuming each data line will be:

4 char status + 8 char **LSN** + 6 char **LSTYPE** + 4 char **NI** + 4 char **ISMT** + 1\*(6 char data) + 2 = 34 chars

For a report of 400 **LSONISMT**, typical file size is:

**Table 3-201 Typical File Size: *gtwy-lsonismt.csv***

| System header | + | Report header | + | Report data | = | File Size   |
|---------------|---|---------------|---|-------------|---|-------------|
| 250           | + | 49            | + | 13600       | = | 13899 bytes |

## Record Base Measurements (RBASE)

The **RBASE** measurements report various data related to the configuration or status of the EAGLE's major configurable components. The data in this measurement report is obtained from either the database or from maintenance tasks performed on the EAGLE. The data is not periodically collected and stored in the manner of other measurements data, but it is collected on demand when a **RBASE** measurement report is requested.

**Entity Types:**STP, Lnkset, and Link

**Accumulation Interval:** Snapshot

**STP Retention Period:** None

**Reporting Mode:** Scheduled-Polled (**SEAS** only), On-demand

**Accessible Collection Period:** Active

## STP RBASE Report

### Command Examples

- UI

```
rept-meas:type=rbase:enttype=stp
```

- FTP

```
rept-ftp-meas:type=rbase:enttype=stp
```

### Measurement Events

**Table 3-202 Record Base STP Measurements**

| Event Name      | Description                                                                                                                                                                              | Unit      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>BUSS</b>     | The number of <b>IS-NR</b> or <b>IS-ANR</b> <b>IMT</b> buses                                                                                                                             | peg count |
| <b>CTSDLSST</b> | The value of the <b>SCCP Management</b> : subsystem status test ( <b>SS7</b> ) delay timer (level 3 T32 timer). This value of this timer is fixed at 30 seconds and is not configurable. | seconds   |
| <b>LINKS</b>    | The number of configured signaling links.                                                                                                                                                | peg count |
| <b>LNKSETS</b>  | The number of configured linksets.                                                                                                                                                       | peg count |
| <b>NT1TDCHO</b> | The value of the delay to avoid mis-sequencing on changeover timer (level 3 <b>T1</b> timer).                                                                                            | seconds   |
| <b>NT2CHOAK</b> | The value of the waiting for changeover acknowledgment timer (level 3 <b>T2</b> timer).                                                                                                  | seconds   |
| <b>NT3TDCHB</b> | The value of the delay to avoid mis-sequencing on changeback timer (level 3 <b>T3</b> timer).                                                                                            | seconds   |
| <b>NT4CHBK1</b> | The value of the waiting for changeover acknowledgment (first attempt) timer (level 3 <b>T4</b> timer).                                                                                  | seconds   |
| <b>NT5CHBK2</b> | The value of the waiting for changeover acknowledgment (second attempt) timer (level 3 <b>T5</b> timer).                                                                                 | seconds   |
| <b>NT6TDCRR</b> | The value of the delay to avoid mis-sequencing on controlled rerouting timer (level 3 <b>T6</b> timer).                                                                                  | seconds   |

Table 3-202 (Cont.) Record Base STP Measurements

| Event Name | Description                                                                                                     | Unit    |
|------------|-----------------------------------------------------------------------------------------------------------------|---------|
| NT7SLKCN   | The value of the waiting for signaling link connection acknowledgment timer (level 3 T7 timer).                 | seconds |
| NT8TRPRH   | The value of the transfer prohibited inhibited timer (level 3 T8 timer).                                        | seconds |
| NT10SRST   | The value of the waiting to repeat signaling routeset test timer (level 3 T10 timer).                           | seconds |
| NT11TFRS   | The value of the transfer restricted timer (level 3 T11 timer).                                                 | seconds |
| NT12UNAK   | The value of the waiting for uninhibit timer (level 3 T12 timer).                                               | seconds |
| NT13FUNH   | The value of the waiting for force uninhibit timer (level 3 T13 timer).                                         | seconds |
| NT14INAK   | The value of the waiting for inhibition acknowledgment timer (level 3 T14 timer).                               | seconds |
| NT15RSCT   | The value of the waiting for repeat signaling routeset congestion test timer (level 3 T15 timer).               | seconds |
| NT16RSCS   | The value of the waiting for routeset status update timer (level 3 T16 timer).                                  | seconds |
| NT17REAL   | The value of the delay to avoid oscillation of initial alignment failure and restart timer (level 3 T17 timer). | seconds |
| NT18TCLR   | The value of the transfer cluster restricted interval timer (level 3 T18 timer).                                | seconds |
| NT19FLKR   | The value of the failed link craft referral timer (level 3 T19 timer).                                          | seconds |
| NT20RLIH   | The value of the waiting to repeat local inhibit test timer (level 3 T20 timer).                                | seconds |
| NT21RRIH   | The value of the waiting to repeat remote inhibit test timer (level 3 T21 timer).                               | seconds |
| NT22RSTL   | The value of the restarting <b>SP</b> waiting for links to become available timer (level 3 T22 timer).          | seconds |

Table 3-202 (Cont.) Record Base STP Measurements

| Event Name | Description                                                                                                                                   | Unit      |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| NT23WTRA   | The value of the waiting after T22 to receive all <b>TRAs</b> timer (level 3 T23 timer).                                                      | seconds   |
| NT24BTRA   | The value of the restarting: waiting to broadcast all <b>TRAs</b> timer (level 3 T24 timer).                                                  | seconds   |
| NT25WTRA   | The value of the adjacent and restarting: waiting for <b>TRA</b> timer (level 3 T25 timer).                                                   | seconds   |
| NT26RTRW   | The value of the restarting: waiting to repeat <b>TRW</b> timer (level 3 T26 timer).                                                          | seconds   |
| NT28WTRW   | The value of the adjacent: waiting for <b>TRW</b> timer (level 3 T28 timer).                                                                  | seconds   |
| NT29RSUX   | The value of the <b>TRA</b> sent, unexpected <b>TRA</b> , <b>TRW</b> , resumption timer (level 3 T29 timer).                                  | seconds   |
| NT30LMTF   | The value of the limit <b>TFPs/TFRs</b> for unexpected <b>TRAs/TRWs</b> timer (level 3 T30 timer).                                            | seconds   |
| NT31FLCD   | The value of the false link congestion detection timer (level 3 T31 timer).                                                                   | seconds   |
| NT32OSCA   | The value of the link oscillation filter - procedure A timer (level 3 T32 timer).                                                             | seconds   |
| PROCS      | The number of configured cards that are in service normal ( <b>IS-NR</b> ) or in-service abnormal ( <b>IS-ANR</b> ).                          | peg count |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status    |
| STLOOP     | The value of the supervision timer for circular route detection test timer (the value of the mtpltst parameter of the chg-stpopts command).   | seconds   |
| NTCRSCS    | JT-Q.704/NTT-Q.704 Tc timer: To release (reset) transfer controlled status of a DPC in time controlled fashion.                               | seconds   |

## UI Reports

### UI Example Output:

```

Tekelecstp 15-09-20 01:10:32 EST EAGLE5 46.3.0.0-66.13.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON STP
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 15-09-20, 01:10:32 THROUGH CURRENT

STP-RBASE MEASUREMENTS

PROCS = 10, LNKSETS = 6, LINKS
= 6,
BUSS = 2, NT1TDCHO = 0.8, NT2CHOAK =
1.4,
NT3TDCHB = 0.8, NT4CHBK1 = 0.8, NT5CHBK2 =
0.8,
NT6TDCRR = 0.8, NT7SLKCN = 1, NT8TRPRH =
0.8,
NT10SRST = 30, NT11TFRS = 30, NT12UNAK =
0.8,
NT13FUNH = 0.8, NT14INAK = 2, NT15RSCT
= 3,
NT16RSCS = 1.4, NT17REAL = 0.8, NT18TCLR
= 10,
NT19FLKR = 480, NT20RLIH = 90, NT21RRIH
= 90,
NT22RSTL = 10, NT23WTRA = 10, NT24BTRA
= 10,
NT25WTRA = 30, NT26RTRW = 12, NT28WTRW
= 3,
NT29RSUX = 60, NT30LMTF = 30, NT31FLCD
= 60,
NT32OSCA = 60, STLOOP = 10, CTSDLSSST
= 30,
NTCRSCS = 4

```

## FTP Reports

FTP Example Output File Name: *rbase-stp\_20101005\_1937.csv*

FTP Example Output File Format:

```

"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IV
ALSTART","IVALEND","NUMENTIDS"<cr><lf>
"tekelecstp","EAGLE5 46.3.0.0-66.13.0","2015-09-20","01:11:25","EST
","RECORD BASE MEASUREMENTS ON
STP","ACTIVE","2015-09-20","01:11:25","01:11:25",1<cr><lf>
<cr><lf>
"STATUS","PROCS","LNKSETS","LINKS","BUSS","NT1TDCHO","NT2CHOAK","NT3TDC
HB","NT4CHBK1","NT5CHBK2",
"NT6TDCRR","NT7SLKCN","NT8TRPRH","NT10SRST","NT11TFRS","NT12UNAK","NT13
FUNH","NT14INAK",
"NT15RSCT","NT16RSCS","NT17REAL","NT18TCLR","NT19FLKR","NT20RLIH","NT21

```



```
RRIH", "NT22RSTL",
"NT23WTRA", "NT24BTRA", "NT25WTRA", "NT26RTRW", "NT28WTRW", "NT29RSUX", "NT30LMTF",
"NT31FLCD", "NT32OSCA", "STLOOP", "CTSDFSST", "NTRSCS"<cr><lf>
"K", 10, 6, 6, 2, 0.8, 1.4, 0.8, 0.8, 0.8, 0.8, 1, 0.8, 30, 30, 0.8, 0.8, 2, 3, 1.4, 0.8, 10, 480, 9
0, 90, 10, 10, 10, 30, 12, 3, 60, 30, 60, 60, 10, 30, 4<cr><lf>
```

Typical file size is:

Assuming each data line will be:

4 char status + 37 \* (6 char data) + 2 = 228 chars

**Table 3-203 Typical File Size: rbase-stp.csv**

|                      |   |                      |   |                    |   |                  |
|----------------------|---|----------------------|---|--------------------|---|------------------|
| <b>System header</b> | + | <b>Report header</b> | + | <b>Report data</b> | = | <b>File Size</b> |
| 250                  | + | 404                  | + | 228                | = | 882 bytes        |

## LINK RBASE Report

Certain registers are reported for MTP2, SAAL, IPVL, and IPVHSL classes. These registers are summarized in the following table.

**Table 3-204 Registers reported LINK Measurements**

| <b>Register</b> | <b>MTP2, IPVL, IPVLGW, &amp; IPVHSL usage</b> | <b>SAAL usage</b> |
|-----------------|-----------------------------------------------|-------------------|
| LT1ALNRD        | as described                                  | not reported      |
| LT2NOALN        | as described                                  | not reported      |
| LT3ALIND        | as described                                  | not reported      |
| LT4NMLPV        | as described                                  | not reported      |
| LT4EMGPV        | as described                                  | not reported      |
| LT5SDSIB        | as described                                  | not reported      |
| LT6RMCNG        | as described                                  | not reported      |
| LT7XDLAK        | as described                                  | not reported      |

### Command Examples

- **UI**  

```
rept-meas:type=rbase:enttype=link:loc=1201:link=a
rept-meas:type=rbase:enttype=link:lsn=ls3
```
- **FTP**  

```
rept-ftp-meas:type=rbase:enttype=link
```

Measurement Events

Table 3-205 Record Base Link Measurements

| Event Name                                                                                                                                                                                                                                   | Description                                                                                                                                       | Unit    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| CNGONTH1                                                                                                                                                                                                                                     | The level 1 congestion onset threshold for link transmit buffers                                                                                  | MSUs    |
| CNGDITH1                                                                                                                                                                                                                                     | The level 1 congestion discard threshold for link transmit buffers                                                                                | MSUs    |
| CNGABTH1                                                                                                                                                                                                                                     | The level 1 congestion abatement threshold for link transmit buffers                                                                              | MSUs    |
| CNGONTH2                                                                                                                                                                                                                                     | The level 2 congestion onset threshold for link transmit buffers                                                                                  | MSUs    |
| CNGDITH2                                                                                                                                                                                                                                     | The level 2 congestion discard threshold for link transmit buffers                                                                                | MSUs    |
| CNGABTH2                                                                                                                                                                                                                                     | The level 2 congestion abatement threshold for link transmit buffers                                                                              | MSUs    |
| CNGONTH3                                                                                                                                                                                                                                     | The level 3 congestion onset threshold for link transmit buffers                                                                                  | MSUs    |
| CNGDITH3                                                                                                                                                                                                                                     | The level 3 congestion discard threshold for link transmit buffers                                                                                | MSUs    |
| CNGABTH3                                                                                                                                                                                                                                     | The level 3 congestion abatement threshold for link transmit buffers                                                                              | MSUs    |
| STATUS                                                                                                                                                                                                                                       | Indication of Data Validity:<br><br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status  |
| <p>The following registers are applicable to MTP level 2 links ONLY. These registers are omitted from reports for <b>ATM</b> based links on EAGLE <b>HMI</b> output. On <b>SEAS</b> reports these registers are reported as ZERO-valued.</p> |                                                                                                                                                   |         |
| LT1ALNRD                                                                                                                                                                                                                                     | The value of the aligned/ready timer (level 2 T1 timer).                                                                                          | seconds |
| LT2NOALN                                                                                                                                                                                                                                     | The value of the not aligned timer (level 2 T2 timer).                                                                                            | seconds |
| LT3ALIND                                                                                                                                                                                                                                     | The value of the aligned timer (level 2 T3 timer).                                                                                                | seconds |

**Table 3-205 (Cont.) Record Base Link Measurements**

| Event Name      | Description                                                                  | Unit    |
|-----------------|------------------------------------------------------------------------------|---------|
| <b>LT4NMLPV</b> | The value of the proving period (normal) timer (level 2 T4npp timer).        | seconds |
| <b>LT4EMGPV</b> | The value of the proving period (emergency) timer (level 2 T4epp timer).     | seconds |
| <b>LT5SDSIB</b> | The value of the sending <b>SIB</b> timer (level 2 T5 timer).                | seconds |
| <b>LT6RMCNG</b> | The value of the remote congestion timer (level 2 T6 timer).                 | seconds |
| <b>LT7XDLAK</b> | The value of the excessive delay of acknowledgment timer (level 2 T7 timer). | seconds |

**UI Reports**

- rept-meas:type=rbase:enttype=link:loc=1201:link=a

```
tekelecstp 12-02-21 01:24:28 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 01:24:28 THROUGH CURRENT
```

```
LINK-RBASE MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2
(MTP2)
```

```

CNGONTH1 = 80, CNGDITH1 = 99, CNGABTH1 =
60,
CNGONTH2 = 101, CNGDITH2 = 109, CNGABTH2 =
81,
CNGONTH3 = 111, CNGDITH3 = 120, CNGABTH3 =
102,
LT1ALNRD = 13, LT2NOALN = 11.5, LT3ALIND =
11.5,
LT4NMLPV = 2.3, LT4EMGPV = 0.6, LT5SDSIB =
0.1,
LT6RMCNG = 4, LT7XDLAK = 1.5
```

```
;
```

```
tekelecstp1 12-03-22 19:15:21 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:15:21 THROUGH CURRENT
```

```
LINK-RBASE MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg
(IPVL)
```

```

CNGONTH1 = 480, CNGDITH1 = 600, CNGABTH1
= 241,
CNGONTH2 = 605, CNGDITH2 = 720, CNGABTH2
= 481,
CNGONTH3 = 725, CNGDITH3 = 840, CNGABTH3
= 606
;

```

```

tekelecstp1 12-03-22 19:16:04 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:16:04 THROUGH CURRENT

```

```

LINK-RBASE MEASUREMENTS: LOC: 1112, LINK: A , LSN:
saal (SAAL)

```

```

CNGONTH1 = 560, CNGDITH1 = 693, CNGABTH1
= 420,
CNGONTH2 = 707, CNGDITH2 = 763, CNGABTH2
= 567,
CNGONTH3 = 777, CNGDITH3 = 840, CNGABTH3
= 714
;

```

```

tekelecstp1 12-03-22 19:16:23 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:16:23 THROUGH CURRENT

```

```

LINK-RBASE MEASUREMENTS: LOC: 1107, LINK: A , LSN:
ssedcm2 (IPVLGW)

```

```

CNGONTH1 = 750, CNGDITH1 = 998, CNGABTH1
= 401,
CNGONTH2 = 1000, CNGDITH2 = 1248, CNGABTH2
= 751,
CNGONTH3 = 1250, CNGDITH3 = 1375, CNGABTH3
= 1001
;

```

```

tekelecstp1 12-03-22 19:16:56 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:16:56 THROUGH CURRENT

```

```

LINK-RBASE MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1
(MTP2-UNCH)

```

```

CNGONTH1 = 640, CNGDITH1 = 792, CNGABTH1

```

```

= 480,
 CNGONTH2 = 808, CNGDITH2 = 872, CNGABTH2 =
648,
 CNGONTH3 = 888, CNGDITH3 = 960, CNGABTH3 =
816,
 LT1ALNRD = 151, LT2NOALN = 14, LT3ALIND =
14,
 LT4NMLPV = 30, LT4EMGPV = 3, LT5SDSIB =
0.08,
 LT6RMCNG = 3, LT7XDLAK = 0.5
;

```

- rept-meas:type=rbase:enttype=link:lsn=xxx

```

tekelecstp 12-02-21 01:26:45 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 01:26:45 THROUGH CURRENT

```

LINK-RBASE MEASUREMENTS FOR LINKSET mtp2:

LINK-RBASE MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2  
(MTP2)

```

 CNGONTH1 = 80, CNGDITH1 = 99, CNGABTH1 =
60,
 CNGONTH2 = 101, CNGDITH2 = 109, CNGABTH2 =
81,
 CNGONTH3 = 111, CNGDITH3 = 120, CNGABTH3 =
102,
 LT1ALNRD = 13, LT2NOALN = 11.5, LT3ALIND =
11.5,
 LT4NMLPV = 2.3, LT4EMGPV = 0.6, LT5SDSIB =
0.1,
 LT6RMCNG = 4, LT7XDLAK = 1.5
;

```

```

tekelecstp1 12-03-22 19:37:29 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:37:29 THROUGH CURRENT

```

LINK-RBASE MEASUREMENTS FOR LINKSET ipsg:

LINK-RBASE MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg  
(IPVL)

```

 CNGONTH1 = 480, CNGDITH1 = 600, CNGABTH1 =
241,
 CNGONTH2 = 605, CNGDITH2 = 720, CNGABTH2 =
481,

```

```

CNGONTH3 = 725, CNGDITH3 = 840, CNGABTH3
= 606
;

```

```

tekelecstp1 12-03-22 19:38:01 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:38:01 THROUGH CURRENT

```

LINK-RBASE MEASUREMENTS FOR LINKSET saal:

```

LINK-RBASE MEASUREMENTS: LOC: 1112, LINK: A , LSN:
saal (SAAL)

```

```

CNGONTH1 = 560, CNGDITH1 = 693, CNGABTH1
= 420,
CNGONTH2 = 707, CNGDITH2 = 763, CNGABTH2
= 567,
CNGONTH3 = 777, CNGDITH3 = 840, CNGABTH3
= 714
;

```

```

tekelecstp1 12-03-22 19:38:42 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:38:42 THROUGH CURRENT

```

LINK-RBASE MEASUREMENTS FOR LINKSET ssedcm2:

```

LINK-RBASE MEASUREMENTS: LOC: 1107, LINK: A , LSN:
ssedcm2 (IPVLGW)

```

```

CNGONTH1 = 750, CNGDITH1 = 998, CNGABTH1
= 401,
CNGONTH2 = 1000, CNGDITH2 = 1248, CNGABTH2
= 751,
CNGONTH3 = 1250, CNGDITH3 = 1375, CNGABTH3
= 1001
;

```

```

tekelecstp 12-02-21 01:28:20 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 01:28:20 THROUGH CURRENT

```

LINK-RBASE MEASUREMENTS FOR LINKSET hcmimt1:

```

LINK-RBASE MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1
(MTP2-UNCH)

```

```

 CNGONTH1 = 640, CNGDITH1 = 792, CNGABTH1 =
480,
 CNGONTH2 = 808, CNGDITH2 = 872, CNGABTH2 =
648,
 CNGONTH3 = 888, CNGDITH3 = 960, CNGABTH3 =
816,
 LT1ALNRD = 151, LT2NOALN = 14, LT3ALIND =
14,
 LT4NMLPV = 30, LT4EMGPV = 3, LT5SDSIB =
0.08,
 LT6RMCNG = 3, LT7XDLAK = 0.5
;

```

### FTP Reports

FTP Example Output File Name: *rbase-link\_20101005\_2042.csv*

FTP Example Output File Format:

```

"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENT
IDS"<cr><lf>
"tekelecstp", "EAGLE5 44.0.0-64.23.0", "2012-02-21", "01:11:21", "EST ", "RECORD
BASE MEASUREMENTS ON
LINK", "ACTIVE", "2012-02-21", "01:11:21", "01:11:21", 6<cr><lf>
<cr><lf>
"STATUS", "LSN", "LOC", "LINK", "LNKTYPE", "CNGONTH1", "CNGDITH1", "CNGABTH1", "CNGON
TH2", "CNGDITH2", "CNG
ABTH2", "CNGONTH3", "CNGDITH3", "CNGABTH3", "LT1ALNRD", "LT2NOALN", "LT3ALIND", "LT4
NMLPV", "LT4EMGPV", "L
T5SDSIB", "LT6RMCNG", "LT7XDLAK"<cr><lf>
"K", "hcmimt1", "1203", "A ", "MTP2-
UNCH", 640, 792, 480, 808, 872, 648, 888, 960, 816, 151, 14, 14, 30, 3, 0.080,
3, 0.5<cr><lf>
"K", "ipsg", "1103", "A
", "IPVL", 480, 600, 241, 605, 720, 481, 725, 840, 606, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>
"K", "mtp2", "1104", "A
", "MTP2", 80, 99, 60, 101, 109, 81, 111, 120, 102, 13, 11.5, 11.5, 2.3, 0.6, 0.1, 4, 1.5
<cr><lf>
"K", "m3uals", "1105", "A
", "IPVLGW", 750, 998, 401, 1000, 1248, 751, 1250, 1375, 1001, 0, 0, 0, 0, 0, 0, 0, 0 <cr><lf>
"K", "ssedcm2", "1107", "A
", "IPVLGW", 750, 998, 401, 1000, 1248, 751, 1250, 1375, 1001, 0, 0, 0, 0, 0, 0, 0, 0 <cr><lf>
"K", "saal", "1112", "A
", "SAAL", 560, 693, 420, 707, 763, 567, 777, 840, 714, 0, 0, 0, 0, 0, 0, 0, 0<cr><lf>

```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 5 char LINK + 12 char LNKTYPE + 17\*(6 char data) + 2 = 145 chars

**Table 3-206 Typical File Size: rbase-link.csv**

| System header | + | Report header | + | Report data | = | File Size     |
|---------------|---|---------------|---|-------------|---|---------------|
| 250           | + | 227           | + | 145,000     | = | 145,477 bytes |

## LNKSET RBASE Report

### Command Examples

- UI  
`rept-meas:type=rbase:enttype=lnkset:lsn=1201a`
- FTP  
`rept-ftp-meas:type=rbase:enttype=lnkset`

### Measurement Events

**Table 3-207 Record Base Linkset Measurements**

| Event Name      | Description                                                                                                                                                           | Unit      |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>LINKS</b>    | The number of configured signaling links.                                                                                                                             | peg count |
| <b>RCLKBFRS</b> | The number of receiving link buffers. The number of receiving link buffers is always 1 for each signaling link, so a value of 1 is always reported for this register. | peg count |
| <b>ST01SLTA</b> | Supervision timer for <b>SLTA</b> .                                                                                                                                   | seconds   |
| <b>ST02SLTI</b> | <b>SLT</b> interval timer.                                                                                                                                            | seconds   |
| <b>STATUS</b>   | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current                         | status    |

### UI Reports

```
rept-meas:type=nm:enttype=lnkset:lsn=xxxx
```

```
tekelecstp 12-02-21 01:14:30 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LNKSET
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 01:14:30 THROUGH CURRENT

LNKSET-RBASE MEASUREMENTS: mtp2 (MTP2)
```



```
LINKS = 1, RCLKBFRS = 1, ST01SLTA = 4,
ST02SLTI = 30

;
```

```
tekelecstp1 12-03-22 19:12:04 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LNKSET
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:12:04 THROUGH CURRENT
```

```
LNKSET-RBASE MEASUREMENTS: ipsg (IPVL)
```

```
LINKS = 1, RCLKBFRS = 1

;
```

```
tekelecstp1 12-03-22 19:12:09 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LNKSET
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-03-22, 19:12:09 THROUGH CURRENT
```

```
LNKSET-RBASE MEASUREMENTS: saal (SAAL)
```

```
LINKS = 1, RCLKBFRS = 1, ST01SLTA = 4,
ST02SLTI = 30

;
```

```
tekelecstp 12-02-21 01:15:52 EST EAGLE5 44.0.0
TYPE OF REPORT: RECORD BASE MEASUREMENTS ON LNKSET
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 01:15:52 THROUGH CURRENT
```

```
LNKSET-RBASE MEASUREMENTS: hcmimt1 (MTP2-UNCH)
```

```
LINKS = 1, RCLKBFRS = 1, ST01SLTA = 4,
ST02SLTI = 30

;
```

## FTP Reports

FTP Example Output File Name: *rbase-lnkset\_20101005\_1941.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENT
IDS"<cr><lf>
"tekelecstp", "EAGLE5 44.0.0-64.23.0", "2012-02-21", "01:17:12", "EST ", "RECORD
BASE MEASUREMENTS ON
LNKSET", "ACTIVE", "2012-02-21", "01:17:12", "01:17:12", 6<cr><lf>
```

```
<cr><lf>
"STATUS", "LSN", "LNKTYPE", "LINKS", "RCLKBFRS", "ST01SLTA", "ST02SLTI"<cr><lf>
"K", "mtp2", "MTP2", 1, 1, 4, 30<cr><lf>
"K", "ipsg", "IPVL", 1, 1, 0, 0<cr><lf>
"K", "m3uals", "IPVL", 1, 1, 0, 0<cr><lf>
"K", "hcmimt1", "MTP2-UNCH", 1, 1, 4, 30<cr><lf>
"K", "ssedcm2", "IPVL", 1, 1, 0, 0<cr><lf>
"K", "saal", "SAAL", 1, 1, 4, 30<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 12 char LNKTYPE + 4\*(6 char data) + 2 = 55 chars

**Table 3-208 Typical File Size: rbase-lnkset.csv**

| System header | + | Report header | + | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 68            | + | 33,000      | = | 33,318 bytes |

## Maintenance Status Reports (MTCS)

The Maintenance Status (**MTCS**) report is a snapshot of the maintenance status indicators. It supports entity types **LINK** and **LNKSET**. The report is available through the EAGLE terminal interface and through the **SEAS** interface via the **IPSM**.

**Entity Types:** Lnkset and Link

**Accumulation Interval:** Snapshot

**STP Retention Period:** None

**Reporting Mode:** On-demand (EAGLE/SEAS)

**Accessible Collection Period:** Active (snapshot)

### LINK MTCS Report

#### Command Examples

- UI
 

```
rept-meas:type=mtcs:enttype=link:loc=1201:link=a
rept-meas:type=mtcs:enttype=link:lsn=ls3:period=active
```
- FTP
 

```
rept-ftp-meas:type=mtcs:enttype=link
```

Measurement Events

Table 3-209 Maintenance Status Link Measurements

| Event Name      | Description                                                    | Unit                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LKMTCS</b>   | Maintenance State                                              | <b>ACT</b> – link primary state is <b>IS-NR</b> and is or can be used to carry traffic.<br><b>UNAV</b> - link has been made unavailable by local or centralized maintenance personnel (inhibited or canceled link or active local processor outage).<br><b>OOS</b> – link out-of-service but can be made available by the <b>STP</b> .                                 |
| <b>PROSTAT</b>  | Indication of processor outage status units being received.    | <b>Y</b> – link failure reason of remote processor outage exists.<br><b>N</b> - link failure reason of remote processor outage does not exist.                                                                                                                                                                                                                         |
| <b>PROTRAN</b>  | Indication of processor outage status units being transmitted. | <b>Y</b> – link failure reason of local processor outage exists.<br><b>N</b> - link failure reason of local processor outage does not exist.                                                                                                                                                                                                                           |
| <b>MGMTINHB</b> | Indication of link management inhibit status                   | <b>L</b> (Local) - link is deactivated or inhibited or link failure reason of local processor outage exists.<br><b>R</b> (remote) - link failure reason of remote processor outage exists or remote management initiated exists.<br><b>B</b> (Both) –both local and remove failure reasons exist.<br><b>N</b> (Not/Neither) no local or remote failure reasons exists. |
| <b>CGSTLEVL</b> | Current link transmit congestion level                         | Congestion level:<br><b>0</b> – no link congestion<br><b>1, 2, or 3</b> - link congestion level exists.                                                                                                                                                                                                                                                                |
| <b>CGSTSTAT</b> | Current link transmit congestion state                         | <b>N</b> – none (congestion level 0)<br><b>O</b> – onset (congestion level 1, 2, or 3)                                                                                                                                                                                                                                                                                 |

Table 3-209 (Cont.) Maintenance Status Link Measurements

| Event Name | Description                                                                                                                                                      | Unit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DCLRFAIL   | Indication of link declared failure state (last known cause)                                                                                                     | <p><b>N</b> – not failed.</p> <p>LSL: Link is available to send and receive MSUs (in-service normal state).</p> <p>HSL: Same</p> <p><b>ABN</b> – link failed due to receiving too many abnormal <b>FIBR/BNSR</b>.</p> <p>LSL: Link received 2 out of 3 invalid BSNs.</p> <p>Link received 2 out of 3 invalid FIBs.</p> <p>HSL: N/A</p> <p><b>XDA</b> – Excessive delay of acknowledgment</p> <p>LSL: MSU not acknowledged within level 2 -T7 timer expiration. T7 configurable between .5 and 2.0 seconds.</p> <p>HSL: Timer no response or timer no credit expired.</p> <p><b>XER</b> – Excessive error rate.</p> <p>Received 64 out of 256 signaling units in error.</p> <p>LSL: Signaling Unit Error Rate Monitor</p> <p>HSL: Signaling Unit-Error-Rate-Monitor threshold exceeded.</p> <p><b>XDC</b> – Excessive duration of congestion</p> <p>LSL: Level-2 T6 timed-out</p> <p>HSL: N/A.</p> <p><b>APF</b> – alignment/proving failure</p> <p>LSL: Link not aligned. Link state control aligned not ready or aligned ready timeout (<b>T1</b>), initial alignment control timeout (T2,T3), initial alignment control abort proving – maximum proving period, or initial alignment control received <b>SIOS</b>.</p> <p>HSL: N/A.</p> |
| STATUS     | <p>Indication of Data Validity:</p> <p><b>K</b> indicates good data</p> <p><b>I</b> indicates incomplete interval</p> <p><b>N</b> indicates data not current</p> | status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## UI Reports

- rept-meas:type=mtcs:enttype=link:loc=1201:link=a

```
tekelecstp 12-02-21 04:36:38 EST EAGLE5 44.0.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:36:38 THROUGH CURRENT
```

```
LINK-MTCS MEASUREMENTS: LOC: 1104, LINK: A , LSN: mtp2
(MTP2)
```

```
LKMTCSST = 'UNAV', PROSTAT = 'N', PROTRAN = 'N',
DCLRFAIL = 'APF', MGMTINHB = 'N', CGSTLEVL = '0',
CGSTSTAT = 'N'
```

;

```
tekelecstp 12-02-21 04:36:57 EST EAGLE5 44.0.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:36:57 THROUGH CURRENT
```

```
LINK-MTCS MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg
(IPVL)
```

```
LKMTCSST = 'OOS', PROSTAT = 'N', PROTRAN = 'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL = '0',
CGSTSTAT = 'N'
```

;

```
tekelecstp 12-02-21 04:37:12 EST EAGLE5 44.0.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:37:12 THROUGH CURRENT
```

```
LINK-MTCS MEASUREMENTS: LOC: 1105, LINK: A , LSN: m3uals
(IPVLGW)
```

```
LKMTCSST = 'OOS', PROSTAT = 'N', PROTRAN = 'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL = '0',
CGSTSTAT = 'N'
```

;

```
tekelecstp 12-02-21 04:37:25 EST EAGLE5 44.0.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:37:25 THROUGH CURRENT
```

```

LINK-MTCS MEASUREMENTS: LOC: 1112, LINK: A , LSN:
saal (SAAL)

LKMTCSST = 'OOS', PROSTAT = 'N', PROTRAN =
'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL =
'0',
CGSTSTAT = 'N'

;

```

```

tekelecstp 12-02-21 04:37:45 EST EAGLE5 44.0.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:37:45 THROUGH CURRENT

```

```

LINK-MTCS MEASUREMENTS: LOC: 1107, LINK: A , LSN:
ssedcm2 (IPVLGW)

LKMTCSST = 'OOS', PROSTAT = 'N', PROTRAN =
'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL =
'0',
CGSTSTAT = 'N'

;

```

```

tekelecstp 12-02-21 04:38:00 EST EAGLE5 44.0.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:38:00 THROUGH CURRENT

```

```

LINK-MTCS MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1
(MTP2-UNCH)

LKMTCSST = 'OOS', PROSTAT = 'N', PROTRAN =
'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL =
'0',
CGSTSTAT = 'N'

;

```

- rept-meas:type=mtcs:enttype=link:lsn=xxx

```

tekelecstp 12-02-21 04:38:49 EST EAGLE5 44.0.0-64.23.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:38:49 THROUGH CURRENT

```

```

LINK-MTCS MEASUREMENTS FOR LINKSET mtp2:

```

```

LINK-MTCS MEASUREMENTS: LOC: 1104, LINK: A , LSN:

```

```

mtp2 (MTP2)

LKMTCST = 'UNAV', PROSTAT = 'N', PROTRAN = 'N',
DCLRFAIL = 'APF', MGMTINHB = 'N', CGSTLEVL = '0',
CGSTSTAT = 'N'

;

tekelecstp 12-02-21 04:39:04 EST EAGLE5 44.0.0-64.23.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:39:04 THROUGH CURRENT

LINK-MTCS MEASUREMENTS FOR LINKSET ipsg:

LINK-MTCS MEASUREMENTS: LOC: 1103, LINK: A , LSN: ipsg
(IPVL)

LKMTCST = 'OOS', PROSTAT = 'N', PROTRAN = 'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL = '0',
CGSTSTAT = 'N'

;

tekelecstp 12-02-21 04:39:24 EST EAGLE5 44.0.0-64.23.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:39:24 THROUGH CURRENT

LINK-MTCS MEASUREMENTS FOR LINKSET m3uals:

LINK-MTCS MEASUREMENTS: LOC: 1105, LINK: A , LSN: m3uals
(IPVLGW)

LKMTCST = 'OOS', PROSTAT = 'N', PROTRAN = 'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL = '0',
CGSTSTAT = 'N'

;

tekelecstp 12-02-21 04:39:40 EST EAGLE5 44.0.0-64.23.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:39:40 THROUGH CURRENT

LINK-MTCS MEASUREMENTS FOR LINKSET saal:

LINK-MTCS MEASUREMENTS: LOC: 1112, LINK: A , LSN: saal
(SAAL)

LKMTCST = 'OOS', PROSTAT = 'N', PROTRAN = 'N',
DCLRFAIL = 'MMR', MGMTINHB = 'L', CGSTLEVL = '0',

```

```

CGSTSTAT = 'N'

;

tekelecstp 12-02-21 04:39:59 EST EAGLE5 44.0.0-64.23.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:39:59 THROUGH CURRENT

LINK-MTCS MEASUREMENTS FOR LINKSET ssedcm2:

LINK-MTCS MEASUREMENTS: LOC: 1107, LINK: A , LSN:
ssedcm2 (IPVLGW)

LKMTCST = 'OOS', PROSTAT = 'N', PROTRAN =
'N',
DCLRFail = 'MMR', MGMTINHB = 'L', CGSTLEVL =
'0',
CGSTSTAT = 'N'

;

tekelecstp 12-02-21 04:40:17 EST EAGLE5 44.0.0-64.23.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LINK
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:40:17 THROUGH CURRENT

LINK-MTCS MEASUREMENTS FOR LINKSET hcmimt1:

LINK-MTCS MEASUREMENTS: LOC: 1203, LINK: A , LSN: hcmimt1
(MTP2-UNCH)

LKMTCST = 'OOS', PROSTAT = 'N', PROTRAN =
'N',
DCLRFail = 'MMR', MGMTINHB = 'L', CGSTLEVL =
'0',
CGSTSTAT = 'N'

;

```

## FTP Reports

FTP Example Output File Name: *mtcs-link\_20101005\_2123.csv*

```

"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IV
ALSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-21","04:41:05","EST
","MAINTENANCE STATUS
INDICATORS ON
LINK","ACTIVE","2012-02-21","04:41:05","04:41:05",8<cr><lf>
<cr><lf>
"STATUS","LSN","LOC","LINK","LNKTYPE","LKMTCST","PROSTAT","PROTRAN","DC

```



```
LRFAIL","MGMTINHB","CGSTLE
VL","CGSTSTAT"<cr><lf>
"K","hcmimt1","1203","A ","MTP2-
UNCH","'OOS'","'N'","'N'","'MMR'","'L'","'0'","'N'"<cr><lf>
"K","ipsg","1103","A
","IPVL","'OOS'","'N'","'N'","'MMR'","'L'","'0'","'N'"<cr><lf>
"K","mtp2","1104","A
","MTP2","'UNAV'","'N'","'N'","'APF'","'N'","'0'","'N'"<cr><lf>
"K","gtwy","1104","B
","MTP2","'OOS'","'N'","'N'","'MMR'","'L'","'0'","'N'"<cr><lf>
"K","m3uals","1105","A
","IPVLGW","'OOS'","'N'","'N'","'MMR'","'L'","'0'","'N'"<cr><lf>
"K","ssedcm2","1107","A
","IPVLGW","'OOS'","'N'","'N'","'MMR'","'L'","'0'","'N'"<cr><lf>
"K","saal","1112","A
","SAAL","'OOS'","'N'","'N'","'MMR'","'L'","'0'","'N'"<cr><lf>
"K","gtwy","1104","A1
","MTP2","'OOS'","'N'","'N'","'MMR'","'L'","'0'","'N'"<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 5 char LINK + 12 char LNKTYPE + 7\*(6 char data) + 2 = 85 chars

For a report of 600 linksets, the typical file size is:

**Table 3-210 Typical File Size: mtcs-link.csv**

| System header | + | Report header | + | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 114           | + | 85,000      | = | 85,364 bytes |

## LNKSET MTCS Report

### Command Examples

- UI  

```
rept-meas:type=mtcs:enttype=lnkset:lsn=ls1201
```
- FTP  

```
rept-ftp-meas:type=mtcs:enttype=lnkset
```

## Measurement Events

**Table 3-211 Maintenance Status Linkset Measurements**

| Event Name | Description                                                                                                                                   | Unit                                                                                                                                                                                                                                                                                                                                   |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LKMTCS     | Maintenance State                                                                                                                             | <b>ACT</b> – link primary state is <b>IS-NR</b> and is or can be used to carry traffic.<br><b>UNAV</b> - link has been made unavailable by local or centralized maintenance personnel (inhibited or canceled link or active local processor outage).<br><b>OOS</b> – link out-of-service but can be made available by the <b>STP</b> . |
| ACTLINKS   | Number of currently active links.                                                                                                             | Number of links in the IS-NR (ACT) state.                                                                                                                                                                                                                                                                                              |
| UAVLINKS   | Number of links in the unavailable maintenance state.                                                                                         | Number of links in the OOS-MT-DSBLD (UNAV) state.                                                                                                                                                                                                                                                                                      |
| OOSLINKS   | Number of out-of-service links                                                                                                                | Number of links in a maintenance state other than <b>IS-NR</b> and OOS-MT-DSBLD.                                                                                                                                                                                                                                                       |
| STATUS     | Indication of Data Validity:<br><b>K</b> indicates good data<br><b>I</b> indicates incomplete interval<br><b>N</b> indicates data not current | status                                                                                                                                                                                                                                                                                                                                 |

## UI Reports

### UI Example output:

- Example of `rept-meas:type=nm:enttype=lnkset:lsn=xxxx`

```
tekelecstp 12-02-21 04:44:56 EST EAGLE5 44.0.0
TYPE OF REPORT: MAINTENANCE STATUS INDICATORS ON LNKSET
REPORT PERIOD: ACTIVE
REPORT INTERVAL: 12-02-21, 04:44:56 THROUGH CURRENT

LNKSET-MTCS MEASUREMENTS: gtwy (MTP2)

LSMTCST = 'OOS', ACTLINKS = 0, UAVLINKS
= 0,
OOSLINKS = 2

;
```

## FTP Reports

FTP Example Output File Name: *mtcs-lnkset\_20101005\_2126.csv*

FTP Example Output File Format:

```
"CLLI", "SWREL", "RPTDATE", "RPTIME", "TZ", "RPTTYPE", "RPTPD", "IVALDATE", "IVALSTAR
T", "IVALEND", "NUMENT
IDS"<cr><lf>
"tekelecstp", "EAGLE5 44.0.0-64.23.0", "2012-02-21", "04:45:44", "EST
", "MAINTENANCE STATUS
INDICATORS ON LNKSET", "ACTIVE", "2012-02-21", "04:45:44", "04:45:44", 7<cr><lf>
<cr><lf>
"STATUS", "LSN", "LNKTYPE", "LSMTCST", "ACTLINKS", "UAVLINKS", "OOSLINKS"<cr><lf>
"K", "mtp2", "MTP2", "'UNAV'", 0, 1, 0<cr><lf>
"K", "ipsg", "IPVL", "'OOS'", 0, 0, 1<cr><lf>
"K", "m3uals", "IPVL", "'OOS'", 0, 0, 1<cr><lf>
"K", "hcmimt1", "MTP2-UNCH", "'OOS'", 0, 0, 1<cr><lf>
"K", "ssedcm2", "IPVL", "'OOS'", 0, 0, 1<cr><lf>
"K", "saal", "SAAL", "'OOS'", 0, 0, 1<cr><lf>
"K", "gtwy", "MTP2", "'OOS'", 0, 0, 2<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 9 char LNKTYPE + 4\*(6 char data) + 2 = 52 chars

**Table 3-212 Typical File Size: *mtcs-lnkset.csv***

| System header | + | Report header | + | Report data | = | File Size    |
|---------------|---|---------------|---|-------------|---|--------------|
| 250           | + | 70            | + | 26,000      | = | 26,320 bytes |