Oracle® Communications EAGLE

Measurements Reference

Release 46.7
E97337-01
July 2020

Oracle Communications EAGLE Measurements Reference, Release 46.7

E97337-01

Copyright © 1993, 2020, Oracle and/or its affiliates.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or “commercial computer software documentation” pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government’s use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

1 About This User's Guide

Overview 1-1
Scope and Audience 1-1
Documentation Admonishments 1-1
Manual Organization 1-2
My Oracle Support (MOS) 1-2
Emergency Response 1-3
Related Publications 1-3
Customer Training 1-3
Locate Product Documentation on the Oracle Help Center Site 1-4

2 Measurements

Introduction to Measurements 2-1
Obsolete OAM Measurements and FTA 2-2
Measurements Platform 2-4
E5-OAM Integrated Measurements 2-6
Data Mirroring 2-8
Optional 15-Minute Measurements 2-8
Reports 2-10
- Measurements Platform/E5-OAM Integrated Measurements Feature Reports 2-12
- Report Limitations 2-16

3 Reports

Report Tables 3-1
STP System Totals Measurements (SYSTOT) 3-1
- STP SYSTOT Report 3-2
- TT SYSTOT Report 3-15
- CGTT SYSTOT Report 3-18
- STPLAN SYSTOT Report 3-24
- IDPR SYSTOT Report 3-27
- SIP SYSTOT Report 3-34

SFTHROT SYSTOT Report 3-36
SFAPP SYSTOT Report 3-37
Component Measurements (COMP) 3-38
LINK COMP Report 3-39
LNKSET COMP Report 3-54
SCTPASOC COMP Report 3-62
SCTPCARD COMP Report 3-67
UA COMP Report 3-72
Network Management Measurements (NM) 3-76
STP NM Report 3-76
LNKSET NM Report 3-83
LINK NM Report 3-87
Daily Availability Measurements (AVLD) 3-97
LINK AVLD Report 3-97
Day-To-Hour Availability Measurements (AVLDTH) 3-106
LINK AVLDTH Report 3-106
Availability Measurements (AVL) 3-114
LINK AVL Report 3-114
STPLAN AVL Report 3-124
Daily Maintenance Measurements (MTCD) 3-128
STP MTCD Report 3-129
LINK MTCD Report 3-137
LNKSET MTCD Report 3-156
LNP MTCD Report 3-158
FTP Reports 3-163
NP MTCD Report 3-165
STPLAN MTCD Report 3-176
EIR MTCD Report 3-179
MAPSCRN MTCD Report 3-181
SCTPASOC MTCD Report 3-188
SCTPCARD MTCD Report 3-193
UA MTCD Report 3-198
VFLEX MTCD Report 3-202
FTP Reports 3-203
ATINPQ MTCD Report 3-204
Daily ATINPQ Reports 3-205
AIQ MTCD Report 3-206
Daily AIQ Reports 3-208
GTTAPATH MTCD Report 3-209
Daily GTTAPATH Reports 3-212
SIP MTCD Report 3-214

DEIR MTCD Report 3-216
ENUM MTCD Report 3-218
SFTHROT MTCD Report 3-224
SFAPP MTCD Report 3-225
Day-to-Hour Maintenance Measurements (MTCDTH) 3-226
STP MTCDTH Report 3-226
LINK MTCDTH Report 3-235
LNKSET MTCDTH Report 3-254
STPLAN MTCDTH Report 3-257
SCTPASOC MTCDTH Report 3-261
SCTPCARD MTCDTH Report 3-266
UA MTCDTH Report 3-271
Hourly Maintenance Measurements (MTCH) 3-275
LNP MTCH Report 3-275
FTP Reports 3-279
NP MTCH Report 3-282
EIR MTCH Report 3-292
FTP Reports 3-293
MAPSCRN MTCH Report 3-294
FTP Reports 3-298
VFLEX MTCH Report 3-300
FTP Reports 3-301
ATINPQ MTCH Report 3-302
Hourly ATINPQ Reports 3-303
AIQ MTCH Report 3-304
Daily AIQ Reports 3-305
GTTPATH MTCH Report 3-307
Hourly GTTAPATH Reports 3-310
DEIR MTCH Report 3-312
ENUM MTCH Report 3-314
Gateway Measurements (GTWY) 3-320
STP GTWY Report 3-320
ORIGNI GTWY Report 3-323
ORIGNINC GTWY Report 3-325
LNKSET GTWY Report 3-326
LSDESTNI GTWY Report 3-330
LSORIGNI GTWY Report 3-332
LSONISMT GTWY Report 3-335
Record Base Measurements (RBASE) 3-336
STP RBASE Report 3-337
LINK RBASE Report 3-341

LNKSET RBASE Report 3-349
Maintenance Status Reports (MTCS) 3-351
LINK MTCS Report 3-351
LNKSET MTCS Report 3-359

My Oracle Support (MOS)

My Oracle Support (MOS) is your initial point of contact for any of the following requirements:

- **Product Support**:
  The generic product related information and resolution of product related queries.
- **Critical Situations**
  A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:
  - A total system failure that results in loss of all transaction processing capability
  - Significant reduction in system capacity or traffic handling capability
  - Loss of the system's ability to perform automatic system reconfiguration
  - Inability to restart a processor or the system
  - Corruption of system databases that requires service affecting corrective actions
  - Loss of access for maintenance or recovery operations
  - Loss of the system ability to provide any required critical or major trouble notification

  Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.
- **Training Need**
  Oracle University offers training for service providers and enterprises.

A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at Oracle Support Contacts. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select 2 for New Service Request
2. Select 3 for Hardware, Networking and Solaris Operating System Support
3. Select one of the following options:
   - For Technical issues such as creating a new Service Request (SR), Select 1
   - For Non-technical issues such as registration or assistance with MOS, Select 2

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, 365 days a year.

What's New in This Guide

There are no updates in this document for Release 46.9.

1

About This User's Guide

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 (STPLAN)

> **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.

Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 1-1 Admonishments

Icon	Description
	Danger: (This icon and text indicate the possibility of *personal injury*.)
	Warning: (This icon and text indicate the possibility of *equipment damage*.)
	Caution: (This icon and text indicate the possibility of *service interruption*.)
	Topple: (This icon and text indicate the possibility of *personal injury* and *equipment damage*.)

Manual Organization

The manual is organized as follows:

- About This User's Guide provides general information about the organization of this manual.
- Measurements describes traffic measurements used in the EAGLE.
- Reports describes the reports that can be requested.

My Oracle Support (MOS)

MOS (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support (CAS) can assist you with MOS registration.

Call the CAS main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select 2 for New Service Request
2. Select 3 for Hardware, Networking and Solaris Operating System Support
3. Select one of the following options:
   - For Technical issues such as creating a new Service Request (SR), Select 1
   - For Non-technical issues such as registration or assistance with MOS, Select 2

You will be connected to a live agent who can assist you with MOS registration and opening a support ticket.

MOS is available 24 hours a day, 7 days a week, 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

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

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

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

Related Publications

For information about additional publications related to this document, refer to the Oracle Help Center site. See Locate Product Documentation on the Oracle Help Center Site for more information on related product publications.

Customer Training

Oracle University offers training for service providers and enterprises. Visit our web site to view, and register for, Oracle Communications training:

http://education.oracle.com/communication

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site:

www.oracle.com/education/contacts

Locate Product Documentation on the Oracle Help Center Site

Oracle Communications customer documentation is available on the web at the Oracle Help Center (OHC) site, http://docs.oracle.com. You do not have to register to access these documents. Viewing these files requires Adobe Acrobat Reader, which can be downloaded at http://www.adobe.com.

1. Access the Oracle Help Center site at http://docs.oracle.com.
2. Click `Industries`.
3. Under the Oracle Communications subheading, click the `Oracle Communications documentation` link.

   The Communications Documentation page appears. Most products covered by these documentation sets will appear under the headings "Network Session Delivery and Control Infrastructure" or "Platforms."
4. Click on your Product and then the Release Number.

   A list of the entire documentation set for the selected product and release appears.
5. To download a file to your location, right-click the PDF link, select `Save target as` (or similar command based on your browser), and save to a local folder.

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 Plaform 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 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 Plaform 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 it 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
xx00 to xx15	15 minutes of data will be collected for the quarter-hour *xx15*	None
xx15 to xx30	The *xx15* interval will contain no data. The *xx30* interval will contain 30 minutes of data	None
xx30 to xx45	15 minutes of data will be collected for the quarter-hour *xx45*	None
xx45 to xx00	The *xx45* interval will contain no data. The *xx00* 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 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
  - **STPLAN**: **TCP/IP** links
  - **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 mtcdth-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 mtcdth-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_mtcd-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_mtcdth-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	**Indication of Data Validity** **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. **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. **N** indicates data not current, no data was collected. All register values will contain zeros, which are to be interpreted as unknown.

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), STPLAN, 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 arrise 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 IPSG 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. *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.	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-cgtt` report.	peg count

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

Event Name	Description	Unit
GTTUN1NT	**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. This register contains the sum of the GTTUN1NT register in the `systot-tt` report and the CGGTTUN1NT register in the `systot-cgtt` report.	peg count
IARFAILD	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 IAR PASSD or IARFAILD; theThey were dismissed because modification was determined to be inappropriate (that is, not applicable). This *excludes* 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

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

Event Name	Description	Unit
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 IARFAILD pegs *and* 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
IDPAPTYGTT	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
IDPAPTYRTD	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
IDPAPTYSKR	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

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

Event Name	Description	Unit
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
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 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

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

Event Name	Description	Unit
IMSITBLNOP	**IMSI Table Not Present** - The total number of MSUs that require IMSI service but that arrise on a DN Service Module, which does not contain EPAP DN data	peg count
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

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

Event Name	Description	Unit
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: 1. **CgPA** and **CdPA** are provisioned in the In-Network Subscriber List. 2. 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
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

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

Event Name	Description	Unit
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	**MSUs Discarded –** 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** – • 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	**MSUs Discarded – Rcvd Queue Full -** Number of MSUs discarded because the receive queue was full.	peg count
MSULOST5	**MSUs Discarded – LIM Init -** Number of MSUs discarded while the LIM card was initializing.	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 rept-stat-sccp:mode=peakreset 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,
    IDPAPTYRTD =         0, IDPAPTYSKR =         0, IDPAPTYGTT
```

```
=         0,
    IDPSKRTD   =         0, IDPSKGTT   =         0, IDPBKLCONN
=         0,
    IDPBKLCONT =         0, IARTOTAL   =         0, IARNOTAP
=         0,
    IARPASSD   =         0, IARFAILD   =         0, UDTXUDTF
=         0,
    PCTDPCLKP  =         0, PCTOPCLKP  =         0, DNTBLNOP
=         0,
    IMSITBLNOP =         0, LNPTBLNOP  =         0, GTTONSM
=         0,
    GTTONLIM   =         0, TMULTCOMP  =         0

;
```

FTP Example Output File Name:*systot-stp_20170801_0530 .csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENTIDS"
"tekelecstp","EAGLE 46.6.0.0.0-71.3.0","2017-08-01","05:36:32","MST
","STP SYSTEM TOTAL MEASUREMENTS ON
STP","LAST","2017-08-01","05:00:00","05:30:00",1

"STATUS","ORIGMSUS","TRMDMSUS","THRSWMSU","ORMSUOCT","TRMSUOCT","TSMSUOC
T","DURINTFL","DTAMSULOST","MSINVDPC","MSINVSIO","OMSINVDPC","MSINVLNK",
"MSINVSIF","MSNACDPC","MSINVSLC","GTTPERFD","GTTUN0NS","GTTUN1NT","MSSCC
PFL","MSULOST1","MSULOST2","MSULOST3","MSULOST4","MSULOST5","CRSYSAL","M
ASYSAL","MISYSAL","XLXTSPACE","XLXTELEI","MSUDSCRD","OVSZMSG","GFGTMATCH
","GFGTNOMCH","GFGTNOLKUP","MSUSCCPFLR","NMSCCPMH","PKSCCPMH","IDPRMSRCV
","IDPRMSSUCC","IDPRMSFAIL","IDPRMSERR","MSIDPNOMCH","MSIDPMATCH","MSULO
ST6","SCCPLOOP","MOSMSSEGOK","MOSMSSEGER","IDPAPTYRTD","IDPAPTYSKR","IDP
APTYGTT","IDPSKRTD","IDPSKGTT","IDPBKLCONN","IDPBKLCONT","IARTOTAL","IAR
NOTAP","IARPASSD","IARFAILD","UDTXUDTF","PCTDPCLKP","PCTOPCLKP","DNTBLNO
P","IMSITBLNOP","LNPTBLNOP","GTTONSM","GTTONLIM","TMULTCOMP"
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,3,4,39,0,0,0,0,0,0,0
,0,3,3,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
```

Assuming the data line will be:

4 char status + 62*(avg. 6 chars per field) + 2 = 378 chars

Typical file size:

Table 3-2 Typical File Size: `systot-stp.csv`

System Header	+	Report Header	+	Report Data	=	File Size
250	+	724	+	378	=	1352 bytes

TT SYSTOT Report

When a GTT Actions feature is on with a feature that does translation based on the Called Party, the GTT measurements in this report (such as GTTADISC0) are updated.

Example Commands:

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

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 *forwarded* by Forward GTT Action.	peg count
GTTASET	**GTT Actions** - The total number of messages *receiving* any GTT action.	peg count

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

Event Name	Description	Unit
GTTPERFD	**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**. *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.	peg count
GTTUN0NS	**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**.	peg count
GTTUN1NT	**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**.	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
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
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 46.3.0.0.0-66.11.0
    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, GTTADISC0
=         0,
    GTTADISC1  =         0, GTTADISC2  =         0, GTTADUP
=         0,
    GTTAFWD    =         0, GTTASET    =         0,
GTTASRVGFLX=         0,
    GTTASRVGPRT=         0, GTTASRVSMSR=         0, GTTASFLOG
=         0,
    GTTAMSVTO  =         0, GTTAMSVDI  =         0, GTTAMSVNA
=         0
```

;

FTP Example Output File Name: *systot-tt_20150124_2230.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 46.3.0.0.0-66.11.0","2015-09-20","03:57:47","EST
","STP SYSTEM TOTAL MEASUREMENTS ON
TT","LAST","2015-09-20","03:00:00","03:30:00",256
"STATUS","TT","GTTPERFD","GTTUN0NS","GTTUN1NT","AGTTPERFD","FCDGTTPRFD",
"GTTADISC0","GTTADISC1","GTTADISC2",
"GTTADUP","GTTAFWD","GTTASET","GTTASRVGFLX","GTTASRVGPRT","GTTASRVSMSR",
"GTTASFLOG","GTTAMSVTO","GTTAMSVDI","GTTAMSVNA"
"I","0",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
. . . . . .

"K","255",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
```

Assuming each data line will be:

4 char status + 4 char **TT** + 18 * (6 char data) + 2 = 118 chars

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

Table 3-4 Typical File Size: `systot-tt.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	230	+	30,208	=	30,688 bytes

CGTT SYSTOT Report

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

The system total CGTT report requires the Origin Based SCCP Routing feature to be enabled or FLOBR feature to be activated. The entity type for CGTT reports reuses TT.When a GTT Actions feature is on with OBSR feature (which does translation based on the Calling Party), the GTT measurements that have names beginning with CGGTT (such as CGGTADISC0) are updated.

> **Note:**
>
> The CGTT registers in the SYSTOT-CGTT report are pegged only if the GTT Translation mode is either FLOBR_CGPA (FG) or CGPA. The GTT Translation mode is determined by the GTTMODE parameter in the `rtrv-ls` command. When the GTTMODE is System default (SysDflt), the mode is determined from the DFLTGTTMODE option of the SCCPOPTS table.

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 pre-requisite 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 *forwarded* by Forward GTT Action.	peg count
CGGTTASETGTTASET	**GTT Actions** - The total number of messages *receiving* any GTT action.	peg count

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

Event Name	Description	Unit
GTTUN0NS	**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.	peg count

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

Event Name	Description	Unit
CGGTTUN1NT	**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: 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**. 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. This register shall also be pegged, if FLOBR CgPA gttmode is used, and translation is not successful for any of the following reasons: • maximum search depth is reached • duplicate GTTSET type is encountered • translation not found (any GTTSET type) • CdPA SSN required, but not present in the MSU • CgPA SSN required, but not present in the MSU • CgPA PC required, but not present in the MSU • Default CgPA PC Set is required, but not provisioned (ANSI or ITU) 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

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
CGGTTASFLOG	The total number of messages serviced by SFLOG GTT Action.	peg count
CGGTTAMSVTO	The total number of messages that successfully pass SCPVAL GTT Action.	peg count
CGGTTAMSVDI	The total number of messages discarded by SCPVAL GTT Action.	peg count
CGGTTAMSVNA	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 IPSG 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

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

Event Name	Description	Unit
STATUS	**Indication of Data Validity** **K** – indicates good data **I** – indicates incomplete interval; **N** – indicates data not current.	status

UI Example Output:

```
    tekelecstp 15-09-06 22:34:19 EST  EAGLE5 46.3.0.0.0-66.11.0
    TYPE OF REPORT: STP SYSTEM TOTAL MEASUREMENTS ON CGTT
    REPORT PERIOD: LAST
    REPORT INTERVAL:  15-09-06,  22:00:00 THROUGH 22:29:59

    CGTT-SYSTOT MEASUREMENTS: CGTT: 1

    These measurements are from 15-09-06, 22:00:00 through 22:29:59.
    CGGTTPERFD =         0, CGGTTUN0NS =         0, CGGTTUN1NT
=         0,
    FCGGTTPRFD =         0, CGGTTADISC0=         0,
CGGTTADISC1=         0,
    CGGTTADISC2=         0, CGGTTADUP  =         0, CGGTTAFWD
=         0,
    CGGTTASET  =         0, CGGTTSRGFLX=         0,
CGGTTSRGPRT=         0,
    CGGTTSRSMSR=         0, CGGTTASFLOG=         0,
CGGTTAMSVTO=         0,
    CGGTTAMSVDI=         0, CGGTTAMSVNA=         0

;
```

FTP Example Output File Name:*systot-cgtt_20020124_2230.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENTIDS"
"tekelecstp","EAGLE5 46.3.0.0.0-66.11.0","2014-01-24","22:33:34","EST
","STP SYSTEM TOTAL MEASUREMENTS ON
CGTT","LAST","2014-01-24","22:00:00","22:30:00",256

"STATUS","TT","CGGTTPERFD","CGGTTUN0NS","CGGTTUN1NT","FCGGTTPRFD","CGGTT
ADISC0","CGGTTADISC1","CGGTTADISC2",
"CGGTTADUP","CGGTTAFWD","CGGTTASET","CGGTTSRGFLX","CGGTTSRGPRT","CGGTTSR
SMSR","CGGTTASFLOG","CGGTTAMSVTO","CGGTTAMSVDI","CGGTTAMSVNA"
"K","0",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
. . . . .

"K","255",0,0,0,0,0,0,0,0,0,0,0,0,0
```

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

STPLAN SYSTOT Report

> **Note:**
>
> The peg counts for **STPLAN** measurements have the possibility of rolling over during periods of high **STPLAN** message transmit and receive. On the measurement reports, these measurements show up as negative numbers. This indicates that **STPLAN** transmit-and-receive measurements have values greater than four gigabytes of data.

Example Commands:

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

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

Table 3-7 STP System Total STPLAN Measurements

Event Name	Description	Unit
ENETALNERR	**Ethernet Alignment Error** - Number of packets not received over the **STPLAN** interface because of ethernet alignment errors.	peg count
ENETBUSBSY	**Ethernet Bus Busy -** Number of transmissions attempted when the STPLAN ethernet bus was busy.	peg count
ENETCOLERR	**Ethernet Collision Error -** Number of packets not transmitted by STPLAN because of excessive collisions on the STPLAN ethernet bus.	peg count
ENETCRCERR	**Ethernet CRC Error** - Number of packets not received on the STPLAN ethernet due to CRC errors.	peg count

Table 3-7 (Cont.) STP System Total STPLAN Measurements

Event Name	Description	Unit
ENETOCTRCV	**Ethernet Octets Received -** The total number of octets received on the STPLAN ethernet interface.	peg count
ENETOCTXMT	**Ethernet Octets Transmitted -** The total number of octets transmitted on the STPLAN ethernet interface.	peg count
ENETOVRERR	**Ethernet Receive Buffer Overflow Errors -** Number of packets not received by STPLAN because of a receive buffer overflow.	peg count
IPADDRERR	**IP Address Error -** The total number of inbound **IP** datagrams discarded on the STPLAN interface due to a bad destination address.	peg count
IPHDRERR	**IP Header Errors -** The total number of inbound IP datagrams discarded on the STPLAN interface due to header errors.	peg count
IPPROTERR	**IP Protocol Error -** Number of inbound IP datagrams discarded by STPLAN due to an error in the packet (invalid protocol).	peg count
SLANDISC1	**STPLAN Discarded 1 -** Number of SLAN MSUs discarded by the LIM cards for STPLAN feature disabled and records aging off of the local queue.	peg count
SLANDISC2	**STPLAN Discarded 2 -** Number of SLAN MSUs discarded by the SLAN cards for network problems and unreachable far end servers. During network outages, the SLAN cards will stop TVG/MFC grants or go into flow control. This causes the PDUs to be queued on the LIM cards, so the majority of discards will be pegged on SLANDISC1 under these circumstances.	peg count
SLANDSBLD	**STPLAN Disabled -** The duration that the STPLAN screening/copy feature was disabled.	msecs

Table 3-7 (Cont.) STP System Total STPLAN Measurements

Event Name	Description	Unit
SLANSCRND	**STPLAN Screened -** Number of **MSUs** that were copied to the STPLAN interface after passing gateway screening.	peg count
SLANXMIT	**STPLAN Transmit -** Number of MSUs sent to the host destination.	peg count
STATUS	**Indication of Data Validity** **K** – indicates good data **I** – indicates incomplete interval; **N** – indicates data not current.	status
TCPCONNFLD	**TCP Connections Failed -** The total number of TCP connections that have failed on the STPLAN interface.	peg count
TCPRCVERR	**TCP Receive Error -** The total number of TCP segments received on the STPLAN interface in error.	peg count
TCPRSTSENT	**TCP Reset Sent -** The total number of TCP segments sent containing the reset (**RST**) flag on the STPLAN interface.	peg count
TCPSEGRCVD	**TCP Segment Received -** The total number of TCP segments received on the STPLAN interface.	peg count
TCPSEGSENT	**TCP Segment Sent -** The total number of TCP segments sent on the STPLAN interface.	peg count
TCPSEGXMT2	**TCP Segment Retransmitted -** The total number of TCP segments retransmitted on the STPLAN interface.	peg count

UI Example Output:

```
    tekelecstp 01-08-23 11:00:11 EST EAGLE 34.0.0
    TYPE OF REPORT: STP SYSTEM TOTAL MEASUREMENTS ON STPLAN
    REPORT PERIOD: LAST
    REPORT INTERVAL:  01-08-23  10:30:00 THRU 10:59:59
    STPLAN-SYSTOT MEASUREMENTS
    Measurement data represents an incomplete interval.
    SLANDSBLD  =         0, SLANDISC1  =         0, SLANDISC2
=         0,
    SLANSCRND  =         0, SLANXMIT   =         0, ENETALNERR
=         0,
    ENETCRCERR =         0, ENETCOLERR =         0, ENETBUSBSY
```

```
=         0,
    ENETOVRERR =         0, ENETOCTXMT =         0, ENETOCTRCV
=         0,
    TCPCONNFLD =         0, TCPSEGRCVD =         0, TCPSEGSENT
=         0,
    TCPSEGXMT2 =         0, TCPRCVERR  =         0, TCPRSTSENT
=         0,
    IPHDRERR   =         0, IPADDRERR  =         0, IPPROTERR
=         0
;
    tekelecstp 01-08-23 11:00:12 EST EAGLE 34.0.0
    END OF HALF-HOURLY STPLAN-SYSTOT MEASUREMENT REPORT
;
```

FTP Example Output File Name:*systot-stplan_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",
"STP SYSTEM TOTAL MEASUREMENTS ON
STPLAN","LAST","1999-01-17","15:00:00","15:30:00",1<cr><lf>
<cr><lf>
"STATUS","SLANDSBLD","SLANDISC1","SLANDISC2","SLANSCRND","SLANXMIT","ENE
TALNERR","ENETCRCERR",
"ENETCOLERR","ENETBUSBSY","ENETOVRERR","ENETOCTXMT","ENETOCTRCV","TCPCON
NFLD","TCPSEGRCVD",
"TCPSEGSENT","TCPSEGXMT2","TCPRCVERR","TCPRSTSENT","IPHDRERR","IPADDRERR
","IPPROTERR"<cr><lf>
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Example typical file size:

Table 3-8 Typical File Size: `systot-stplan.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	275	+	132	=	657 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 3-9 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 3-10 SYSTOT IDPR Measurements

Event Name	Description	Unit
IDPAPTYGTT	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
IDPAPTYRTD	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

Table 3-10 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
IDPAPTYSKR	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 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, 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
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

Table 3-10 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
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 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
IDPINPCONN	Total number of IDP Messages for which INPRTG Service action sent a CONNECT message from IDPRCDPN service.	peg count

Table 3-10 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
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
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

Table 3-10 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
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
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

Table 3-10 (Cont.) SYSTOT IDPR Measurements

Event Name	Description	Unit
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, IDPSKGTT
=         0,
    IDPBKLCONN =         0, IDPBKLCONT =         0, IDPINPCONN
=         0,
    IDPINPCONN2=         0, IDPINPCONN3=         0,
IDPINPCONN4=         0,
    IDPINPCONT =         0, IDPINPCONT2=         0,
IDPINPCONT3=         0,
    IDPINPCONT4=         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","RPTPD","IVALDATE","IVA
LSTART",
"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",
"IDPAPTY
SKR","IDPAPTYGTT","IDPSKRTD","IDPSKGTT","IDPBKLCONN","IDPBKLCONT","IDPIN
PCONN","
IDPINPCONN2","IDPINPCONN3","IDPINPCONN4","IDPINPCONT","IDPINPCONT2","IDP
INPCONT3
","IDPINPCONT4","IDPINPRLC","IDPINPRLC2","IDPINPRLC3","IDPINPRLC4","IDPI
NPRTG","
IDPINPRTG2","IDPINPRTG3","IDPINPRTG4","IDPSKGTART","IDPSKGTART2","IDPSKG
TART3","
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 3-11 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 3-12 STP System Total SIP Measurements

Event Name	Description	Unit
INVITERCVD	The total number of SIP invite received (Including re-transmits)	peg count
CANCRCVD	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
INVALIDDN	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,
PROVRSPSENT=          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","IVA
LSTART","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","PROVRSPSENT","OKRSPSENT","RDRCTSENT","
CLNFAILSENT","SRVERRSENT","NPSUCC",
"NPBYPASSSUC","INVALIDDN","NPRNNF"
"K",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 3-13 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 3-14 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","IVA
LSTART","IVALEND","NUMENTIDS"<cr><lf>
"tekelecstp","EAGLE5 46.3.0.0.0-66.8.0","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 3-15 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 3-16 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 whitelist	peg count
SFAPPVLRGL	Number of VLRs moved to graylist	peg count
SFAPPVLRBL	Number of VLRs moved to blacklist	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

Table 3-16 (Cont.) STP System Total SFAPP Measurements

Event Name	Description	Unit
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","IVA
LSTART","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 3-17 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 3-18.

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

Table 3-18 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
MSGSRCVD	X	X	X	X
MSURETRN	X			
MSGSRGTT	X	X	X	X

Table 3-18 (Cont.) Registers Reported per LINK CLASS for Component Links

Event Name	MTP2 Class	SAAL Class	IPVL/IPVLGW Class	IPVHSL Class
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 3-19 Component Link Measurements

Event Name	Description	Unit
AVTPSXMT	Average Transations per Second (TPS) transmitted	TPS
AVTPSRCV	Average TPS received	TPS
DURLKOTG	**Duration ofLink Unavailable (Outage)** - The total time a link was unavailable to **MTP** level 3 for any reason.	seconds

Table 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
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 IPSG card to an SCCP card.	peg count
GTTONLIM	Total number of messages on which GTT is performed on a GTT enabled IPSG 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
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

Table 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
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
M2PUDOCR	The number of **M2PA UDM octets received.**	octets
M2PUDOCT	The number of **M2PA User Data Message (UDM) octets transmitted**.	octets

Table 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
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. • 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. • For SAAL class linksets, applies to MTP level 3 message bytes.	octets

Table 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
MOCTTRAN	**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. • 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 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
MSGDISC0	For ANSI links: **Priority 0 MSUs Discarded Due to Congestion** - The total number of priority 0 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . • For ITU links, the total number of MSUs discarded due to congestion. **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. **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.	peg count
MSGDISC1	For ANSI links: **Priority 1 MSUs Discarded Due to Congestion** - The total number of priority 1 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count

Table 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
MSGDISC2	For ANSI links: **Priority 2 MSUs Discarded Due to Congestion** - The total number of priority 2 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGDISC3	For ANSI links: **Priority 3 MSUs Discarded Due to Congestion** - The total number of priority 3 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGSRCVD	**MSUs Received** - Total number of **MSUs** received, including those for which retransmission has been requested. • For SAAL, IPVL, IPVHSL, and IPVLGW class links, applies to MTP level 3 messages.	peg count

Table 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
MSGSRGTT	**MSUs Received Requiring GTT** - Total number of incoming MSUs requiring global title translation (GTT). • For SAAL class links, applies to MTP level 3 messages.	peg count
MSGSTRAN	**MSUs Transmitted** - Total number of **MSUs** transmitted to the far-end, including retransmissions. • 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	**MSUs Retransmitted** - Number of MSUs retransmitted from the **STP** on this link. • For MTP2 class links, MSUs retransmitted by level 2.	peg count
MTCEUSG	**Link Maintenance Usage** - The total time the link was manually made unavailable to **MTP** level 3. This includes locally blocked (LPO), locally inhibited, or de-activated. **Note:** MTCEUSG may be less than DURLKOTG due to link recovery time following canc-slk, act-slk command sequence	seconds

Table 3-19 (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

Table 3-19 (Cont.) Component Link Measurements

Event Name	Description	Unit
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 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, LMSURCVDSC =         0, M2PUDMTR   =
61569,
   M2PUDOCT   =  10221158, M2PUDMRC   =     53186, M2PUDOCR   =
6603000,
   M2PLKNIS   =         0, ECLNKCB    =         0, ECLNKXCO
=         0,
   GTTONLIM   =     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,
    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

;
```

FTP Output Examples

Table 3-20 COMP LINK Column Headers

Field Name	Description
LSN	Linkset name
LOC	Card location

Table 3-20 (Cont.) COMP LINK Column Headers

Field Name	Description
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","IVA
LSTART","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","
OCTRETRN","MOCTTRAN","MOC
TRCVD","MTCEUSG","DURLKOTG","MSGSRGTT","MOCTRGTT","TDCNGLV1","TDCNGLV2",
"TDCNGLV3","ECCNGLV1","EC
CNGLV2","ECCNGLV3","MSGDISC0","MSGDISC1","MSGDISC2"
"MSGDISC3","LNKAVAIL","NMGWSDSABL","OUTCELLS",
"INCCELLS","SDPDUTRN","SDPDURCV","SDPDURTR","LMSUTRN","LMSURCV","LMSUOCT
TRN","LMSUOCTRCV","LMSUT
RNDSC","LMSURCVDSC","M2PUDMTR","M2PUDOCT","M2PUDMRC","M2PUDOCR","M2PLKNI
S","ECLNKCB","ECLNKXCO"<c
r><lf>
"K","hcmimt1","1203","A  ","MTP2-
UNCH",0,0,0,0,0,0,0,192,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ipsg","1103","A
","IPVL",0,0,0,0,0,0,192,192,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","mtp2","1104","A
","MTP2",0,0,0,0,0,0,0,192,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0<cr><lf>
"K","ssedcm1","1105","A
","IPVHSL",0,0,0,0,0,0,0,192,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,192,0,0<cr><lf>
"K","saal","1112","A
","SAAL",0,0,0,0,0,0,192,192,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 6 char LINK + 12 char LNKTYPE + 40*(6 char data) + 2 = 284 chars

Table 3-21 Typical File Size: `comp-link.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	486	+	142,000	=	142,736 bytes

LNKSET COMP Report

LNKSET COMP reports are an aggregation of register values of all the LINKs contained by the LNKSET. The report is marked **I** when the card hosting the link is OOS or ISOLATED at any time during the interval. Otherwise, when the card hosting a link is IS-NR throughout the interval, that interval is marked **K**.

Certain registers are reported for MTP2, SAAL, IPVL, and IPVHSL classes. These registers are summarized in the following table.

Table 3-22 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 3-23 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
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	**Message Octets Received for Messages RequiringGTT** - 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. • For SAAL class linksets, applies to MTP level 3 message bytes.	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. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes.	octets

Table 3-23 (Cont.) Component Linkset Measurements

Event Name	Description	Unit
MOCTTRAN	**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. • 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	**MSUs Received** - Total number of MSUs received, including those for which retransmission has been requested. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages	peg count
MSGSRGTT	**MSUs Received Requiring GTT** - Total number of incoming MSUs requiring global title translation (GTT). • For SAAL class linksets, applies to MTP level 3 messages.	peg count

Table 3-23 (Cont.) Component Linkset Measurements

Event Name	Description	Unit
MSGSTRAN	**MSUs Transmitted** - Total number of **MSUs** transmitted to the far-end, including retransmissions. • 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	**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.	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	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. This register is reported as zero in ACTIVE, "period=active", measurement linkset reports.	peg count
SDPDURCV	**SSCOP SD PDUs received** - The number of SSCOP SD PDUs that were received during the indicated interval.	peg count

Table 3-23 (Cont.) Component Linkset Measurements

Event Name	Description	Unit
SDPDURTR	**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.	peg count
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,
   M2PUDOCT   =  10221158, M2PUDMRC   =     53186, M2PUDOCR   =
6603000,
   M2PLKNIS   =         0, ECLNKCB    =         0, ECLNKXCO
=         0,
   GTTONLIM   =     53156, GTTFORSM   =         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

;
```

- `rept-meas:type=comp:enttype=lnkset:lsn=xxxx:period=active`

```
    tekelecstp 12-02-10 04:44:15 EST  EAGLE5 44.0.0
    TYPE OF REPORT: COMPONENT MEASUREMENTS ON LNKSET
    REPORT PERIOD: ACTIVE
    REPORT INTERVAL:  12-02-10,  04:30:00 THROUGH CURRENT

    LNKSET-COMP MEASUREMENTS: mtp2    (MTP2)

    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

;
```

FTP Output Examples

Table 3-24 COMP LINKSET Column Headers

Field Name	Description
LSN	Linkset name
LNKTYPE	Link type

FTP Example Output File Name: *comp-lnkset_20101004_1000.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-10","04:45:24","EST
","COMPONENT MEASUREMENTS ON
LNKSET","LAST","2012-02-10","04:00:00","04:30:00",5<cr><lf>
<cr><lf>
```

```
"STATUS","LSN","LNKTYPE","MSGSTRAN","MSGSRCVD","MOCTTRAN","MOCTRCVD","MS
GSRGTT","MOCTRGTT","TDLSI
NAC","MSGWSDSLIM","ZTTMAPO","ZTTMAPI","OUTCELLS","INCCELLS","SDPDUTRN","
SDPDURCV","SDPDURTR","MTP
MSCNVTD","GTTMSCNVTD","SCCPLOOP"<cr><lf>
"K","mtp2","MTP2",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ipsg","IPVL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ssedcm1","IPVHSL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","saal","SAAL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","hcmimt1","MTP2-UNCH",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 + 13 char LSN + 12 char LKNTYPE + 18*(6 char data) + 2 = 139 chars

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

Table 3-25 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 3-26 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

Table 3-26 (Cont.) Component SCTPASOC 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). CNTLCHKR register excludes initial SCTP association set-up messages (INIT and COOKIE-ECHO).	peg count
CNTLCHKS	**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

Table 3-26 (Cont.) Component SCTPASOC Measurements

Event Name	Description	Unit
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
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

Table 3-26 (Cont.) Component SCTPASOC Measurements

Event Name	Description	Unit
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
SCPKTRCV	**SCTP Packets Received** - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included. 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.	peg count
SCPKTSNT	**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. 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).	peg count

Table 3-26 (Cont.) Component SCTPASOC Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	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 3-27 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","IVA
LSTART",
"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"
,"SCPKTSNT",
"SCPKTRCV","SCOCTSNT","SCOCTRCV","CNTLCHKS","ORDCHKSN","CNTLCHKR","ORDCH
KRC","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<cr><lf>
"K","A1102",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<cr><lf>
```

Assuming each data line will be:

4 char status + 18 char association + 18*(6 char data) + 2 = 132 char

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

Table 3-28 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 3-29 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

Table 3-29 (Cont.) Component SCTPCARD Measurements

Event Name	Description	Unit
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
CNTLCHKS	**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
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

Table 3-29 (Cont.) Component SCTPCARD Measurements

Event Name	Description	Unit
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
SCPKTRCV	**SCTP Packets Received** - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included. 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.)	peg count

Table 3-29 (Cont.) Component SCTPCARD Measurements

Event Name	Description	Unit
SCPKTRER	**SCTP Packets Received With Checksum Error**The number of SCTP packets received from remote peers with an invalid checksum.	peg count
SCPKTSNT	**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. 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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
UNASCTPK	**Unassociated (Out-of-the-Blue) SCTP Packets**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. 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 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,
    SCPKTSNT   =        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 3-30 COMP SCTPCARD Column Header

Field Name	Description
LOC	Location

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

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND",
"NUMENTIDS"<cr><lf>
"tekelecstp",”38.0.0-XX.XX.0”,”2007-12-31”,"12:11:37","EST","COMPONENT
MEASUREMENTS ON
SCTPCARD","LAST",”2007-12-31”,"11:45:00","12:00:00",3<cr><lf>
<cr><lf>
"STATUS","LOC","DATCHKSN","RTXCHNKS","DATCHKRC","SCPKTSNT","SCPKTRCV","S
CPKTRER",
"UNASCTPK","SCOCTSNT","SCOCTRCV","CNTLCHKS","ORDCHKSN","CNTLCHKR","ORDCH
KRC",
"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 char status + 7 char location + 15*(6 char data) + 2 = 103 chars

For a report of 80 cards, the typical file size is:

Table 3-31 Typical File Size: `comp-sctpcard.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	160	+	8240	=	8650 bytes

UA COMP Report

The per Application Server/Association UA layer measurements and reports are shown below.

Command Examples

- **UI**: `rept-meas:type=comp:enttype=ua:asname=appsrvr1:aname=assoc1`
- **FTP**: `rept-ftp-meas:type=comp:enttype=ua`

Measurement Events

Table 3-32 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

Table 3-32 (Cont.) Component UA Measurements

Event Name	Description	Unit
TXDATAMS	• 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	• 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
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

Table 3-32 (Cont.) Component UA Measurements

Event Name	Description	Unit
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

    UA-COMP MEASUREMENTS: AS: appsrvr1            ASSOC: assoc1

    These measurements are from 07-12-31, 00:30:00 through 00:59:59.
    RXDATAMS   =       100, RXDATAOC   =      4000, TXDATAMS   =
200,
    TXDATAOC   =      8000, UANMMSGT   =         0, UANMOCTT
=         0,
    UANMMSGR   =         0, UANMOCTR   =         0, UAASPMTX
=         0,
    UAASPMRX   =         0, UASSNMTX   =         0, UASSNMRX
=         0,
    UAMGMTTX   =         0, UAMGMTRX   =         0, UACNGCNT
```

```
=         0,
    UACNGTIM    =         0, UAASPNAC    =         0, UAASPNAT
=         0,
    RXMLRCMS    =         0


;
```

FTP Output Examples

Table 3-33 COMP UA Column Headers

Field Name	Description
AS	Application server name
ASSOC	Association name

FTP Example Output File Name: *comp-ua_20071115_1200.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND",
"NUMENTIDS"<cr><lf>
"tekelecstp",”38.0.0-XX.XX.0”,”2007-12-31”,"12:11:37","EST","COMPONENT
MEASUREMENTS ON
UA","LAST",”2007-12-31”,"11:45:00","12:00:00",3<cr><lf>
<cr><lf>
"STATUS","AS","ASSOC","RXDATAMS","RXDATAOC","TXDATAMS","TXDATAOC","UANMM
SGT","UANMOCTT",
"UANMMSGR","UANMOCTR","UAASPMTX","UAASPMRX","UASSNMTX","UASSNMRX","UAMGM
TTX","UAMGMTRX",
"UACNGCNT","UACNGTIM","UAASPNAC","UAASPNAT","RXMLRCMS"<cr><lf>
"K","as1101","a1101",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","as1102","a1102",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","as1103","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 + 15 char AS + 15 char ASSOC + 19*(6 char data) + 2 = 150 chars

For a report of 1000 AS/ASSOC pairs, typical file size is:

Table 3-34 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 3-35 Network Management STP Measurements

Event Name	Description	Unit
GTTPERFD	**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**. *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.	peg count
GTTUN0NS	**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.	peg count
GTTUN1NT	**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.	peg count
MSIDPMATCH	**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.	peg count
MSIDPNOMCH	**MSUs Relayed** - Total number of IDP messages relayed to their destination.	peg count

Table 3-35 (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

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

Event Name	Description	Unit
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
MSULOST3	**MSUs Discarded –** 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** – • 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

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

Event Name	Description	Unit
MSULOST4	**MSUs Discarded – Rcv Queue Full** - Number of **MSUs** discarded because the receive queue was full.	peg count
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

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

Event Name	Description	Unit
OVSZMSG	**OversizedMTP 3 Messages** - Oversized **MTP** 3 messages exceeding 272 octets (level 3) that are received by an **HSL** and are discarded.	peg count
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, GTTUN0NS
=         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
    END OF ON-DEMAND STP-NM MEASUREMENT REPORT
;
```

FTP Example output file name: *nm-stp_19990117_1550.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",
"NETWORK MANAGEMENT MEASUREMENTS ON
STP","LAST","1999-01-17","15:45:00","15:50:00",1<cr><lf>
<cr><lf>
"STATUS","ORIGMSUS","TRMDMSUS","THRSWMSU","ORMSUOCT","TRMSUOCT","TSMSUOC
T",
"MSINVDPC","MSINVSIO","OMSINVDPC","MSINVLNK","GTTPERFD","GTTUN0NS","GTTU
N1NT",
"MSSCCPFL","MSINVSIF","MSNACDPC","MSINVSLC","MSUDSCRD","MSULOST1","MSULO
ST2",
"MSULOST3","MSULOST4","NMTSKDSC0","NMTSKDSC1","NMTSKDSC2","NMTSKDSC3","O
VSZMSG"<cr><lf>
"K",80,80,0,1540,1540,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf
>
```

Typical file size is:

Table 3-36 Typical File Size: `nm-stp.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	315	+	477	=	1042 bytes

LNKSET NM Report

Command Examples

- UI

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

- FTP

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

Measurement Events

Table 3-37 Network Management Linkset Measurements

Event Name	Description	Unit
MOCTRCVD	**MSU Octets Received** - Total number of octets associated with MSUs received, including those removed and those for which retransmission has been requested. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes.	octets

Table 3-37 (Cont.) Network Management Linkset Measurements

Event Name	Description	Unit
MOCTTRAN	**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. • 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	**MSUs Transmitted** - Total number of MSUs transmitted to the far-end, including retransmissions. • 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 3-37 (Cont.) Network Management Linkset Measurements

Event Name	Description	Unit
MSGSRCVD	**MSUs Received** - The total number of MSUs received, including those for which retransmission has been requested. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	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 3-38 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","IVA
LSTART","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 3-39 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 3-40.

Table 3-40 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 3-41 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). *Not* 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

Table 3-41 (Cont.) Network Management Link Measurements

Event Name	Description	Unit
ECCNGLV3	**Event Count for Entering Level 3 Link Congestion -** The total number of times that link congestion level 3 was entered.	peg count
MSGDISC0	For ANSI links: **Priority 0 MSUs Discarded Due to Congestion** - The total number of priority 0 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGDISC1	For ANSI links: **Priority 1 MSUs Discarded Due to Congestion** - The total number of priority 1 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count

Table 3-41 (Cont.) Network Management Link Measurements

Event Name	Description	Unit
MSGDISC2	For ANSI links: **Priority 2 MSUs Discarded Due to Congestion** - The total number of priority 2 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGDISC3	For ANSI links: **Priority 3 MSUs Discarded Due to Congestion** - The total number of priority 3 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count

Table 3-41 (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,
    DRLCLPRO   =         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, DRLCLPRO
=         0

;
```

FTP Reports

Table 3-42 FTP NM LINK Column Headers

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

FTP Example Output File Name: *nm-link_20101001_0215.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-20","17:31:43","EST
","NETWORK MANAGEMENT
MEASUREMENTS ON
LINK","LAST","2012-02-20","17:25:00","17:30:00",6<cr><lf>
<cr><lf>
"STATUS","LSN","LOC","LINK","LNKTYPE","DRLNKUNV","TDCNGLV1","TDCNGLV2","
TDCNGLV3","ECCNGLV1","ECC
NGLV2","ECCNGLV3","MSGDISC0","MSGDISC1","MSGDISC2","MSGDISC3","DRFEPRO",
"DRBSYLNK","NMGWSDSABL",
"DRLCLPRO"<cr><lf>
"K","hcmimt1","1203","A  ","MTP2-
UNCH",300,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ipsg","1103","A  ","IPVL",300,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","mtp2","1104","A  ","MTP2",300,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","m3uals","1105","A
","IPVLGW",300,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ssedcm2","1107","A
","IPVLGW",300,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","saal","1112","A  ","SAAL",300,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 5 char LINK + 12 char LNKTYPE + 15*(6 char data) + 2 = 133 chars

Table 3-43 Typical File Size: `nm-link.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	206	+	133,000	=	133,456 bytes

Daily Availability Measurements (AVLD)

Daily Availability (**AVLD**) Reports provide measurements pertaining to link management.

Entity Types: Link

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 3-44 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

Table 3-44 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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 LinkFailures** – **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

Table 3-44 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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. • 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

Table 3-44 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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 3-45 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","IVA
LSTART","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<cr><lf>
"K","ipsg","1103","A  ","IPVL",0,0,0,0,0,0,0,0<cr><lf>
"K","mtp2","1104","A  ","MTP2",0,0,0,0,0,0,0,0<cr><lf>
"K","m3uals","1105","A  ","IPVLGW",0,0,0,0,0,0,0,0<cr><lf>
"K","ssedcm2","1107","A  ","IPVLGW",0,0,0,0,0,0,0,0<cr><lf>
"K","saal","1112","A  ","SAAL",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 3-46 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 3-47 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

Table 3-47 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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 LinkFailures** – **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

Table 3-47 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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. • 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

Table 3-47 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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 in which errors were detected. (For 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.
    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 3-48 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","IVA
LSTART","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<cr><lf>
"K","ipsg","1103","A  ","IPVL",0,0,0,0,0,0,0,0<cr><lf>
"K","mtp2","1104","A  ","MTP2",0,0,0,0,0,0,0,0<cr><lf>
"K","m3uals","1105","A  ","IPVLGW",0,0,0,0,0,0,0,0<cr><lf>
"K","ssedcm2","1107","A  ","IPVLGW",0,0,0,0,0,0,0,0<cr><lf>
"K","saal","1112","A  ","SAAL",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 3-49 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, STPLAN

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 3-50.

Table 3-50 Availability Link Register Usage By LINK Class

Event Name	MTP2 Usage	SAAL Usage	IPVL and IPVLGW Usage	IPVHSL Usage
DRFEPRO	As described	N/A - not reported	N/A - not reported	As described
DRLKINHB	As described	As described	N/A - not reported	As described
FARMGINH	As described	As described	N/A - not reported	As described
NDCFLABN	As described	N/A - not reported	N/A - not reported	N/A - not reported
NDCFLXDA	Level 2 timer t7 expired	Timer NO_RESPONSE expired for POLL/ STAT response	Level 2 timer t7 expired	Level 2 timer t7 expired
NDCFLXDC	Level 2 timer t6 expired	Timer **NO_CREDIT** expired	Level 2 timer t6 expired	Level 2 timer t6 expired
NDCLFALP	As described	N/A - not reported	As described	As described

Table 3-50 (Cont.) Availability Link Register Usage By LINK Class

Event Name	MTP2 Usage	SAAL Usage	IPVL and IPVLGW Usage	IPVHSL Usage
NDCLFSYNC	No data received on the line	DS1: LOS, LOF, or LCD indications	No data received on the line	No data received on the line
NEARMGIH	As described	As described	N/A - not reported	As described
NMFEPRO	As described	N/A - not reported	As described	As described
PCRN1N2EXC	As described	N/A - not reported	N/A - not reported	N/A - not reported
SURCVERR	Level 2 signaling units (all types) received with errors	**SSCOPPDUs** (all types) received with errors	N/A - not reported	N/A - not reported
SUSRECVD	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
SUSTRAN	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 3-51 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

Table 3-51 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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 LinkFailures** – **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

Table 3-51 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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. • 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

Table 3-51 (Cont.) Availability Link Measurements

Event Name	Description	Unit
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
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

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
=         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 3-52 FTP AVL LINK Column Headers

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

FTP Example Output File Name:*avl-link_20101005_1830.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-20","17:52:43","EST
","AVAILABILITY MEASUREMENTS ON
LINK","LAST","2012-02-20","17:00:00","17:30:00",6<cr><lf>
<cr><lf>
```

```
"STATUS","LSN","LOC","LINK","LNKTYPE","NEARMGIH","FARMGINH","NMDCLFLR","
DRDCLFLR","SURCVERR","DRL
KINHB","NDCFLABN","NDCLFSYNC","NDCFLXDA","NDCFLXER","NDCFLXDC","NDCLFALP
","NDCLFINTR","NMFEPRO","
NMLCLPRO","DRFEPRO","DRLCLPRO","SUSRECVD","SUSTRAN","PCRN1N2EXC"<cr><lf>
"K","hcmimt1","1203","A  ","MTP2-
UNCH",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ipsg","1103","A
","IPVL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","mtp2","1104","A
","MTP2",0,0,0,0,0,0,0,0,0,0,0,146,0,0,0,0,0,0,1504478,0<cr><lf>
"K","m3uals","1105","A
","IPVLGW",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ssedcm2","1107","A
","IPVLGW",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","saal","1112","A
","SAAL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1562,0<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 3-53 Typical File Size: `avl-link.csv`

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

STPLAN AVL Report

This enttype consists of measurements for **LIM** and **DSM** cards. The outputs are separate for the UI reports and combined for the **FTP** reports. The FTP reports appear after the UI reports for the DSM cards.

> **Note:**
>
> The peg counts for**STPLAN** measurements have the possibility of rolling over during periods of high**STPLAN** message transmit and receive. On the measurement reports these measurements show up as negative numbers. This indicates**STPLAN** transmit and receive measurements have values greater than four gigabytes of data.

Command Examples

- UI

  ```
  rept-meas:type=avl:enttype=stplan:loc=xxxx
  ```

- FTP

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

Table 3-54 Availability STPLAN Measurements

Event Name	Description	Unit
ENETALNERR	**Ethernet Alignment Error** - The number of packets not received over the STPLAN interface because of Ethernet alignment errors.	peg count
ENETBUSBSY	**Ethernet Bus Busy** - The number of transmissions attempted when the STPLAN Ethernet bus was busy.	peg count
ENETCOLERR	**Ethernet Collision Error** - The number of packets not transmitted by STPLAN because of excessive collisions on the STPLAN Ethernet bus. The FTC Reports will display this register as zero for card types other than ACM cards.	peg count
ENETCRCERR	**Ethernet CRC Error** - The number of packets not received on the STPLAN Ethernet due to CRC errors.	peg count
ENETOCTRCV	**Ethernet Octets Received** - The total number of octets received on the STPLAN Ethernet interface.	peg count
ENETOCTXMT	**Ethernet Octets Transmitted** - The total number of octets transmitted on the STPLAN Ethernet interface.	peg count
ENETOVRERR	**Ethernet Receive Buffer Overflow Errors** - The number of packets not received by STPLAN because of a receive buffer overflow.	peg count
IPADDRERR	**IP Address Error** - The total number of inbound IP datagrams discarded on the STPLAN interface due to a bad destination address.	peg count
IPHDRERR	**IP Header Errors** - The total number of inbound IP datagrams discarded on the STPLAN interface due to header errors. The FTC Reports will display this register as zero for card types other than ACM cards.	peg count

Table 3-54 (Cont.) Availability STPLAN Measurements

Event Name	Description	Unit
IPPROTERR	**IP Protocol Error** - The number of inbound IP datagrams discarded by STPLAN due to an error in the packet (invalid protocol). The FTC Reports will display this register as zero for card types other than ACM cards.	peg count
SLANDISC1	**STPLAN Discarded 1** - Number of SLAN MSUs discarded by the LIM cards for STPLAN feature disabled and records aging off of the local queue.	peg count
SLANDISC2	**STPLAN Discarded 2** - The number of SLAN MSUs discarded by the SLAN cards for network problems and unreachable far end servers. During network outages the SLAN cards will stop TVG/MFC grants or go into flow control. This causes the PDUs to be queued on the LIM cards, so the majority of discards will be pegged on SLANDISC1 under these circumstances.	peg count
SLANDSBLD	**STPLAN Disabled** – The duration that the STPLAN screening/copy feature was disabled.	msec
SLANSCRND	**STPLAN Screened** – Number of MSUs that were copied to the STPLAN interface after passing gateway screening.	peg count
SLANXMIT	**STPLAN Transmit** - The number of MSUs sent to the host destination. The FTC Reports will display this register as zero for card types other than ACM cards.	peg count
SLANXMIT	**STPLAN Transmit** - The number of MSUs sent to the host destination.	peg count

Table 3-54 (Cont.) Availability STPLAN Measurements

Event Name	Description	Unit
TCPCONNFLD	**TCP Connections Failed** - The total number of TCP connections that have failed on the STPLAN interface. MCP/OAMHC Reports will display this register as zero for card types other than ACM cards.	peg count
TCPSEGRCVD	**TCP Segment Received** - The total number of TCP segments received on the STPLAN interface. MCP/OAMHC Reports will display this register as zero for card types other than ACM cards.	peg count
TCPSEGSENT	**TCP Segment Sent** - The total number of TCP segments sent on the STPLAN interface. The FTC Reports will display this register as zero for card types other than ACM cards	peg count

UI Example Output:

```
    e1061001 10-08-16 19:36:15 EST  EAGLE5 42.0.0-63.32.0
    TYPE OF REPORT: AVAILABILITY MEASUREMENTS ON STPLAN
    REPORT PERIOD: LAST
    REPORT INTERVAL:  10-08-16  19:00:00 THROUGH 19:29:59

    STPLAN-AVL MEASUREMENTS: LOC: 1215

    These measurements are from 10-08-16 19:00:00 through 19:29:59.
    SLANDSBLD  =         0 SLANDISC1  =         0 SLANDISC2  =         0
    SLANSCRND  =         0 SLANXMIT   =         0 ENETALNERR =         0
    ENETCRCERR =         0 ENETCOLERR =         0 ENETBUSBSY =         0
    ENETOVRERR =         0 ENETOCTXMT =         0 ENETOCTRCV =         0
    TCPCONNFLD =         0 TCPSEGRCVD =         0 TCPSEGSENT =         0
    TCPSEGXMT2 =         0 TCPRCVERR  =         0 TCPRSTSENT =         0
    IPHDRERR   =         0 IPADDRERR  =         0 IPPROTERR  =         0

;

    e1061001 10-08-16 19:36:17 EST  EAGLE5 42.0.0-63.32.0
    END OF ON-DEMAND STPLAN-AVL MEASUREMENT REPORT
;
```

FTP Example Output File Name:*avl-stplan_19990117_1530.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 42.0.0-63.32.0","2010-08-16","20:46:45","EST
","AVAILABILITY MEASUREMENTS ON
STPLAN","LAST","2010-08-16","20:00:00","20:30:00",2

"STATUS","TYPE","LOC","SLANDSBLD","SLANDISC1","SLANDISC2","SLANSCRND","S
LANXMIT",
"ENETALNERR","ENETCRCERR","ENETCOLERR","ENETBUSBSY","ENETOVRERR","ENETOC
TXMT",
"ENETOCTRCV","TCPCONNFLD","TCPSEGRCVD","TCPSEGSENT","TCPSEGXMT2","TCPRCV
ERR",
"TCPRSTSENT","IPHDRERR","IPADDRERR","IPPROTERR"
"K","LIM","1104",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
"K","DSM","1215",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
```

Assuming each data line will be:

4 char status + 6 char TYPE + 7 char LOC + 21*(6 char data) + 2 = 145 chars

For a report of 100 LIMs and 10 DSMs, the typical file size is:

Table 3-55 Typical File Size: `avl-stplan.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	284	+	145	=	679 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, STPLAN, 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, STPLAN, 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 3-56 Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
CRSYSAL	**Critical System Alarms** - The total number of critical system alarms.	peg count
DRDCLFLR	**Cumulative Duration ofSignaling Link Declared Failures All Types** - The cumulative duration of all link failures.	seconds
DURLKOTG	**Duration ofLink Outage** - The total time a link was unavailable to **MTP** level 3 for any reason.	seconds
DTAMSULOST	**DTAMSUsLost** - The total number of **MSUs** that were discarded because the redirect function was turned off or the original **MSU** was too large to be encapsulated.	peg count
GFGTMATCH	**G-FlexGTTs with Match** - The total number of **G-Flex Global Title Translation** successfully completed.	peg count

Table 3-56 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
GFGTNOMCH	**G-FlexGTTs No Match** - The total number of **G-Flex** Global Title Translations completed that did not match an entry in the **GSM** database.	peg count
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
GTTPERFD	**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**. *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.	peg count
GTTUN0NS	**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-Flex**, **INP** and **GTT MSUs** that did not match on new selectors (**GTI**,**NP**,**NAI**) in addition to ones not matching on **TT**.	peg count

Table 3-56 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
GTTUN1NT	**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. In general, this register contains the sum of the **GTTUN1NT** register in the systot-tt report and the **CGGTTUN1NT**	peg count
MSIDPNOMCH	**MSUs Relayed** - Total number of IDP messages relayed to their destination.	peg count
MSIDPMATCH	**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.	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
MSINVSIF	**MSUs Discarded – InvalidSIF** - 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
MASYSAL	**Major system alarms** - The total number of major system alarms.	peg count
MISYSAL	**Minor system alarms** - The total number of minor system alarms.	peg count

Table 3-56 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
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
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 an **SCCP** routing failure. Also includes **G-Flex**, **INP MSUs** that got a match from either the **G-Flex**, **INP** or **GTT DB** but cannot be routed due to **PC** or **SS** congestion, **PC** or **SS** unavailable, **SS** unequipped, or an unqualified error.	peg count
MSUSCCPFLR	**MSUSCCP Failure** - Total **MSUs** Discarded Due to **SCCP** Conversion 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 3-56 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
MSULOST3	**MSUs Discarded –** 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** – • 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	**MSUs Discarded – Rcv Queue Full** - Number of **MSUs** discarded because the receive queue was full.	peg count
MSULOST5	**MSUs Discarded –LIM Init** - Number of **MSUs** discarded while the **LIM** card was initializing.	peg count

Table 3-56 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) 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
MTPRESTS	**MTP Restarts Initiated** - Number of times **MTP** restart was initiated by the **STP**. The count does not include the number of **MTP** restarts initiated as a result of messages from adjacent nodes.	peg count
OMSINVDPC	**MSUs Originated** - Invalid DPC - The 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. 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	**OversizedMTP 3 Messages** - Oversized **MTP** 3 messages exceeding 272 octets (level 3) that are received by an **HSL** and are discarded.	peg count
SCCPLOOP	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.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-56 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
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
TTMAPPF	**Translation Type Mapping Translations Performed** - The total number of **Translation Type** Mapping translations performed (that is, a mapped **SS7** message translation type was found for the existing **SS7** 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	**X-List Entry Not Created** - The total number of times that an X-List entry was not created because the **ELEI** for the cluster was set to 'yes'.	peg count
XLXTSPACE	**X-List Entry Not Created** - 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","IVA
LSTART","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","MSINV
DPC","MSINVSIO","OMSINVDPC",
"MSINVLNK","MSINVSIF","MSNACDPC","MSINVSLC","GTTPERFD","GTTUN0NS","GTTUN
1NT","MSSCCPFL","MSULOST1",
"MSULOST2","MSULOST3","MSULOST4","MSULOST5","DRDCLFLR","DURLKOTG","CRSYS
AL","MASYSAL","MISYSAL",
"XLXTSPACE","XLXTELEI","TTMAPPF","MSUDSCRD","OVSZMSG","GFGTMATCH","GFGTN
OMCH","GFGTNOLKUP",
"MSUSCCPFLR","MSIDPNOMCH","MSIDPMATCH","MSULOST6","SCCPLOOP","UDTXUDTF"
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,7713,10,15,95,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0
```

Typical file size:

Table 3-57 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 3-58.

Table 3-58 Registers Reported per LINK CLASS for Daily (MTCD) and Day-To-Hour (MTCDTH) 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
LMSUOCTRCV			X	X	X
LMSUOCTTRN			X	X	X
LMSURCV			X	X	X
LMSURCVDSC			X	X	X
LMSUTRN			X	X	X
LMSUTRNDSC			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

Table 3-58 (Cont.) Registers Reported per LINK CLASS for Daily (MTCD) and Day-To-Hour (MTCDTH) Link Measurements

Event Name	MTP2 Class	SAAL Class	IPVL Class	IPVLGW Class	IPVHSL Class
MSGSRCVD	X	X	X	X	X
MSGSTRAN	X	X	X	X	X
MSURCERR	X				
MSURETRN	X				
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				
PCRN1N2EXC	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 3-59 Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

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

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
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. Reported for MTP2 Links only.	seconds
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). Reported for MTP2 and IPVHSL class 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.	seconds
DRLKINHB	**Duration Link Inhibited -** The cumulative duration that a link was inhibited at the local or far-end network element.	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 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
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
FARMGINH	**Number of Far-End Management Inhibits -** 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 IPSG card to an SCCP card.	peg count
GTTONLIM	Total number of messages on which GTT is performed on a GTT enabled IPSG card.	peg count
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
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 MSGSRCVD when the Large MSU Support for IP Signaling feature status is on and a large MSU is successfully received.	peg count

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
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
M2PUDOCR	The number of M2PA UDM octets received.	octets
M2PUDOCT	The number of M2PA User Data Message (UDM) octets transmitted.	octets

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
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. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes.	octets
MOCTTRAN	**Message 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. • 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 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
MSGDISC0	For ANSI links: **Priority 0 MSUs Discarded Due to Congestion** - The total number of priority 0 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . **Note:** • 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. • 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.	peg count
MSGDISC1	For ANSI links: **Priority 1 MSUs Discarded Due to Congestion** - The total number of priority 1 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
MSGDISC2	For ANSI links: **Priority 2 MSUs Discarded Due to Congestion** - The total number of priority 2 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGDISC3	For ANSI links: **Priority 3 MSUs Discarded Due to Congestion** - The total number of priority 3 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGSRCVD	**MSUs Received -** Total number of **MSUs** received, including those for which retransmission has been requested. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages.	peg count

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
MSGSTRAN	**MSUs Transmitted** - Total number of **MSUs** transmitted to the far-end, including retransmissions. • 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
MSURCERR	Number of **Message signal Units received in error - bad CRC**. This register applies to MTP2 links only.	peg count
MSURETRN	**MSUs Retransmitted** - Number of **MSUs** retransmitted because of errors.	peg count
NDCFLABN	**Number of Signaling Link Failures - Abnormal FIB/BSN** - 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.	peg count

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
NDCFLXDA	**Number of Signaling Link Failures - Excessive Delay of Acknowledgment** - Number of times a signaling link was out-of-service due to an excessive delay in acknowledgments. • For MTP2and IPVHSL class links, level 2 t7 expired level • For SAAL 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** • 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 • For SAAL class links, the number of times timer NO_CREDIT expired • 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. Reported for MTP2 and SAAL links only.	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 and IPVLGW class links.	peg count

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
NEGACKS	**Number of Negative Acknowledgments Received -**Number of times the BSN in an MSU was inverted, indicating a retransmission request. This register is NOT applicable to HSLs.	peg count
NMLCLPRO	**Number of Local Processor Outages -** The total number of local processor outages in this **STP**.	peg count
NMDCLFLR	**Number ofSignaling LinkDeclared Failures All Types -** The cumulative total of all link failures.	peg count
NMFEPRO	**Number of Far-End Processor Outages** - Number of far-end processor outages that have occurred. Reported for MTP2 links only	peg count
OCTRETRN	**Number of MSU octets retransmitted.** This register is NOT reported for SAAL class links.	peg count
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. This register is not applicable to HSLs.	peg count
SDPDURTR	**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. This measurement replaces the MTP level 2 negative acknowledgments.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-59 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
SURCVERR	**Number of Signal Units Received In Error -**Number of Signal Units Received In Error - The number of signal units received with checksum errors, indicating transmission errors. • For MTP2 class links, applies to FISUs, LSSUs, and MSUs. • For SAAL class links, this register reflects the number of SSCOP PDUs received with any errors .	peg count
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
TLNKACTV	**Link active time** - total time the link is active and transmitting MSUs. • For SAAL class links, the time the link is active and giving MSUs to SAAL for transmission. • For IP7 links, TLNKACTV is based on 10MB Ethernet link speed. Hence the report will be relative to 10MB/sec.	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*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-12","00:14:53","EST
","DAILY MAINTENANCE
MEASUREMENTS ON
LINK","LAST","2012-02-11","00:00:00","24:00:00",5<cr><lf>
<cr><lf>
"STATUS","LSN","LOC","LINK","LNKTYPE","MSGSTRAN","MSGSRCVD","MSURETRN","
OCTRETRN","MOCTTRAN","MOC
TRCVD","TDCNGLV1","TDCNGLV2","TDCNGLV3","ECCNGLV1","ECCNGLV2","ECCNGLV3"
,"MSGDISC0","MSGDISC1",
"MSGDISC2","MSGDISC3","TLNKACTV","LNKAVAIL","ACHGOVRS","NEARMGIH","FARMG
INH","NMDCLFLR","DRDCLFLR",
"SURCVERR","NEGACKS","DRLKINHB","NDCFLABN","NDCFLXDA","NDCFLXER","NDCFLX
DC","NMFEPRO","NMLCLPRO",
"DRFEPRO","DRLCLPRO","MSURCERR","DRBSYLNK","PCRN1N2EXC","SDPDURTR","LMSU
TRN","LMSURCV","LMSUOCTTRN",
"LMSUOCTRCV","LMSUTRNDSC","LMSURCVDSC","M2PUDMTR","M2PUDOCT","M2PUDMRC",
"M2PUDOCR","M2PLKNIS",
"ECLNKCB","ECLNKXCO"<cr><lf>
"K","hcmimt1","1203","A  ","MTP2-
UNCH",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ipsg","1103","A
","IPVL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","mtp2","1104","A
","MTP2",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ssedcm1","1105","A
","IPVHSL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
```

```
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1281,0,0<cr><lf>
"K","saal","1112","A
","SAAL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 6 char LINK + 12 char LKNTYPE + 51*(6 char data) + 2 = 350 char

Table 3-60 Typical File Size: `mtcd-link.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	605	+	175,000	=	175,855 bytes

LNKSET MTCD Report

Command Examples

- FTP example command:

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

Measurement Events

Table 3-61 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) Linkset Measurements

Event Name	Description	Unit
SCCPLOOP	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.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-61 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) Linkset Measurements

Event Name	Description	Unit
ZTTMAPI	**Translation Type Mapping Translation Performed** - **MSUs** Received on the Gateway Linkset - The total number of **Translation Type** Mapping translations performed for incoming Message Signal Units (**MSUs**) received on the specified linkset.	peg count
ZTTMAPO	**Translation Type Mapping Translation Performed** - **MSUs** Transmitted on the Gateway Linkset - The total number of translations performed on outgoing Message Signal Units (**MSUs**) 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","IVA
LSTART","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 3-62 Typical File Size: `mtcd-lnkset.csv`

System header	+	Report header	+	Report data	=	File Size
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 3-63 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP System Wide Measurements

Event Name	Description	Unit
LNPQRCV	*Trigger Based* The total number of queries received by **LNPQS**.	peg count
	Triggerless Number of encapsulated **IAM** messages received by **LNPQS**	peg count
LNPQDSC	*Trigger Based* The number of invalid queries that are discarded because no reply can be generated.	peg count
	Triggerless All invalid **IAM** messages are routed without **LNP**; **LNPQTCPE** is pegged.	not applicable
LNPQTCPE	*Trigger Based* The number of error replies with **TCAP** error codes.	peg count

Table 3-63 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP System Wide Measurements

Event Name	Description	Unit
	Triggerless The number of invalid encapsulated **IAM** messages received by **LNPQS**. Note that these messages are routed to their destinations with no **LNP** lookup.	peg count
LNPSREP	*Trigger Based* The number of successful replies.	peg count
	Triggerless The number of successful **IAM** messages.	peg count
LNPQUNPA	*Trigger Based* The number of correct queries received for non-ported **DN** when **NPA**-**NXX** is not provisioned.	peg count
	Triggerless The number of correct encapsulated **IAM** messages received for a non-ported **DN**, when the **NPA**-**NXX** is not provisioned.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-64 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements

Event Name	Description	Unit
SSPQRCV	Trigger Based Number of correct queries received per originating **SSP**.	peg count
	Triggerless The number of correct encapsulated **IAM** messages received by **LNPQS** per **OPC**.	peg count
CLASSGTRQ	Number of valid **CLASS GTT** received per originating **SSP**.	peg count

Table 3-64 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements

Event Name	Description	Unit
LIDBGTRQ	Number of valid **LIDB GTT** received per originating **SSP**.	peg count
SSPQRCVP	Number of correct queries received for ported **TNs**, per originating **SSP**.	peg count
SSPQRCVNP	Number of correct queries received for non-ported **TNs**, per originating **SSP**.	peg count
CLASSGTRQP	Number of **CLASS Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count
CLASSGTRQNP	Number of **CLASS Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
LIDBGTRQP	Number of **LIDB Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count
LIDBGTRQNP	Number of **LIDB Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
CNAMGTRQP	Number of **CNAM Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count
CNAMGTRQNP	Number of **CNAM Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
ISVMGTRQP	Number of **ISVM Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count
ISVMGTRQNP	Number of **ISVM Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
WSMSCGTRQP	Number of **WSMSC** Global Title Translations received for ported **TNs**, per originating **SSP**	peg count
WSMSCGTRQNP	Number of **WSMSC** Global Title Translations received for non-ported **TNs**, per originating **SSP**	peg count

Table 3-64 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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:

SSPQRCV = **SSPQRCVP** + **SSPQRCVNP**

CLASSGTRQ = **CLASSGTRQP** + **CLASSGTRQNP**

LIDBGTRQ = **LIDBGTRQP** + **LIDBGTRQNP**

Table 3-65 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP LRN Measurements

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

Table 3-66 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP NPA Measurements

Event Name	Description	Unit
NPAQRCV	The number of correct queries received per **NPANXX** for non-ported **DN**.	peg count

Table 3-66 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP NPA Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **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 3-67 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","IVA
LSTART","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","SS
PQRCVNP","CLASSGTRQP",
```

```
"CLASSGTRQNP","LIDBGTRQP","LIDBGTRQNP","CNAMGTRQP","CNAMGTRQNP","ISVMGTR
QP",
"ISVMGTRQNP","WSMSCGTRQP","WSMSCGTRQNP"<cr><lf>
"K","002-002-100","ANSI",123456789,456789,99999,123456789,456789,99999,1
23456789,456789,
99999,123456789,456789,99999,123456789,456789,99999<cr><lf>
. . . . .
"K","002-005-123","ANSI",123456789,456789,99999,123456789,456789,99999,1
23456789,456789,
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 3-68 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 3-69 Typical File Size: `mtcd-lrn.csv`

System header	+	Report header	+	Report data		
250	+	27	+	13800	=	14077 bytes

Daily LNP Measurements Per NPA

FTP Example Output File Name:*mtcd-npa_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 3-70 Typical File Size: `mtcd-npa.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 3-71 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 **SMS** Request messages received.	peg count
APSMSREL	Number of **SMS** 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 3-71 (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 GPSRGTTPP.	Peg Count
GPSRGTTPP	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 3-71 (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 dection by INPQS).	peg count
IS41LRERR	Number of **IS-41** location request - error response messages sent.	peg count
IS41LRMRCV	Number of **IS-41** location request messages received	peg count
IS41LRRTRN	Number of **IS-41** location request - return result messages sent	peg count
MNPCRD	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 3-71 (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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
TIFFPFXRLS	Total number of MSUs processed by TIF and blacklisted by the FPFXRLS Service Action	peg count
TIFNFNDRLS	Total number of MSUs processed by TIF and blacklisted by the BLNFNDRLS Service Action	peg count
TIFNOCGRLS	Total number of MSUs processed by TIF and blacklisted by the NOCGPNRLS Service Action	peg count
TIFRLS	Total number of MSUs processed by TIF and blacklisted by the BLRLS Service Action	peg count
TIFSSCRRLS	Number of MSUs processed by TIF and found to be blacklisted 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:

INPQRCV = INPQDSC + INPQTCPE + INPSREP

GPSRRCV = GPSRGTT + GPSRREP + GPSRERR

GPSRRCVPP = GPSRGTTPP + GPSRREPPP + GPSRERRPP

GPSRSMRCV = GPSRSMRLY + GPSRSMREP + 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 3-72 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers

Event Name	Description	Unit
APLRACK	Number of call related **LOCREQ** messages acknowledged.	peg count
APLRRLY	Number of call related **LOCREQ** messages relayed.	peg count
APNOCL	Number of non-call non-**LOCREQ** related messages relayed.	peg count
APNOCLGT	Number of non-call non-**LOCREQ** related messages that fell through to **GTT**.	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
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
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 3-72 (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
GPSRRLY	Number of call related (**SRI**-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
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
MNPCRD	Number of times Circular Route is Detected.	peg count

Table 3-72 (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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
TIFRANGEBL	Total number of MSUs processed by TIF and blacklisted by the FPFXRLS or NOCGPNRLS Service Action	peg count
TIFSBSCRBL	Total number of MSUs processed by TIF and found to be blacklisted 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 3-72 (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:

GPSRREP = ∑GPSRACK + ∑GPSRRLY+ ∑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","GPSRRE
P","GPSRERR","GPNOCL",
"GPNOCLGT","IS41LRERR","IS41LRMRCV","IS41LRRTRN","GPSRRCVPP","GPSRGT
TPP","GPSRREPPP",
"GPSRERRPP","APSMSRCV","APSMSREL","TINPMRCV","TINPMGEN","TINPERR","S
MSMOIRCV","SMSMOIERR",
"SMSMOGRCV","SMSMOGERR","GPSRSMREP","GPSRSMERR","GPSRSMRCV","APSMRQR
EP","APSMRQERR",
"INPQSCRD","MNPCRD",
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
```

- 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","GPSRRL
```

```
Y","GPNOCL",
"GPNOCLGT","GPSRACKPP","APLRACK","APLRRLY","APNOCL","APNOCLGT","TINP
MRCV","TINPMGEN",
"TINPERR","SMSMOIRCV","SMSMOIERR","SMSMOGRCV","SMSMOGERR","GPSRSMREP
","GPSRSMERR",
"GPSRSMRCV","APSMRQREP","APSMRQERR","APSMSRCV","INPQSCRD","INPQSREL"
,"INPMRCRD",
"MNPCRD","GPSRNACK",
"
001-001-001",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,
"
101-001-001",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,
. . . . .

"
201-001-001",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,
```

FTP Reports

- Daily System Wide Measurements

  FTP Example Output File Name:*mtcd-np_20080125_2400.csv*

  FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE",
"IVALSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 42.0.0-63.33.0","2010-08-20","00:00:57","EST
","DAILY MAINTENANCE MEASUREMENTS ON NP
SYSTEM","LAST","2010-08-19","00:00:00","24:00:00",1

"STATUS","INPQRCV","INPQDSC","INPQTCPE","INPSREP","GPSRRCV","GPSRGTT
","GPSRREP","GPSRERR",
"GPNOCL","GPNOCLGT","IS41LRERR","IS41LRMRCV","IS41LRRTRN","GPSRRCVPP
","GPSRGTTPP",
"GPSRREPPP","GPSRERRPP","APSMSRCV","APSMSREL","TINPMRCV","TINPMGEN",
"TINPERR","SMSMOIRCV",
"SMSMOIERR","SMSMOGRCV","SMSMOGERR","GPSRSMREP","GPSRSMERR","GPSRSMR
CV","APSMRQREP",
"APSMRQERR","INPQSCRD","MNPCRD"
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,
```

  Assuming each data line will be: 4 char status + 33 * (6 char data) + 2 = 204 chars

  Typical file size is:

Table 3-73 Typical File Size: `mtcd-np.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	378	+	204	=	832 bytes

- Daily Measurements Per SSP

Table 3-74 FTP Daily Maintenance (MTCD) SSP Column Header

Field Name	Description
SSP	Service switching point code

FTP Example Output File Name: **mtcd-ssp_20080125_2400.csv**

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE",
"IVALSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 42.0.0-63.33.0","2010-08-20","00:00:58","EST
","DAILY
MAINTENANCE MEASUREMENTS ON NP
SSP","LAST","2010-08-19","00:00:00","24:00:00",3
"STATUS","SSP","PC_TYPE","INPQSCONN","INPQSCONT","INPMRTR","INPMRGTT
","GPSRACK","GPSRRLY",
"GPNOCL","GPNOCLGT","GPSRACKPP","APLRACK","APLRRLY","APNOCL","APNOCL
GT","TINPMRCV",
"TINPMGEN","TINPERR","SMSMOIRCV","SMSMOIERR","SMSMOGRCV","SMSMOGERR"
,"GPSRSMREP","GPSRSMERR",
"GPSRSMRCV","APSMRQREP","APSMRQERR","APSMSRCV","INPQSCRD","INPQSREL"
,"INPMRCRD",
"MNPCRD","GPSRNACK"
"K","
001-001-001","ANSI",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,
"K","
101-001-001","ANSI",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,
"K","
201-001-001","ANSI",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,
```

Assuming each data line will be: 4 char status + 14 char SSP + 10 char PC type + 31 * (6 char data) + 2 = 216 chars

Typical file size is:

Table 3-75 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 3-76 Typical File Size: `mtcd-ssp.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	356	+	(216 * 200)	=	43806 bytes

STPLAN MTCD Report

Example Commands:

UI: `rept-meas:type=mtcd:enttype=stplan`

FTP: `rept-ftp-meas:type=mtcd:enttype=stplan`

Table 3-77 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) STPLAN Measurements

Event Name	Description	Unit
ENETALNERR	**Ethernet Alignment Error** - Number of packets not received over the **STPLAN** interface because of ethernet alignment errors.	peg count
ENETBUSBSY	**Ethernet Bus Busy -** Number of transmissions attempted when the STPLAN ethernet bus was busy.	peg count
ENETCRCERR	**EthernetCRC Error** - Number of packets not received on the STPLAN ethernet due to **CRC** errors.	peg count
ENETCOLERR	**Ethernet Collision Error -** Number of packets not transmitted by STPLAN because of excessive collisions on the STPLAN ethernet bus.	peg count
ENETOCTRCV	**Ethernet Octets Received** - The total number of octets received on the STPLAN ethernet interface.	peg count

Table 3-77 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) STPLAN Measurements

Event Name	Description	Unit
ENETOCTXMT	**Ethernet Octets Transmitted** - The total number of octets transmitted on the STPLAN ethernet interface.	peg count
ENETOVRERR	**Ethernet Receive Buffer Overflow Errors** - Number of packets not received by STPLAN because of a receive buffer overflow.	peg count
IPADDRERR	**IP Address Error**- The total number of inbound IP datagrams discarded on the STPLAN interface due to a bad destination address.	peg count
IPHDRERR	**IP Header Errors** - The total number of inbound IP datagrams discarded on the STPLAN interface due to header errors.	peg count
IPPROTERR	**IP Protocol Error** - Number of inbound IP datagrams discarded by STPLAN due to an error in the packet (invalid protocol).	peg count
SLANDISC1	**STPLAN Discarded 1** - Number of SLAN MSUs discarded by the LIM cards for STPLAN feature disabled and records aging off of the local queue.	peg count
SLANDISC2	**STPLAN Discarded 2** - Number of SLAN MSUs discarded by the SLAN cards for network problems and unreachable far end servers. During network outages, the SLAN cards will stop TVG/MFC grants or go into flow control. This causes the PDUs to be queued on the LIM cards, so the majority of discards will be pegged on SLANDISC1 under these circumstances.	peg count
SLANDSBLD	**STPLAN Disabled** - The duration that the STPLAN screening/copy feature was disabled.	msecs

Table 3-77 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) STPLAN Measurements

Event Name	Description	Unit
SLANSCRND	**STPLAN Screened** - Number of MSUs that were copied to the STPLAN interface after passing gateway screening.	peg count
SLANXMIT	**STPLAN Transmit** - Number of MSUs sent to the host destination.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
TCPCONNFLD	**TCP Connections Failed -** The total number of TCP connections that have failed on the STPLAN interface.	peg count
TCPRCVERR	**TCP Receive Error** - The total number of TCP segments received on the STPLAN interface in error.	peg count
TCPRSTSENT	**TCP Reset Sent** - The total number of TCP segments sent containing the reset (**RST**) flag on the STPLAN interface.	peg count
TCPSEGRCVD	**TCP Segment Received -** The total number of TCP segments received on the STPLAN interface.	peg count
TCPSEGSENT	**TCP Segment Sent -** The total number of TCP segments sent on the STPLAN interface.	peg count
TCPSEGXMT2	**TCP Segment Retransmitted -** The total number of TCP segments retransmitted on the STPLAN interface.	peg count

UI Example Output:

```
    tekelecstp 01-08-18 00:00:21 EST EAGLE 34.0.0
    TYPE OF REPORT: DAILY MAINTENANCE MEASUREMENTS ON STPLAN
    REPORT PERIOD: LAST
    REPORT INTERVAL:  01-08-17  00:00:00 THRU 23:59:59
    STPLAN-MTCD MEASUREMENTS
    SLANDSBLD  =         0, SLANDISC1  =         0, SLANDISC2
=         0,
    SLANSCRND  =         0, SLANXMIT   =         0, ENETALNERR
=         0,
```

```
    ENETCRCERR =         0, ENETCOLERR =         0, ENETBUSBSY
=         0,
    ENETOVRERR =         0, ENETOCTXMT =         0, ENETOCTRCV
=         0,
    TCPCONNFLD =         0, TCPSEGRCVD =         0, TCPSEGSENT
=         0,
    TCPSEGXMT2 =         0, TCPRCVERR  =         0, TCPRSTSENT
=         0,
    IPHDRERR   =         0, IPADDRERR  =         0, IPPROTERR
=         0
;
    tekelecstp 01-08-18 00:00:22 EST EAGLE 34.0.0
    END OF DAILY STPLAN-MTCD MEASUREMENT REPORT
;
```

FTP Example Output File Name: *mtcd-stplan_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
STPLAN","LAST","1999-01-16","00:00:00","24:00:00",1<cr><lf>
<cr><lf>
"STATUS","SLANDSBLD","SLANDISC1","SLANDISC2","SLANSCRND","SLANXMIT","ENE
TALNERR",
"ENETCRCERR","ENETCOLERR","ENETBUSBSY","ENETOVRERR","ENETOCTXMT","ENETOC
TRCV",
"TCPCONNFLD","TCPSEGRCVD","TCPSEGSENT","TCPSEGXMT2","TCPRCVERR","TCPRSTS
ENT",
"IPHDRERR","IPADDRERR","IPPROTERR"<cr><lf>
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Typical file size is:

Table 3-78 Typical File Size: `mtcd-stplan.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	271	+	130	=	651 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 3-79 lists the **EIR** events and their descriptions.

Table 3-79 Daily Maintenance (MCTD) and Hourly Maintenance (MTCH) EIR Measurements

Event Name	Description	Unit
IMEIRCV	Total number of **MAP**_CHECK_**IMEI** messages received	peg count
WHITEIMEI	Total number of searches that resulted in a match with a "white 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 "black listed" **IMEI**	peg count
BLKALIMEI	Total number of searches that resulted in a match with a "black listed" **IMEI**, but were allowed due to **IMSI** Check match	peg count
BLKNALIMEI	Total number of searches that resulted in a match with a "black 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. **NOMTCHIMEI** is pegged whenever an **IMEI** is not found in the database.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

The following equation applies:

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","U
NKNIMEI","NOMTCHIMEI"<cr><lf>
4294967295,4294967295,4294967295,4294967295,4294967295,4294967295,429496
7295, 4294967295<cr><lf>
```

Typical file size is:

Table 3-80 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 **GSMMAP** 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 **GSMMAP**/Enhanced **GSMMAP** 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 3-81 and Table 3-84 include the sum total of **MTP**-routed and **GTT**-routed messages for the particular event.

Table 3-81 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening System Wide Measurements

Event Name	Description	Unit
MSCRNPASS	Total number of messages that Passed **MAP** screening	count
MSCRNRJNE	Total number of messages that got Rejected by **MAP** screening because an entry was not found in the **MAP** screening table (i.e., rejected as System wide **MAP** Opcode action is **DISCARD**)	count
MSCRNRJFP	Total number of messages that got Rejected by **MAP** screening due to forbidden parameters in the message.	count
MSCRNPAFP	Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as **PASS**.	count
MSCRNPANE	Total number of messages, where an entry was not found in the **MAP** screening table but the Message was not rejected as screening action was marked as **PASS** (i.e., not rejected as System wide **MAP** Opcode action is **PASS**)	count
MSCRNRJOP	Total number of message that got rejected as Message **MAP** Opcode was not found in the **MAP** Opcode table (system wide action - **DISCARD** for the non matching **OPCODEs**)	count
MSCRNDUP	Total number of messages that were selected by **MAP** Screening for the Duplicate screening action.	count
MSCRNFOR	Total number of messages thate were selected by **MAP** Screening for the Forward screening action.	count
MSCRNDAD	Total number of messages thate were selected by **MAP** Screening for the Duplicate and Discard screening action.	count

Table 3-81 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening System Wide Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Server Entity Identification information in Table 3-82 is used to clarify the server. The Maintenance **MAP** Screening Per Server Measurements are applicable.

Table 3-82 Server Entity Identification

Entity Name	Description
SERVER	The screened origination address of the calling party address (**CGPA**) assigned when the **GSM MAP** screen was entered.
NP	The screened number plan value (**NPV**) assigned to the server address when the **GSM MAP** screen was entered. This field is filled with the default identifier * if no value was assigned.
NAI	The screened nature of address value (**NAIV**) assigned to the server address when the **GSM MAP** screen was entered. This field is filled with the default identifier * if no value was assigned.
OPCODE	The operation code number assigned when the **GSM MAP** opcode was entered.
Measurements does not report entries created for a range of addresses.	

Server Path Entity Identification information in Table 3-83 is used to clarify the path. The Maintenance **MAP** Screening Per Path Measurements are applicable.

Table 3-83 Path Entity Identification

Entity Name	Description

PATH	The screened origination address of the calling party address (**CGPA**-**NP**-**NAI**), or a combination of screened destination address of the called party address (**CDPA**-**NP**-**NAI**) and the screened origination addresses assigned when the **GSM MAP** screen was entered.
	The possible fields within the path are delimited as follows to allow for efficient sorting:
	• 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 carat (^) and the destination address is preceded by a "greater than" sign (>):
	`^CGPA-NP-NAI>CDPA-NP-NAI`
	• When only the origination address is present (occurs when the **CDPA** is a default wildcard) it is preceded by a "less than" sign (<):
	`<CGPA-NP-NAI`

CGPA	The calling party global title address assigned when the **GSM MAP** screen was entered. Any or all of the three fields (**GTA**, **NP**, **NAI**) can be filled with the identifier (*) if a wildcard value is assigned for that field. There is no default wildcard value for the **CGPA**.
CDPA	The called party global title address assigned when the **GSM MAP** screen was entered. Any or all of the three fields (**GTA**, **NP**, **NAI**) can be filled with the identifier (*) if a wildcard value is assigned for that field. If the **CDPA** value is not assigned, the default wildcard value, which is not printed, is assumed.
NP	The screened number plan value (**NPV**) assigned to the path address when the **GSM MAP** screen was entered. The identifier (*) is used to signify a wildcard **NP**.
NAI	The screened nature of address value (**NAIV**) assigned to the path address when the **GSM MAP** screen was entered. The identifier (*) is used to signify a wildcard **NAI**.
OPCODE	The operation code number assigned when the **GSM MAP** 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 3-84 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening Per Server Measurements

Event Name	Description	Unit
MSCRNPASS	Total number of messages that Passed **MAP** screening	count
MSCRNRJFP	Total number of messages that got Rejected by **MAP** screening due to forbidden parameters in the message.	count
MSCRNDUP	Total number of messages per server that were selected by **MAP** Screening for the Duplicate screening action.	count
MSCRNFOR	Total number of messages per server that were selected by **MAP** Screening for the Forward screening action.	count
MSCRNDAD	Total number of messages per server that were selected by **MAP** Screening for the Duplicate screening action.	count
MSCRNPAFP	Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as **PASS**.	count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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",MSCRNPA
FP
"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","IVA
LSTART",
"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","MS
CRNPANE",
"MSCRNFOR","MSCRNDUP","MSCRNDAD"
"K",0,0,0,0,0,0,0,0,0,
```

Typical file size is:

Table 3-85 Typical File Size: `mtcd-map.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	116	+	60	=	426 bytes

Daily MAP Screening Measurements Per Path

FTP Example Output File Name: *mtcd-path_19990116_2400.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 42.0.0-63.33.0","2010-08-21","00:00:59","EST
","DAILY MAINTENANCE MEASUREMENTS ON MAPSCRN PER-
SERVER","LAST","2010-08-20","00:00:00","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","MSCRNP
AFP"
"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 3-86 Typical File Size: `mtcd-path.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	251	+	1640	=	2141 bytes

SCTPASOC MTCD Report

Command Examples

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

Measurement Events

Table 3-87 lists the **SCTPASOC** events and their descriptions.

Table 3-87 Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
ACTVESTB	**SCTP Association Active Establishments** - 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	**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

Table 3-87 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC 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).	peg count
CNTLCHKS	**SCTP Control Chunks Sent** - 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 **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.	peg count
ECASNEST	Number of times the association transitioned out of the Established state.	peg count

Table 3-87 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
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
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
PASVESTB	**SCTP Association Passive Establishments** - 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	**SCTP Association Peer Endpoint Failures** - The number of peer endpoint failure detection events for the association as triggered by the crossing of threshold Assoc. Max. Retrans.	peg count

Table 3-87 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
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
SCPKTRCV	**SCTP Packets Received** - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included. 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 3-87 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
SCPKTSNT	**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. 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.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	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,
    CNTLCHKS   =       400, ORDCHKSN   =       400, CNTLCHKR
=         0,
    ORDCHKRC   =         0, GAPACKSR   =         0, ACTVESTB
=         0,
    PASVESTB   =         0, ASOCABTD   =         0, ASOCSHTD
=         0,
    PEERFAIL   =         0, ASMAXRTO   =         0


;
```

FTP Reports

Table 3-88 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","IVA
LSTART",
"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"
,"SCPKTSNT",
"SCPKTRCV","SCOCTSNT","SCOCTRCV","CNTLCHKS","ORDCHKSN","CNTLCHKR","ORDCH
KRC",
"GAPACKSR","ACTVESTB","PASVESTB","ASOCABTD","ASOCSHTD","PEERFAIL","ASMAX
RTO"<cr><lf>

 "K","A1101",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","A1102",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","A1103",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<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 3-89 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 3-90 lists the **SCTPCARD** events and their descriptions.

Table 3-90 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements

Event Name	Description	Unit
ACTVESTB	**SCTP Association Active Establishments** - 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	**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).	peg count
CNTLCHKS	**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 yet been formed.	peg count
DATCHKRC	Number of **SCTP DATA chunks received** from the remote SCTP peer (excluding duplicates and discards).	peg count

Table 3-90 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) 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
PASVESTB	**SCTP Association Passive Establishments** - 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	**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

Table 3-90 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements

Event Name	Description	Unit
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 been formed.	octets
SCPKTRCV	**SCTP Packets Received** - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included. 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	**SCTP Packets Received With Checksum Error** - The number of SCTP packets received from remote peers with an invalid checksum	peg count
SCPKTSNT	**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. 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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-90 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements

Event Name	Description	Unit
UNASCTPK	**Unassociated (Out-of-the-Blue) SCTP Packets** - 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. 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,
    CNTLCHKS   =       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","IVA
LSTART","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","S
CPKTRER",
"UNASCTPK","SCOCTSNT","SCOCTRCV","CNTLCHKS","ORDCHKSN","CNTLCHKR","ORDCH
KRC","ACTVESTB",
"PASVESTB","ASOCABTD","ASOCSHTD"<cr><lf>
"K","1101",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","1102",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","1103",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 + 7 char location + 17*(6 char data) + 2 = 115 chars

For a report of 80 cards, typical file size is:

Table 3-91 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 3-92 lists the **UA** events and their descriptions.

Table 3-92 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) 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

Table 3-92 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) UA Measurements

Event Name	Description	Unit
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	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	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 3-92 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) 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 Reports

```
    stdcfg2b 07-12-31 06:07:04 EST  UNKNOWN 38.0.0-XX.XX.0
    UA-MTCD MEASUREMENTS: AS: appsrvr1            ASSOC: assoc1

    These measurements are from 07-12-31, 00:00:00 through 23:59:59.
    RXDATAMS   =       100, RXDATAOC   =      4000, TXDATAMS   =
200,
    TXDATAOC   =      8000, UANMMSGT   =         0, UANMOCTT
=         0,
    UANMMSGR   =         0, UANMOCTR   =         0, UAASPMTX
=         0,
    UAASPMRX   =         0, UASSNMTX   =         0, UASSNMRX
=         0,
    UAMGMTTX   =         0, UAMGMTRX   =         0, UACNGCNT
=         0,
    UACNGTIM   =         0, UAASPNAC   =         0, UAASPNAT
=         0,
    RXMLRCMS   =         0


;
```

FTP Reports

FTP Example Output File Name: *mtcd-ua_20071114_2400.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND",
"NUMENTIDS"<cr><lf>
"tekelecstp","37.5.0-58.25.0","2007-11-15","02:01:10","EST","DAILY
MAINTENANCE MEASUREMENTS ON
UA","LAST","2007-11-14","00:00:00","24:00:00",3<cr><lf>
<cr><lf>
"STATUS","AS","ASSOC","RXDATAMS","TXDATAMS","RXDATAOC","TXDATAOC","RXMLR
CMS",
"UAASPMRX","UAASPNAC","UAASPNAT","UACNGCNT","UACNGTIM","UAMGMTRX","UAMGM
TTX",
"UANMOCTR","UANMOCTT","UANMMSGR","UANMMSGT","UASSNMRX","UASSNMTX","RXMLR
CMS"<cr><lf>
"K","as1101","a1101",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","as1102","a1102",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","as1103","a1103",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Assuming each data line will be:

4 char status + 15 char AS + 15 char ASSOC + 19*(6 char data) + 2 = 150 chars

For a report of 1000 Application Servers, typical file size is:

Table 3-93 Typical File Size: `mtcd-ua.csv`

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

VFLEX MTCD 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:

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

Example Commands:

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

Table 3-94 Daily Maintenance V-Flex System Wide Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
VFCNCTRSP	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 3-95 Daily Maintenance V-Flex Per SSP Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-95 (Cont.) Daily Maintenance V-Flex Per SSP Measurements

Event Name	Description	Unit
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","IVA
LSTART","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 3-96 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","IVA
LSTART","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”,“VFIMSISDN”<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 3-97 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 3-98 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 3-99 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
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
PC TYPE	The TYPE of the point code. 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 3-100 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 3-101 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 3-102 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 3-103 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
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","AIQSUCC","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 3-104 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”,“AIQSUCC”,“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 3-105 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 3-106 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:mtchgttapath=on:mtcdgttapath=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=gttapath[: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 3-107 MTCD/MTCH GTT Actions System-Wide Measurements

Event Name	Description	Unit
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 *forwarded* by Forward GTT Action.	peg count
GTTASET	**GTT Actions** - The total number of messages *receiving* any GTT action.	peg count
GTTASRVGFLX	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

Table 3-108 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. This register shall be pegged for a message if either of these occurs: • No GTT Action set was associated with the final GTT translation • No GTT Action in the associated GTT Action set could be executed successfully (for any reason).	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. 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 - The total number of messages forwarded by Forward GTT Action.	peg count
GTTASRVGFLX	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

Daily GTTAPATH Reports

The command `rept-ftp-meas:type=mtcd:enttype=gttapath` produces the system-wide report and the per-path report shown here.

System Wide Report

- Example Output File Name: *mtcd-gttasys_20140228_2400.csv*
- Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE",
"IVALSTART","IVALEND","NUMENTIDS"
"tekelecstp","EAGLE5
46.3.0.0.0-66.11.0","2015-10-06","00:10:33","EST ","DAILY
MAINTENANCE MEASUREMENTS ON GTTACTION
SYSTEM","LAST","2015-10-06","00:00:00","24:00:00",1

"STATUS","GTTADISC0","GTTADISC1","GTTADISC2","GTTADUP","GTTAFWD","GT
TASET","GTTASRVGFLX",
"GTTASRVGPRT","GTTASRVSMSR","GTTASFLOG","GTTAMSVTO","GTTAMSVDI","GTT
AMSVNA"
"K",0,0,0,0,0,0,0,0,0,0,0,0,0
```

Assuming each data line will be: 4 char status + 13 * (6 char data) + 2 = 84 chars, the typical file size is:

Table 3-109 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 3-110 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 *or*

Table 3-110 (Cont.) Entity Identification (PATH-CDSN-SCDGTA-CGSN-SCGGTA-OPSN-PKG-OPCODE-<A>/F)

String Format	Definition
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 *or*
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 (>). 'F' stands for ANSI TCAP family field assigned if package type is ANSI TCAP when GTTACT Path was entered. 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",
"IVALSTART","IVALEND","NUMENTIDS"
```

```
"tekelecstp","EAGLE5
46.3.0.0.0-66.11.0","2015-09-06","00:10:35","EST ","DAILY
MAINTENANCE MEASUREMENTS ON GTTACTION PER-
PATH","LAST","2015-09-06","00:00:00","24:00:00",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","GTTASRVGFL
X",
"GTTASRVGPRT","GTTASRVSMSR","GTTASFLOG","GTTAMSVTO","GTTAMSVDI","GTT
AMSVNA"
"K","path1-cdlim1-12345-cglim2-123-oplim3-ituuni-
<1-1-1-1-1-1-1>",0,0,0,0,0,0,0,0,0,0,0,0,0
"K","gttp5-#-#-cglim2-126-opname3-bgn-10",0,0,0,0,0,0,0,0,0,0,0,0,0
"K","p6-#-#-cglim6-1234-#-#-#",0,0,0,0,0,0,0,0,0,0,0,0,0
```

Assuming each data line will be: 4 char status + 169 char (PATH-CDSN-SCDGTA-CGSN-CGGTA-OPSN-PKG-OPCODE-<A>/F) + 13 * (6 char data) + 2 = 253 chars, the typical file size is:

Table 3-111 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 3-112 Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
INVITERCVD	The total number of SIP invite received (Including re-transmits)	peg count
CANCRCVD	Number of cancel received	peg count

Table 3-112 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
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
INVALIDDN	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 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,
PROVRSPSENT=          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","IVA
LSTART","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","PROVRSPSENT","OKRSPSENT","RDRCTSENT","
CLNFAILSENT","SRVERRSENT","NPSUCC",
"NPBYPASSSUC","INVALIDDN","NPRNNF"
"K",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 3-113 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 3-114 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 3-114 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 "white 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 "black listed" IMEI.	Peg count
BLKALIMEI	Total number of searches that resulted in a match with a "black listed" IMEI, but were allowed due to IMSI Check match.	Peg count

Table 3-114 (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 "black 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: **K** - indicates good data **I** - indicates incomplete interval **N** - 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","IVA
LSTART","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","ECRRCV","WHITEIMEI","GRAYIMEI","BLACKIMEI","BLKALIMEI","BLKNAL
IMEI","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 3-115 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","IVA
LSTART","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","ECRRCV","WHITEIMEI","GRAYIMEI","BLACKIMEI","BLKALIMEI
","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 3-116 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 3-117 lists the events added per system.
- Per card (ENUMCARD)
  Table 3-118 lists the events added for each card.
- Per entity (ENUMENT)
  Table 3-119 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 3-120 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 3-117 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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	Status

Table 3-118 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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	Status

Table 3-119 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM Entity Level Measurements

Event Name	Description	Unit
ENUMENTMSGS	Total number of ENUM queries received or ENUM responses sent per entity	Peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	Status

Table 3-120 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: **K** indicates good data **I** indicates incomplete interval **N** 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","IVA
LSTART","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
","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 3-121 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","IVA
LSTART","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","ENU
MCQRRJTD","ENUMCCNGDSC","ENUMCACLDSC",
"ENUMCTXRC0","ENUMCTXRC1","ENUMCTXRC2","ENUMCTXRC3","ENUMCTXRC4","ENUMCT
XRC5","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 3-122 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","IVA
LSTART","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 3-123 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","IVA
LSTART","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","ENUMACLR
C2","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 3-124 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 3-125 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","IVA
LSTART","IVALEND","NUMENTIDS"<cr><lf>
"tekelecstp","EAGLE5 46.3.0.0.0-66.8.0","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 3-126 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:

- MTCD - Daily measurement report type

Example Commands:

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

Table 3-127 Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) 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","IVA
LSTART","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 3-128 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 (MTCDTH)

The Maintenance Day-to-Hour (**MTCDTH**) report provides the current value of various maintenance measurements accumulating during the day.

Entity Types:STP, **Link**, Lnkset, **STPLAN**, 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 MTCDTH Report

Example Commands:

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

Table 3-129 Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
CRSYSAL	**Critical System Alarms** - The total number of critical system alarms.	peg count
DRDCLFLR	**Cumulative Duration ofSignaling Link Declared Failures All Types** - The cumulative duration of all link failures.	seconds

Table 3-129 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
DURLKOTG	**Duration ofLink Outage** - The total time a link was unavailable to **MTP** level 3 for any reason.	seconds
DTAMSULOST	**DTAMSUsLost** - The total number of **MSUs** that were discarded because the redirect function was turned off or the original **MSU** was too large to be encapsulated.	peg count
GFGTMATCH	**G-FlexGTTs with Match** - The total number of **G-Flex Global Title Translation** successfully completed.	peg count
GFGTNOMCH	**G-FlexGTTs No Match** - The total number of **G-Flex** Global Title Translations completed that did not match an entry in the **GSM** database.	peg count
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
GTTPERFD	**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**. *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.	peg count

Table 3-129 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
GTTUN0NS	**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-Flex**, **INP** and **GTT MSUs** that did not match on new selectors (**GTI**,**NP**,**NAI**) in addition to ones not matching on **TT**.	peg count
GTTUN1NT	**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. In general, this register contains the sum of the **GTTUN1NT** register in the systot-tt report and the **CGGTTUN1NT**	peg count
MSIDPNOMCH	**MSUs Relayed** - Total number of IDP messages relayed to their destination.	peg count
MSIDPMATCH	**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.	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
MSINVSIF	**MSUs Discarded – InvalidSIF** - Number of **MSUs** that have been received and discarded because of an invalid **SIF**.	peg count

Table 3-129 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
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
MASYSAL	**Major system alarms** - The total number of major system alarms.	peg count
MISYSAL	**Minor system alarms** - The total number of minor system alarms.	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
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 an **SCCP** routing failure. Also includes **G-Flex**, **INP MSUs** that got a match from either the **G-Flex**, **INP** or **GTT DB** but cannot be routed due to **PC** or **SS** congestion, **PC** or **SS** unavailable, **SS** unequipped, or an unqualified error.	peg count
MSUSCCPFLR	**MSUSCCP Failure** - Total **MSUs** Discarded Due to **SCCP** Conversion Failure.	peg count

Table 3-129 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
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 3-129 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
MSULOST3	**MSUs Discarded –** 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** – • 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	**MSUs Discarded – Rcv Queue Full** - Number of **MSUs** discarded because the receive queue was full.	peg count
MSULOST5	**MSUs Discarded –LIM Init** - Number of **MSUs** discarded while the **LIM** card was initializing.	peg count

Table 3-129 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) 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
MTPRESTS	**MTP Restarts Initiated** - Number of times **MTP** restart was initiated by the **STP**. The count does not include the number of **MTP** restarts initiated as a result of messages from adjacent nodes.	peg count
OMSINVDPC	**MSUs Originated** - Invalid DPC - The 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. 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	**OversizedMTP 3 Messages** - Oversized **MTP** 3 messages exceeding 272 octets (level 3) that are received by an **HSL** and are discarded.	peg count
SCCPLOOP	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.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-129 (Cont.) Daily Maintenance (MTCD) and Day-To-Hour Maintenance (MTCDTH) Measurements

Event Name	Description	Unit
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
TTMAPPF	**Translation Type Mapping Translations Performed** - The total number of **Translation Type** Mapping translations performed (that is, a mapped **SS7** message translation type was found for the existing **SS7** 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	**X-List Entry Not Created** - The total number of times that an X-List entry was not created because the **ELEI** for the cluster was set to 'yes'.	peg count
XLXTSPACE	**X-List Entry Not Created** - 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-MTCDTH MEASUREMENTS

    These measurements are from 11-01-23, 00:00:00 through 00:59:59.
    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   =       888, CRSYSAL
=         2,
    MASYSAL    =         3, MISYSAL    =        19, XLXTSPACE
=         0,
    XLXTELEI   =         0, TTMAPPF    =         0, MSUDSCRD
=         0,
    OVSZMSG    =         0, GFGTMATCH  =         0, GFGTNOMCH
=         0,
    GFGTNOLKUP =         0, MSUSCCPFLR =         0, MSSCCPDISC
=         0,
    MSIDPNOMCH =         0, MSIDPMATCH =         0, MSULOST6
=         0,
    SCCPLOOP   =         0, UDTXUDTF   =         0

;
```

FTP Reports

FTP Example Output File Name: *mtcdth-stp_19990117_1500.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 43.0.0-63.49.0","2011-01-23","01:11:39","MST ","DAY-
TO-HOUR MAINTENANCE
MEASUREMENTS ON STP","LAST","2011-01-23","00:00:00","01:00:00",1

"STATUS","ORIGMSUS","TRMDMSUS","THRSWMSU","MTPRESTS","DTAMSULOST","MSINV
DPC","MSINVSIO","OMSINVDPC",
"MSINVLNK","MSINVSIF","MSNACDPC","MSINVSLC","GTTPERFD","GTTUN0NS","GTTUN
1NT","MSSCCPFL","MSULOST1",
"MSULOST2","MSULOST3","MSULOST4","MSULOST5","DRDCLFLR","DURLKOTG","CRSYS
AL","MASYSAL","MISYSAL",
"XLXTSPACE","XLXTELEI","TTMAPPF","MSUDSCRD","OVSZMSG","GFGTMATCH","GFGTN
OMCH","GFGTNOLKUP",
"MSUSCCPFLR","MSSCCPDISC","MSIDPNOMCH","MSIDPMATCH","MSULOST6","SCCPLOOP
","UDTXUDTF"
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,888,2,3,19,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0
```

Typical file size:

Table 3-130 Typical File Size: `mtcdth-stp.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	583	+	252	=	985 bytes

LINK MTCDTH Report

Certain registers are reported for MTP2, SAAL, IPVL, and IPVHSL classes. These registers are summarized in Table 3-131.

Table 3-131 Registers Reported per LINK CLASS for Daily (MTCD) and Day-To-Hour (MTCDTH) 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
LMSUOCTRCV			X	X	X
LMSUOCTTRN			X	X	X
LMSURCV			X	X	X
LMSURCVDSC			X	X	X
LMSUTRN			X	X	X
LMSUTRNDSC			X	X	X
LNKAVAIL	X	X	X	X	X
M2PLKNIS					X
M2PUDMRC					X
M2PUDMTR					X
M2PUDOCR					X
M2PUDOCT					X

Table 3-131 (Cont.) Registers Reported per LINK CLASS for Daily (MTCD) and Day-To-Hour (MTCDTH) Link Measurements

Event Name	MTP2 Class	SAAL Class	IPVL Class	IPVLGW Class	IPVHSL Class
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				
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				
PCRN1N2EXC	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 3-132 Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
ACHGOVRS	**Number of Automatic Changeovers -** Number of times that a changeover procedure was used to divert traffic from one link to alternative links.	peg count
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. Reported for MTP2 Links only.	seconds
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). Reported for MTP2 and IPVHSL class 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.	seconds
DRLKINHB	**Duration Link Inhibited -** The cumulative duration that a link was inhibited at the local or far-end network element.	seconds
ECCNGLV1	**Event Count for Entering Level 1 Link Congestion -** The total number of times that link congestion level 1 was entered.	peg count

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
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
FARMGINH	**Number of Far-End Management Inhibits -** 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 IPSG card to an SCCP card.	peg count
GTTONLIM	Total number of messages on which GTT is performed on a GTT enabled IPSG card.	peg count
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
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

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
LMSURCV	The number of **large MSUs received**. 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 **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
M2PUDOCR	The number of M2PA UDM octets received.	octets
M2PUDOCT	The number of M2PA User Data Message (UDM) octets transmitted.	octets

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
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. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 message bytes.	octets
MOCTTRAN	**Message 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. • 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 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
MSGDISC0	For ANSI links: **Priority 0 MSUs Discarded Due to Congestion** - The total number of priority 0 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . **Note:** • 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. • 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.	peg count
MSGDISC1	For ANSI links: **Priority 1 MSUs Discarded Due to Congestion** - The total number of priority 1 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
MSGDISC2	For ANSI links: **Priority 2 MSUs Discarded Due to Congestion** - The total number of priority 2 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGDISC3	For ANSI links: **Priority 3 MSUs Discarded Due to Congestion** - The total number of priority 3 MSUs discarded due to congestion (any level). • For SAAL class links, applies to MTP level 3 messages . For ITU links: this register is not applicable. **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.	peg count
MSGSRCVD	**MSUs Received -** Total number of **MSUs** received, including those for which retransmission has been requested. • For SAAL, IPVL, IPVHSL, and IPVLGW class linksets - applies to MTP level 3 messages.	peg count

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
MSGSTRAN	**MSUs Transmitted** - Total number of **MSUs** transmitted to the far-end, including retransmissions. • 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
MSURCERR	Number of **Message signal Units received in error - bad CRC**. This register applies to MTP2 links only.	peg count
MSURETRN	**MSUs Retransmitted** - Number of **MSUs** retransmitted because of errors.	peg count
NDCFLABN	**Number of Signaling Link Failures - Abnormal FIB/BSN** - 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.	peg count

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
NDCFLXDA	**Number of Signaling Link Failures - Excessive Delay of Acknowledgment** - Number of times a signaling link was out-of-service due to an excessive delay in acknowledgments. • For MTP2and IPVHSL class links, level 2 t7 expired level • For SAAL 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** • 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 • For SAAL class links, the number of times timer NO_CREDIT expired • 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. Reported for MTP2 and SAAL links only.	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 and IPVLGW class links.	peg count

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
NEGACKS	**Number of Negative Acknowledgments Received -**Number of times the BSN in an MSU was inverted, indicating a retransmission request. This register is NOT applicable to HSLs.	peg count
NMLCLPRO	**Number of Local Processor Outages -** The total number of local processor outages in this **STP**.	peg count
NMDCLFLR	**Number ofSignaling LinkDeclared Failures All Types -** The cumulative total of all link failures.	peg count
NMFEPRO	**Number of Far-End Processor Outages** - Number of far-end processor outages that have occurred. Reported for MTP2 links only	peg count
OCTRETRN	**Number of MSU octets retransmitted.** This register is NOT reported for SAAL class links.	peg count
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. This register is not applicable to HSLs.	peg count
SDPDURTR	**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. This measurement replaces the MTP level 2 negative acknowledgments.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-132 (Cont.) Maintenance Daily (MTCD) and Maintenance Day-to-Hour (MTCDTH) Link Measurements

Event Name	Description	Unit
SURCVERR	**Number of Signal Units Received In Error -**Number of Signal Units Received In Error - The number of signal units received with checksum errors, indicating transmission errors. • For MTP2 class links, applies to FISUs, LSSUs, and MSUs. • For SAAL class links, this register reflects the number of SSCOP PDUs received with any errors .	peg count
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
TLNKACTV	**Link active time** - total time the link is active and transmitting MSUs. • For SAAL class links, the time the link is active and giving MSUs to SAAL for transmission. • For IP7 links, TLNKACTV is based on 10MB Ethernet link speed. Hence the report will be relative to 10MB/sec.	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 3-133 FTP MTCDTH 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*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-12","00:14:53","EST
","DAILY MAINTENANCE
MEASUREMENTS ON
LINK","LAST","2012-02-11","00:00:00","24:00:00",5<cr><lf>
<cr><lf>
"STATUS","LSN","LOC","LINK","LNKTYPE","MSGSTRAN","MSGSRCVD","MSURETRN","
OCTRETRN","MOCTTRAN","MOC
TRCVD","TDCNGLV1","TDCNGLV2","TDCNGLV3","ECCNGLV1","ECCNGLV2","ECCNGLV3"
,"MSGDISC0","MSGDISC1",
"MSGDISC2","MSGDISC3","TLNKACTV","LNKAVAIL","ACHGOVRS","NEARMGIH","FARMG
INH","NMDCLFLR","DRDCLFLR",
"SURCVERR","NEGACKS","DRLKINHB","NDCFLABN","NDCFLXDA","NDCFLXER","NDCFLX
DC","NMFEPRO","NMLCLPRO",
"DRFEPRO","DRLCLPRO","MSURCERR","DRBSYLNK","PCRN1N2EXC","SDPDURTR","LMSU
TRN","LMSURCV","LMSUOCTTRN",
"LMSUOCTRCV","LMSUTRNDSC","LMSURCVDSC","M2PUDMTR","M2PUDOCT","M2PUDMRC",
"M2PUDOCR","M2PLKNIS",
"ECLNKCB","ECLNKXCO"<cr><lf>
"K","hcmimt1","1203","A  ","MTP2-
UNCH",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","ipsg","1103","A
","IPVL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","mtp2","1104","A
","MTP2",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

```
"K","ssedcm1","1105","A
","IPVHSL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1281,0,0<cr><lf>
"K","saal","1112","A
","SAAL",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Assuming each data line will be:

4 char status + 13 char LSN + 7 char LOC + 6 char LINK + 12 char LKNTYPE + 51*(6 char data) + 2 = 350 chars

Table 3-134 Typical File Size: `mtcdth-link.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	605	+	175,000	=	175,855 bytes

LNKSET MTCDTH Report

Command Examples

- UI

  ```
  rept-meas:type=mtcdth:enttype=lnkset:lsn=ayyyyyyy
  ```

- FTP

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

Table 3-135 Maintenance Day-to-Hour Linkset Measurements

Event Name	Description	Unit
SCCPLOOP	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.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
ZTTMAPI	**Translation Type Mapping Translation Incoming** - The total number of **Translation Type** Mapping translations performed on incoming Message Signal Units (**MSUs**) for the specified linkset.	peg count

Table 3-135 (Cont.) Maintenance Day-to-Hour Linkset Measurements

Event Name	Description	Unit
ZTTMAPO	**Translation Type Mapping Translation Outgoing** - The total number of **Translation Type** Mapping translations performed on outgoing Message Signal Units (**MSUs**) for the specified linkset.	peg count

Measurement Events

Table 3-136 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) Linkset Measurements

Event Name	Description	Unit
SCCPLOOP	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.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
ZTTMAPI	**Translation Type Mapping Translation Performed** - **MSUs** Received on the Gateway Linkset - The total number of **Translation Type** Mapping translations performed for incoming Message Signal Units (**MSUs**) received on the specified linkset.	peg count
ZTTMAPO	**Translation Type Mapping Translation Performed** - **MSUs** Transmitted on the Gateway Linkset - The total number of translations performed on outgoing Message Signal Units (**MSUs**) 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","IVA
LSTART","IVALEND","NUMENT
IDS"<cr><lf>
```

```
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-12","01:02:37","EST
","DAY-TO-HOUR 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 3-137 Typical File Size: `mtcdth-lnkset.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	58	+	24,500	=	24,808 bytes

STPLAN MTCDTH Report

> **Note:**
>
> The peg counts for**STPLAN** measurements have the possibility of rolling over during periods of high**STPLAN** message transmit and receive. On the measurement reports these measurements show up as negative numbers. This indicates**STPLAN** transmit and receive measurements have values greater than four gigabytes of data.

Example Commands:

UI: `rept-meas:type=mtcdth:enttype=stplan`
FTP: `rept-ftp-meas:type=mtcdth:enttype=stplan`

Table 3-138 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) STPLAN Measurements

Event Name	Description	Unit
ENETALNERR	**Ethernet Alignment Error** - Number of packets not received over the **STPLAN** interface because of ethernet alignment errors.	peg count

Table 3-138 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) STPLAN Measurements

Event Name	Description	Unit
ENETBUSBSY	**Ethernet Bus Busy -** Number of transmissions attempted when the STPLAN ethernet bus was busy.	peg count
ENETCRCERR	**EthernetCRC Error** - Number of packets not received on the STPLAN ethernet due to **CRC** errors.	peg count
ENETCOLERR	**Ethernet Collision Error -** Number of packets not transmitted by STPLAN because of excessive collisions on the STPLAN ethernet bus.	peg count
ENETOCTRCV	**Ethernet Octets Received** - The total number of octets received on the STPLAN ethernet interface.	peg count
ENETOCTXMT	**Ethernet Octets Transmitted** - The total number of octets transmitted on the STPLAN ethernet interface.	peg count
ENETOVRERR	**Ethernet Receive Buffer Overflow Errors** - Number of packets not received by STPLAN because of a receive buffer overflow.	peg count
IPADDRERR	**IP Address Error**- The total number of inbound IP datagrams discarded on the STPLAN interface due to a bad destination address.	peg count
IPHDRERR	**IP Header Errors** - The total number of inbound IP datagrams discarded on the STPLAN interface due to header errors.	peg count
IPPROTERR	**IP Protocol Error** - Number of inbound IP datagrams discarded by STPLAN due to an error in the packet (invalid protocol).	peg count
SLANDISC1	**STPLAN Discarded 1** - Number of SLAN MSUs discarded by the LIM cards for STPLAN feature disabled and records aging off of the local queue.	peg count

Table 3-138 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) STPLAN Measurements

Event Name	Description	Unit
SLANDISC2	**STPLAN Discarded 2** - Number of SLAN MSUs discarded by the SLAN cards for network problems and unreachable far end servers. During network outages, the SLAN cards will stop TVG/MFC grants or go into flow control. This causes the PDUs to be queued on the LIM cards, so the majority of discards will be pegged on SLANDISC1 under these circumstances.	peg count
SLANDSBLD	**STPLAN Disabled** - The duration that the STPLAN screening/copy feature was disabled.	msecs
SLANSCRND	**STPLAN Screened** - Number of MSUs that were copied to the STPLAN interface after passing gateway screening.	peg count
SLANXMIT	**STPLAN Transmit** - Number of MSUs sent to the host destination.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
TCPCONNFLD	**TCP Connections Failed -** The total number of TCP connections that have failed on the STPLAN interface.	peg count
TCPRCVERR	**TCP Receive Error** - The total number of TCP segments received on the STPLAN interface in error.	peg count
TCPRSTSENT	**TCP Reset Sent** - The total number of TCP segments sent containing the reset (**RST**) flag on the STPLAN interface.	peg count
TCPSEGRCVD	**TCP Segment Received -** The total number of TCP segments received on the STPLAN interface.	peg count

Table 3-138 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) STPLAN Measurements

Event Name	Description	Unit
TCPSEGSENT	**TCP Segment Sent -** The total number of TCP segments sent on the STPLAN interface.	peg count
TCPSEGXMT2	**TCP Segment Retransmitted -** The total number of TCP segments retransmitted on the STPLAN interface.	peg count

UI Reports

UI Example Output:

```
    tekelecstp 01-08-18 00:00:21 EST EAGLE 34.0.0
    TYPE OF REPORT: DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON STPLAN
    REPORT PERIOD: LAST
    REPORT INTERVAL:  01-08-17  00:00:00 THRU 23:59:59
    STPLAN-MTCD MEASUREMENTS
    SLANDSBLD  =         0, SLANDISC1  =         0, SLANDISC2
=         0,
    SLANSCRND  =         0, SLANXMIT   =         0, ENETALNERR
=         0,
    ENETCRCERR =         0, ENETCOLERR =         0, ENETBUSBSY
=         0,
    ENETOVRERR =         0, ENETOCTXMT =         0, ENETOCTRCV
=         0,
    TCPCONNFLD =         0, TCPSEGRCVD =         0, TCPSEGSENT
=         0,
    TCPSEGXMT2 =         0, TCPRCVERR  =         0, TCPRSTSENT
=         0,
    IPHDRERR   =         0, IPADDRERR  =         0, IPPROTERR
=         0
;
    tekelecstp 01-08-18 00:00:22 EST EAGLE 34.0.0
    END OF ON-DEMAND STPLAN-MTCDTH MEASUREMENT REPORT
;
```

FTP Reports

FTP *Example Output File Name: mtcdth-stplan_19990117_1500.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",
"DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON STPLAN","LAST",
"1999-01-17","00:00:00","15:00:00",1<cr><lf>
<cr><lf>
"STATUS","SLANDSBLD","SLANDISC1","SLANDISC2","SLANSCRND","SLANXMIT","ENE
TALNERR",
```

```
"ENETCRCERR","ENETCOLERR","ENETBUSBSY","ENETOVRERR","ENETOCTXMT","ENETOC
TRCV",
"TCPCONNFLD","TCPSEGRCVD","TCPSEGSENT","TCPSEGXMT2","TCPRCVERR","TCPRSTS
ENT",
"IPHDRERR","IPADDRERR","IPPROTERR"<cr><lf>
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Typical file size is:

Table 3-139 Typical File Size: `mtcdth-stplan.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	282	+	260	=	792 bytes

SCTPASOC MTCDTH Report

Command Examples

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

Measurement Events

Table 3-140 lists the **SCTPASOC** events and their descriptions.

Table 3-140 Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
ACTVESTB	**SCTP Association Active Establishments** - 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

Table 3-140 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) 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
CNTLCHKR	**SCTP Control Chunks Received** - The number of SCTP control chunks received from the remote peer (excluding duplicates).	peg count
CNTLCHKS	**SCTP Control Chunks Sent** - 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 **SCTP DATA chunks received** from the remote SCTP peer (excluding duplicates and discards).	peg count

Table 3-140 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
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.	peg count
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
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
PASVESTB	**SCTP Association Passive Establishments** - 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

Table 3-140 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
PEERFAIL	**SCTP Association Peer Endpoint Failures** - The number of peer endpoint failure detection events for the association as triggered by the crossing of threshold Assoc. Max. Retrans.	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
SCPKTRCV	**SCTP Packets Received** - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included. 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 3-140 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour (MTCDTH) SCTPASOC Measurements

Event Name	Description	Unit
SCPKTSNT	**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. 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.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	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-MTCDTH 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,
    CNTLCHKS   =       400, ORDCHKSN   =       400, CNTLCHKR
=         0,
    ORDCHKRC   =         0, GAPACKSR   =         0, ACTVESTB
=         0,
    PASVESTB   =         0, ASOCABTD   =         0, ASOCSHTD
=         0,
    PEERFAIL   =         0, ASMAXRTO   =         0


;
```

FTP Reports

FTP Example Output File Name: *mtcdth-sctpasoc_20071115_0200.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART",
"IVALEND","NUMENTIDS"<cr><lf>
"ipmeas","UNKNOWN ??.?.?-58.21.0","2007-08-18","00:00:18","****",
"DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON SCTPASOC","LAST","2007-08-17",
"00:00:00","02:00:00",3<cr><lf>
"STATUS","ASSOC","ECASNEST","DURASNEST","DATCHKSN","RTXCHNKS","DATCHKRC"
,"SCPKTSNT",
"SCPKTRCV","SCOCTSNT","SCOCTRCV","CNTLCHKS","ORDCHKSN","CNTLCHKR","ORDCH
KRC",
"GAPACKSR","ACTVESTB","PASVESTB","ASOCABTD","ASOCSHTD","PEERFAIL","ASMAX
RTO"<cr><lf>

 "K","A1101",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","A1102",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","A1103",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Assuming each data line will be:

4 char status + 18 char association + 16*(6 char data) + 2 = 144 chars

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

Table 3-141 Typical File Size: `mtcdth-sctpasoc.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	195	+	144000	=	144445 bytes

SCTPCARD MTCDTH Report

Command Examples

- UI: `rept-meas:type=mtcdth:enttype=sctpcard:loc=1202`
- FTP: `rept-ftp-meas:type=mtcdth:enttype=sctpcard`

Measurement Events

Table 3-142 lists the **SCTPCARD** events and their descriptions.

Table 3-142 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements

Event Name	Description	Unit
ACTVESTB	**SCTP Association Active Establishments** - 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	**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).	peg count
CNTLCHKS	**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 yet been formed.	peg count
DATCHKRC	Number of **SCTP DATA chunks received** from the remote SCTP peer (excluding duplicates and discards).	peg count

Table 3-142 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) 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
PASVESTB	**SCTP Association Passive Establishments** - 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	**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

Table 3-142 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements

Event Name	Description	Unit
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 been formed.	octets
SCPKTRCV	**SCTP Packets Received** - The total number of SCTP packets received from the remote peer that had a valid checksum. Duplicates are included. 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	**SCTP Packets Received With Checksum Error** - The number of SCTP packets received from remote peers with an invalid checksum	peg count
SCPKTSNT	**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. 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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-142 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) SCTPCARD Measurements

Event Name	Description	Unit
UNASCTPK	**Unassociated (Out-of-the-Blue) SCTP Packets** - 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. 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: DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON SCTPCARD
    REPORT PERIOD: LAST
    REPORT INTERVAL:  07-12-31  00:00:00 THRU 03:59:59

    SCTPCARD-MTCDTH 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,
    CNTLCHKS   =       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","IVA
LSTART","IVALEND",
"NUMENTIDS"<cr><lf>
"tekelecstp",”38.0.0-XX.XX.0”,”2007-12-31”,"12:12:10","EST",
"DAY-TO-HOUR MAINTENANCE MEASUREMENTS ON SCTPCARD","LAST",”2007-12-30”,
"00:00:00","04:00:00",3<cr><lf>
<cr><lf>
"STATUS","LOC","DATCHKSN","RTXCHNKS","DATCHKRC","SCPKTSNT","SCPKTRCV","S
CPKTRER",
"UNASCTPK","SCOCTSNT","SCOCTRCV","CNTLCHKS","ORDCHKSN","CNTLCHKR","ORDCH
KRC","ACTVESTB",
"PASVESTB","ASOCABTD","ASOCSHTD"<cr><lf>
"K","1101",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","1102",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","1103",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 + 7 char location + 15*(6 char data) + 2 = 103 chars

For a report of 80 cards, typical file size is:

Table 3-143 Typical File Size: `mtcdth-sctpasoc.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	185	+	8240	=	8675 bytes

UA MTCDTH Report

Command Examples

- `UI: rept-meas:type=mtcdth:enttype=ua:aname=assoc1:asname=appsrvr1`
- FTP: `rept-ftp-meas:type=mtcdth:enttype=ua`

Measurement Events

Table 3-144 lists the **UA** events and their descriptions.

Table 3-144 Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) 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	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	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

Table 3-144 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) UA Measurements

Event Name	Description	Unit
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
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

Table 3-144 (Cont.) Daily Maintenance (MTCD) and Day-to-Hour Maintenance (MTCDTH) UA Measurements

Event Name	Description	Unit
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 Reports

UI Example Output:

```
    stdcfg2b 07-12-31 06:07:04 EST  UNKNOWN 38.0.0-XX.XX.0
    UA-MTCD MEASUREMENTS: AS: appsrvr1            ASSOC: assoc1

    These measurements are from 07-12-31, 00:00:00 through 23:59:59.
    RXDATAMS   =       100, RXDATAOC   =      4000, TXDATAMS   =
200,
    TXDATAOC   =      8000, UANMMSGT   =         0, UANMOCTT
=         0,
    UANMMSGR   =         0, UANMOCTR   =         0, UAASPMTX
=         0,
    UAASPMRX   =         0, UASSNMTX   =         0, UASSNMRX
=         0,
    UAMGMTTX   =         0, UAMGMTRX   =         0, UACNGCNT
=         0,
    UACNGTIM   =         0, UAASPNAC   =         0, UAASPNAT
=         0,
    RXMLRCMS   =         0


;
```

FTP Reports

FTP Example Output File Name: *mtcdth-ua_20071115_1200.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND",
"NUMENTIDS"<cr><lf>
"tekelecstp","37.5.0-58.25.0","2007-11-15","12:59:10","EST","DAY-TO-
HOUR MAINTENANCE MEASUREMENTS
```

```
ON UA","LAST","2007-11-15","00:00:00","12:00:00",3<cr><lf>
<cr><lf>
"STATUS","AS","ASSOC","RXDATAMS","TXDATAMS","RXDATAOC","TXDATAOC","RXMLR
CMS",
"UAASPMRX","UAASPNAC","UAASPNAT","UACNGCNT","UACNGTIM","UAMGMTRX","UAMGM
TTX",
"UANMOCTR","UANMOCTT","UANMMSGR","UANMMSGT","UASSNMRX","UASSNMTX","RXMLR
CMS"<cr><lf>
"K","as1101","a1101",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","as1102","a1102",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","as1103","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 + 15 char AS + 15 char ASSOC + 19*(6 char data) + 2 = 150 chars

For a report of 1000 Application Servers, typical file size is:

Table 3-145 Typical File Size: `mtcdth-ua.csv`

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

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 3-146 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP System Wide Measurements

Event Name	Description	Unit
LNPQRCV	*Trigger Based* The total number of queries received by **LNPQS**.	peg count
	Triggerless Number of encapsulated **IAM** messages received by **LNPQS**	peg count
LNPQDSC	*Trigger Based* The number of invalid queries that are discarded because no reply can be generated.	peg count
	Triggerless All invalid **IAM** messages are routed without **LNP**; **LNPQTCPE** is pegged.	not applicable
LNPQTCPE	*Trigger Based* The number of error replies with **TCAP** error codes.	peg count
	Triggerless The number of invalid encapsulated **IAM** messages received by **LNPQS**. Note that these messages are routed to their destinations with no **LNP** lookup.	peg count
LNPSREP	*Trigger Based* The number of successful replies.	peg count
	Triggerless The number of successful **IAM** messages.	peg count

Table 3-146 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP System Wide Measurements

Event Name	Description	Unit
LNPQUNPA	*Trigger Based* The number of correct queries received for non-ported **DN** when **NPA**-**NXX** is not provisioned.	peg count
	Triggerless The number of correct encapsulated **IAM** messages received for a non-ported **DN**, when the **NPA**-**NXX** is not provisioned.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-147 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements

Event Name	Description	Unit
SSPQRCV	Trigger Based Number of correct queries received per originating **SSP**.	peg count
	Triggerless The number of correct encapsulated **IAM** messages received by **LNPQS** per **OPC**.	peg count
CLASSGTRQ	Number of valid **CLASS GTT** received per originating **SSP**.	peg count
LIDBGTRQ	Number of valid **LIDB GTT** received per originating **SSP**.	peg count
SSPQRCVP	Number of correct queries received for ported **TNs**, per originating **SSP**.	peg count
SSPQRCVNP	Number of correct queries received for non-ported **TNs**, per originating **SSP**.	peg count
CLASSGTRQP	Number of **CLASS Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count

Table 3-147 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP Per SSP Measurements

Event Name	Description	Unit
CLASSGTRQNP	Number of **CLASS Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
LIDBGTRQP	Number of **LIDB Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count
LIDBGTRQNP	Number of **LIDB Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
CNAMGTRQP	Number of **CNAM Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count
CNAMGTRQNP	Number of **CNAM Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
ISVMGTRQP	Number of **ISVM Global Title Translation** received for ported **TNs**, per originating **SSP**.	peg count
ISVMGTRQNP	Number of **ISVM Global Title Translation** received for non-ported **TNs**, per originating **SSP**.	peg count
WSMSCGTRQP	Number of **WSMSC** Global Title Translations received for ported **TNs**, per originating **SSP**	peg count
WSMSCGTRQNP	Number of **WSMSC** Global Title Translations received for non-ported **TNs**, per originating **SSP**	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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:

SSPQRCV = **SSPQRCVP** + **SSPQRCVNP**

CLASSGTRQ = **CLASSGTRQP** + **CLASSGTRQNP**

LIDBGTRQ = **LIDBGTRQP** + **LIDBGTRQNP**

Table 3-148 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP LRN Measurements

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

Table 3-149 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) LNP NPA Measurements

Event Name	Description	Unit
NPAQRCV	The number of correct queries received per **NPANXX** for non-ported **DN**.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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 3-150 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","IVA
LSTART","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","SS
PQRCVNP","CLASSGTRQP","CLASSGTRQNP","LIDBGTRQP",
"LIDBGTRQNP","CNAMGTRQP","CNAMGTRQNP","ISVMGTRQP",
"ISVMGTRQNP","WSMSCGTP","WSMSCGTNP"<cr><lf>
"K","002-002-100","ANSI",123456789,456789,99999,123456789,456789,99999,1
23456789,456789,
99999,123456789,456789,99999,123456789,456789,99999<cr><lf>
. . . . .
"K","002-005-123","ANSI",123456789,456789,99999,123456789,456789,99999,1
23456789,456789,
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 3-151 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 3-152 Typical File Size: `mtch-lrn.csv`

System header	+	Report header	+	Report data		
250	+	27	+	13800	=	14077 bytes

Hourly LNP Measurements Per NPA

FTP Example Output File Name:*mtch-npa_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 3-153 Typical File Size: `mtch-npa.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 3-154 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 **SMS** Request messages received.	peg count

Table 3-154 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers

Event Name	Description	Unit
APSMSREL	Number of **SMS** 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
GPSRGTT	Number of call related (SRI-Send Routing Information) messages that fell through to GTT. This does not include peg counts to register GPSRGTTPP.	Peg Count
GPSRGTTPP	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

Table 3-154 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers

Event Name	Description	Unit
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
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 dection by INPQS).	peg count
IS41LRERR	Number of **IS-41** location request - error response messages sent.	peg count
IS41LRMRCV	Number of **IS-41** location request messages received	peg count

Table 3-154 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers

Event Name	Description	Unit
IS41LRRTRN	Number of **IS-41** location request - return result messages sent	peg count
MNPCRD	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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
TIFFPFXRLS	Total number of MSUs processed by TIF and blacklisted by the FPFXRLS Service Action	peg count
TIFNFNDRLS	Total number of MSUs processed by TIF and blacklisted by the BLNFNDRLS Service Action	peg count
TIFNOCGRLS	Total number of MSUs processed by TIF and blacklisted by the NOCGPNRLS Service Action	peg count
TIFRLS	Total number of MSUs processed by TIF and blacklisted by the BLRLS Service Action	peg count
TIFSSCRRLS	Number of MSUs processed by TIF and found to be blacklisted by SELSCR Service Action	peg count
TIFSSCRRLY	Number of MSUs processed by TIF and relayed by SELSCR Service Action	peg count

Table 3-154 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) System-Wide Registers

Event Name	Description	Unit
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:

INPQRCV = INPQDSC + INPQTCPE + INPSREP

GPSRRCV = GPSRGTT + GPSRREP + GPSRERR

GPSRRCVPP = GPSRGTTPP + GPSRREPPP + GPSRERRPP

GPSRSMRCV = GPSRSMRLY + GPSRSMREP + 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 3-155 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers

Event Name	Description	Unit
APLRACK	Number of call related **LOCREQ** messages acknowledged.	peg count
APLRRLY	Number of call related **LOCREQ** messages relayed.	peg count
APNOCL	Number of non-call non-**LOCREQ** related messages relayed.	peg count
APNOCLGT	Number of non-call non-**LOCREQ** related messages that fell through to **GTT**.	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

Table 3-155 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers

Event Name	Description	Unit
APSMSRCV	Number of SMSREQ messages received	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
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
GPSRRLY	Number of call related (**SRI**-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
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

Table 3-155 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers

Event Name	Description	Unit
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
MNPCRD	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
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
TIFRANGEBL	Total number of MSUs processed by TIF and blacklisted by the FPFXRLS or NOCGPNRLS Service Action	peg count

Table 3-155 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) SSP Registers

Event Name	Description	Unit
TIFSBSCRBL	Total number of MSUs processed by TIF and found to be blacklisted 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:

GPSRREP = ∑GPSRACK + ∑GPSRRLY+ ∑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."

"INPQRCV","INPQDSC","INPQTCPE","INPSREP","GPSRRCV","GPSRGTT","GPSRREP","GPSRERR","GPNOCL",
"GPNOCLGT","IS41LRERR","IS41LRMRCV","IS41LRRTRN","GPSRRCVPP","GPSRGTTPP","GPSRREPPP",
"GPSRERRPP","APSMSRCV","APSMSREL","TINPMRCV","TINPMGEN","TINPERR","SMSMOIRCV","SMSMOIERR",
"SMSMOGRCV","SMSMOGERR","GPSRSMREP","GPSRSMERR","GPSRSMRCV","APSMRQREP","APSMRQERR",
```

```
"INPQSCRD","MNPCRD",
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
```

- Hourly Measurements Per SSP

  UI Example output File Name:*M60_SSP.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 SSP"
"REPORT PERIOD: LAST"
"REPORT INTERVAL:  10-08-22,  23:00:00 THROUGH 23:59:59 "
"Measurement data represents an incomplete interval."
"NUMBER OF ENTIDS: 3"

"SSP","INPQSCONN","INPQSCONT","INPMRTR","INPMRGTT","GPSRACK","GPSRRL
Y","GPNOCL","GPNOCLGT",
"GPSRACKPP","APLRACK","APLRRLY","APNOCL","APNOCLGT","TINPMRCV","TINP
MGEN","TINPERR",
"SMSMOIRCV","SMSMOIERR","SMSMOGRCV","SMSMOGERR","GPSRSMREP","GPSRSME
RR","GPSRSMRCV",
"APSMRQREP","APSMRQERR","APSMSRCV","INPQSCRD","INPQSREL","INPMRCRD",
"MNPCRD","GPSRNACK",
"
001-001-001",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,
"
101-001-001",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,
"
201-001-001",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,
```

FTP Reports

- Hourly System Wide Measurements

  FTP Example Output File Name:*mtch-np_20080125_2400.csv*

  FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE",
"IVALSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 42.0.0-63.33.0","2010-08-20","00:00:50","EST
","HOURLY MAINTENANCE MEASUREMENTS ON NP
SYSTEM","LAST","2010-08-19","23:00:00","24:00:00",1

"STATUS","INPQRCV","INPQDSC","INPQTCPE","INPSREP","GPSRRCV","GPSRGTT
","GPSRREP","GPSRERR",
"GPNOCL","GPNOCLGT","IS41LRERR","IS41LRMRCV","IS41LRRTRN","GPSRRCVPP
","GPSRGTTPP",
"GPSRREPPP","GPSRERRPP","APSMSRCV","APSMSREL","TINPMRCV","TINPMGEN",
"TINPERR","SMSMOIRCV",
"SMSMOIERR","SMSMOGRCV","SMSMOGERR","GPSRSMREP","GPSRSMERR","GPSRSMR
CV","APSMRQREP",
"APSMRQERR","INPQSCRD","MNPCRD"
```

```
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,
```

Assuming each data line will be: 4 char status + 33 * (6 char data) + 2 = 204 chars

Typical file size is:

Table 3-156 Typical File Size: `mtch-np.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	378	+	204	=	832 bytes

- Hourly Measurements Per SSP

  FTP Example Output File Name: **mtch-ssp_20080125_2400.csv**

  FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE",
"IVALSTART","IVALEND","NUMENTIDS"
"e1061001","EAGLE5 42.0.0-63.33.0","2010-08-20","00:00:51","EST
","HOURLY
MAINTENANCE MEASUREMENTS ON NP
SSP","LAST","2010-08-19","23:00:00","24:00:00",3
"STATUS","SSP","PC_TYPE","INPQSCONN","INPQSCONT","INPMRTR","INPMRGTT
","GPSRACK","GPSRRLY",
"GPNOCL","GPNOCLGT","GPSRACKPP","APLRACK","APLRRLY","APNOCL","APNOCL
GT",
"TINPMRCV","TINPMGEN","TINPERR","SMSMOIRCV","SMSMOIERR","SMSMOGRCV",
"SMSMOGERR","GPSRSMREP","GPSRSMERR","GPSRSMRCV","APSMRQREP","APSMRQE
RR",
"APSMSRCV","INPQSCRD","INPQSREL","INPMRCRD","MNPCRD","GPSRNACK"
"K","
001-001-001","ANSI",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,
"K","
101-001-001","ANSI",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,
"K","
201-001-001","ANSI",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,
```

Assuming each data line will be: 4 char status + 14 char SSP + 10 char PC type + 31 * (6 char data) + 2 = 216 chars

Typical file size is:

Table 3-157 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 3-158 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 3-159 lists the **EIR** events and their descriptions.

Table 3-159 Daily Maintenance (MCTD) and Hourly Maintenance (MTCH) EIR Measurements

Event Name	Description	Unit
IMEIRCV	Total number of **MAP**_CHECK_**IMEI** messages received	peg count
WHITEIMEI	Total number of searches that resulted in a match with a “white 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 “black listed” **IMEI**	peg count
BLKALIMEI	Total number of searches that resulted in a match with a “black listed” **IMEI**, but were allowed due to **IMSI** Check match	peg count

Table 3-159 (Cont.) Daily Maintenance (MCTD) and Hourly Maintenance (MTCH) EIR Measurements

Event Name	Description	Unit
BLKNALIMEI	Total number of searches that resulted in a match with a "black 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. **NOMTCHIMEI** is pegged whenever an **IMEI** is not found in the database.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

The following equation applies:

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 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","U
NKNIMEI","NOMTCHIMEI"<cr><lf>
4294967295,4294967295,4294967295,4294967295,4294967295,4294967295,429496
7295, 4294967295<cr><lf>
```

Typical file size is:

Table 3-160 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 3-161 and Table 3-164 include the sum total of **MTP**-routed and **GTT**-routed messages for the particular event.

Table 3-161 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening System Wide Measurements

Event Name	Description	Unit
MSCRNPASS	Total number of messages that Passed **MAP** screening	count
MSCRNRJNE	Total number of messages that got Rejected by **MAP** screening because an entry was not found in the **MAP** screening table (i.e., rejected as System wide **MAP** Opcode action is **DISCARD**)	count

Table 3-161 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening System Wide Measurements

Event Name	Description	Unit
MSCRNRJFP	Total number of messages that got Rejected by **MAP** screening due to forbidden parameters in the message.	count
MSCRNPAFP	Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as **PASS**.	count
MSCRNPANE	Total number of messages, where an entry was not found in the **MAP** screening table but the Message was not rejected as screening action was marked as **PASS** (i.e., not rejected as System wide **MAP** Opcode action is **PASS**)	count
MSCRNRJOP	Total number of message that got rejected as Message **MAP** Opcode was not found in the **MAP** Opcode table (system wide action - **DISCARD** for the non matching **OPCODEs**)	count
MSCRNDUP	Total number of messages that were selected by **MAP** Screening for the Duplicate screening action.	count
MSCRNFOR	Total number of messages thate were selected by **MAP** Screening for the Forward screening action.	count
MSCRNDAD	Total number of messages thate were selected by **MAP** Screening for the Duplicate and Discard screening action.	count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Server Entity Identification information in Table 3-162 is used to clarify the server. The Maintenance **MAP** Screening Per Server Measurements are applicable.

Table 3-162 Server Entity Identification

Entity Name	Description
SERVER	The screened origination address of the calling party address (**CGPA**) assigned when the **GSM MAP** screen was entered.
NP	The screened number plan value (**NPV**) assigned to the server address when the **GSM MAP** screen was entered. This field is filled with the default identifier * if no value was assigned.
NAI	The screened nature of address value (**NAIV**) assigned to the server address when the **GSM MAP** screen was entered. This field is filled with the default identifier * if no value was assigned.
OPCODE	The operation code number assigned when the **GSM MAP** opcode was entered.
Measurements does not report entries created for a range of addresses.	

Server Path Entity Identification information in Table 3-163 is used to clarify the path. The Maintenance **MAP** Screening Per Path Measurements are applicable.

Table 3-163 Path Entity Identification

Entity Name	Description

PATH	The screened origination address of the calling party address (**CGPA**-**NP**-**NAI**), or a combination of screened destination address of the called party address (**CDPA**-**NP**-**NAI**) and the screened origination addresses assigned when the **GSM MAP** screen was entered.
	The possible fields within the path are delimited as follows to allow for efficient sorting:
	• 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 carat (^) and the destination address is preceded by a "greater than" sign (>):
	`^CGPA-NP-NAI>CDPA-NP-NAI`
	• When only the origination address is present (occurs when the **CDPA** is a default wildcard) it is preceded by a "less than" sign (<):
	`<CGPA-NP-NAI`

Table 3-163 (Cont.) Path Entity Identification

Entity Name	Description
CGPA	The calling party global title address assigned when the **GSM MAP** screen was entered. Any or all of the three fields (**GTA**, **NP**, **NAI**) can be filled with the identifier (*) if a wildcard value is assigned for that field. There is no default wildcard value for the **CGPA**.
CDPA	The called party global title address assigned when the **GSM MAP** screen was entered. Any or all of the three fields (**GTA**, **NP**, **NAI**) can be filled with the identifier (*) if a wildcard value is assigned for that field. If the **CDPA** value is not assigned, the default wildcard value, which is not printed, is assumed.
NP	The screened number plan value (**NPV**) assigned to the path address when the **GSM MAP** screen was entered. The identifier (*) is used to signify a wildcard **NP**.
NAI	The screened nature of address value (**NAIV**) assigned to the path address when the **GSM MAP** screen was entered. The identifier (*) is used to signify a wildcard **NAI**.
OPCODE	The operation code number assigned when the **GSM MAP** 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 3-164 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening Per Server Measurements

Event Name	Description	Unit
MSCRNPASS	Total number of messages that Passed **MAP** screening	count

Table 3-164 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) MAP Screening Per Server Measurements

Event Name	Description	Unit
MSCRNRJFP	Total number of messages that got Rejected by **MAP** screening due to forbidden parameters in the message.	count
MSCRNDUP	Total number of messages per server that were selected by **MAP** Screening for the Duplicate screening action.	count
MSCRNFOR	Total number of messages per server that were selected by **MAP** Screening for the Forward screening action.	count
MSCRNDAD	Total number of messages per server that were selected by **MAP** Screening for the Duplicate screening action.	count
MSCRNPAFP	Total number of messages that contained the forbidden parameter but were not rejected due to Screening action set as **PASS**.	count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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","IVA
LSTART","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","MSCRNPAFP","MS
CRNPANE","MSCRNFOR","MSCRNDUP","MSCRNDAD"
"K",0,0,0,0,0,0,0,0,
```

Typical file size is:

Table 3-165 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","IVA
LSTART","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","MSCRNP
AFP"
"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 3-166 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 3-167 Daily Maintenance V-Flex System Wide Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
VFCNCTRSP	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 3-168 Daily Maintenance V-Flex Per SSP Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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","IVA
LSTART","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 3-169 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","IVA
LSTART","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”,“VFIMSISDN”<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 3-170 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 3-171 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 3-172 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 3-172 (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: **K** indicates good data **I** indicates incomplete interval **N** 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 3-173 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 3-174 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 3-175 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 3-176 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
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","AIQSUCC","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 3-177 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","AIQSUCC","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 3-178 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 3-179 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 “gttapath”, 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:mtchgttapath=on:mtcdgttapath=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=gttapath[: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 3-180 MTCD/MTCH GTT Actions System-Wide Measurements

Event Name	Description	Unit
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

Table 3-180 (Cont.) MTCD/MTCH GTT Actions System-Wide Measurements

Event Name	Description	Unit
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 *forwarded* by Forward GTT Action.	peg count
GTTASET	**GTT Actions** - The total number of messages *receiving* any GTT action.	peg count
GTTASRVGFLX	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

Table 3-181 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. This register shall be pegged for a message if either of these occurs: • No GTT Action set was associated with the final GTT translation • No GTT Action in the associated GTT Action set could be executed successfully (for any reason).	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. 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 - The total number of messages forwarded by Forward GTT Action.	peg count
GTTASRVGFLX	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 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","GTTASRVSMSR"
"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 3-182 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 3-183 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 *or*
SCDGTA->ECDGTA	The ranged called party start global title address (SCDGTA) and End global title address (ECDGTA) assigned when the GTTACT path was entered.

Table 3-183 (Cont.) Entity Identification (PATH-CDSN-SCDGTA-CGSN-SCGGTA-OPSN-PKG-OPCODE-<A>/F)

String Format	Definition
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 *or*
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 (>). 'F' stands for ANSI TCAP family field assigned if package type is ANSI TCAP when GTTACT Path was entered. 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",
"IVALSTART","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","GTTASRVGPRT","GTTASRV
SMSR"
"K","path1-cdlim1-12345-cglim2-123-oplim3-ituuni-
<1-1-1-1-1-1-1>",0,0,0,0,0,0,0,0,0
"K","gttp5-#-#-cglim2-126-opname3-bgn-10",0,0,0,0,0,0,0,0,0
"K","p6-#-#-cglim6-1234-#-#-#",0,0,0,0,0,0,0,0,0
```

Assuming each data line will be: 4 char status + 169 char (PATH-CDSN-SCDGTA-CGSN-CGGTA-OPSN-PKG-OPCODE-<A>/F)+ 9*(6 char data) + 2 = 229 chars, the typical file size is:

Table 3-184 Typical File Size: `mtch-gttapath.csv`

System header	+	Report header	+	Report data (1000 paths)	=	File Size
250	+	326	+	229000	=	229576

DEIR MTCH Report

The **DEIR** measurements specify the entity type **deir** and include two hourly reports:

- Per system (DEIRSYS)
- Per diameter connection (DEIRCONN)

Table 3-114 lists the events added in all DEIR measurements reports.

The retention period for the hourly reports is 24 hours.

FTP Example Command:

```
rept-ftp-meas:type=mtch:enttype=deir
```

Table 3-185 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 "white listed" IMEI.	Peg count
GRAYIMEI	Total number of searches that resulted in a match with a "gray listed" IMEI.	Peg count

Table 3-185 (Cont.) Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) DEIR Measurements

Event Name	Description	Unit
BLACKIMEI	Total number of searches that resulted in a match with a "black listed" IMEI.	Peg count
BLKALIMEI	Total number of searches that resulted in a match with a "black listed" IMEI, but were allowed due to IMSI Check match.	Peg count
BLKNALIMEI	Total number of searches that resulted in a match with a "black 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: **K** - indicates good data **I** - indicates incomplete interval **N** - indicates data not current	Status

Example Output File Names:

Hourly DEIR system total measurements report	mtch-deirsys_yyyymmdd_hhmm.csv
Hourly DEIR per diameter connection measurements report	mtch-deirconn_yyyymmdd_hhmm.csv

FTP example output file format for DEIR system total report:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","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","BLKNAL
IMEI","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 3-186 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","IVA
LSTART","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","ECRRCV","WHITEIMEI","GRAYIMEI","BLACKIMEI","BLKALIMEI
","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 3-187 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 3-188 lists the events added per system.
- Per card (ENUMCARD)
  Table 3-189 lists the events added for each card.
- Per entity (ENUMENT)
  Table 3-190 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 3-191 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 3-188 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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	Status

Table 3-189 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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	Status

Table 3-190 Daily Maintenance (MTCD) and Hourly Maintenance (MTCH) ENUM Entity Level Measurements

Event Name	Description	Unit
ENUMENTMSGS	Total number of ENUM queries received or ENUM responses sent per entity	Peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	Status

Table 3-191 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: **K** indicates good data **I** indicates incomplete interval **N** 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","IVA
LSTART","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","ENUMQRYRJTD
","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 3-192 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","IVA
LSTART","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","ENU
MCQRRJTD","ENUMCCNGDSC","ENUMCACLDSC",
"ENUMCTXRC0","ENUMCTXRC1","ENUMCTXRC2","ENUMCTXRC3","ENUMCTXRC4","ENUMCT
XRC5","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 3-193 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","IVA
LSTART","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 3-194 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","IVA
LSTART","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","ENUMACLR
C2","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 3-195 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**, **ORIGNINC**, **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 3-196 Gateway STP Measurements

Event Name	Description	Unit
GTTPFDIC	Number of Global Title Translations (**GTTs**) performed on messages received from an interconnecting network.	peg count

Table 3-196 (Cont.) Gateway STP Measurements

Event Name	Description	Unit
MSUDSCRD	Number of **MSUs** discarded due to screening failure.	peg count
MSURJOPC	Number of **MSUs** rejected due to screening - disallowed **OPC**.	peg count
MSURJDPC	Number of **MSUs** rejected due to screening - disallowed **DPC**.	peg count
MSURJSIO	Number of **MSUs** rejected due to screening - invalid service information octet (**SIO**).	peg count
MSURJCPA	Number of **MSUs** rejected due to screening - invalid calling party address.	peg count
MSURJAPC	Number of subsystem prohibited (**SSP**) and subsystem allowed (**SSA**) **MSUs** rejected due to screening - invalid affected point code.	peg count
MSURJPCS	Number of subsystem status test (**SST**) **MSUs** rejected due to screening - invalid affected point code and **SSN**.	peg count
MSURJDST	Number of **MTP-NM MSUs** rejected due to screening - invalid affected destination field.	peg count
MSURJTT	Number of **SCCP MSUs** rejected due to screening - invalid translation type.	peg count
MSURJDSN	Number of **SCCP MSUs** rejected due to screening - disallowed **DPC**/**SSN** in called party address.	peg count
MSURJTFC	Number of transfer controlled (**TFC**) **MSUs** rejected due to screening - invalid affected destination field.	peg count
MSURJSRT	Number of signaling routeset test (**SRST**) **MSUs** rejected due to screening - invalid affected destination field.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-196 (Cont.) Gateway STP Measurements

Event Name	Description	Unit
TTMAPPF	Number of translation type mapping translations performed. For example, a mapped **SS7** message translation type was found for the existing **SS7** message translation type.	peg count

UI Reports

UI Example Output:

```
    tekelecstp 03-12-19 12:51:24 EST EAGLE 34.0.0
    TYPE OF REPORT: GATEWAY MEASUREMENTS ON STP
    REPORT PERIOD: LAST
    REPORT INTERVAL:  03-12-19,  12:00:00 THROUGH 12:29:59

    STP-GTWY MEASUREMENTS

    These measurements are from 03-12-19, 12:00:00 through 12:29:59.
    TTMAPPF    =         0, GTTPFDIC   =         0, MSUDSCRD
=         0,
    MSURJOPC   =         0, MSURJDPC   =         0, MSURJSIO
=         0,
    MSURJCPA   =         0, MSURJAPC   =         0, MSURJPCS
=         0,
    MSURJDST   =         0, MSURJTT    =         0, MSURJDSN
=         0,
    MSURJTFC   =         0, MSURJSRT   =         0

;
    tekelecstp 03-12-19 12:51:26 EST EAGLE 34.0.0
    END OF ON-DEMAND STP-GTWY MEASUREMENT REPORT
;
```

FTP Reports

FTP Example Output File Name: *gtwy-stp_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
STP","LAST","1999-01-17","15:00:00","15:30:00",1<cr><lf>
<cr><lf>
"STATUS","TTMAPPF","GTTPFDIC","MSUDSCRD","MSURJOPC","MSURJDPC","MSURJSIO
",
"MSURJCPA","MSURJAPC","MSURJPCS","MSURJDST","MSURJTT","MSURJDSN","MSURJT
```

```
FC", "MSURJSRT"<cr><lf>
"K",0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
```

Typical file size is:

Table 3-197 Typical File Size: `gtwy-stp.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	164	+	90	=	504 bytes

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 3-198 Gateway ORIGNI Measurements

Event Name	Description	Unit
GTTPFDPC	Number of global title translations (**GTTs**) performed - result is a **DPC** of an interconnecting network.	peg count
GTTUNTT	Number of **GTTs** unable to perform on messages received from an interconnecting network - no translation table for the translation type.	peg count
GTTPFDIC	Number of **GTTs** performed on messages received from an interconnecting network.	peg count
GTTUNADR	Number of **GTTs** unable to perform on messages received from an interconnecting network - no translation for this address.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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.
    GTTPFDPC   =         0, GTTUNTT    =         0, GTTPFDIC   =
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","GTTPFDPC","GTTUNTT","GTTPFDIC","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 3-199 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 3-200 Gateway ORIGNINC Measurements

Event Name	Description	Unit
GTTPFDPC	Number of global title translations (**GTTs**) performed - result is a **DPC** of an interconnecting network.	peg count
GTTUNTT	Number of **GTTs** unable to perform on messages received from an interconnecting network - no translation table for the translation type.	peg count
GTTPFDIC	Number of **GTTs** performed on messages received from an interconnecting network.	peg count
GTTUNADR	Number of **GTTs** unable to perform on messages received from an interconnecting network - no translation for this address.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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.
```

```
    GTTPFDPC   =         0, GTTUNTT    =         0, GTTPFDIC   =
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-orignic_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","GTTPFDPC","GTTUNTT","GTTPFDIC","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 3-201 Typical File Size: `gtwy-orignic.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 3-202 Gateway Linkset Measurements

Event Name	Description	Unit
TFPTRAN	The number of transfer prohibited (**TFP**) and transfer cluster prohibited (TCP) MSUs transmitted.	peg count
TFPRECD	The number of TFP and **TCP** MSUs received.	peg count
TFRTRAN	The number of transfer restricted (**TFR**) and transfer cluster restricted (**TCR**) MSUs transmitted.	peg count
TFRRECD	The number of TFR and TCR MSUs received.	peg count
TFATRAN	The number of transfer allowed (**TFA**) and transfer cluster allowed (**TCA**) MSUs transmitted.	peg count
TFARECD	The number of TFA and TCA MSUs received.	peg count
SRSTTRAN	The number of signaling routeset test (**SRST**) and cluster signaling routeset test (**CSRST**) MSUs transmitted.	peg count
SRSTRECD	The number of **SRST** and **CSRST MSUs** received.	peg count
SRSCTRAN	The number of signaling routeset congestion test (**SRSCT**) MSUs transmitted.	peg count
SRSCTRCD	The number of SRSCT MSUs received.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
TSTMTRCD	The number of testing and maintenance (T&M) **MSUs** received.	peg count
SSPTRAN	The number of subsystem prohibited (**SSP**) MSUs transmitted.	peg count

Table 3-202 (Cont.) Gateway Linkset Measurements

Event Name	Description	Unit
SSPRECD	The number of SSP MSUs received.	peg count
SSATRAN	The number of subsystem allowed (**SSA**) MSUs transmitted.	peg count
SSARECD	The number of SSA MSUs received.	peg count
SSTTRAN	The number of subsystem status test (SST) MSUs transmitted.	peg count
SSTRECD	The number of **SST** MSUs received.	peg count
SLTRECD	The number of signaling link tests received.	peg count
STATUS	**Indication of Data Validity** **K** – indicates good data **I**– indicates incomplete interval; **N** – 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
    REPORT PERIOD: LAST
    REPORT INTERVAL:  12-02-21,  02:00:00 THROUGH 02:29:59

    LNKSET-GTWY MEASUREMENTS: hcmimt1    (MTP2-UNCH)

    These measurements are from 12-02-21, 02:00:00 through 02:29:59.
    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

;
```

FTP Reports

FTP Example Output File Name: *gtwy-lnkset_20101005_2030.csv*

FTP Example Output File Format:

```
"CLLI","SWREL","RPTDATE","RPTIME","TZ","RPTTYPE","RPTPD","IVALDATE","IVA
LSTART","IVALEND","NUMENT
IDS"<cr><lf>
"tekelecstp","EAGLE5 44.0.0-64.23.0","2012-02-21","02:32:03","EST
","GATEWAY MEASUREMENTS ON
LNKSET","LAST","2012-02-21","02:00:00","02:30:00",2<cr><lf>
<cr><lf>
"STATUS","LSN","LNKTYPE","TFPTRAN","TFPRECD","TFRTRAN","TFRRECD","TFATRA
N","TFARECD","SRSTTRAN","
SRSTRECD","SLTRECD","SRSCTRAN","SRSCTRCD","TSTMTRCD","SSPTRAN","SSPRECD"
,"SSATRAN","SSARECD","SST
TRAN","SSTRECD"<cr><lf>
"K","hcmimt1","MTP2-UNCH",0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0<cr><lf>
"K","gtwy","MTP2",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 + 13 char LSN + 12 char LNKTYPE + 18*(6 char data) + 2 = 139 chars

Table 3-203 Typical File Size: `gtwy-lnkset.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	212	+	69,500	=	69,962 bytes

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 3-204 Gateway LSDESTNI Measurements

Event Name	Description	Unit
MSURCVNA	The number of **MSUs** received from another network - not addressed to the **BCC** network.	peg count
OCTRCVNA	The number of **MSU** octets received from another network - not addressed to the **BCC** network.	octets
MSUTRNNA	The number of **MSUs** transmitted - addressed to a network other than the adjacent receiving network.	peg count
OCTTRNNA	The number of **MSU** octets transmitted - addressed to a network other than the adjacent receiving network.	octets

Table 3-204 (Cont.) Gateway LSDESTNI Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
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"
,"TFCGTRAN"<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 3-205 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 3-206 Gateway LSORGINI Measurements

Event Name	Description	Unit
TFCGRECD	The number of transfer controlled (**TFC**) **MSUs** received	peg count
MSURJOPC	The number of **MSUs** rejected due to screening - disallowed **OPC**.	peg count
MSURJDPC	The number of **MSUs** rejected due to screening - disallowed **DPC**.	peg count

Table 3-206 (Cont.) Gateway LSORGINI Measurements

Event Name	Description	Unit
MSURJCPA	The number of **MSUs** rejected due to screening - invalid calling party address.	peg count
MSURJAPC	The number of subsystem prohibited (**SSP**) and subsystem allowed (**SSA**) **MSUs** rejected due to screening - invalid affected point code.	peg count
MSURJPCS	The number of subsystem status test (**SST**) **MSUs** rejected due to screening - invalid affected point code and **SSN**.	peg count
MSURJHC	Number of **MSUs** discarded due to screening H0H1	peg count
MSURJTFC	The number of **TFC MSUs** rejected due to screening - invalid affected destination field.	peg count
MSURJSRT	The number of signaling routeset test (**SRST**) **MSUs** rejected due to screening - invalid affected destination field.	peg count
MSUDSCRD	The number of **MSUs** rejected due to screening failure.	peg count
MSURJSIO	The number of **MSUs** rejected due to screening - invalid service information octet (**SIO**).	peg count
MSURJDST	The number of **MTP-NM MSUs** rejected due to screening - invalid affected destination field.	peg count
MSURJTT	The number of **SCCP MSUs** rejected due to screening - invalid translation type.	peg count
MSURJDSN	The number of **SCCP MSUs** rejected due to screening - disallowed **DPC**/**SSN**.	peg count
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status

Table 3-206 (Cont.) Gateway LSORGINI Measurements

Event Name	Description	Unit
TFCGRECD	The number of transfer controlled (**TFC**) **MSUs** received	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 LSORIGNI
    REPORT PERIOD: LAST
    REPORT INTERVAL:  03-12-19,  11:30:00 THROUGH 11:59:59

    LSORIGNI-GTWY MEASUREMENTS: LSN: ls1201, NI: 5

    These measurements are from 03-12-19, 11:30:00 through 11:59:59.
    TFCRECD    =         0, MSURJOPC   =    834033, MSURJDPC   =
834034,
    MSURJCPA   =  14757021, MSURJAPC   =  14757039, MSURJPCS
=         0,
    MSURJTFC   =         0, MSURJSRT   =         0, MSUDSCRD
=         0,
    MSURJSIO   =         0, MSURJDST   =         0, MSURJTT
=         0,
    MSURJDSN   =         0

;
    tekelecstp 03-12-19 12:29:27 EST EAGLE 34.0.0
    END OF ON-DEMAND LSORIGNI-GTWY MEASUREMENT REPORT
```

FTP Reports

FTP Example Output File Name: *gtwy-lsorigni_19990117_1530.csv*

```
"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
LSORIGNI","LAST","1999-01-17","15:00:00","15:30:00",400<cr><lf>
<cr><lf>
"STATUS","LSN","LSTYPE","NI","TFCGRECD","MSURJOPC","MSURJDPC","MSURJCPA"
,"MSURJAPC","MSURJPCS","MSURJHC","MSURJTFC","MSURJSRT","MSUDSCRD","MSURJ
SIO","MSURJDST",
"MSURJTT","MSURJDSN"<cr><lf>
"K","ls1201","ANSI",5,0,834033,834034,14757021,14757039,0,0,0,0,0,0,0,0,
0<cr><lf>
. . . . .
"K","lsitu","ITU",,0,834033,834034,14757021,14757039,0,0,0,0,0,0,0,0,0<c
r><lf>
```

Assuming each data line will be:

4 char status + 8 char **LSN** + 6 char **LSTYPE** + 4 char **NI** + 14*(6 char data) + 2 = 108 chars

For a report of 400 **LSORIGNIs**, typical file size is:

Table 3-207 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 3-208 Gateway LSONISMT Measurements

Event Name	Description	Unit
MSUISPMT	Number of **ISDNUP MSUs** rejected due to screening -- invalid **ISUP** 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 3-209 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 3-210 Record Base STP Measurements

Event Name	Description	Unit
BUSS	The number of **IS-NR** or **IS-ANR IMT** buses	peg count
CTSDLSST	The value of the **SCCP Management**: subsystem status test (**SS7**) delay timer (level 3 T32 timer). This value of this timer is fixed at 30 seconds and is not configurable.	seconds
LINKS	The number of configured signaling links.	peg count
LNKSETS	The number of configured linksets.	peg count
NT1TDCHO	The value of the delay to avoid mis-sequencing on changeover timer (level 3 **T1** timer).	seconds
NT2CHOAK	The value of the waiting for changeover acknowledgment timer (level 3 T2 timer).	seconds
NT3TDCHB	The value of the delay to avoid mis-sequencing on changeback timer (level 3 T3 timer).	seconds
NT4CHBK1	The value of the waiting for changeover acknowledgment (first attempt) timer (level 3 T4 timer).	seconds

Table 3-210 (Cont.) Record Base STP Measurements

Event Name	Description	Unit
NT5CHBK2	The value of the waiting for changeover acknowledgment (second attempt) timer (level 3 T5 timer).	seconds
NT6TDCRR	The value of the delay to avoid mis-sequencing on controlled rerouting timer (level 3 T6 timer).	seconds
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

Table 3-210 (Cont.) Record Base STP Measurements

Event Name	Description	Unit
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 **SP** waiting for links to become available timer (level 3 T22 timer).	seconds
NT23WTRA	The value of the waiting after T22 to receive all **TRAs** timer (level 3 T23 timer).	seconds
NT24BTRA	The value of the restarting: waiting to broadcast all **TRAs** timer (level 3 T24 timer).	seconds
NT25WTRA	The value of the adjacent and restarting: waiting for **TRA** timer (level 3 T25 timer).	seconds
NT26RTRW	The value of the restarting: waiting to repeat **TRW** timer (level 3 T26 timer).	seconds
NT28WTRW	The value of the adjacent: waiting for **TRW** timer (level 3 T28 timer).	seconds
NT29RSUX	The value of the **TRA** sent, unexpected **TRA**, **TRW**, resumption timer (level 3 T29 timer).	seconds
NT30LMTF	The value of the limit **TFPs**/ **TFRs** for unexpected **TRAs**/ **TRWs** 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 (**IS-NR**) or in-service abnormal (**IS-ANR**).	peg count

Table 3-210 (Cont.) Record Base 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
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 46.3.0.0.0-66.13.0
    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, CTSDLSST   =
```

```
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","IVA
LSTART","IVALEND","NUMENTIDS"<cr><lf>
"tekelecstp","EAGLE5 46.3.0.0.0-66.13.0","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","NT3TDCH
B","NT4CHBK1","NT5CHBK2",
"NT6TDCRR","NT7SLKCN","NT8TRPRH","NT10SRST","NT11TFRS","NT12UNAK","NT13F
UNH","NT14INAK",
"NT15RSCT","NT16RSCS","NT17REAL","NT18TCLR","NT19FLKR","NT20RLIH","NT21R
RIH","NT22RSTL",
"NT23WTRA","NT24BTRA","NT25WTRA","NT26RTRW","NT28WTRW","NT29RSUX","NT30L
MTF","NT31FLCD","NT32OSCA","STLOOP","CTSDLSST","NTCRSCS"<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,
480,90,90,10,10,10,30,12,3,60,30,60,60,10,30,4<cr><lf>
```

Typical file size is:

Assuming each data line will be:

4 char status + 37 * (6 char data) + 2 = 228 chars

Table 3-211 Typical File Size: `rbase-stp.csv`

System header	+	Report header	+	Report data	=	File Size
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 3-212 Registers reported LINK Measurements

Register	MTP2, IPVL, IPVLGW, & IPVHSL usage	SAAL usage
LT1ALNRD	as described	not reported
LT2NOALN	as described	not reported
LT3ALIND	as described	not reported
LT4NMLPV	as described	not reported

Table 3-212 (Cont.) Registers reported LINK Measurements

Register	MTP2, IPVL, IPVLGW, & IPVHSL usage	SAAL usage
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 3-213 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

Table 3-213 (Cont.) Record Base Link Measurements

Event Name	Description	Unit
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: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	status
The following registers are applicable to MTP level 2 links ONLY. These registers are omitted from reports for **ATM** based links on EAGLE **HMI** output. On **SEAS** reports these registers are reported as ZERO-valued.		
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
LT4NMLPV	The value of the proving period (normal) timer (level 2 T4npp timer).	seconds
LT4EMGPV	The value of the proving period (emergency) timer (level 2 T4epp timer).	seconds
LT5SDSIB	The value of the sending **SIB** timer (level 2 T5 timer).	seconds

Table 3-213 (Cont.) Record Base Link Measurements

Event Name	Description	Unit
LT6RMCNG	The value of the remote congestion timer (level 2 T6 timer).	seconds
LT7XDLAK	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","IVA
LSTART","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","
CNGONTH2","CNGDITH2","CNG
ABTH2","CNGONTH3","CNGDITH3","CNGABTH3","LT1ALNRD","LT2NOALN","LT3ALIND"
,"LT4NMLPV","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 3-214 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 3-215 Record Base Linkset Measurements

Event Name	Description	Unit
LINKS	The number of configured signaling links.	peg count
RCLKBFRS	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
ST01SLTA	Supervision timer for **SLTA**.	seconds
ST02SLTI	**SLT** interval timer.	seconds
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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","IVA
LSTART","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 3-216 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 3-217 Maintenance Status Link Measurements

Event Name	Description	Unit
LKMTCST	Maintenance State	**ACT –** link primary state is **IS-NR** and is or can be used to carry traffic. **UNAV** - link has been made unavailable by local or centralized maintenance personnel (inhibited or canceled link or active local processor outage). **OOS** – link out-of-service but can be made available by the **STP**.
PROSTAT	Indication of processor outage status units being received.	**Y –** link failure reason of remote processor outage exists. **N** - link failure reason of remote processor outage does not exist.
PROTRAN	Indication of processor outage status units being transmitted.	**Y** – link failure reason of local processor outage exists. **N** - link failure reason of local processor outage does not exist.
MGMTINHB	Indication of link management inhibit status	**L** (Local) - link is deactivated or inhibited or link failure reason of local processor outage exists. **R** (remote) - link failure reason of remote processor outage exists or remote management initiated exists. **B** (Both) –both local and remove failure reasons exist. **N** (Not/Neither) no local or remote failure reasons exists.
CGSTLEVL	Current link transmit congestion level	Congestion level: **0 –** no link congestion **1, 2, or 3** - link congestion level exists.
CGSTSTAT	Current link transmit congestion state	**N –** none (congestion level 0) **O** – onset (congestion level 1, 2, or 3)

Table 3-217 (Cont.) Maintenance Status Link Measurements

Event Name	Description	Unit
DCLRFAIL	Indication of link declared failure state (last known cause)	**N** – not failed. LSL: Link is available to send and receive MSUs (in-service normal state). HSL: Same **ABN** – link failed due to receiving too many abnormal **FIBR**/**BNSR**. LSL: Link received 2 out of 3 invalid BSNs. Link received 2 out of 3 invalid FIBs. HSL: N/A **XDA** – Excessive delay of acknowledgment LSL: MSU not acknowledged within level 2 -T7 timer expiration. T7 configurable between .5 and 2.0 seconds. HSL: Timer no response or timer no credit expired. **XER** – Excessive error rate. Received 64 out of 256 signaling units in error. LSL: Signaling Unit Error Rate Monitor HSL: Signaling Unit-Error-Rate-Monitor threshold exceeded. **XDC** – Excessive duration of congestion LSL: Level-2 T6 timed-out HSL: N/A. **APF** – alignment/proving failure LSL: Link not aligned. Link state control aligned not ready or aligned ready timeout (**T1**), initial alignment control timeout (T2,T3), initial alignment control abort proving – maximum proving period, or initial alignment control received **SIOS**. HSL: N/A.

Table 3-217 (Cont.) Maintenance Status Link Measurements

Event Name	Description	Unit
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** indicates data not current	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)

    LKMTCST    =   '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)

    LKMTCST    =    '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)

    LKMTCST    =    '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)

    LKMTCST    =    '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)

    LKMTCST    =    '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)
```

```
    LKMTCST    =    '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","IVA
LSTART","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","DCL
RFAIL","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 3-218 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 3-219 Maintenance Status Linkset Measurements

Event Name	Description	Unit
LKMTCST	Maintenance State	**ACT –** link primary state is **IS-NR** and is or can be used to carry traffic. **UNAV** - link has been made unavailable by local or centralized maintenance personnel (inhibited or canceled link or active local processor outage). **OOS** – link out-of-service but can be made available by the **STP**.
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 **IS-NR** and OOS-MT-DSBLD.
STATUS	Indication of Data Validity: **K** indicates good data **I** indicates incomplete interval **N** 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","IVA
LSTART","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 3-220 Typical File Size: `mtcs-lnkset.csv`

System header	+	Report header	+	Report data	=	File Size
250	+	70	+	26,000	=	26,320 bytes

Index

A

ATINPQ, *3-204*, *3-302*

C

Corrective Maintenance, *1-1*

D

Data Collection Details, *2-9*

E

enttype=atinpq, *3-204*, *3-302*
enttype=vflex, *3-202*, *3-300*

P

Preventive Maintenance, *1-1*

S

System total reports, *3-1*, *3-18*

T

Traffic Measurements
    Measurement periods, *2-12*

V

V-Flex, *3-202*, *3-300*