ERICSSON

Configuring Minimization of Drive Tests

OPERATION DIRECTIONS

46/1543-AXB 250 17 Uen D

Disclaimer

The contents of this document are subject to revision without notice due to continued progress in methodology, design and manufacturing. Ericsson shall have no liability for any error or damage of any kind resulting from the use of this document.

Contents

1 Introduction

This document describes how to configure the Minimization of Drive Tests (MDT) feature within the SGSN-MME for LTE Systems.

For more information about the MDT feature, see Minimization of Drive Tests.

1.1 Scope

This document covers the following topics:

— Prerequisites for the configuration

— Instructions for configuring the MDT feature

— Instructions for consistency checking, activating, and checkpointing

— Configuration example

1.2 Target Groups

This document is intended for personnel that need to configure the MDT feature in the SGSN-MME.

2 Prerequisites

This section outlines the prerequisites for the configuration.

2.1 Planning

Before executing the instructions in this document, do the following:

— Refer to Minimization of Drive Tests to learn more about the MDT feature.

— Ensure that an external system capable of handling the MDT Mapping logs is available.

Note: The external system is also called a Trace Collection Entity (TCE).

2.2 User

The person to configure the MDT feature must be trained in management of the SGSN-MME.

3 Configuring the MDT Feature

This section describes how to configure the MDT feature.

To display configuration classes and parameters related to MDT feature, use the get_config_area -can Mdt CLI command.

3.1 Preparing the External System

Ensure that the external system, namely the TCE, supports the following as required:

— Collecting MDT trace logs

— Fetching MDT Mapping log files from the MME

— Decoding MDT Mapping PDUs streamed from the MME

MDT Mapping interface files can be copied to the external system so that it can parse the MDT Mapping logs. For more information about MDT Mapping interface files, see MDT Mapping Log. For information about how to copy the interface files from the SGSN-MME to an external system, see Section 3.1.1 on page 5. See the user manual of the external system for more details.

3.1.1 Copying Interface Files to an External System

This section describes how to copy MDT Mapping interface files from the SGSN-MME to an external system. The interface files refer to `mdtm_definition.xml` and `1_LMI-09:1899.xsd`.

These steps can be performed by a system administrator or a user with equivalent rights. Secure File Transfer Protocol (SFTP) or any other appropriate File Transfer Protocol can be used to transfer the files.

Using SFTP:

1. Connect to the SGSN-MME using SFTP.

   ```
   unix> sftp <user>@<Gom IP address>
   ```

   Example: **`unix> sftp sysadm@10.10.10.96`**

2. Change the directory to the location where the MDT interface files are stored.

   ```
   sftp> cd /tmp/DPE_SC/ApplicationData/GSN
   ```

3. Transfer interface files `mdtm_definition.xml` and `1_LMI-09:1899.xsd` to the external system.

```
sftp> mget mdtm_definition.xml

sftp> mget 1_LMI-09:1899.xsd
```

4. End the SFTP session.

   ```
   sftp> bye
   ```

3.2 Enabling the MDT Feature

Follow the instructions below to enable the MDT feature:

1. Enable the MDT feature by setting `FeatureStateId` to mdt and `FeatureState` to `ACTIVATED`, using the modify_feature_state CLI command:

   `gsh modify_feature_state -fsi mdt -fs ACTIVATED`

3.3 Enabling Logging to a File

Follow the instructions below to enable MDT Mapping events to be logged to a file:

1. To enable logging of the MDT Mapping events on the MME, set the log_mdt_mapping parameter to `on` using the modify_node_function CLI command:

   `gsh modify_node_function -name log_mdt_mapping -state on`

3.4 Enabling Streaming to the TCE

Follow the instructions below to enable MDT Mapping events to be streamed to the TCE:

1. To enable streaming of the MDT Mapping events, set the stream_mdt_mapping parameter to `on` using the modify_node_function CLI command:

   `gsh modify_node_function -name stream_mdt_mapping -state on`

2. Configure the TCE server using the create_mdtm_tce_server or the create_mdtm_tce_ipv6server CLI command.

   Example: **`gsh create_mdtm_tce_server -tcsn TCEv4 -ip 10.0.4.90 -port 3386`**

3. Configure the MDTM IP service on the MME side using the create_ip_service CLI command.

   Example: **`gsh create_ip_service -sn MDTM -nw Gom`**

4. Configure the MDTM IP service address using the create_ip_service_address or the create_ip_service_ipv6address CLI command.

   Example: **`gsh create_ip_service_address -sn MDTM -ip 10.0.0.13`**

Note: A TCE server connected to the same MME can be configured with either an IPv6 or IPv4 address.

4 Consistency Checking, Activating, and Checkpointing

This section describes procedures for consistency checking, activating, and checkpointing the configuration.

4.1 Checking and Activating the Configuration

Check the consistency and activate the pending configuration by performing the following steps:

1. Run a consistency check before activating the pending configurations by using the following CLI command:

   ```
   gsh check_config
   ```

2. Activate the pending configuration by using the following CLI command:

   ```
   gsh activate_config_pending
   ```

4.2 Checkpointing the SC

When all features are configured, do the following:

1. Verify that the traffic is stable by performing a health check. For more information about how to perform the health check procedure, see Health Check.

2. When the traffic is stable, store the current trusted Software Configuration (SC) by performing a checkpoint. Set the SC as the default SC (permanent SC) for recovery in the event of automatic fallback.

   ```
   gsh checkpoint { -cpn CheckpointName } -default_sc true
   ```