

System Management

DESCRIPTION

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1 Understanding System Management

1.1 Key System Management Concepts

System Management provides a management interface to identify the Managed Element (ME), access some overall system attributes and manage time. It provides the root Managed Object (MO) of the complete Management Information Base (MIB) and is as such the base for addressing all MOs in the ME.

The complete MOM is realized by a set of XML model files. Each XML model file realizes a model that defines parts of the ME functionality, represented by MOCs, attributes, and actions. A model is identified by its name and version, and is represented by a *Schema* MO.

The XML model files can be used by an external management system, for example, a domain manager or a Local Craft Terminal, to learn the ME capabilities and provide a graphical user interface.

System Management is accessed using NETCONF or ECLI to manipulate the MIB.

The *SysM* Managed Objects Classes (MOCs) can be found in the Managed Object Model (MOM). For general information about the Managed Objects, cardinality, and related concepts, refer to *Managed Object Model User Guide*.





2 Basic System Management Procedures

- Address managed element:

The ME identity or node name has been given a network-unique value at installation or commissioning time. It usually follows this convention:

<node type in 3-5 letters><number of the node within this type in 2 digits><city or other geographical identification in 2 letters>

For example, CSCF05NY and HSS08LA.

To address any MO from the root MO in the MIB through the Northbound Interface (NBI), the corresponding Distinguished Name (DN) must always begin with the correct node name. For example, `ManagedElement=NODE06ST, SystemFunctions=1`. This is relevant especially for NETCONF operations and Ericsson Command-Line Interface (ECLI) scripts. In ECLI interactive sessions, the user can navigate in the MIB using Relative DNs (RDNs) and perform operations and changes without specifying the node name. The procedure in *Check General System Attributes* provides details on how to identify the ME identity or node name.

Note: The ME identity or node name is configurable. However, the user must not change it under normal circumstances since it has impact on the integration to NBI clients like management systems.

- Identify DN prefix:

The DN prefix can be used by management systems as a naming context to partition the MOs from different MEs into logical domains. It is usually set at installation or commissioning time. The DN prefix value is prepended to DNs (*<DN_prefix>*, *<local_DN>*) but only affects Performance Management measurement files exposed by the ME. The procedure in *Check General System Attributes* provides details on how to identify the DN prefix.

Note: The DN prefix or node name is configurable. However, the user must not change it under normal circumstances since it has impact on the integration to NBI clients like management systems.

- Identify managed element:

An NBI client or a user identifies the ME at runtime by the identification of the product realizing the ME. The procedure in *Check General System Attributes* provides details on how to identify the ME. The following information is used for the ME identification:



- The ME type identifies the type of product being managed, for example, Home Subscriber Server (HSS) or Call Session Control Function (CSCF).
- The ME release identifies the release of the product specified by the ME type, for example, 11.0.

- Identify managed element location:

The site location describes the geographic location of the ME. For further details, refer to *Check General System Attributes*.

- View managed element time

The ME provides its local date and time, offset from UTC and time zone.

- Handle NTP clock synchronization server associations:

NTP Server associations are used by the ME to identify which NTP servers to retrieve network time from. An NTP association can be locked as part of a maintenance activity so the ME no longer synchronizes its time with the corresponding time server. NTP associations can be removed, added, or modified as part of network configuration change activities. For further details, refer to *Change NTP Address*.

Note: This configuration is not valid for Physical Network Function implementations.