CHAPTER 1

Overview

Cisco Mobile Wireless Transport Manager (MWTM) 6.1.6 provides monitoring and management capabilities that enable network administrators to discover, manage, and troubleshoot networks that include Cisco IP Transfer Point (ITP) or Radio Access Network Optimization (RAN) networks.

You can access the MWTM 6.1.6 via two interfaces:

- The graphical user interface (GUI)—Connects you to an easy-to-navigate tree display of all network objects and extensive web-based online help.
- The MWTM 6.1.6 Operations Support System (OSS) integration Application Programming Interface (API)—Intended for the OSS integrator and developer. The MWTM 6.1.6 OSS integration API provides the programming interface to the MWTM 6.1.6 for inventory, event, and provisioning management.

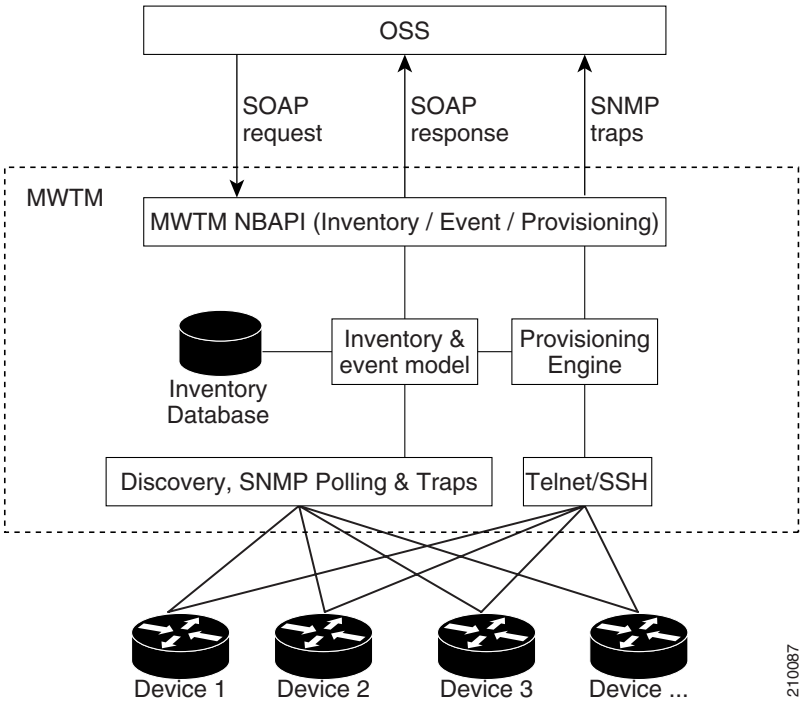
The MWTM supports both Hypertext Transfer Protocol (HTTP) and Hypertext Transfer Protocol over Secure Socket Layer (HTTPS) communications for the GUI interface and the OSS integration interface. To set up secure access to these interfaces, see “Implementing SSL Support in the MWTM” in Chapter 2 of the *User Guide for the Cisco Mobile Wireless Transport Manager 6.1.6*. Non-secure access is described in this chapter.

This chapter includes the following sections:

MWTM 6.1.6 NBAPI Overview

MWTM 6.1.6 provides a Northbound API (NBAPI) interface for OSS integration. A block diagram illustrating the MWTM and Northbound API is shown in Figure 1-1.

Figure 1-1 MWTM 6.1.6 and NBAPI Block Diagram



SOAP-based API for Northbound OSS Integration

The OSS can send Simple Object Access Protocol (SOAP)[1] requests to the MWTM 6.1.6 Inventory/Event/Provision API. MWTM 6.1.6 provides Remote Procedure Call (RPC) style API that accepts SOAP messages from the OSS and responds with SOAP responses. The MWTM 6.1.6 Event API might also respond to OSS requests by sending Simple Network Management Protocol (SNMP) traps to the Northbound OSS in addition to the SOAP response.

The MWTM 6.1.6 Northbound API is defined in the Web Service Definition Language (WSDL). WSDL[2] is a W3C recommendation. It defines the communication protocol and message exchanges between two remote applications.

MWTM 6.1.6 implemented SOAP 1.1 Hypertext Transfer Protocol (HTTP) binding by using the Java Web API for XML Web Services (JAX-WS) 2.0.

1. A communication protocol between remote applications (see http://www.w3.org/TR/soap/).
2. An interface definition language for web services (see http://www.w3.org/TR/wsdl).

Three Categories of Functions: Inventory, Event, Provisioning

The three categories of functions that MWTM 6.1.6 provide are:

Inventory

The Inventory API provides methods for the Northbound OSS to retrieve MWTM 6.1.6 inventory objects from MWTM 6.1.6 database.

The following operations are provided by the MWTM 6.1.6 Inventory API:

- Retrieve all the inventory objects from MWTM 6.1.6.
- Retrieve a specific inventory object from MWTM 6.1.6.
- Walk the MWTM 6.1.6 inventory tree.
- Attach a text note to an inventory object.

The Inventory API allows the OSS to synchronize with the MWTM 6.1.6 inventory database, or to retrieve any inventory object attributes, including both configuration attributes and status monitoring attributes.

Event

The Event API provides methods for the Northbound OSS to retrieve events/alarms from the MWTM 6.1.6 database and to receive real-time notifications if the MWTM 6.1.6 receives or detects a network event/alarm.

The following operations are provided by the MWTM 6.1.6 Event API:

- Retrieve all the events from MWTM 6.1.6.
- Retrieve a filtered list of events from MWTM 6.1.6. Filter can be based on date/time, event ID range, severity, category, or message text.
- Clear an event alarm.
- Change severity of an event.
- Acknowledge an event.
- Attach a text note to an event.

The MWTM 6.1.6 event subsystem is shipped with a set of predefined event configurations. MWTM 6.1.6 also allows a flexible customization capability for the event subsystem. The administrator can:

- Customize MWTM 6.1.6 to send SNMP trap notifications to the OSS at a specified location (host/port) for v1 or v2c traps.
- Customize MWTM 6.1.6 event severities.
- Customize MWTM 6.1.6 event categories.
- Customize MWTM 6.1.6 event message text.
- Customize whether or not to include a specific type of MWTM 6.1.6 event for Northbound SNMP trap notification.

Provisioning

The Provision API allows the OSS to provision the IP Transfer Point (ITP) Linkset and Link. It also allows the OSS to provision the Application Server (AS) and Application Server Process (ASP) for the Message Transfer Part, Level 3 (MTP3) User Adaptation (M3UA) and Signaling Connection Control Part (SCCP) User Adaptation (SUA) protocols.

The following operations are provided by the MWTM 6.1.6 Provision API:

- Provision Signaling Point:
  - Add/modify Signaling Point on the device
  - Add/delete/modify features on the Signaling Point
- Provision Linkset/Link:
  - Add/delete Linkset/Link on the device
  - Add/delete/modify features on the Linkset/Link
- Provision Application Server/Application Server Process (AS/ASP):
  - Add/delete AS/ASP on the device
  - Add/delete/modify features on the AS/ASP
- Provision Router Interfaces:
  - Add/delete router interface on the device
  - Add/delete/modify features on router interfaces