CHAPTER 1

Overview

This chapter describes the Cisco Mobile Wireless Transport Manager (MWTM) and contains:

What Is MWTM?

Using the MWTM, you can discover, manage, and troubleshoot objects in your ITP, IPRAN, and/or mSEF network. The MWTM provides:

Server and Network Features

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- Supports Windows and Solaris clients and Solaris and Linux servers, and provides data access through a web browser.

  Supports large networks and is verified to work with a network containing up to 200 managed ITP nodes, or 10,000 managed IPRAN nodes, or 10,000 managed mSEF nodes, and 50 clients connected to the server. See the "Server System Requirements" section in the *Installation Guide for the Cisco Mobile Wireless Transport Manager 6.1.2*

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  - Cisco Broadband Wireless Gateway (BWG)
  - Cisco Packet Data Serving Node (PDSN)

  Lets you create custom views and subviews for grouping similar nodes together, where the state of the subview is the aggregation of the states of the contained nodes.

  Provides a command-line interface (CLI) on the server.

  Allows clients to connect to a server through the IP network; clients work across a Virtual Private Network (VPN) connection through a firewall that supports port forwarding or Network Address Translation (NAT), and through a Secure Sockets Layer (SSL) connection.

  (ITP only) Supports concurrent network indicators and variants; ANSI, China, ITU, NTT, and TTC point code variants; three- and four-octet point code formats; multiple secondary point codes; SS7 instance translation; and virtual linksets.

Graphical User Interface and Web Features

- Provides a Java-based, easy-to-use GUI on the client with an easy-to-navigate display of all network objects as well as extensive web-based online help.
- Provides an extensive HTML-based web interface. Most of the primary GUI client features are also available on the web interface. See Browser Questions, page C-6 for more information about the differences between the Java client and the web interface.

Event Monitoring Features

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Performance Features

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  Cisco RAN-O nodes—Network and detailed interface-level statistics

  Cisco ITP nodes

  mSEF

  PWE3

MWTM Provision Attributes *OSS Integration Guide for the Cisco Mobile Wireless Transport Manager 6.1.2*

Security Features

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Topology Features

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Customization Features

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You can:

Customize MWTM network(s) to show menus, options, and tools that are specific to the types of network that you are managing. You customize your network preferences during installation. You can change the network type later, if required, through the command line.

Customize the GUI, topology, and tabular views to meet your specific needs. You can save customized views and subviews for future use and reference, and share them with other network users.

Annotate network objects and events, attaching important information such as detailed descriptions, locations, service history, what triggered the event, and how often it has occurred.

Customize the display category, severity, color, and message that you see with events. You can even have the MWTM play unique sounds for different types of events.

Automate events, calling UNIX scripts to drive automatic paging, e-mail, and so on.

Forward SNMP traps, and MWTM events in the form of SNMP traps, to other hosts, such as the Cisco Info Center (CIC) and the Micromuse Netcool suite of products.

(ITP only) Load destination point code (DPC) route tables, GTT tables, and MLR address tables from files or from ITPs, configure the tables in the MWTM client, and deploy and activate the tables on ITPs. Supports GTT file format versions 3.1, 4.0, and 4.1. Supports cross-instance GTT files. Provides command-line verification of route tables and GTT tables.

The MWTM can integrate with:

CiscoWorks LAN Management Solution (LMS) portal, which provides a suite of CiscoWorks products, including:

Resource Manager Essentials, which provides network management for Cisco ITP, RAN-O, and mSEF nodes.

CiscoView Element Manager, which provides dynamic status, monitoring, and configuration information for a broad range of Cisco internetworking products.

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What Is ITP?

Events	• Retrieving all or filtered list of events (based on time, event ID, severity, category, message text) • Clearing event alarms • Changing event severity • Acknowledging events • Attaching text notes to events
Inventory	• Retrieving all inventory objects • Retrieving a specific inventory object • Walking the MWTM inventory tree • Attaching text notes to an inventory object
Provisioning (ITP only)	• Customizing the MWTM templates when necessary • Configuring: linksets links application servers application server processes

traffic onto the IP network, replacing the mobile service provider's signaling network with a redundant IP cloud.

In the ITP, and in the MWTM, a is a Cisco ITP or a legacy SS7 device (SSP, SCP, or STP).

A Cisco ITP node can have multiple . Signaling points are identified with unique addresses called . Point codes are carried in signaling messages that are exchanged between signaling points to identify the source and destination of each message.

links *linkset*

two

application server

application server processes

application server process association

signaling gateway-mated pair

managed

objects

IP Transfer

Point (ITP)

CDT?

Note

What Is IPRAN?

http://www.cisco.com/en/US/netsol/ns732/networking_solutions_solution.html

There are two families of pseudowire protocols used within the Cisco IPRAN: PWE3 and RAN-O.

What Is PWE3?

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What Is RAN-O?

delivers nominal optimization efficiency of 50% without any impact on voice quality.

In RAN-O and in the MWTM, a is a Cisco RAN-O device. A RAN node can be one of the following:

- Cell Site Router (CSR):

  Cisco MWR 1941-DC-A and MWR 2941-DC routers

  Cisco 3825 Integrated Services Router
- Cisco ONS 15454 SONET multiplexer
- RAN Service Module (card in the Cisco ONS 15454 SONET multiplexer)
- Unmanaged RAN node (BSC, RNC, BTS, or Node B)

Note The MWTM does not manage BSC, BTS, RNC, or Node B objects but displays them in the topology window to help you visualize the network.

RAN interfaces that are available on the nodes interconnect nodes in a RAN-O network. A Cisco RAN-O node can have multiple *RAN interfaces*

Cards

IP backhauls

RAN shorthauls

- *Cisco MWR 1941-DC-A Mobile Wireless Edge Router Software Configuration Guide*

  Cisco MWR 2941-DC Mobile Wireless Edge Router Software Configuration Guide

  Cisco ONS 15454 RAN Service Module Software Configuration Guide

What Is mSEF?

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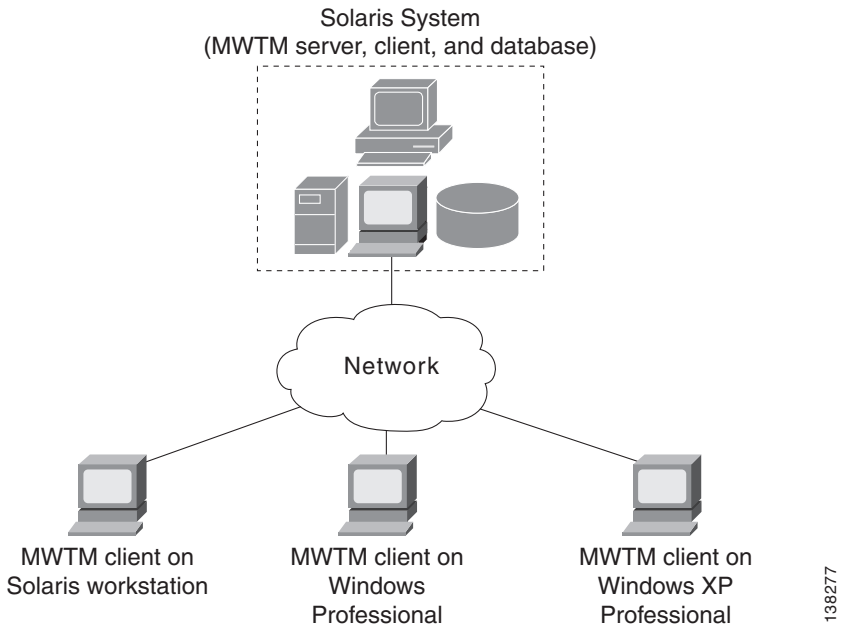
How Do I Identify My Network Type?

What Is Client/Server Architecture?

Figure 1-1 MWTM Client/Server Architecture



The MWTM client is also available on Linux, but is not a supported feature of the MWTM. Use it under advisement.

The client/server architecture is cross-platform compatible, with which you can run the client and server software in mixed operating system environments. For example, you can run the MWTM server on a Solaris or Linux workstation, and access it from an MWTM client running on Windows XP Professional.