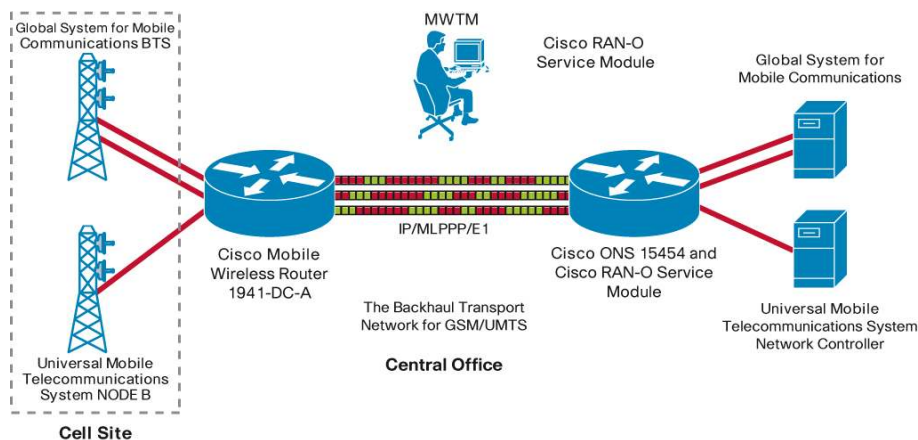# Cisco Mobile Wireless Transport Manager 6.1.7

Product Overview

Cisco® Mobile Wireless Transport Manager provides monitoring and management capabilities for the following solutions:

- Cisco Radio Access Network (RAN) Optimization Solution for Global System for Mobile Communications (GSM) and Universal Mobile Telecommunications Service (UMTS) solution (Figure 1)
- Cisco IP IP RAN solutions
- Cisco IP Transfer Point (ITP) networks
- Cisco Mobile Internet solutions

Figure 1.   Cisco Mobile Wireless Transport Manager and RAN Optimization Overview

Cisco Mobile Wireless Transport Manager easily integrates with existing Cisco network management products such as CiscoWorks LAN Management Solution and IBM Tivoli Netcool for Cisco Prime, as well as third-party network management products, to provide a complete set of monitoring and management tools for mobile Internet networks based on Cisco IP Next-Generation Networks (NGNs). For more information on the Cisco IP Next-Generation Networks for mobile operators, please visit http://www.cisco.com/go/mobile.

Features

Cisco Mobile Wireless Transport Manager provides the following features and capabilities.

Basic Capabilities

- Discovers the entire Cisco ITP network and displays the ITP devices, neighboring Signaling System 7 (SS7) equipment, and linksets in tables and in a network topology drawing that users can customize. Users can create custom views and subordinate views for combining similar devices together, where each subordinate view displays the state of the contained devices.

- Locates the entire Cisco IP RAN and RAN Optimization network and displays each network element, neighboring equipment, and physical/logical connectivity in a network topology drawing that users can customize (RAN Optimization only). Users can create custom views and subordinate views for grouping similar devices together, where each subordinate view displays the state of the contained devices.

- Discovers and monitors the Cisco Mobile Internet infrastructure next-generation network, including troubleshooting and real-time statistics viewing.

- Provides an easy-to-use GUI client (Figure 2) and robust server processes that can be managed by a powerful command-line interface (CLI).

- Allows printing windows to a file or PostScript printer, as well as saving the topology map to a JPEG file.

- Provides integrated, online, context-sensitive help that can be customized to suit specific operational needs or languages.

- Supports Windows and Solaris clients (based on client/server architecture) and Solaris and Linux servers and provides data access through a web browser.

- Allows clients to connect to a server through the IP network; clients work across a VPN connection through a firewall that supports port forwarding or Network Address Translation (NAT) and through a Secure Sockets Layer (SSL) connection.[1]

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[1] This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. For more details please visit http://www.openssl.org/.

Figure 2.   Cisco Mobile Wireless Transport Manager Overview for the Cisco ITP Solution

Event Monitoring

- Displays a real-time event list that supports acknowledgement, annotation, customized filtering, and field viewing that conform to ITU-T X.733 standards (Figure 3).

- Receives native traps from hardware devices in the Cisco IP RAN, RAN Optimization, Cisco ITP, and Mobile Internet solutions and uses Simple Network Management Protocol (SNMP) polling to identify the status of each managed Cisco Mobile Internet and RAN device and ITP platform. Cisco Mobile Wireless Transport Manager uses easy-to-recognize, color-coded icons and an X.733-based alarm format to report the status.

- Provides web-based status monitoring, alarm viewing, sorting, filtering, archiving, online documentation, and client download.

- Provides external script execution on the server and sound-based notifications on the client; both are customizable and triggered by events or alarms.

Figure 3.   Cisco Mobile Wireless Transport Manager Event Browser for the Cisco ITP Solution
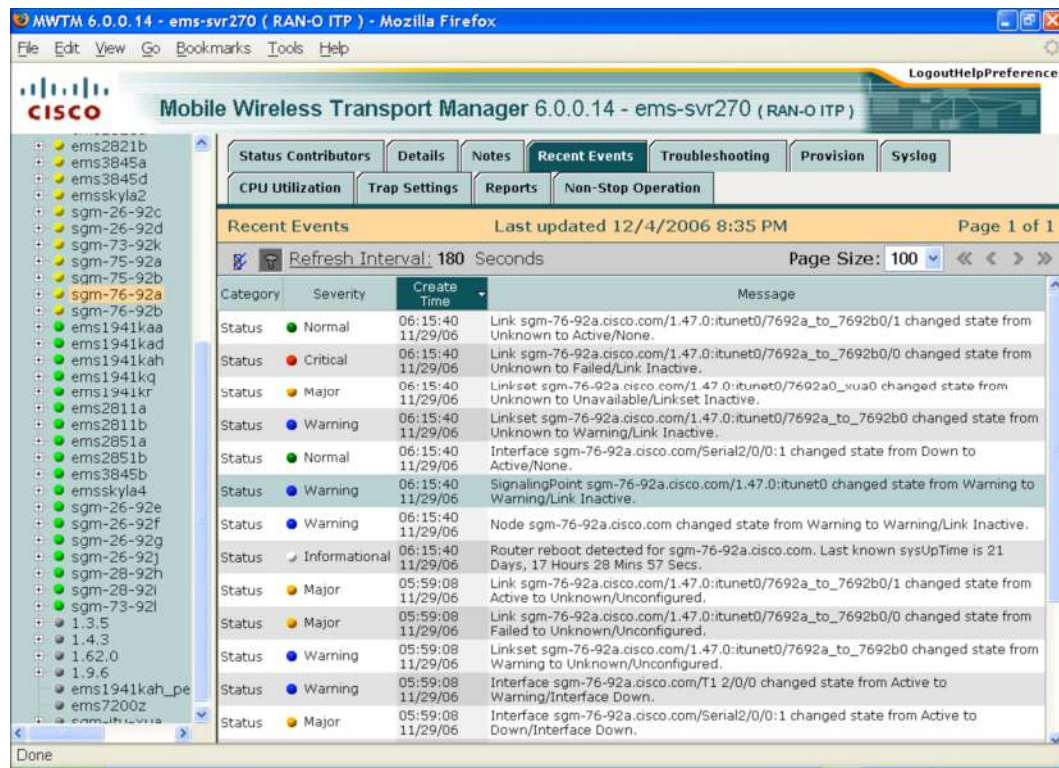
Wizard-Based Provisioning

- Provides configuration support for Cisco Content Services Gateway (CCSG), Cisco Gateway GPRS Support Node, and Packet Data Serving Node (PDSN).

- Assists in provisioning destination point code (DPC) route tables, global title translation (GTT) tables, multilayer routing (MLR) address tables, links, and linksets by providing GUI-based editing (Figure 4); reduces errors by checking syntax and semantics before deploying the tables to the Cisco ITP device.

- Assists in provisioning and provides revision management and archiving of DPC route, GTT, and MLR address tables; can redeploy a known-good configuration in the event of a misconfiguration; stores time of change, user ID, and comments for each change.

- Supports configuration of Cisco IP RAN devices (Cisco MWR-1941, Cisco 3825, and Cisco 7600) with strong semantic and syntactic checks for attributes such as Pseudowire cross-connects, ATM cell switching, and controller configuration.

Figure 4.   Cisco Mobile Wireless Transport Manager Linkset Configuration for Cisco ITP Solution
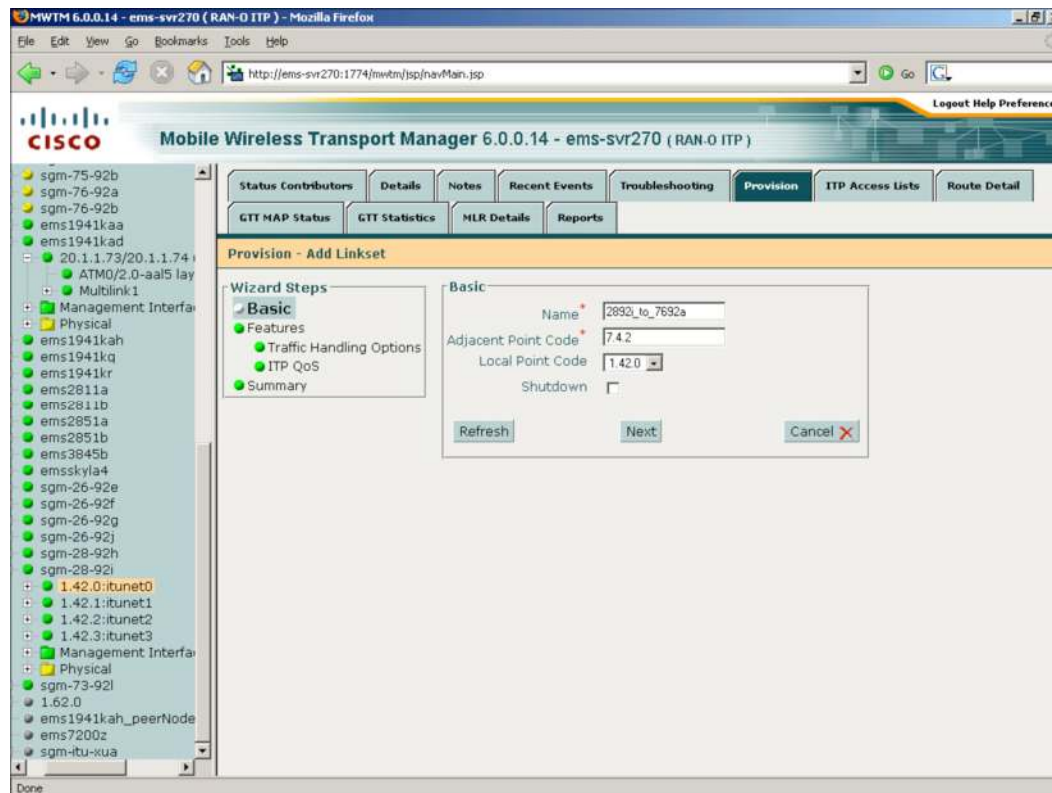
Performance Reporting

- Provides extensive web-based accounting and network statistics reports.

  ◦ Cisco IP RAN and RAN Optimization devices: Network utilization (Figure 5) and detailed interface-level statistics such as PWE3 statistics.

  ◦ Cisco ITP devices: Network efficiency and detailed interface-level statistics as well as Q.752-based statistics reports, point code inventory reports, including MTP3, GTT, M3UA/SUA, MSU, and multilayer routing reports.

  ◦ Cisco Mobile Internet devices: Access point names for Cisco GGSN and attributes such as maps and billing services for Cisco CSG and Cisco Home Agent statistics.

- Displays real-time data rate and usage line graphs.

- Supports options to configure collection intervals, record aging, and export statistics using comma-separated value (CSV) format files.

Figure 5. Cisco Mobile Wireless Transport Manager Historical Performance Report for the Cisco RAN Optimization Solution
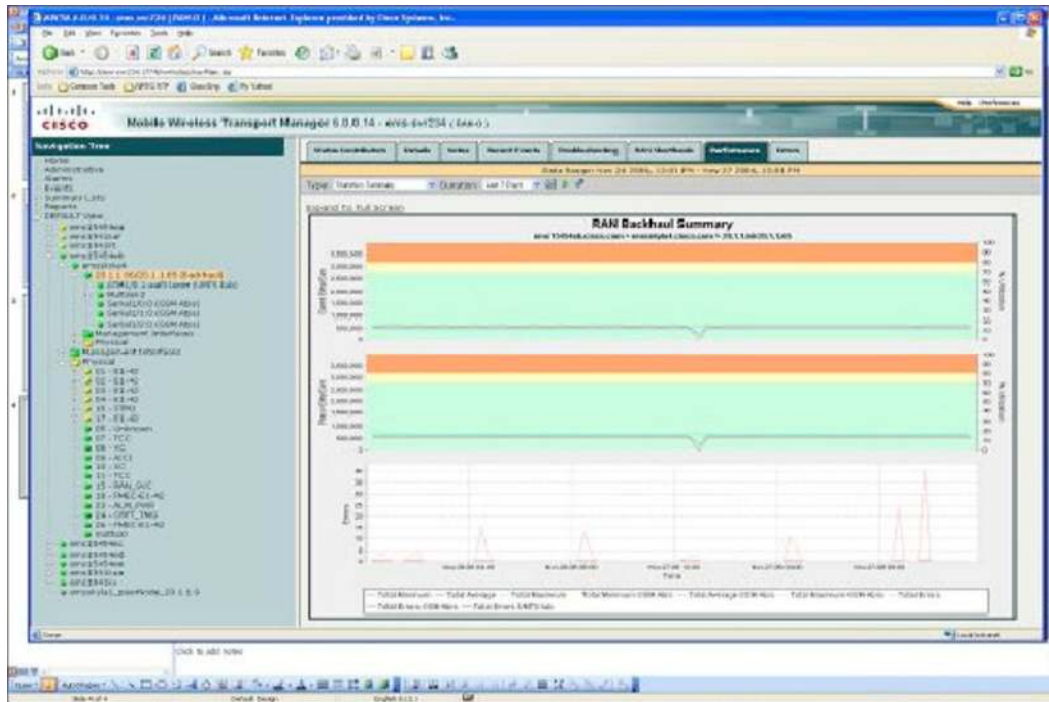
Troubleshooting

- Provides customizable troubleshooting tools that aid in reducing the total time to resolution of network/device problems.
- Cisco Mobile Internet: Provides the ability to search for a subscriber by NAI for Cisco Home Agent devices, or by MSISDN for Cisco GGSN devices.
- Provides integrated, online, context-sensitive help.

Third-Party OSS Product Integration

- Receives SNMP traps and generates Cisco Mobile Wireless Transport Manager-specific traps for forwarding to external SNMP-based network management applications. Stores statistics in CSV format files for extracting performance and key performance indicator (KPI) metrics information.
- Northbound Cisco ITP, Mobile Internet, IP RAN, and RAN Optimization Events Extensible Markup Language (XML)/Simple Object Access Protocol (SOAP) APIs that allow third-party OSSs to programmatically manage Mobile Wireless Transport Manager events by:
  - Retrieving a list of all events or a filtered list of events (based on time, event ID, severity, category, message text)
  - Clearing the event alarm
  - Changing event severity
  - Acknowledging an event
  - Attaching a text note to an event

- Northbound Cisco ITP, Mobile Internet, IP RAN, and RAN Optimization Inventory XML/SOAP APIs that allow third-party OSSs to programmatically access Mobile Wireless Transport Manager inventory by:
  - Retrieving all inventory objects
  - Retrieving a specific inventory object
  - Walking the Mobile Wireless Transport Manager inventory tree
  - Attaching a text note to an inventory object
- Northbound provisioning XML/SOAP APIs that allow third-party OSSs to programmatically manage provisioning by customizing Mobile Wireless Transport Manager templates when necessary and to configure:
  - Cisco ITP devices
  - Cisco Mobile Internet devices: Cisco CSG and Cisco GGSN
  - Cisco IP RAN devices

Security
- Multiple user-authentication methods supported: Pluggable Authentication Modules (PAM), OS-based, and standalone.
- Password enforcement policies: Aging, minimum length, and lockouts.
- Audit trails and logging capabilities.
- Optional SSL-based encryption between client and server support.
- Optional Secure Shell (SSH) Protocol-based encryption between server and network elements.
- Role-based access control support for different levels of network users.

Carrier-Class Features
- Scalability: Supports large networks and has been verified to work with a large-scale network.
- Security: Supports user authentication, multiple levels of user access, password-protected web pages, activity logging for audit trails, and an optional package for encrypting all client/server communications data.
- Redundancy: Multiple Cisco Mobile Wireless Transport Manager servers can monitor the network simultaneously, providing data redundancy. Clients have server failure recognition and automatic failover capabilities.
- Availability: Cisco Mobile Wireless Transport Manager clients will automatically switch to a backup server when the primary server is not available (in network problems or hardware failures, for example).

Interoperability
Cisco Mobile Wireless Transport Manager integrates with any SNMP-based event monitoring system. In addition, the solution collects a large amount of performance data that can be exported from the database. This data can then be used by performance reporting applications from companies such as Concord or InfoVista.

Product Specifications

Table 1 lists the Cisco devices that Cisco Mobile Wireless Transport Manager supports.

Table 1.   Cisco Mobile Wireless Transport Manager Device Support

	Supported Device
IP RAN and RAN Optimization	Cisco Mobile Wireless Edge Router (MWR-2941)
	Cisco Mobile Wireless Edge Router (MWR-1941)
	Cisco 3825 Router
	Cisco ONS 15454
	Cisco ONS RAN Service Module (ONS-RAN-SVC)
	Cisco 7600 Router
ITP	Cisco 2650 and 2651 Multiservice Routers (low end)
	Cisco 2811 Multiservice Routers (low end)
	Cisco 7204VXR and 7206VXR Routers (midrange)
	Cisco 7301 Router (midrange)
	Cisco 7507 and 7513 Routers (high end)
	Cisco 7600 Router (high end)
	Cisco 7600 Router with WS-SVC-SAMI-BB-K9 (high end)
	Cisco Database for Telecommunications
Mobile Internet	Cisco WiMAX Broadband Wireless Gateway
	Cisco Content Service Gateway
	Cisco Home Agent
	Cisco GGSN
	Cisco Serving Gateway
	Cisco Packet Data Network Gateway
	Cisco 7600

Refer to the Mobile Wireless Transport Manager Release Notes for a Cisco IOS® Software compatibility matrix.

System Requirements

Cisco Mobile Wireless Transport Manager server and client system requirements are described in Chapter 1 of the Installation Guide, located at http://www.cisco.com/en/US/products/ps6472/prod_installation_guides_list.html.

Ordering Information

Cisco Mobile Wireless Transport Manager and related upgrades are available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the Cisco Ordering Homepage.

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in a high level of customer satisfaction. Cisco services help you to protect your network investment, optimize network operations, and prepare the network for new applications to extend network intelligence and the power of your business. For more information about Cisco services, see Cisco Technical Support Services or Cisco Advanced Services.

For More Information

For more information about Cisco Mobile Wireless Transport Manager, visit http://www.cisco.com/go/mwtm, contact your local account representative, or send an email to the customer support group at cs-mwtm@cisco.com.