Basic Operations

This chapter provides information about basic operations that you can perform in the Cisco Mobile Wireless Transport Manager (MWTM), and contains:

- Changing Client and Web Preference Settings, page 4-1
- Viewing Online Help, page 4-22
- Finding Information in a Window, page 4-23
- Navigating Table Columns, page 4-24
- Printing Windows, page 4-25
- Managing and Deploying ITP Files, page 4-25
- Exporting Data, page 4-37
- Integrating the MWTM with Other Products, page 4-38
- Running Simultaneous Client Sessions, page 4-41
- Performing Basic Server Operations, page 4-41
- Using the Command Line Interface, page 4-45

Note The default directory for installing the MWTM is */opt*. In commands that call for the default directory, if you installed the MWTM in a different directory, you must specify that directory instead of */opt*.

Changing Client and Web Preference Settings

This section contains this information:

- Changing Client Preference Settings, page 4-2
- Changing Web Preference Settings, page 4-19
- Changing Real-Time Poller and Counter Settings, page 4-21

Changing Client Preference Settings

When a user changes some aspect of the MWTM client, such as the size of a window, or the order of columns in a window, the MWTM makes note of the user's preferences on the MWTM client and server. The MWTM saves the user's preferences to the MWTM server when the MWTM client exits.

Thereafter, whenever the user launches the MWTM client, the MWTM searches for the user's preferences. If the MWTM finds the user's preferences on the MWTM server, the MWTM launches the MWTM client with those preferences. Otherwise, the MWTM launches the MWTM client with the default preferences file.

In addition to the user preferences that the MWTM automatically saves, you use the MWTM to change many GUI, data, topology, and table settings that affect the way the MWTM presents its information.

✎
Note   Anyone who uses the MWTM client can change its preference settings, and the changes affect all views running on this client.

To change overall MWTM preference settings, choose **Edit > Preferences** from the MWTM client main menu. The MWTM displays the Preferences window.

In the Preferences window, you can:

Displaying the Preferences Menu

The menu on the Preferences window contains:

Option	Description
File > Load System Default Prefs	Restores all preference settings to the original system default settings.
File > Save (Ctrl-S)	Saves the preference changes.

Option	Description
File > Close (Ctrl-W)	Closes the Preferences window. To close the Preferences window at any time, choose **File > Close**. If you have changed any preferences, the MWTM asks if you want to apply the changes before leaving the window: • Click **Yes** to apply the changes and close the prompt window and the Preferences window. • Click **No** to close the prompt window and the Preferences window without applying or saving any changes. • Click **Cancel** to close the prompt window without applying any changes. The Preferences window remains open.
Help > Topics (F1)	Displays the table of contents for the MWTM online help.
Help > Window (Shift-F1)	Displays online help for the current window.
Help > About (F3)	Displays build date, version, SSL support, and copyright information about the MWTM application.

Changing General GUI Settings

You use the General GUI settings in the Preferences window to change general display settings for the MWTM, including which window to display first when starting the MWTM, and whether to display values in bits or bytes.

To display the General GUI settings, choose General GUI in the left pane of the Preferences window.

In the General GUI area you can change:

Startup/Exit Settings

Use the Startup/Exit Settings pane of the General GUI settings to specify whether you want to display the topology window when you launch the MWTM client, and whether you want the MWTM to prompt you for confirmation when you exit the MWTM client.

The Startup/Exit Settings pane contains:

Check Box	Description
MWTM: Topology Window	If checked, causes the topology window to appear when you start the MWTM. The default setting for this check box is unchecked.
Confirm Exit	If checked, the MWTM prompts you for confirmation when you exit the MWTM client. The default setting for this check box is checked.
Confirm Deletions	If checked, the MWTM prompts you for confirmation when you delete an object. The default setting for this check box is checked. **Note** If you check the Do not show this again check box in a Confirm Deletion dialog box, and you later decide that you do want the MWTM to display the Confirm Deletion dialog box, you must check the Confirm Deletions check box.
Confirm In Band Polls	If checked, the MWTM prompts you for confirmation when you access a function that requires the MWTM to perform in-band polling of the object.

General Display Settings

Use the General Display pane of the General GUI settings to specify whether the MWTM should:

- Display node domain names.
- Show details in bits instead of bytes.
- Show receive and send utilization as percentages.
- Show the point code mask in bits instead of dotted notation.

The General Display pane contains:

Check Box	Description
Show Node Domain Names	If checked, the MWTM shows node domain names in its displays. The default setting for this check box is unchecked (do not show node domain names).
Show Details in Bits Instead of Bytes	If checked, the MWTM displays data and data rates in bits instead of bytes: • Check if you want the MWTM to display data in bits, and data rates in bits per second. This is the default setting. • Uncheck if you want the MWTM to display data in bytes, and data rates in bytes per second.
Show Utilization as Percentage	If checked, the MWTM displays receive and send for linksets and links as a percentage: • Check if you want the MWTM to display as a percentage. This is the default setting. • Uncheck if you want the MWTM to display in Erlangs.
Show Point Code Mask in Bits (ITP only)	If checked, the MWTM displays point code masks as a number of bits instead of dotted-decimal format. The MWTM applies this setting to all point code masks in the MWTM client, including those in the Route Table dialog box, in messages, and so on. • Uncheck if you want the MWTM to display point code masks in dotted-decimal format (octets separated by periods). This is the default setting. • Check if you want the MWTM to display point code masks as a number of bits. For more information about point code masks, see Route Table, page 14-7.

Node Name Settings

Use the Node Name pane of the General GUI settings to specify how the MWTM should display node names.

The Node Name pane contains these radio buttons:

Radio Buttons	Description
Show DNS or User Defined Names	Indicates whether the MWTM should identify nodes by their DNS or user-defined names. The default setting for this radio button is checked.
Show IP Address in Name Field	Radio button used to indicate whether the MWTM should identify nodes by their IP addresses. The default setting for this radio button is unchecked.
Show SysName	Indicates whether the MWTM should identify nodes by their System Name. The default setting for this radio button is unchecked.

Poller Settings

Use the Poller pane of the General GUI settings to change the MWTM poller and counter settings.

The Poller pane contains:

Field or Radio Button	Description
Fast Poller Default (secs)	Default interval, in seconds, for the fast poller. The valid range is 5 to 60 seconds. The default setting is 15 seconds. The fast poller appears in these MWTM client windows: • MWTM Real-Time Statistics: CPU Statistics window • (ITP only) Details window for an Application Server • (ITP only) Details window for a Linkset • (ITP only) Details window for a Signaling Gateway Mated Pair You can change the valid range and default setting in the *Server.properties* file. For more information, see Changing MWTM Server Poller Settings, page 5-2.
Slow Poller Default (secs)	Default interval, in seconds, for the slow poller. The valid range is 60 seconds to 300 seconds. The default setting is 60 seconds. The slow poller is used in all the MWTM client windows except those listed previously that use the fast poller. **Note** You can change the valid range and default setting in the *Server.properties* file. For more information, see Changing MWTM Server Poller Settings, page 5-2.
Show Counters Since Reboot	Radio button used to configure the MWTM client to clear all counters in MWTM web pages whenever the node reboots. The default setting for this radio button is checked.
Show Counters Since Last Poll	Radio button used to configure the MWTM client to clear all counters whenever an MWTM web page is polled. The default setting for this radio button is unchecked.

Field or Radio Button	Description
Show Counters Since User Reset	Radio button used to configure the MWTM client to clear all MWTM counters whenever the user resets the counters on an MWTM web page. The default setting for this radio button is unchecked.
Fast Poller (1 minute)	Used to configure the interval, in minutes, for the fast poller. The valid range is 5 to 60 minutes. The default setting is 15 minutes.
	The fast poller appears in these MWTM client windows:
	• MWTM Real-Time Statistics: CPU Statistics window
	• (ITP only) Details window for an Application Server
	• (ITP only) Details window for a Linkset
	• (ITP only) Details window for a Signaling Gateway Mated Pair
	You can change the valid range and default setting in the *Server.properties* file. For more information, see Changing MWTM Server Poller Settings, page 5-2.

Troubleshooting

Use the Troubleshooting pane of the General GUI settings to specify whether the MWTM clears the display window upon command execution.

The Troubleshooting pane contains:

Field	Description
Clear Display upon Execution	Clears the output display each time you execute a command.

Connection Settings

Use the Connection Settings pane of the General GUI settings to set the Telnet or SSH path and arguments for accessing nodes using one of these methods.

> **Note**   To connect to a node using SSH, the key size on the node must be configured to a minimum of 768 bits and a maximum of 2048 bits.

The Connection Settings pane contains:

Field	Description
Telnet path	Use to modify the default MWTM Telnet path to an executable file (for example, *putty.exe*). Click **Find** to choose a Telnet path on your local machine.
	Note Choosing a non-GUI file might not yield the expected results.
Telnet arguments	Optional arguments that the MWTM passes to the Telnet executable when the MWTM invokes it. For example, to set the hostname and port number for the connection, specify **-telnet** *$host $port*. [1]

Field	Description
SSH path	Use to modify the default MWTM SSH path to an executable file (for example, putty.exe). Click **Find** to choose an SSH path on your local machine. **Note** Choosing a non-GUI file might not yield the expected results.
SSH arguments	Optional arguments that the MWTM passes to the SSH executable when the MWTM invokes it. For example, to set the hostname and port number for the connection, specify **-ssh** *$host $port*. [1]

1. When you right-click a node in the navigation tree and choose Connect To, the variables $host and $port are replaced with the hostname and port number of the node.

Repaint Priority

Use the Repaint Priority pane of the General GUI settings to balance the responsiveness versus efficiency of the MWTM client. This setting controls how quickly the MWTM client repaints its displays.

The Repaint Priority pane contains a sliding control:

Field	Description
Repaint Priority	Balances the MWTM client's responsiveness versus efficiency. The valid range is 0 through 10, with 0 representing a high repaint priority (high responsiveness, low efficiency) and 10 representing a high communication priority (high efficiency, low responsiveness): • To maximize repainting (responsiveness) over communication (efficiency), slide the selector toward High Repaint Priority. • To maximize communication (efficiency) over repainting (responsiveness), slide the selector toward High Comm. Priority. • The default setting is 2 (the third mark from the left).

Changing Alarm and Event Settings

Use the Alarms / Events settings in the Preferences window to:

- Change the default background color for each type of alarm or event
- Specify whether to display acknowledged alarms or events
- Specify the types of events the MWTM should display in the alarms and events tables, including the:
    - Category and severity
    - Whether the event is acknowledged
    - Other properties

To display the preference settings for alarms and events, select Alarms / Events in the left pane of the Preferences window.

In the right pane you can change:

- Colors, page 4-9
- Alarm-specific Colors, page 4-9
- Time Format, page 4-9
- Date Format, page 4-9
- Categories, page 4-10

- Severities, page 4-10
- Other, page 4-11

Colors

The Alarm / Event Colors pane contains:

Field	Description
Change Color	Opens the Select Event Color dialog box from which you select a color for an alarm or event type. For more details, see Customizing Colors, page 4-17.
Critical	Indicates the background color for Critical alarms or events. The default is red.
Major	Indicates the background color for Major alarms or events. The default is orange.
Minor	Indicates the background color for Minor alarms or events. The default is yellow.
Warning	Indicates the background color for Warning alarms or events. The default is blue.
Informational	Indicates the background color for Informational alarms or events. The default is white.
Indeterminate	Indicates the background color for Indeterminate alarms or events. The default is cyan.
Normal	Indicates the background color for Normal alarms or events. The default is light green.

Alarm-specific Colors

The Alarm-specific Colors pane contains:

Field	Description
Change Color	Opens the Select Event Color dialog box from which you select a color for alarms and events of unmanaged objects. For more details, see Customizing Colors, page 4-17.
Unmanaged	Indicates the background color for unmanaged alarms or events. The default is gray.

Time Format

The Time Format pane contains:

Button	Description
12 Hour	Click this radio button to configure alarm or event time stamps to use 12-hour format (for example, 07:10:09).
24 Hour	Click this radio button to configure alarm or event time stamps to use 24-hour format (for example, 19:10:09).

Date Format

The Date Format pane contains:

Button	Description
Month-First	Click this radio button to configure alarm or event date stamps with the month appearing first (for example, 8/16/09).
Day-First	Click this radio button to configure alarm or event date stamps with the day appearing first (for example, 16/8/09).

Categories

In the Categories pane, you specify which event categories to display in the Event History window.

The Categories pane contains:

Field or Button	Description
Status	Indicates whether Status events should appear in the Event History window. The default is checked.
Trap	Indicates whether Trap events should appear in the Event History window. The default is checked.
Create	Indicates whether Create events should appear in the Event History window. The default is checked.
Delete	Indicates whether Delete events should appear in the Event History window. The default is checked.
Discover	Indicates whether Discover events should appear in the Event History window. The default is checked.
Edit	Indicates whether Edit events should appear in the Event History window. The default is checked.
Ignore	Indicates whether Ignore events should appear in the Event History window. The default is checked.
Login	Indicates whether Login events should appear in the Event History window. The default is checked.
LoginDisable	Indicates whether LoginDisable events should appear in the Event History window. The default is checked.
LoginFail	Indicates whether LoginFail events should appear in the Event History window. The default is checked.
Logout	Indicates whether Logout events should appear in the Event History window. The default is checked.
OverWrite	Indicates whether OverWrite events should appear in the Event History window. The default is checked.
Poll	Indicates whether Poll events should appear in the Event History window. The default is checked.
Purge	Indicates whether Purge events should appear in the Event History window. The default is checked.
Provision	Indicates whether Provision events should appear in the Event History window. The default is checked.
LaunchTerminal	Indicates whether LaunchTerminal events should appear in the Event History window. The default is checked.
Performance	Indicates whether Performance events should appear in the Event History window. The default is checked.
Select All	Checks all event category check boxes.
Deselect All	Unchecks all event category check boxes.

Note   The fields in the previous table are default categories; however, the MWTM system administrator might define additional categories. For information about custom categories, see Changing Event Categories, page 9-31.

Severities

In the Severities pane, you specify which alarm or event severities to display in the Event History and Active Alarms windows.

The Severities pane contains these default fields:

Field	Description
Critical	Indicates whether alarms and events of severity Critical should appear in the window. The default is checked.
Major	Indicates whether alarms and events of severity Major should appear in the window. The default is checked.
Minor	Indicates whether alarms and events of severity Minor should appear in the window. The default is checked.
Warning	Indicates whether alarms and events of severity Warning should appear in the window. The default is checked.
Informational	Indicates whether alarms and events of severity Informational should appear in the window. The default is checked.
Indeterminate	Indicates whether alarms and events of severity Indeterminate should appear in the window. The default is checked.
Normal	Indicates whether alarms and events of severity Normal should appear in the window. The default is checked.

Other

Use the Other pane to further define the filter for the Event History and Active Alarms windows. These settings apply to all event displays in the current view.

The Other pane contains:

Check Box or Field	Description
Acknowledged	Indicates whether only acknowledged alarms and events should appear in the window. The default is checked.
Unacknowledged	Indicates whether only unacknowledged alarms and events should appear in the window. The default is checked.
Time Before	Indicates whether only alarms and events that the MWTM logs prior to a specified date and time should appear in the window. The default is checked.
Time Before Field	Specifies the date and time prior to which alarms and events that the MWTM logs should appear in the window. This field is dimmed unless the Time Before check box is checked.
Time After	Indicates whether only alarms and events that the MWTM logs after a specified date and time should appear in the window. The default is checked.
Time After Field	Specifies the date and time after which alarms and events that the MWTM logs should appear in the window. This field is dimmed unless the Time After check box is checked.
Message Contains	Indicates whether only alarms and events that contain the specified message text should appear in the window. The default is checked.
Match Case	Indicates whether only alarms and events that match the case of the text in the Message Contains field should appear in the window. This field is dimmed unless the Message Contains check box is checked. If the Message Contains check box is checked, the default setting for this check box is checked.
Suppress Events for unmanaged nodes	Suppresses all alarms and events from nodes that are unmanaged. The default setting for this check box is unchecked.

Changing Charts Settings

Use the Charts pane in the Preferences window to change default settings for the elements in real-time data charts for application servers, application server process associations, links, and linksets.

To display the Charts pane, click **Charts** in the left pane of the Preferences window.

The Charts pane contains:

Field or Button	Description
Series	Indicates the time series being defined. A time series is a set of data collected sequentially at a fixed interval of time. The default values for series are: • Series 0: Dot, Solid, Red • Series 1: Box, Solid, Green • Series 2: Triangle, Solid, Blue • Series 3: Diamond, Solid, Black • Series 4: Star, Solid, Pink • Series 5: Cross, Solid, Orange • Series 6: Circle, Solid, Gray • Series 7: Square, Solid, Light Green • Series 8: Vertical Line, Solid, Red • Series 9: Horizontal Line, Solid, Green • Series 10: Dot, Solid, Blue • Series 11: Box, Solid, Black • Series 12: Triangle, Solid, Pink • Series 13: Diamond, Solid, Orange • Series 14: Star, Solid, Gray • Series 15: Cross, Solid, Light Green • Series 16: Circle, Solid, Red
Symbol Style	Drop-down list box used to define the symbol associated with a series. To change the symbol for a series, select a new value: Dot, Box, Triangle, Diamond, Star, Vertical Bar, Horizontal Line, Cross, or Circle.
Line Style	Drop-down list box that you use to define the style of line that connects data points in the chart. To change the line style for a series, select a new value: Solid, Long Dash, Long-Short-Long (LSL) Dash, Short Dash, Dash Dot, or None.
Color	Indicates the current color for the series.
Change Color	Opens the Select Series Color dialog box in which you select a color for a series. For more details, see Customizing Colors, page 4-17.

Changing Status Settings

You use the MWTM to customize the sort order for status settings, as well as the color of each status setting.

When you change the sort order or the color of a status setting, most MWTM client windows reflect the new sort order or color immediately. All other windows reflect the new sort order or color at the next poll.

When you change the color of a status, most MWTM client windows reflect the new color immediately. All other windows reflect the new color at the next poll.

To display the Status settings, click **Status** in the left pane of the Preferences window.

The Status pane contains:

Field or Button	Description
Status Sort Order	Indicates the status setting being defined. The default status sort order and colors are: • Unknown: Red • Unavailable: Red • Inactive: Red • Failed: Red • Down: Red • Blocked: Red • Pending: Red • Warning: Yellow • Shutdown: Blue • Inhibited: Blue • InhibitLoc: Blue • InhibitRem: Blue • Discovering: Cyan • Polling: Cyan • Waiting: Gray • Unmanaged: Gray • Active: Green • NotPresent: Gray
Move Up	Moves the chosen status setting up in the Status Sort Order list.
Change Color	Opens the Select Status Color dialog box in which you select a color for a status. For more details, see Customizing Colors, page 4-17.
Move Down	Moves the chosen status setting down in the Status Sort Order list.
Reset Order	Restores the status settings to the default sort order.
Reset Colors	Restores the status settings to the default colors.

Changing CiscoWorks Server Settings

You can configure the CiscoWorks server name and port numbers for all connected MWTM clients:

- During MWTM installation. See the *Installation Guide for Cisco Mobile Wireless Transport Manager 6.1.7*.

- After installation by running the **mwtm cwsetup** command. See mwtm cwsetup, page B-24.

All clients connected to the MWTM server retain the CiscoWorks settings that were made during installation or the last time you ran the **mwtm cwsetup** command. However, you can overwrite the CiscoWorks settings for a particular client by using the preferences window.

To change the CiscoWorks server settings for a particular client:

Step 1   From the main window, choose **Edit > Preferences > CiscoWorks**.

Step 2   Click **CiscoWorks** in the left pane of the Preferences window.

The CiscoWorks server settings contain:

Check Box or Field	Description
IP Address or DNS Host Name[1]	The IP address or the DNS hostname of the CiscoWorks server.
Port[1]	The access port on the CiscoWorks server. The default setting is 1741.
Secure Port[1]	The port number on the CiscoWorks server that is used for secure access, for example, SSL access. The default setting is 443.
Secure Connection	Indicates if the connection to the CiscoWorks server is secure.

1. Changing this setting affects only the MWTM client you are using. All other MWTM clients retain the CiscoWorks settings that were made during installation or the last time you ran the **mwtm cwsetup** command.

Step 3   From the Preferences window menu bar, choose **File > Save**.

Note   To do this procedure from the MWTM web interface, see Changing Web Preference Settings, page 4-19.

Changing Topology Settings

Use the Topology pane in the Preferences window to change default settings for the topology window.

To display the topology settings, select Topology in the left pane of the Preferences window.

The Topology pane contains:

Check Box or Field	Description
Spring Layout Spacing Factor (1-10)	Indicates how far to space nodes when the MWTM draws the Spring Layout topology map. Valid values are 1 through 10, with 1 being closer together and 10 being farther apart. The default spacing factor is 5. Even if you apply preferences and close the Preferences window, the topology map does not show the new spacing factor until you choose **Topology Tools > Layout > Spring**, or click the **Spring Layout** button.
Show Mouse Overs	Specifies whether tooltips are enabled in topology maps. Checked is the default.
Draw Connections When Dragging a Node	Specifies whether the MWTM draws connection lines in the topology map as you move nodes: • Check if you want the MWTM to draw the associated connection lines dynamically as you move a node. • Uncheck if you do not want the MWTM to draw the associated connection lines until after you have finished moving a node. Unchecked is the default.
Show Small SS7 Icons (ITP only)	Specifies the size of the SS7 icons in the topology map: • Uncheck if you want the MWTM to display large SS7 icons. Unchecked is the default. • Check if you want the MWTM to display small SS7 icons. This setting can save space in the topology map, making it easier to read.
Show Non-ITP Nodes (ITP only)	Specifies whether the MWTM should display non-ITP nodes and linksets in the topology map: • Check if you want the MWTM to display non-ITP nodes and linksets in the topology map. Checked is the default. • Uncheck if you want the MWTM to hide non-ITP nodes and linksets in the topology map. (The navigation tree still shows the hidden signaling points and linksets.)
Show Point Code and Node Name (ITP only)	Specifies whether the MWTM should display point codes as well as node names in the topology map: • Uncheck if you want the MWTM to display point codes but not node names. Unchecked is the default. • Check if you want the MWTM to display both point codes and node names.
X Performance Enhancer (AntiAliasing Off)	Specifies whether antialiasing is turned on in the topology map. Antialiasing, which is on by default, improves the appearance of the icons and connections in the map. However, antialiasing can impact the performance of the MWTM client on a remote workstation (that is, a Solaris or Linux workstation by using xhost, or a Windows workstation using an X-Window system emulator such as eXceed or Reflection X). • Uncheck if you want to turn on antialiasing in the topology map. Unchecked is the default. • Check if you want to turn off antialiasing. Remember that performance is always better if you access the MWTM by installing the MWTM client on the remote workstation.

Changing Deploy Settings

Note Deploy settings are only for ITP networks. If you configure the MWTM to manage ITP networks, the deploy settings will appear in the Preferences window. You customize the MWTM to manage ITP networks during installation. You can also do this later by command (see mwtm manage, page B-47).

Use the Deploy settings to change the way the Deployment Wizard works.

To display the Deploy settings, select Deploy in the left pane of the Preferences window.

The Deploy settings contain:

Check Box or Field	Description
Turn On Term Monitor During File Activation	Indicates whether the MWTM should turn on the terminal monitor before activating a route table file or GTT file on the ITP, and turn it off after activation (whether or not the activation was successful).
	If you turn on the terminal monitor during activation, detailed activation error messages appear in the connection log. These messages can be useful if activation fails. However, all node console logging messages also appear in the connection log; so, many nonactivation messages might also appear.
	The default is checked.
Turn Off All Debug Output Before Turning On Term Monitor	Indicates whether debug messages should appear in the connection log. The default is checked.
	If you check the Turn On Term Monitor During File Activation check box, all node console logging messages appear, including all debug messages that are currently enabled on the node.
	You can then check the Turn Off All Debug Output Before Turning On Term Monitor check box to turn off all debug messages. This setting can reduce the number of nonactivation messages in the connection log. The default is checked.
	Note The MWTM does not turn the debug messages back on after activation. Ensure that other users are not debugging on the node before checking this check box.
	This check box is dimmed unless you check the Turn On Term Monitor During File Activation check box.
Synchronize Active and Standby Storage If Node Is Configured as Redundancy Mode	Cisco 7507, 7513, and 7600 series routers support redundancy, which requires synchronization of the active and all standby storage devices.
	If you want the MWTM to use a node's *configured* redundancy mode to determine whether the MWTM should replicate storage operations (such as creating files, uploading, deleting, and so on) among the active and all standby storage devices, click this radio button.
	Note This radio button is mutually exclusive with the Synchronize Active and Standby Storage If Node Is Operating in Redundancy Mode and Do Not Synchronize Active and Standby Storage radio buttons.
Synchronize Active and Standby Storage If Node Is Operating in Redundancy Mode	If you want the MWTM to use a node's *operating* redundancy mode to determine whether the MWTM should replicate storage operations (such as creating files, uploading, deleting, and so on) among the active and all standby storage devices, in the right pane click this radio button. The default is checked.
	Note This radio button is mutually exclusive with the Synchronize Active and Standby Storage If Node Is Configured as Redundancy Mode and Do Not Synchronize Active and Standby Storage radio buttons.

Check Box or Field	Description
Do Not Synchronize Active and Standby Storage	If you want the MWTM to perform storage operations only on the active storage device (that is, no automatic synchronization of active and standby storage devices), click this radio button.
	Clicking this radio button requires you to manually synchronize the active and standby storage devices.
	This radio button is mutually exclusive with these radio buttons:
	• Synchronize Active and Standby Storage If ITP Is Configured as Redundancy Mode
	• Synchronize Active and Standby Storage If ITP Is Operating in Redundancy Mode
Enable Auto Refresh Node Storage In Node File Management Dialog	Indicates whether the Node File Management dialog box should refresh storage device content automatically at user-defined intervals. Clicking this check box enables the Node File Management dialog box to detect any updates made to the file system.
	In addition, you can configure the node to disconnect idle connection sessions. If you check this check box, the MWTM automatically generates node operations at the user-defined interval, which prevents disconnection of the session by the node.
	The default is unchecked.
	To enable the automatic refresh, check this check box, then specify a Refresh Interval. The valid range is 1 seconds to an unlimited number of seconds. The default interval is 60 seconds.
Always Overwrite Existing File In Deployment Wizard	Indicates whether the Deployment Wizard should overwrite an existing file with the same filename automatically, without prompting the user. The default is unchecked.
Always Skip Archive Comments	Indicates whether the Deployment Wizard should skip archive comments. The default is unchecked.
	This check box appears only if deploy comments are set to optional. For details, see mwtm deploycomments, page B-113. If deploy comments are set to required, this check box does not appear.
Always Activate Deployed File In Deployment Wizard	Indicates whether the Deployment Wizard should activate the deployed file automatically, without prompting the user. By default, this option is not selected.
Command Timeout in Seconds	Indicates how long, in seconds, an MWTM client with a session to a node should wait for a response from the node before closing the session.
	The valid range is 1 second to an unlimited number of seconds. The default is 90 seconds.

Customizing Colors

You use the MWTM to customize the colors for these settings:

Setting	Menu Selection	Color Dialog
Alarm or event severity	Click **Alarms / Events** in the left pane of the Preferences window, then click **Change Color** in the Alarm / Event Colors section.	Select Event Color
Series in real-time charts	Click **Charts** in the left pane of the Preferences window then click **Change Color** in the Series Colors section.	Select Series Color
Status	Click **Status** in the left pane of the Preferences window, select a status setting, then click **Change Color**.	Select Status Color

The Select Color dialog box contains:

Related Topics

Swatches Tab (Recommended)

You use the Swatches tab of the Select Color dialog box to select a color from a set of color swatches. This is the recommended method for selecting a color.

To display the Swatches tab, click the **Swatches** tab in the Select Color dialog box.

To select a color, select a swatch. The chosen color appears in the Preview field. When you are satisfied with the color, click **OK**.

HSB Tab

You must also choose hue, saturation, and brightness (HSB) variables to select a color.

To display the HSB tab, click the **HSB** tab in the Select Color dialog box.

To select a color, you can either:

- Select a color range on the vertical color bar, then select a specific color by moving the cursor around on the color square.

- Enter specific values in the (hue), S (saturation), and B (brightness) fields.

The chosen color appears in the Preview field. When you are satisfied with the color, click **OK**.

RGB Tab

You then select the red, green, and blue (RGB) content of the color.

To display the RGB tab, click the **RGB** tab in the Select Color dialog box.

To select a color, select values for the Red, Green, and Blue fields. The chosen color appears in the Preview field. When you are satisfied with the color, click **OK**.

Select Color Field and Buttons

The Select Color dialog box contains:

Field or Button	Description
Preview	Displays a preview of the current chosen color.
	Whichever method you choose to select a color, the chosen color appears in the Preview field. When you are satisfied with the color, click **OK**.
OK	Sets the color as shown in the Preview field, and closes the Color dialog box.
Cancel	Closes the Color dialog box without selecting a color.
Reset	Resets the color to its initial setting.

Restoring Default Preference Settings

If you decide you do not like your modified preference settings, you can use the MWTM to restore all preference settings to the original system default settings. To do so:

Step 1   Display the Preferences window, as described in Changing Client Preference Settings, page 4-2.

Step 2   Select the **File > Load System Default Prefs** menu option.

The MWTM restores the default settings.

Changing Web Preference Settings

Access the web preference settings by clicking the Preferences link in the title bar of any web interface window. Web preferences include a subset of the preferences that are available in the client interface.

To change web preferences settings:

Step 1   Click **Preferences** in the title bar of any MWTM web page.

Step 2   In the Preferences window, to display the:

   a.   General GUI settings, click the **General GUI** tab.

   b.   CiscoWorks server settings, click the **CiscoWorks** tab.

Step 3   Change the settings you want to modify (see the table following this procedure for descriptions of the settings).

If you enter a new value in a text field, press **Enter** or **Tab** to activate the change.

> **Note**   For any user, common preferences between the web and client interfaces are shared. However, if the web and client interfaces are active at the same time, and you exit the client interface, any changes you made to the web preferences are overwritten by the client preferences.

You can now exit the web preferences window.

The Web Preferences window contains:

Check Box, Radio Button, or Field	Description
Help	Displays online help for the current window.
General GUI tab	
Node Name Settings: Show DNS or User-Defined Names	Indicates whether the MWTM should identify nodes by their DNS or user-defined names. The default setting for this radio button is checked.
Node Name Settings: Show IP Address in Name Field	Indicates whether the MWTM should identify nodes by their IP addresses. The default setting for this radio button is unchecked.
Node Name Settings: Show SysName	Indicates whether the MWTM should identify nodes by their System Name. The default setting for this radio button is unchecked.
General Display Settings: Show Node Domain Names	If checked, the MWTM shows node domain names in its displays. The default setting for this check box is unchecked (do not show node domain names).
General Display Settings: Show Details in Bits instead of Bytes	If checked, the MWTM displays data and data rates in bits instead of bytes: • Check if you want the MWTM to display data in bits, and data rates in bits per second. This is the default setting. • Uncheck if you want the MWTM to display data in bytes, and data rates in bytes per second.
General Display Settings: Show Utilization as Percentage	If checked, the MWTM displays receive and send for linksets and links as a percentage: • Check if you want the MWTM to display as a percentage. This is the default setting. • Uncheck if you want the MWTM to display in Erlangs.
General Display Settings: Show Point Code Mask in Bits	If checked, the MWTM displays point code masks as a number of bits instead of dotted-decimal format. The MWTM applies this setting to all point code masks in the MWTM client, including those in the Route Table dialog box, in messages, and so on. • Uncheck if you want the MWTM to display point code masks in dotted-decimal format (octets separated by periods). This is the default setting. • Check if you want the MWTM to display point code masks as a number of bits. For more information about point code masks, see Route Table, page 14-7.
Troubleshoot: Clear Display upon Execution	Clears the output display each time you execute a command.
Poller Settings: Fast Poller Interval (secs)	Default interval, in seconds, for the fast poller. The valid range is 5 seconds to 60 seconds. The default setting is 15 seconds. **Note** You can change the valid range and default setting in the *Server.properties* file. For more information, see Changing MWTM Server Poller Settings, page 5-2.
Poller Settings: Slow Poller Interval (secs)	Default interval, in seconds, for the slow poller. The valid range is 60 seconds to 300 seconds. The default setting is 60 seconds. **Note** You can change the valid range and default setting in the *Server.properties* file. For more information, see Changing MWTM Server Poller Settings, page 5-2.
Poller Settings: Status Refresh Interval (secs)	Specifies the default setting for how frequently the MWTM refreshes the web pages on the web interface. The valid range is 180 seconds to 900 seconds. The default setting is 180 seconds. (You can change the valid range and default setting in the *Server.properties* file. For more information, see Changing MWTM Server Poller Settings, page 5-2.)

Check Box, Radio Button, or Field	Description
Popup Dialogs: Show Batch Provision Service Interrupt Warning	Shows the batch provision service interrupt warning.
CiscoWorks tab[1]	
IP Address or DNS Host Name	The IP address or the DNS hostname of the CiscoWorks server.
Port	The access port on the CiscoWorks server. The default setting is 1741.
Secure Port	The port number on the CiscoWorks server that is used for secure access, for example, SSL access. The default setting is 443.
Secure Connection	Indicates if the connection to the CiscoWorks server is secure.

1. Changing these settings affects only the MWTM client you are using. All other MWTM clients retain the CiscoWorks settings that were made during installation or the last time you ran the mwtm cwsetup command.

Changing Real-Time Poller and Counter Settings

The MWTM provides three pollers for use in the MWTM client GUI and web pages: a fast, a slow, and a status refresh. You use the MWTM to change settings for those pollers, and also to specify how you want to aggregate the visible counter values.

To change the MWTM poller refresh and counter display settings, use one of these methods:

- The *Server.properties* file specifies minimum, maximum, and default settings for the fast, slow, and status refresh pollers. To change those settings, see Changing MWTM Server Poller Settings, page 5-2.

- To change the MWTM poller refresh and counter display settings for the GUI in the MWTM Preferences window, see Poller Settings, page 4-5.

- To change the MWTM poller refresh and counter display settings for the MWTM web pages by using the MWTM Web Preferences web page, see PDSN Reports, page 13-182.

- To change the MWTM counter display settings for the GUI from any Real-Time Data and Charts window in the GUI, click **Reset Counters** in any of these MWTM windows:

  - Poll Settings dialog box in any network object's MWTM Details window
  - Node Details: MTP3 Errors table
  - Signaling Point Details: GTT MAP Status table
  - Signaling Point Details: GTT Statistics table
  - Signaling Point Details: MLR Details table
  - Linkset: Statistics table
  - Link: Statistics tab and SCTP Assoc. Config Stats table
  - Interface: Interface Performance tab and Interface Errors table
  - SGMP: SCTP Assoc. Stats Details table

The MWTM displays the MWTM Reset Counters dialog box

The MWTM Reset Counters dialog box contains:

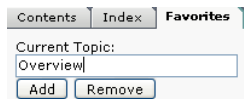| Field or Button	Description
Show Counters Since Reboot	Click to configure the MWTM client to clear all counters in MWTM web pages whenever the node reboots. The default is checked.
Show Counters Since Last Poll	Click to configure the MWTM client to clear all counters whenever an MWTM web page is polled. The default is unchecked.
Show Counters Since User Reset	Click to configure the MWTM client to clear all MWTM counters whenever the user resets the counters on an MWTM web page. The default setting for this radio button is unchecked.
Submit	Applies any changes you made to the counter settings, reflects the changes throughout the MWTM GUI, and closes the MWTM Reset Counters dialog box.
Cancel	Closes the MWTM Reset Counters dialog box.
Help	Displays online help for the current window.

Viewing Online Help

You can view web-based online help from either the MWTM client or the MWTM web interface.

From the MWTM client, select the menu options described in the following table:

Content	In the MWTM client, choose:
Table of contents	**Help > Topics**
Context-sensitive online help for the current window	**Help > Window**
MWTM information (build date, version, SSL support, copyright content)	**Help > About**

From the MWTM web interface, click **Help**.

The MWTM online help is searchable and supports bookmarking of favorite topics:

Feature	In the MWTM web interface, choose:
Search	Search [ ] Go
Favorites	Contents Index Favorites Current Topic: Overview Add Remove

Finding Information in a Window

Sometimes, finding information, such as a node name or event text, in a long list can be difficult. You can use the MWTM client to search for a specific character string in windows that contain lots of information.

> **Note** To find a specific object in the topology window, see Finding an Object, page 10-14.

To find a character string, choose **Edit > Find** from the MWTM main menu. This menu option is available when you select from the navigation tree:

- Active Alarms
- Event History
- Any object under Summary Lists

The MWTM displays the Find dialog box.

> **Note** The Find dialog box also appears when you choose **File > Find** from the Route Table Editor dialog box (Chapter 14, "Editing an ITP Route Table File").

The Find dialog box contains:

Field or Button	Description
What	Character string for which the MWTM should search in the window. This can be any character string: all or part of a node name, event text, status, and so on.
Match Case	Check box used to indicate whether the MWTM should search for only character strings that match the case of the text in the What field. To search with: • Case-matching on, select this check box. • Case-matching off, clear this check box. This is the default setting.
Search Forward	Indicates whether the MWTM should search forward (down and to the right) in the window. This radio button is mutually exclusive with the Search Backward button. The default is checked.
Search Backward	Indicates whether the MWTM should search backward (up and to the left) in the window. This radio button is mutually exclusive with the Search Forward button. The default is unchecked.
Find	Launches the search. If: • It finds a matching character string in the window, the MWTM highlights the first line that contains the string. To find the next occurrence of the string, click **Find** again. You can continue to click Find until you find no more matches in the window. At that time, the MWTM displays an appropriate message in the dialog box, such as: `Bottom of table reached.` • No matching character string is found, the MWTM displays an appropriate message in the dialog box.
Close	Closes the Find dialog box when you finish searching.

Navigating Table Columns

You can resize, sort, or hide the columns in some tables in the MWTM to meet your specific needs. The MWTM client automatically saves your new settings and, thereafter, launches the client with the new settings.

Note   Hiding table columns is possible in the MWTM client and web interfaces. Resizing table columns is possible only in the client interface. In the web interface, you can search for specific information and page through long tables by using its search and paging features (see MWTM Web Interface Content Area, page 11-5).

- To view a tooltip for each column in the table, place the cursor over a column heading. If a cell is too small to show all of its text, place the cursor over the cell to see the full text of the tooltip.

- To make a column wider or narrower in the MWTM client interface, click the column divider in the heading and move the divider to the right or left while holding down the left or right mouse button.

  All Components or Recent Events tables in the MWTM main window reflect changes that you make to any object's Components or Recent events table. The Show in New window or Real-Time Data and Charts windows do not reflect the changes, however.

  Depending on your system, as well as other factors, MWTM windows can sometimes appear so small that text is illegible, and columns and text entry fields too narrow to be usable. If this happens, resize the window and widen the individual columns until the information is again legible and the columns and text entry fields are usable.

- By default, the MWTM displays most of the columns in tables, but some columns may be hidden. To:

  – Display hidden columns, right-click in the table heading and select the check boxes for the columns you want to display. If you are using the web interface, click the **Apply** button.

  – Hide columns, right-click in the table heading and clear the check boxes for the columns you want to hide. If you are using the web interface, click the **Apply** button.

  All Components or Recent Events tables in the MWTM main window reflect changes that you make to any object's Components or Recent events table. The Show in New window or Real-Time Data and Charts windows do not reflect the changes, however.

- To sort a table based on the data in a column, left-click in the column heading. The MWTM alpha-numerically sorts the table from top to bottom, based on the data in the chosen column. To sort the table in reverse order, left-click in the column heading a second time. If two entries in the chosen column are identical, the MWTM sorts those rows based on the data in the remaining table columns, moving left to right.

- The tables in the web interface display an icon in the column heading to indicate the column on which the table is sorted, and the direction of the sort. The icon displays a triangle( ) if the sort order is ascending (1-9, A-Z), and an inverted triangle ( ) if the sort order is descending (Z-A, 9-1).

- If you sort a table in the web interface based on the Nodes column, the MWTM sorts the table based on the DNS names of the nodes, as the MWTM discovers nodes. However, if you modified your preferences to identify nodes by their user-defined names, then the MWTM sorts the table based on the user-defined names of the nodes. For more information, see Node Name Settings, page 4-5.

- To customize the sort order for status settings in the Status column of tables, use the Status settings section of the Preferences window. For more information, see Changing Status Settings, page 4-12.

- (ITP only) To sort a route table, click **Sort Table**. The MWTM sorts the entries in the route table field-by-field, beginning with Dest. Point Code, then Mask, Cost, Dest.Linkset, and finally QoS.

Printing Windows

You can print most MWTM windows, as well as the topology map, for those times when you need hardcopy.

To print an MWTM window, choose **File > Print** from most MWTM windows (for example, the MWTM main window or topology window).

The MWTM displays the Print dialog box.

You use the Print dialog box to specify print settings, such as which printer to print to, whether to send output to a file (the default location for the print file is your home directory), and whether to print duplex.

Note   You can send output to a file only in the file formats that your printer drivers support. Sending output to files can result in large file sizes that you will need to monitor and manage.

When you are satisfied with your print settings, click **Print**. The MWTM prints the window or map.

To exit the Print dialog box at any time without printing, click **Cancel**.

Managing and Deploying ITP Files

You use the MWTM to manage GTT files, route table files, and MLR address table files. The MWTM provides a Node File Management dialog box and a Node Archive Management dialog box:

- Node File Management, page 4-25
- Node Archive Management, page 4-32
- Deploying ITP Files, page 4-34

Node File Management

You use the Node File Management dialog box to:

- View:
    - GTT files
    - Route table files
    - MLR address table files
- Check these files for semantics and syntax
- Delete, rename, and upload the files to a remote node
- Activate the files

The Node File Management dialog box can handle GTT and route table files up to 512 KB in size (the maximum size supported by the MWTM and ITP) and up to 100,000 MLR address table entries.

To launch the Node File Management dialog box, choose **Network > Node File Management** from the MWTM main menu. The MWTM displays the Node File Management dialog box.

> **Note** If you have implemented MWTM User-Based Access, this option is available to users with authentication level Network Administrator (level 4) and higher.

The Node File Management dialog box contains:

- Node File Management Menu, page 4-26
- Node File Management MWTM Pane, page 4-29
- Node File Management Node Pane, page 4-30

Node File Management Menu

The menu on the Node File Management dialog box contains:

Command	Description
File > Connect (Ctrl-N)	Opens the Pick Node dialog box in which you select a node and connect to that remote node. **Note** The remote node might be configured to disconnect idle sessions. To prevent disconnection of sessions by the node, enable the MWTM to refresh storage device content automatically by selecting the **Enable Auto Refresh Node Storage In Node File Management Dialog** check box in the Deploy settings section of the Preferences window, then specify a Refresh Interval. For more information, see Changing Deploy Settings, page 4-16. To avoid entering username and password information each time, you can set up credentials (see Configuring Login Credentials, page 5-19).
File > Disconnect (Ctrl-D)	Disconnects from the node. This option is dimmed if you are not connected to a remote node.
File > Close (Ctrl-W)	Closes the Node File Management dialog box.
Local > Open File	Opens the chosen route table file in the Route Table dialog box or the GTT file in the GTT Editor window or the MLR address table file in the Address Table Editor.
Local > Check File	Checks the semantics and syntax of the chosen file on the MWTM client.
Local > Cut	Cuts the chosen local file from the MWTM client.
Local > Copy	Copies the chosen local file from the MWTM client.
Local > Paste	Pastes a cut or copied local file into the MWTM client.
Local > Delete	Deletes the chosen file from the MWTM client. **Note** If you try to delete a file, and you do not have permission to delete the file, the MWTM issues an appropriate error message.
Local > Rename	Renames the chosen file on the MWTM client. You can use any letters, numbers, or characters in the new name that your operating system allows. However, if you include any spaces in the new name, the MWTM converts those spaces to dashes. For example, the MWTM saves file *a b c* as *a-b-c*.

Command	Description
Local > Refresh	Refreshes the list of files in the MWTM pane.
	If you have added or modified route table files, GTT files, or MLR files on the MWTM client since you launched the Node File Management dialog box, the MWTM pane reflects those changes.
Local > Go Up	Displays the subdirectories and files that are in the directory that is up one level from the currently visible directory on the MWTM client.
	This option is dimmed if this is the highest directory level.
Local > Create Directory	Creates a new subdirectory in the directory that the MWTM client currently is displaying.
Remote > Activate	Activates the chosen route table file, GTT file, or MLR file on the remote node. That is, the MWTM replaces the currently running route table file, GTT file, or MLR file on the remote node with the chosen file.
	Note You cannot activate the *MWTM-LAST-ACTIVE-filename.rou*, *MWTM-LAST-ACTIVE_filename.gtt, MWTM-LAST-ACTIVE-filename.mlr,* or *MWTM-LAST-ACTIVE-filename.sms* files. These are backup files. If you need to revert to one of these files, copy it, rename it, and upload and activate the renamed file on the remote node.
	This option is dimmed if you are not connected to a remote node.
Remote > Cut	Cuts the chosen remote file from the remote node.
Remote > Copy	Copies the chosen remote file from the remote node.
Remote > Paste	Pastes a cut or copied remote file into the remote node.
Remote > Delete	Deletes the chosen file from the remote node.
	If you try to delete a file, and you do not have permission to delete the file, the MWTM issues an appropriate error message.
	Some Cisco routers support redundancy, which requires synchronization of the active and all standby storage devices. If you delete a file in the node pane from an active storage device, and you then try to undelete the file before the standby storage devices have been synchronized, the file will have different IDs on the active and standby storage devices. If this occurs, the MWTM issues this error message and cancels the undelete:
	`Invalid ID`
	You must then undelete the file on the standby storage devices.
	This synchronization problem does not occur in the MWTM pane.
	This option is dimmed if you are not connected to a remote node.
Remote > Rename	Renames the chosen file on the remote node.
	Note You can rename files on the remote node for only Class C devices on the disk drives.
	You can use any letters, numbers, or characters in the new name that your operating system allows. However, if you include any spaces in the new name, the MWTM converts those spaces to dashes. For example, the MWTM saves file *a b c* as *a-b-c*.
	This option is dimmed if you are not connected to a remote node.
Remote > Undelete	Recovers the chosen file on the remote node.
	This option is dimmed if you are not connected to a remote node.

Command	Description
Remote > Refresh	Refreshes the list of files in the node pane.
	If route table files, GTT files, or MLR files have been added or modified on the remote node since you launched the Node File Management dialog box, those changes appear in the node pane.
	This option is dimmed if you are not connected to a remote node.
Remote > Go Up	Displays the subdirectories and files that are in the directory that is up one level from the directory that is currently visible on the remote node.
	This option is dimmed if this is the highest directory level or if you are not connected to a remote node.
Remote > Create Directory	Creates a new subdirectory in the directory that the remote node currently is displaying.
	Note You can create folders on the remote node for only Class C devices on the disk drives.
	This option is dimmed if you are not connected to a remote node.
Remote > Squeeze Node	Optimizes Flash memory on the remote node so that the space used by the files marked as *deleted* or *error* can be reclaimed. For more information, see the description of the **squeeze** command in the Cisco IOS Release 12.2 *Configuration Fundamentals Command Reference*.
	Note After performing the squeeze process you cannot recover deleted files using Undelete.
	This option is dimmed if you are not connected to a remote node.
Remote > Format Node	Formats the Flash memory file system on the remote node. For more information, see the description of the **format** command in the Cisco IOS Release 12.2 *Configuration Fundamentals Command Reference*.
	This option is dimmed if you are not connected to a remote node.
Help > Topics (F1)	Displays the table of contents for the MWTM online help.
Help > Window (Shift-F1)	Displays online help for the current window.
Help > About (F3)	Displays build date, version, SSL support, and copyright information about the MWTM application.

Node File Management MWTM Pane

The MWTM pane on the left side of the Node File Management dialog box displays all of the files that the MWTM currently defines on the MWTM client. To populate the MWTM pane with all of the:

- Route table files currently defined on the MWTM client, select **Route Tables** from the drop-down list box.
- GTT files currently defined on the MWTM client, select **GTT Files** from the drop-down list box.
- MLR address table files currently defined on the MWTM client, select **MLR Address Tables** from the drop-down list box.

You can resize each column, or sort the table based on the information in one of the columns. By default, the MWTM sorts this table by Name, and displays all of the columns in the MWTM pane.

See Navigating Table Columns, page 4-24 for more information about resizing, sorting, displaying, or hiding columns.

The MWTM pane contains:

Column	Description
Type	Indicates whether the chosen name is a directory or a file.
Name	Name of the route table, GTT, or MLR file.
Size	Size of the file in bytes.
Modified	Date and time the file was last modified.

The MWTM pane provides these right-click menu options for files:

Command	Description
Open File	Opens the chosen route table file in the Route Table dialog box or the chosen GTT file in the GTT Editor window or the chosen MLR address table file in the Address Table Editor window.
Check File	Checks the semantics and syntax of the chosen file on the MWTM client.
Cut	Cuts the chosen file from the MWTM client.
Copy	Copies the chosen file from the MWTM client.
Paste	Pastes a cut or copied file into the MWTM client.
Delete	Deletes the chosen file from the MWTM client. **Note** If you try to delete a file, and you do not have permission to delete the file, the MWTM issues an appropriate error message.
Rename	Renames the chosen file on the MWTM client. You can use any letters, numbers, or characters in the new name that your operating system allows. However, if you include any spaces in the new name, the MWTM converts those spaces to dashes. For example, the MWTM saves file *a b c* as *a-b-c*.
Refresh	Refreshes the list of files in the MWTM pane. If you have added or modified route table, GTT, or MLR files on the MWTM client since you launched the Node File Management dialog box, the MWTM pane reflects those changes.

Command	Description
Go Up	Displays the subdirectories and files that are in the directory that is up one level from the currently visible directory on the MWTM client.
	This option is dimmed if this is the highest directory level.
Create Directory	Creates a new subdirectory in the currently visible directory on the MWTM client.
Upload	Uploads the chosen file from the MWTM client to the remote node.
	You can also upload a file by selecting it in the MWTM pane and clicking the arrow pointing to the node pane.
	This option, and the arrow, is dimmed if you are not connected to a remote node.

Node File Management Node Pane

The node pane on the right side of the Node File Management dialog box displays all of the files that the MWTM currently defines on the remote node. To populate the node pane with all of the:

- Route table files currently defined on the remote node, select **Route Tables** from the drop-down list box.
- GTT files currently defined on the remote node, select **GTT Files** from the drop-down list box.
- MLR address table files currently defined on the remote node, select **MLR Address Tables** from the drop-down list box.

You can resize each column, or sort the table based on the information in one of the columns. By default, the MWTM sorts this table by Name, and displays all of the columns in the node pane.

See Navigating Table Columns, page 4-24 for more information about resizing, sorting, displaying, or hiding columns.

The node pane contains:

Column	Description
Type	Indicates whether the chosen name is a directory or a file.
Name	Name of the route table, GTT, or MLR file.
Size	Size of the file in bytes.
Modified	Date and time the file was last modified.

The node pane provides these right-click menu options for files:

Right-click Option	Description
Activate	Activates the chosen route table file, GTT file, or MLR file on the remote node. That is, the MWTM replaces the currently running route table file, GTT file, or MLR file on the remote node with the chosen file.
	Note You cannot activate the *MWTM-LAST-ACTIVE-filename.rou*, *MWTM-LAST-ACTIVE_filename.gtt, MWTM-LAST-ACTIVE-filename.mlr,* or *MWTM-LAST-ACTIVE-filename.sms* files. These are backup files. If you need to revert to one of these files, copy it, rename it, and upload and activate the renamed file on the remote node.
	This option is dimmed if you are not connected to a remote node.

Cut	Cuts the chosen file from the remote node.
Copy	Copies the chosen file from the remote node.
Paste	Pastes a cut or copied file into the remote node.
Delete	Deletes the chosen file from the remote node.
	If you try to delete a file, and you do not have permission to delete the file, the MWTM issues an appropriate error message.
	Some Cisco routers support redundancy, which requires synchronization of the active and all standby storage devices. If you delete a file in the node pane from an active storage device, and you then try to undelete the file before the standby storage devices have been synchronized, the file will have different IDs on the active and standby storage devices. If this occurs, the MWTM issues the following error message and cancels the undelete:
	`Invalid ID`
	You must then undelete the file on the standby storage devices.
	This synchronization problem does not occur in the MWTM pane.
Rename	Renames the chosen file on the remote node.
	Note You can rename files on the remote node for only Class C devices on the disk drives.
	You can use any letters, numbers, or characters in the new name that your operating system allows. However, if you include any spaces in the new name, the MWTM converts those spaces to dashes. For example, the MWTM saves file *a b c* as *a-b-c*.
Undelete	Recovers the chosen file on the remote node.
Refresh	Refreshes the list of files in the node pane.
	If route table files, GTT files, or MLR files have been added or modified on the remote node since you launched the Node File Management dialog box, those changes appear in the node pane.
	This option is dimmed if you are not connected to a remote ITP.
Go Up	Displays the subdirectories and files that are in the directory that is up one level from the currently visible directory on the remote node.
	This option is dimmed if this is the highest directory level.
Create Directory	Creates a new subdirectory in the currently visible directory on the remote node.
	Note You can create folders on the remote node for only Class C devices on the disk drives.
Squeeze Node	Optimizes Flash memory on the remote node so that the space used by the files marked as *deleted* or *error* can be reclaimed. For more information, see the description of the **squeeze** command in the Cisco IOS Release 12.2 *Configuration Fundamentals Command Reference*.
	Note After performing the squeeze process you cannot recover deleted files using Undelete.
Format Node	Formats the Flash memory file system on the remote node. For more information, see the description of the **format** command in the Cisco IOS Release 12.2 *Configuration Fundamentals Command Reference*.
Download	Downloads the chosen file from the remote node to the MWTM client.
	You can also download a file by selecting it in the node pane and clicking the arrow pointing to the MWTM pane.

Node Archive Management

You use the Archive Management dialog box to view the contents of the archive, open a version with its corresponding editor, and delete all versions of a file.

To launch the Archive Management dialog box, choose **Edit > Node Archive Management** from the MWTM main menu. The MWTM displays the Archive Management dialog box.

>　**Note**　If you have implemented MWTM User-Based Access, this option is available to users with authentication level Network Administrator (level 4) and higher.

The Archive Management dialog box contains:

Node Archive Management Menu

The menu on the Archive Management dialog box contains:

Command	Description
File > Open File	Opens the chosen route table file in the Route Table dialog box or the chosen GTT file in the GTT Editor window or the chosen MLR address table file in the Address Table Editor window.
File > Delete	Deletes all versions of the chosen file from the MWTM client. **Note**　If you try to delete a file, and you do not have permission to delete the file, the MWTM issues an appropriate error message.
File > Refresh	Updates data for the currently visible entries.
File > Close (Ctrl-W)	Closes the Archive Management dialog box.
Help > Topics (F1)	Displays the table of contents for the MWTM online help.
Help > Window (Shift-F1)	Displays online help for the current window.
Help > About (F3)	Displays build date, version, SSL support, and copyright information about the MWTM application.

Node Archive Management Selector Pane

The selector pane on the left side of the Archive Management dialog box displays all of the files that the MWTM currently defines on the MWTM client. To populate the selector pane with all of the:

- Route table files currently defined on the MWTM client, select **Route Tables** from the drop-down list box.
- GTT files currently defined on the MWTM client, select **GTT Files** from the drop-down list box.
- MLR address table files currently defined on the MWTM client, select **MLR Address Tables** from the drop-down list box.

To see the tooltip for each button in the selector pane, place the cursor over the button.

The selector pane contains:

Button or Object	Description
Open File for Editing	Opens the chosen route table file in the Route Table dialog box or the chosen GTT file in the GTT Editor window or the chosen MLR address table file in the Address Table Editor window.
Delete	Deletes all versions of the chosen file from the MWTM client. **Note** If you try to delete a file, and you do not have permission to delete the file, the MWTM issues an appropriate error message.
Refresh	Updates data for the currently visible files.
Nodes	To see the nodes, signaling points, and archived files associated with a specific node, click the turner beside the node or signaling point. Clicking on an archived file displays the file in the right pane.
Signaling Points	To see the signaling points and archived files associated with a specific signaling point, click the turner beside the signaling point. Clicking on an archived file displays the file in the right pane.

The selector pane provides these right-click menu options for files:

Command	Description
Open File	Opens the chosen route table file in the Route Table dialog box or the chosen GTT file in the GTT Editor window or the chosen MLR address table file in the Address Table Editor window.
Delete	Deletes all versions of the chosen file from the MWTM client. **Note** If you try to delete a file, and you do not have permission to delete the file, the MWTM issues an appropriate error message.

Node Archive Management Display Pane

The Archive Management pane displays all of the versions that currently exist on the chosen file in a table. To navigate to a chosen file, click the turner beside Nodes or Signaling Points in the selector pane (in the left pane), and click on the file. All versions appear in the right pane.

If a cell is too small to show all of its comments, place the cursor over the cell to see the full text in a tooltip.

You can resize each column, or sort the table based on the information in one of the columns. By default, the MWTM sorts this table by Rev and displays all of the columns in the display pane.

See for more information about resizing, sorting, displaying, or hiding columns.

The display pane contains:

Column or Button	Description
Rev	Revision number.
Date	Date of archival.
Comments	Archival comments.

Column or Button	Description
Author	User or client hostname or IP address from which the deployment or archiving occurred.
Adjust row height	You can adjust the row height to make comments readable.

The display pane provides this right-click menu option for files:

Command	Description
Open File	Opens the chosen route table file in the Route Table dialog box or the chosen GTT file in the GTT Editor window or the chosen MLR address table file in the Address Table Editor window.

Deploying ITP Files

Tip Before you can use the Deployment Wizard, you must set up TFTP (for details, see Setting Up TFTP on Your Server (ITP Only), page 5-11).

You use the Deployment Wizard to validate a route table file, GTT file, or MLR address table file, upload it to an ITP, archive the file, and activate it on the ITP. The Deployment Wizard can handle route table and GTT files up to 512 KB in size (the maximum size the MWTM and ITP support) and up to 100,000 MLR address table entries.

To launch the Deployment Wizard, choose **File > Deploy** from the route table menu, GTT menu, or Address Table Editor menu. The MWTM displays the Deployment Wizard for the currently visible file.

The left pane of the Deployment Wizard contains:

Step	Description
Select File	Indicates that the file is chosen for deployment. The name of the file to deploy appears in the Deployment Wizard title bar.
Select Node/SP	If you are deploying a GTT file or address table file, you use this option to select the signaling points to deploy the file. You can optionally check the **Filter by Node** check box, which limits signaling point selection to a specific node.
	Select one or more signaling points and nodes (optional) from the drop-down list boxes in the right pane, then click **Next >**.
	If you are deploying a route table file, the MWTM proceeds directly to the Validate step.
Validate	Validates the file for deployment. Validation messages and error messages, if any, appear in the middle pane.
	The right pane displays the signaling points that is been validated.

Step	Description
Login	You can log in to the signaling point. If required, enter the: • Login username, if required. • Login password, if required. • Enable username, if required. • Enable password, if required. **Note** To avoid entering username and password information each time, you can set up credentials (see Configuring Login Credentials, page 5-19).
Upload	Uploads the file to the signaling point. If the file uploads with no errors, the MWTM proceeds to the Activate step. If the specified file already exists on the ITP, the MWTM displays the name of the duplicate file and the Overwrite and Always Overwrite check boxes. Check the: • **Overwrite** check box to overwrite the file on the ITP with the file being deployed. This is the default setting. • **Always Overwrite** check box if you want the MWTM to always overwrite the file on the ITP with the file being deployed, without prompting you for confirmation. The default setting for this check box is unchecked (prompt for confirmation). If you have set your preferences so that the MWTM client identifies nodes by their DNS names (the default setting) instead of by their IP addresses, then the ITP must be able to resolve the DNS names. Otherwise, the MWTM issues an appropriate error message and does not deploy the file. To enable the ITP to resolve DNS names, enter the **ip domain-lookup** command on the ITP. For more information about this command, see the *Cisco IOS IP Command Reference, Volume 1 of 4: Addressing and Services*, Release 12.3 or later. For more information about the Show DNS or User-Defined Names and Show IP Address in Name Field preference settings, see Node Name Settings, page 4-5.
Archive	You use to enter archive comments, if required. If archive comments are not required, the MWTM displays the Always Skip Archive Comments check box. For details on setting archive comments to required or optional, see mwtm deployarchive, page B-112.
Activate	Activates the file on the signaling point (replaces the currently running route table file, GTT file, or address table file with the deployed file). The MWTM displays the Activate File and Always Activate File check boxes. You can: • Check the **Activate File** check box to activate the deployed file on the ITP. This is the default setting. • Uncheck the **Activate File** check box if you do not want to activate the deployed file on the ITP yet. • Check the **Always Activate File** check box if you want the MWTM to always activate the deployed file on the ITP, without prompting you for confirmation. The default setting for this check box is unchecked (prompt for confirmation).
Done	Displays any status messages, such as errors or successful completion.

The middle pane of the Deployment Wizard contains:

Step	Description
Node	To select the ITP Node from the available list of ITP Nodes.
Signaling Point	To display the corresponding signaling points of the selected ITP Node.
Add	To add the selected ITP Node and Signaling point to the "Selected Node/SP List" (available only for GTT Editor).
Remove	To delete the already added entry in the "Selected Node/SP List" panel if they do not want that node for multiple deployments (available only for GTT Editor).
Validate	Validates the file for deployment. Validation messages and error messages, if any, appear in the middle pane.
Selected Node/SP List	To display the selected Node/SP list.

Note   The log file will be updated wih successful/error message during file deployment using GTT Editor.

The right pane of the Deployment Wizard indicates the status of the signaling point deployed and the following colors indicates the state:

- Blue - Deployment is in progress for the node.
- Green - Deployment is successful.
- Red - Deployment is stopped with error.

Note   During deployment the Current Deployment details are displayed below the left pane.

The bottom line of the Deployment Wizard contains:

Field or Button	Description
Progress Bar	Indicates that the MWTM is validating or uploading the file.
Show Log/Hide Log	Displays or hides the log file for the Deployment Wizard.
Next >	Advances to the next step in the Deployment Wizard.
Finish	Closes the Deployment Wizard. The **Finish** button appears when deployment ends successfully, or when the MWTM encounters errors and cancels the process.
Cancel	Closes the Deployment Wizard without deploying the file.
Help	Displays online help for the Deployment Wizard.

Note   Add and Remove buttons will be available only for Select Node/SP step.

Exporting Data

You use the MWTM to export its data for use by other products, such as CiscoWorks or Microsoft Excel. This section includes:

- Exporting Current Data for Network Objects, page 4-37
- Exporting Current Node Names and SNMP Community Names, page 4-38

Exporting Current Data for Network Objects

You can use the MWTM CLI to export all MWTM data, or to export only chosen MWTM data.

To export all current MWTM data, with fields separated by vertical bars (|; this is the default setting), enter the **mwtm export all** command with the **-d bar** keywords:

mwtm export all -d bar

To export all MWTM data with fields separated by commas (,), specify the **-d comma** keywords:

mwtm export all -d comma

To export all MWTM data with fields separated by tabs, specify the **-d tab** keywords:

mwtm export all -d tab

To export only object-specific MWTM data, specify one of these keywords:

- **as**—(ITP only) Export only application server data.
- **asp**—(ITP only) Export only application server process data.
- **aspa**—(ITP only) Export only application server process association data.
- **links**—(ITP only) Export only link data.
- **linksets**—(ITP only) Export only linkset data.
- **nodes**—Export only node data.
- **sgmp**—(ITP only) Export only signaling gateway-mated pair data.
- **sps**—(ITP only) Export only signaling point data.

You can also specify the **-d comma** or **-d tab** keywords on any of these object-specific **mwtm export** commands.

Here is sample output for the **mwtm export nodes** command:

```
# ./mwtm export nodes
# v6.1.0.15
# t1168093931311|Sat Jan 06 09:32:11 EST 2009
#
# Total 2 nodes
# name|displayname|sgmid|old_description|cllicode|ipaddress|old_pointcode|old_se
condary|old_capability|state|statetimestamp|ioslevel|devicetype|usericonname|sys
descr|lastpolltimestamp|lastpolltime|avgpolltime|old_lasterrormsg|old_lasterrort
ime|notesexist|old_variant|sysuptime|rebootreason|statereason|discoveredtime|eve
ntRcvd|connectTo|ignore|customName|processTraps|nsoconfig|mtp3offload|rfpeerstat
e|trapPollingEnabled|reportPollingEnabled|sysName|nodeType

ems1941ka.cisco.com|ems1941ka.cisco.com|1253|not_used|not_used|[172.18.156.20][2
0.1.1.105]|not_used|not_used|not_used|Warning|1168092733287|7|CiscoMWR-1941-DC|n
ull|sysDescr|1168093830179|328|634|not_used|not_used|false|not_used|248128063|re
load|62|1168092732082|false|null|false|null|true|not_used|not_used|not_used|true
|true|ems1941ka|RAN-O
```

```
sgm-26-91c-2.cisco.com|null|1350|not_used|clli_2691c|[172.18.17.132,172.18.17.4]
[]|not_used|not_used|not_used|Unmanaged|1168093760605|31|Cisco2651XM|null|sysDes
cr|1168092856198|12984|18729|not_used|not_used|false|not_used|731561022|reload|1
|1168092734928|false|null|false|null|true|1|1|2|false|false|sgm-26-91c.cisco.com
|ITP
```

For more information about the use of the **mwtm export** command, see mwtm export, page B-34.

Exporting Current Node Names and SNMP Community Names

To export current MWTM node names and read and write SNMP community names, in CiscoWorks v2 and CiscoWorks v3 import formats, with fields separated by commas (,), specify **cw** or **cwv3** keywords respectively:

mwtm export cw

You can export this data to a file, then use the file to import the nodes into the CiscoWorks database.

For more information about the use of the **mwtm export cw** command, see mwtm export cw, page B-35.

mwtm export cwv3

You can export this data to a file, then use the file to import the nodes into the CiscoWorks database.

For more information about the use of the **mwtm export cwv3** command, see mwtm export cwv3, page B-35.

Integrating the MWTM with Other Products

The MWTM does not require CiscoWorks or the Cisco Info Center (CIC), but the MWTM does integrate with those products to provide added value. See these sections for more information:

- Integrating the MWTM with CiscoWorks, page 4-38
- Forwarding Traps to Other Hosts (Server Only), page 4-40

Integrating the MWTM with CiscoWorks

The MWTM can integrate with CiscoWorks during installation, registering with CiscoWorks as an installed application. In this scenario, CiscoWorks and MWTM are running on the same server. See the "Installing the MWTM on Solaris" and "Installing the MWTM on Windows" chapters of the *Installation Guide for Cisco Mobile Wireless Transport Manager 6.1.7* for more information.

You can also integrate the MWTM with CiscoWorks after installation by using:

- Preference settings. See Changing CiscoWorks Server Settings, page 4-14.
- The **mwtm cwsetup** command. See mwtm cwsetup, page B-24, for more information.

Note If you are using CiscoWorks with the MWTM, do *not* install the CiscoWorks Device Fault Manager or CiscoWorks Campus Manager applications. These applications are not needed in service provider mobile wireless networks and cause contention for key ports (for example, the default SNMP trap port 162) in addition to consuming valuable CPU and memory resources on the server.

To uninstall the CiscoWorks Device Fault Manager and CiscoWorks Campus Manager applications, use the following commands:

`/opt/CSCOpx/bin/uninstall.sh`

then specify to uninstall the following applications:

- Campus Manager 5.1
- Device Fault Manager 3.1

Once you have integrated the MWTM with CiscoWorks, you can:

Launch CiscoWorks Applications from the MWTM Client

When you integrate the MWTM with CiscoWorks, you can launch, from the MWTM client **Launch** menu, the:

- CiscoView
- CiscoWorks Device Center

To launch CiscoWorks applications from the MWTM client:

Step 1 Ensure that CiscoWorks is installed in the network.

Step 2 To launch the appropriate CiscoWorks application:

CiscoWorks Application	Description	Steps to Launch from MWTM
CiscoView	Provides a real-time, color-coded, graphical representation of Cisco devices. You can use CiscoView to quickly identify an incorrect status on a port or interface. If you are running CiscoWorks on UNIX or Windows, you can access CiscoView through the link to the web version of CiscoWorks.	Choose **Launch > CiscoView** from the MWTM main menu. Or, right-click a node in the navigation tree and choose **Launch > CiscoView**.
Device Center	Provides useful web-based device-monitoring functions, including reachability trends, response time trends, interface status, Syslog browsing, and a detailed inventory.	Choose **Launch > Device Center** from the MWTM main menu. Or, right-click a node in the navigation tree and choose **Launch > Device Center**.

Step 3 At the prompt, enter a CiscoWorks user ID and password.

Depending on your selection in Step 2, the MWTM links to the:

- Device Center dashboard, which displays information about the chosen node.
- CiscoView, which shows a graphical representation of the chosen node.

Launch Integrated Applications from the MWTM Web Interface

To launch integrated applications from the MWTM web interface:

Step 1   From the MWTM web interface, click the **Tools** link in the navigation tree (left pane).

> ✎
>
> **Note**   If CiscoWorks does not appear in the navigation tree of the MWTM web interface, CiscoWorks is not integrated with the MWTM. Use the mwtm cwsetup, page B-24, to integrate CiscoWorks with the MWTM.

Step 2   In the right pane, in the Launch pane, click:

- CiscoView (*server_name*)
- Device Center (*server_name*)

The chosen application launches.

Launch the MWTM Web Interface from the CiscoWorks Dashboard

To launch the MWTM web interface from the CiscoWorks dashboard:

Step 1   Log in to your CiscoWorks dashboard.

Step 2   In the Mobile Wireless Transport Manager box, click the **MWTM Server Home Page** link.

> ✎
>
> **Note**   If the Mobile Wireless Transport Manager box does not appear, CiscoWorks is not integrated with the MWTM. Use the mwtm cwsetup, page B-24, to integrate CiscoWorks with the MWTM.

The MWTM web interface opens to the home page.

Forwarding Traps to Other Hosts (Server Only)

You use the MWTM to forward SNMP traps to other SNMP servers, or hosts. The MWTM can then function as a trap multiplexer, integrating with high-level event- and alarm-monitoring systems such as the Cisco Info Center and IBM's Netcool/Tivoli suite of products. These systems can provide a single high-level view of all alarm monitoring in your network, making it easier to detect and resolve problems.

To enable the MWTM to forward SNMP traps to other hosts, specify the list of hosts in the *TrapForwarder.properties* file. The default file resides in the MWTM */properties* directory. If you installed the MWTM in:

- The default directory, */opt*, then the default file resides in */opt/CSCOsgm/properties/TrapForwarder.properties*.
- A different directory, then the default file resides in that directory.

In the *TrapForwarder.properties* file, begin all comment lines with a pound sign (#).

All other lines in the file are host definition lines using this format:

SERVER*xx*=*dest-address*[**:***portno*]

where:

- *xx* is the user-defined server number.
- *dest-address* is the hostname, or the IP address in dotted-decimal format.
- *portno* is the optional port number. The default port number is 162.

For example, this host definition line:

SERVER02=64.102.86.104:162

enables the MWTM to forward traps to Server 02, with IP address 64.102.86.104, on port 162.

Any changes you make to the *TrapForwarder.properties* file take effect when you restart the MWTM server. Thereafter, the MWTM forwards all traps from the listed hosts except traps:

- That the MWTM cannot parse.
- From hosts listed in the *trapaccess.conf* file. For more information, see Limiting Traps by IP Address, page 5-8.

The MWTM modifies Version 2c traps that do not have the agent IP address already specified in the varbind list by including the agent IP address in the varbind list.

You can also forward MWTM events to other hosts, in the form of SNMP traps. For more information, see Forwarding Events as Traps to Other Hosts, page 9-37.

Running Simultaneous Client Sessions

You can run multiple sessions of the MWTM client simultaneously because the MWTM uses a client-server architecture. The MWTM server provides central services and database functions and communicates with multiple MWTM clients. You can install the MWTM client software on the same system as the MWTM server, or on a different system on the same network as the MWTM server.

Note   Running more than one MWTM client on the same workstation can degrade the workstation performance.

The MWTM recommends a maximum of 20 clients per MWTM server. If you connect more than 20 clients to a single server, the server requires additional memory and a more powerful CPU.

Performing Basic Server Operations

This section contains this information:

Connecting to a New Server

You use the MWTM to connect the client to a new MWTM server. For example, you can monitor two or more networks from the same MWTM client, simply by switching servers. Or, if you have two MWTM servers monitoring the same network, and one server fails, the MWTM client automatically switches to the secondary server.

If you want to determine the default hostname before you connect to the new server, it appears in the SERVER_NAME entry in the *System.properties* file. If you installed the MWTM in:

- The MWTM in the default directory, */opt*, then the location of the *System.properties* file is */opt/CSCOsgm/properties/System.properties*.

- A different directory, then the *System.properties* file resides in that directory.

To connect the client to a new server, choose **File > Connect to New Server** from the MWTM main menu. The MWTM displays the Connect to New Server dialog box.

The Connect to New Server dialog box contains:

Field or Button	Description
Server Name or IP Address	Name or IP address of the new server. Select the name of the new server, or its IP address from the Server Name or IP Address drop down list. You can also enter the server name or the IP address in this field manually.
	Note Server names get populated in the Server Name or IP Address drop down menu, only after adding the server names using mwtm servername command.
Name Server Port	UDP port number for the new server. Select the MWTM Naming Server UDP port number for the new server in the Name Server Port field. You can also enter the port number in this field manually.
	The default value is 44742.
	Note On selection of Server Name or IP Address from the drop-down box, the configured port number for that selected Server Name or IP Address is displayed in the Port Number field
OK	Stops the MWTM client, then restarts the client connected to the specified server.
	When you have entered the name of the new server, or its IP address, and its UDP port number, click **OK**. The MWTM stops the client, then restarts the client connected to the new server.
Cancel	Closes the Connect to New Server dialog box without connecting to the new server.
Help	Displays online help for the Connect to New Server dialog box.

Viewing Server Status Information

You use the MWTM to view detailed information about the processes, pollers, tasks, and clients for the server to which you are connected.

To display server status information, choose **View > MWTM Server > Status** in the MWTM main menu. The MWTM displays the Server Status Information window.

The Server Status Information window contains:

- Server Status Information: Fields and Buttons, page 4-43

- Server Status Information: Processes, page 4-43

Server Status Information: Fields and Buttons

The Server Status Information window contains:

Command	Description
Poll Interval	Poll interval used to collect data for the table.
Last Poll	Time the last poll was run. This field initially displays a message that the MWTM is polling the device. After the first polling cycle, the MWTM populates this field with the actual time of the last poll.
Update	Forces an immediate poll, and refreshes the Server Status Information window with the latest data.
Close	Closes the Server Status Information window.
Help	Accesses the online help for this window.

Server Status Information: Processes

The Server Status Information: Processes section lists the processes that make up the MWTM server, and contains:

Field	Description
Name	Name of the process, such as sgmNameServer.
Process ID	Number to uniquely identify the process.
Is Running	Indicates whether the process is running (true) or not (false).

Server Status Information: Pollers

The Server Status Information: Pollers table lists the detail and demand pollers that the MWTM server is currently processing, and contains:

Field	Description
Poller ID	Number to uniquely identify each MWTM detail poller that is currently active. MWTM detail pollers collect detailed data (such as real-time data, statistics, route detail, and so on) that the regular MWTM poller did not collect.
Client Host	Name of the MWTM client that started the detail poller.
Interval	Poll interval for the detail poller, in hours, minutes, and seconds.
Iteration	Number of times the detail poller should poll. If this field displays Forever, the detail poller will never stop polling, until the MWTM client requests that it stops.
Next Poll	Time until the next poll, in hours, minutes, and seconds.

Field	Description
Time Limit	Time remaining, in hours, minutes, and seconds, until the poller times out. When the poller times out, the MWTM automatically stops the poller to prevent unnecessary traffic on the network and sends an appropriate error message to the client. By default, the MWTM allows pollers to run up to 8 hours. To change that setting, see the description of the **mwtm pollertimeout** command in mwtm pollertimeout, page B-55.
Description	Description of the detail poller.

Server Status Information: Tasks

The Server Status Information: Tasks table lists long-running services that the MWTM server performs, and contains:

Field	Description
Task ID	Number to uniquely identify the task.
Interval	Time between runs for the task, in hours, minutes, and seconds.
Iteration	Number of times the task should run. If this field displays Forever, the task will never stop polling.
Next Execution	Time until the next run for the task, in hours, minutes, and seconds.
State	Current state of the task. Valid values are: • **None**—Task is stopped. • **Waiting**—Task is waiting to transition to Ready or Running state. • **Ready**—Task is ready to execute but is not yet in Running state. • **Running**—Task is started and is currently executing. • **Pending**—Task was in Ready state when a user canceled it. The task is pending final removal from the scheduler. • **Error**—Task encountered an error. • **Dying**—Task was in Running state when it was canceled by a user. The task continues to run in Dying state until it ends. The server then removes the task from the scheduler.
Description	Description of the task.

Server Status Information: Clients

The Server Status Information: Clients table contains:

Field	Description
Process Name	Name of an MWTM client that is currently connected to the server.
User Name	If you have implemented MWTM User-Based Access, this field displays the name of an MWTM client user who is currently logged in and connected to the server. If you have not implemented MWTM User-Based Access, this field displays the name of the node that the user is using.
Message Mask	Mask that indicates which messages can be sent to the client.

Field	Description
Sleeping?	Indicates whether the thread that is responsible for delivering messages is sleeping (yes) or not (no). The normal setting for this field is no.
Sleep Time	Time in seconds the thread that is responsible for delivering messages has been sleeping. The normal setting for this field is 0.
Queue Size	Number of messages waiting to be sent to the MWTM client. The normal setting for this field is 0, but it could be higher if the MWTM server or client is very busy, as during Discovery.

Using the Command Line Interface

The MWTM provides a command line interface that you use to interact with the MWTM and with the Cisco IOS software operating system by entering commands and optional arguments. For more information, see Appendix B, "Command Reference."