User Guide for Cisco Multicast Manager 3.0

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User Guide for Cisco Multiicast Manager 3.0

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Preface

This preface describes the objectives, audience, organization, and conventions of the *User Guide for Cisco Multiicast Manager 3.0*. It refers you to related publications and describes online sources of technical information.

Cisco Multicast Manager (CMM) is a web-based software application that requires no client software. With the CMM, you can gather information about the multicast running in your network, monitor multicast networks, and diagnose problems.

This preface includes:

- Objectives, page ix
- Audience, page ix
- Organization, page x
- Conventions, page x
- Related Documentation, page xi
- Obtaining Documentation, Obtaining Support, and Security Guidelines, page xi

Objectives

This guide describes how to use the CMM to monitor, troubleshoot, and gather information about multicast networks. Using the information provided in this guide, you can complete the tasks that are necessary to use the CMM in your multicast environment.

Audience

This guide is for network administrators or operators who use the CMM software to manage multicast networks. Network administrators or operators should have:

- Basic network management skills
- Basic multicast knowledge

Organization

This guide is divided into the following chapters:

- Chapter 1, "Getting Started" describes logging into the CMM, an overview of the CMM interface, and the initial tasks to perform.
- Chapter 2, "System Configuration" provides information on managing domains and global polling configurations.
- Chapter 3, "Polling Configuration and Reports" describes how to view configuration logs, database, device configuration, and historical data files for polling and how to include backup directories to maintain and manage CMM.
- Chapter 4, "Discovery and Trace" provides information on discovering network devices and multicast running traces.
- Chapter 5, "Topology" provides information on viewing topology and reports.
- Chapter 6, "Diagnostics" provides information on viewing both global and router-specific diagnostics.
- Chapter 7, "Configuration Management"describes how to view configuration logs, database, device configuration, and historical data files, and how to include backup directories to maintain and manage CMM.
- Chapter 8, "Administration" provides information on setting up your network for monitoring.

Conventions

This guide uses basic conventions to represent text and table information.

Item	Convention
Commands and keywords	**boldface** font
Variables for which you supply values	*italic* font
Displayed session and system information	`screen` font
Elements that are optional	Square brackets ([ ])
Alternate but required keywords that are grouped	Braces ({ }) and separated by a vertical bar (|)
Information you enter	**`boldface screen`** `font`
Variables you enter	*`italic screen`* font
Menu items and button names	**boldface** font
Selecting a menu item in paragraphs	**Option > Network Preferences**
Selecting a menu item in tables	Option > Network Preferences

Examples use the following conventions:

- Terminal sessions and information that the system displays are printed in `screen` font.
- Information that you enter is in **`boldface screen`** font. Variables for which you enter actual data are printed in *italic screen* font.

- Nonprinting characters, such as passwords, are shown in angle brackets (< >).
- Information that the system displays is in `screen` font, with default responses in square brackets ([ ]).

This publication also uses the following conventions:

- Menu items and button names are in **boldface** font.
- If items such as buttons or menu options are dimmed on the application window, it means that the items are not available either because you do not have the correct permissions or because the item is not applicable at this time.

Note Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in the manual.

Tip Means *the following are useful tips*.

Related Documentation

Additional information can be found in the following publications of the CMM documentation set:

- *Installation Guide for Cisco Multicast Manager 3.0*
- *Release Notes for Cisco Multicast Manager 3.0*
- *Release Notes for Cisco Multicast Manager 3.0.1*
- *Documentation Guide and Supplemental License Agreement for Cisco Multicast Manager 3.0*

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

CHAPTER 1

Getting Started

This chapter covers:

- Process Flow for a New Installation, page 1-1
- Logging into Cisco Multicast Manager, page 1-1
- Navigating the GUI, page 1-3

Process Flow for a New Installation

The following table indicates the process flow for a new installation.

Process	Reference
Install	Installation Guide for Cisco Multicast Manager 3.0
Configure Users	User Configuration, page 8-1
Authentication	Authentication & Audit, page 8-3
Domain Configuration	Creating a Domain, page 2-1
Global Polling Configuration	Global Polling Configuration, page 2-5
Multicast Discovery & Trace	Discovery, page 4-1
Multicast Polling Configuration & Reports	Traffic & Polling Reports, page 3-5

Logging into Cisco Multicast Manager

Note For details on stopping and starting Cisco Multicast Manager on Solaris and Linux, see the *Installation Guide for the Cisco Multicast Manager 3.0.*

To access Cisco Multicast Manager (CMM), enter the IP address or the name of the server where the software is installed; for example: https://172.20.110.23:8080. The default port of 8080 can be changed as described in the installation instructions.

Figure 1-1 Cisco Multicast Manager Login Page

The Login prompt appears. Enter the credentials to log into CMM. The default CMM username is *admin*, and the default CMM password is *rmsmmt*. Click **Login**.

Navigating the GUI

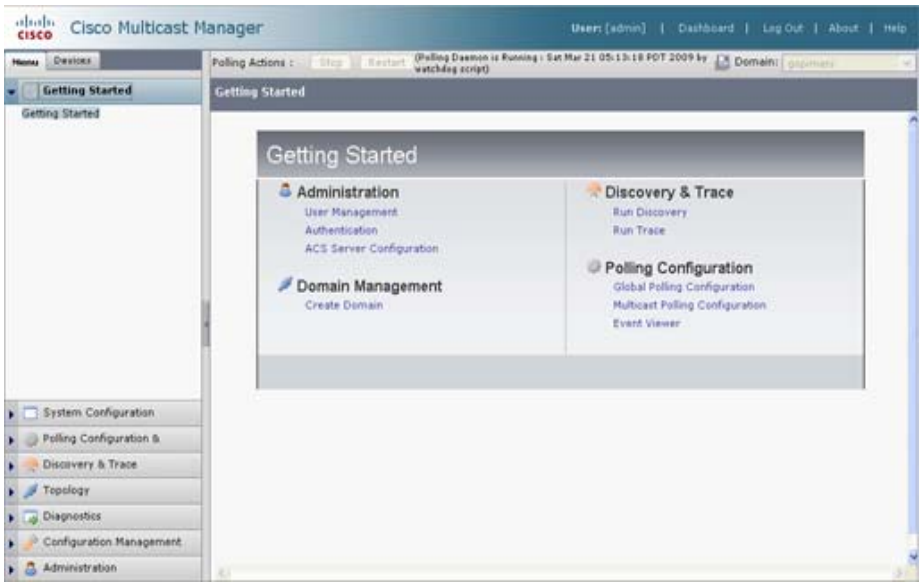
For Cisco Multicast Manager Version 3.0 there are multiple methods of navigating the interface.

Menu

When you first log into Cisco Multicast Manager, the Multicast Manager Main Menu page appears. Select a main menu item to navigate to the submenu items.

Note Secure Sockets Layer (SSL) will be active by default.

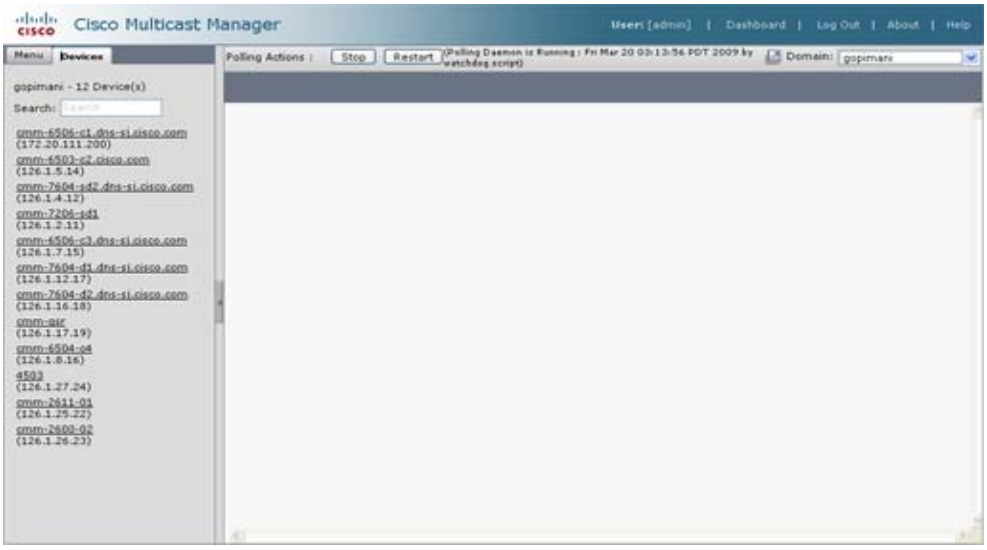
Figure 1-2 Cisco Multicast Manager Main Menu Page



Devices Tab

The Devices tab contains a list of devices discovered per domain.

Figure 1-3 Cisco Multicast Manager Device Tab



To view the Devices tab:

Step 1 Click the **Devices** tab.

Step 2 Click a device link.

The Protocol Independent Multicast (PIM) neighbors of the selected device appear.

Step 3 Enter the **User Name** for the device.

Step 4 Enter the **Password**.

Step 5 Enter the **Enable Password** for the device.

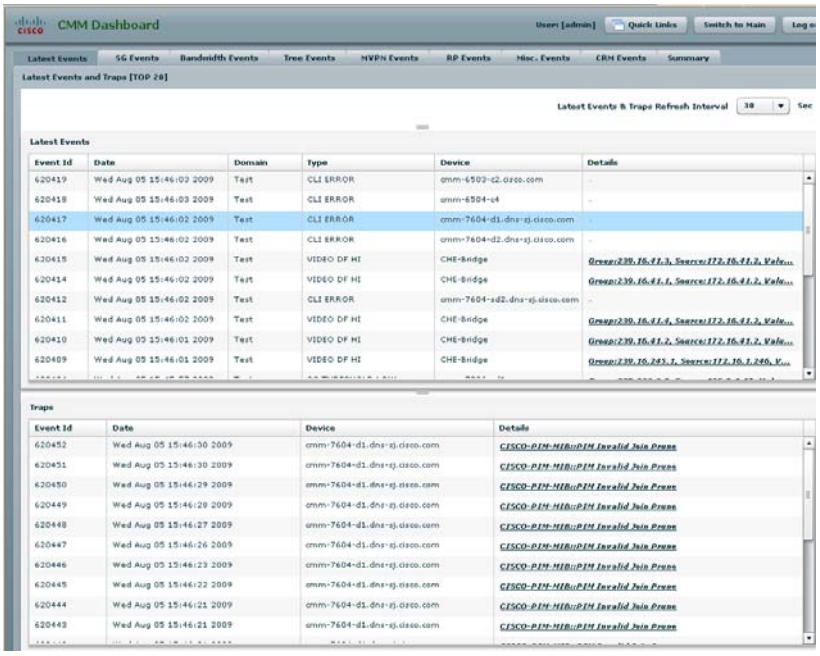
Step 6 Enter an IOS command in the **Show Command** field.

Step 7 Click **Show** to display the output.

Cisco Multicast Manager Dashboard

Select the Dashboard view from the Main Menu page.

Figure 1-4 CMM Dashboard



Each tab allows you to navigate to a different summary view:

- Click the **Latest Events t**ab to view the latest multicast events.
- Click the **SG Events** tab to view the latest Source, Group events, including SG threshold events and Group Gone events.
- Click the **Bandwidth Events** tab to view bandwidth events and L2 threshold events.
- Click the **Tree Events** tab to view tree events, including tree change events
- Click the **MPVN Events** tab to view MPVN events, including MDT source events, MDT default events, VRF interface count events, and VRF count events.
- Click the **RP Events** tab to view Rendezvous Point (RP) events, including RP polling events, RP group threshold events, and SSG events.
- Click the **Miscellaneous Polling Events** tab to view miscellaneous polling events and SSM events.
- Click the **CRM Events** tab to view CRM events, including Specific Unicast Route events and Specific Multicast route events.
- Click the **Summary** tab to view statistics for events for each event defined in CMM a bar graph report showing the events in each event category. The statistical report displays the statistics for the last 24 hours. The Summary tab also shows the domain details for each domain, including the Domain name, the number of devices in each domain, and the number of events for the domain.

CHAPTER 2

System Configuration

This chapter covers:

- Domain Management, page 2-1
- Global Polling Configuration, page 2-5

Domain Management

Creating a Domain

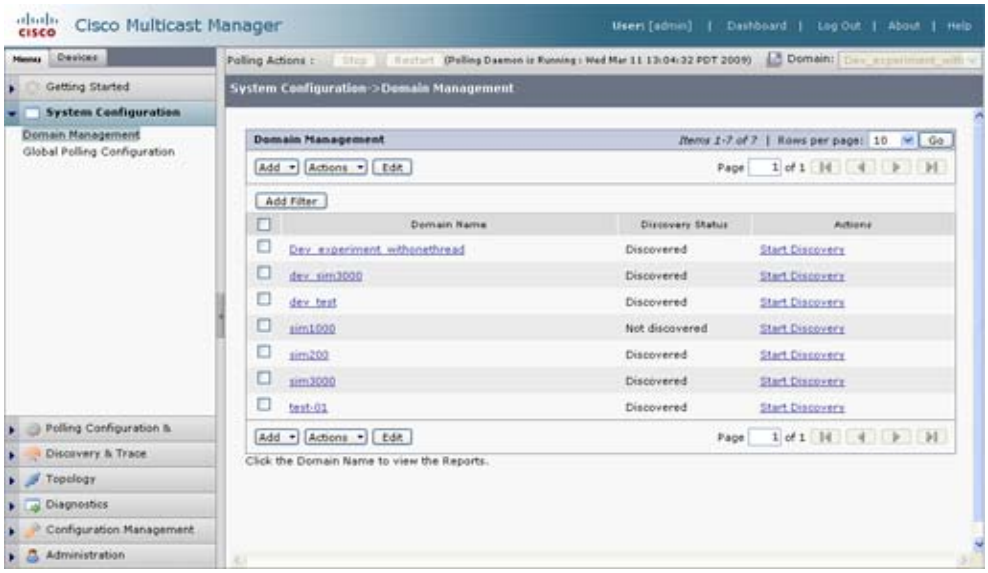
Before you can begin managing your networks, you must create a domain. A domain is a collection of multicast routers, Layer 2 (L2) devices, and video probes. Multiple domains can exist, and routers can belong to multiple domains. Using Domain Management, you can create and edit domains.

To create a domain:

Step 1 From the Multicast Manager menu, select **System Configuration**.

Step 2 Select **Domain Management**.

Figure 2-1 Domain Management Summary Page



Step 3 Click the **Add** button to add a new domain.

Note To edit an existing domain, check the check box for the desired domain listing and click **Edit**.

Step 4 Complete the fields in the System Configuration page and click **Save**, **Reset** to clear the data fields and create the new domain. Click **Cancel** to exit without creating a domain.

The System Configuration page contains the following fields:

Field	Description
Management Domain	A management domain is defined as a contiguous group of PIM neighbors sharing the same SNMP community string.
Read Only	SNMP read-only community string. Verify the string.
Read Write	SNMP read-write community string. This is required for retrieving and validating device configurations. Verify the string.
SNMP Timeout	Retry period if the node does not respond. Default value is 0.8.
SNMP Retries	Number of retries to contact a node before issuing a timeout. Default value is 2.
TFTP Server	TFTP server IP address. Default is the IP address of the Cisco Multicast Manager server.
VTY Password	The VTY password is required if you want to issue to show commands from the application. Certain features, such as querying Layer 2 switches, also require this. If TACACS is being used, then a username and password can be supplied instead of the VTY password. Verify the password.
Enable Password	Enter the password and verify the password.
TACACS/RADIUS Username	If you are using TACACS/RADIUS, you can enter a username here. See VTY Password above. **Note** If you enter a TACACS/RADIUS username and password here, the application will use these values regardless of who is logged in. Users can also enter their own username and password when issuing show commands.
TACACS/RADIUS Password	If you are using TACACS/RADIUS, you can enter a password here. See VTY Password above. **Note** If you enter a TACACS/RADIUS username and password here, the application will use these values regardless of who is logged in. Users can also enter their own username and password when issuing show commands.
CLI Access	Select either Telnet or SSH.

Field	Description
Threshold Polling	Check the check box for enabling CLI mode of threshold polling. The routers being polled are the ones for which Cisco IOS and chassis information were configured in the rmspollcli.conf file.
Cache TACACS Info	Check the check box to cache the TACACS username and password until the browser is closed. This eliminates the need to enter the username and password each time that you issue a router command from the application.
Resolve Addresses	Performs Domain Name System (DNS) lookups on all sources found. The DNS name appears alongside the IP address on the "Show All Groups" screen. If the server is not configured for DNS, then *do not* check the box. If the box is checked, you may receive a slower response, because the application is trying to resolve names. We recommend disabling this option if your network contains a large number of source and groups (S,Gs). The Resolve Addresses option also causes discovery to do a reverse DNS lookup on a device name. The IP address returned by DNS is then used for management purposes. Otherwise, the IP address by which the device is found is used for management purposes.
Use Cache	Some networks contain thousands of S,Gs. During discovery, CMM caches all the S,Gs found in the RPs. If this box is checked, CMM reads the S,G cache when showing lists of sources and groups, rather then retrieving them again from the RPs in the network. The cache can also be refreshed manually by clicking the **Reload Cache** button in the Multicast Diagnostics window. This button appears only if you have the **Use Cache** option selected. We highly recommend that you use the S,G cache option. If there are no RPs in the domain being discovered, then the S,G cache is created by querying all the devices that have been discovered, as would be the case in a PIM Dense-Mode network. In this case, the S,G cache is updated only when you click the **Reload Cache** button.

Importing a Domain

To import a domain:

Step 1 From the Multicast Manager menu, select **System Configuration**.

Step 2 Select **Domain Management**.

Step 3 Click the **Add > By Import** button to import a new domain.

Step 4 Click the **Browse** button to locate a file.

Step 5 Click the **Upload** button.

Note After the upload process is initiated, the table populates with information.

Global Polling Configuration

You can configure each polling element to start and stop at specific times. Each element also has its own polling interval. You can configure these values through the Global Polling Configuration page.

Note You must restart the polling daemon after making changes on this page. Click the **Restart** button in the Polling Actions field to restart polling. Click the **Stop** button to stop polling.

To configure global polling:

Step 1 From the Multicast Manager menu, select **System Configuration**.

Step 2 Select **Global Polling Configuration**.

The Global Polling Configuration page appears.

Step 3 The following table describes the fields and selections on the Global Polling Configuration page:

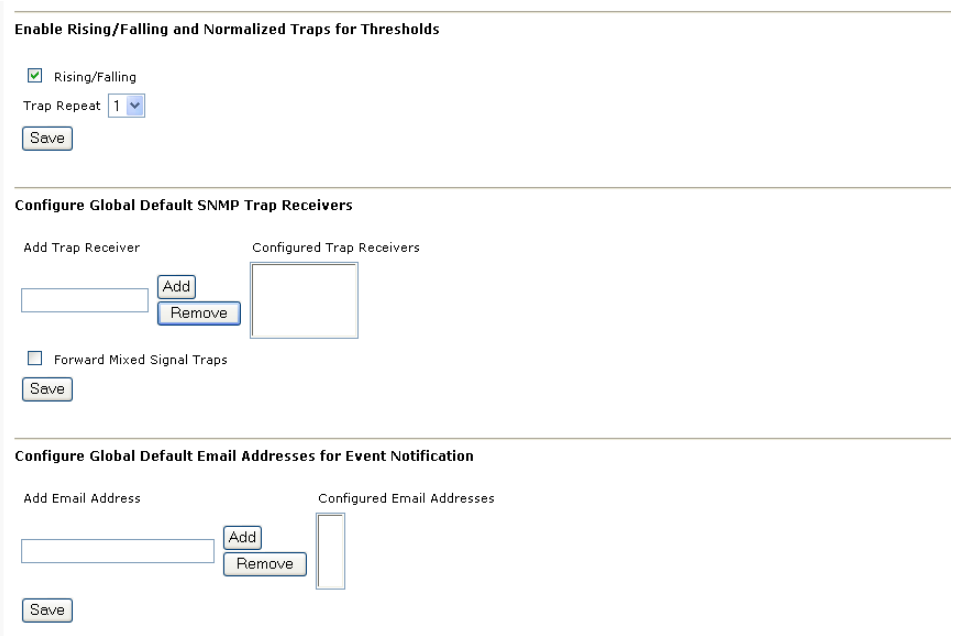
Note Setting any one of these values to less than 1 disables that specific polling feature.

Field or Button	Description
Default Run Times—Use Defaults	Selecting the Use Defaults check box sets all the start and stop times, and days to the default values.
DR Polling Interval	Checks the status of all DRs in the network. If a user changes a DR, an SNMP trap is sent.
Layer 2 Polling Interval	Time between polling of the Layer 2 ports.

Field or Button	Description
RP Cache Polling interval	RP Polling queries the RP configured in Specific Multicast Polling and looks for new forwarding entries (S,G) added/removed.
RP Status Polling Interval	RP Status Polling queries the sysUpTime of the RPs configured on the RP Polling Configuration page. The purpose of this query is to report availability of the RPs. If the RP responds, an *rpReachable* trap is sent. If the RP does not respond, an *rpUnreachable* trap is sent. Since at least one of these traps is sent at each polling interval, you can also use them to ensure that the polling daemon is up and running.
RPF Failure Polling Interval	Time interval at which each router will be polled for each source and group configured, to check the number of RPF failures.
Threshold Polling Interval	Time interval that each router will be polled for the existence of each source and group configured, and CMM will ensure that no thresholds are exceeded.
Multicast Topology Polling Interval	Topology polling queries the sysUpTime of each router in the multicast domain to see if it has been reloaded. If it has, the polling daemon launches a Single Router Discovery of that device in the background, to ensure that the SNMP *ifIndexes* have not changed.
Tree Polling Interval	Time interval at which the monitored trees are drawn and compared with their baselines.
Interface Polling Interval	Time interval where the percent of multicast bandwidth per interface is compared to the thresholds.
Health Polling Interval	Time interval at which the configured health checks are scheduled to run.
Selective Source Polling Intervals	Time intervals set to the source and group to be monitored for the particular time and day. The time interval configured should not be overlapping for the same source and group.
Heart Beat Polling Interval	Time interval at which the heart beat trap is sent to the northbound application. These traps serve as the notification about the health of the polling daemon.
MVPN Polling Interval	Frequency MVPN data and whose entries would be polled PE devices.
Video Probe Polling	Time interval that the video probes are polled for MDI values.

Field or Button	Description
Video Probe Clear Timer	Interval that Cisco Multicast Manager changes a yellow warning indicator to a green OK indicator.
Save	Sets the values that you have entered.

Figure 2-2 Trap Receiver/Email Polling Configuration



Step 4 To enable or disable the continuous sending of PPS threshold traps, use the Enable Rising/Falling and Normalized Traps for Thresholds section:

- If the Rising/Falling option is not checked (disabled), traps are sent whenever the PPS rate for a monitored S,G exceeds specified thresholds.
- If the Rising/Falling option is checked (enabled), a trap is sent only when the PPS rate initially exceeds the high or low threshold. After the PPS rate returns to the specified range, a normalized threshold trap is sent.
- Because SNMP v1 traps are sent unreliably, you can set the Trap-Repeat option to allow the initial and normalized traps to be sent from 1 to 5 times when an event occurs.

Step 5 To add trap receivers, complete these steps:

a. Go to the Configure Global Default SNMP Trap Receivers section.

b. Enter the IP address for the trap receiver.

c. Click the **Add** button.

The IP address appears in the Configured Trap Receivers list.

d. If you want to forward MixedSignal traps northbound to another application, check the Forward Mixed Signal Traps check box.

Note If you enable the Mixed Signal trap forwarding option, the Mixed Signal traps are not displayed on the trap viewer page.

Note The SNMP trap receivers specified here are only used if domain-specific SNMP trap receivers are not specified. Domain-specific trap receivers are specified from the Domain Trap/Email Polling Configuration page.

e. Click the **Save** button.

A message appears instructing you to start the snmptrapd processes to cause the changes in Mixed Signal trap forwarding to take effect.

Step 6 To remove trap receivers, click the IP address of the trap receiver that you want to remove and then click the **Remove** button, then click **Save**.

Step 7 To add or remove email addresses, use the Configure Global Default Email Addresses for Event Notification section. Email addresses are notified of SSG exceptions and threshold and existence events. The email addresses specified here are used only if domain-specific email addresses are not specified. Domain-specific email addresses are specified from the Domain Trap/Email Polling Configuration page.

CHAPTER 3

Polling Configuration and Reports

This chapter covers:

- Event Viewer, page 3-1
- Trap Viewer, page 3-2
- Domain Trap/Email, page 3-3
- Traffic & Polling Reports, page 3-5
- Tree Polling & Reports, page 3-12
- Miscellaneous Polling & Reports, page 3-16
- CRM Polling, page 3-34

Note You must restart the polling daemon after making configuration changes in this section. Click the **Restart** button in the Polling Actions field to restart polling. Click the **Stop** button to stop polling.

Event Viewer

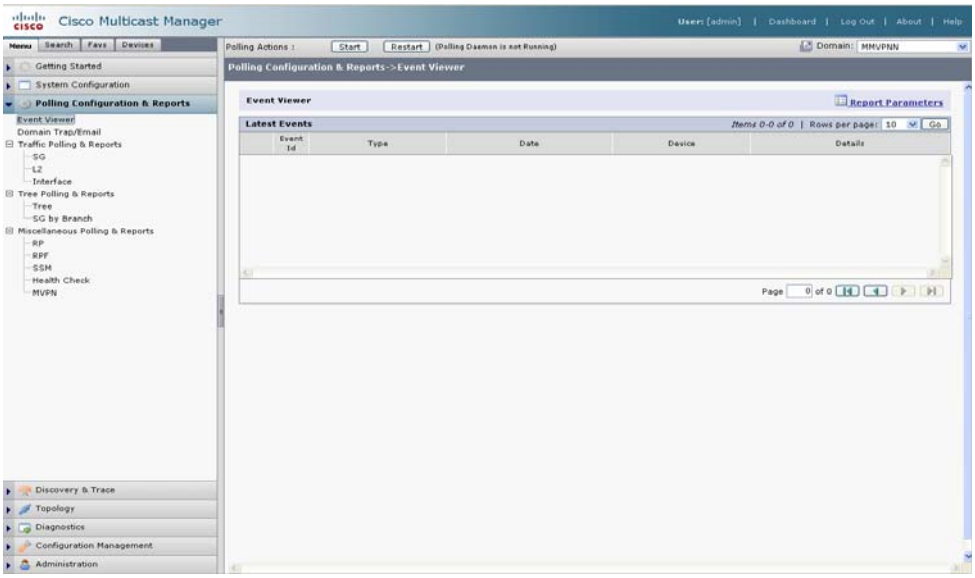
The Event Viewer displays the events, per domain, in descending order by time.

To use Event Viewer:

Step 1 Choose **Polling Configuration & Reports > Event Viewer**.

The Event Viewer appears, shown in Figure 3-1:

Figure 3-1 Event Viewer



Step 2 To specify parameters for filtering event views, select **Report Parameters.**

Field	Description
Event Type	Select an event type from the drop-down list.
From Date	Type or select a start date.
To Date	Type or select an end date.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline Name	Type the baseline name.

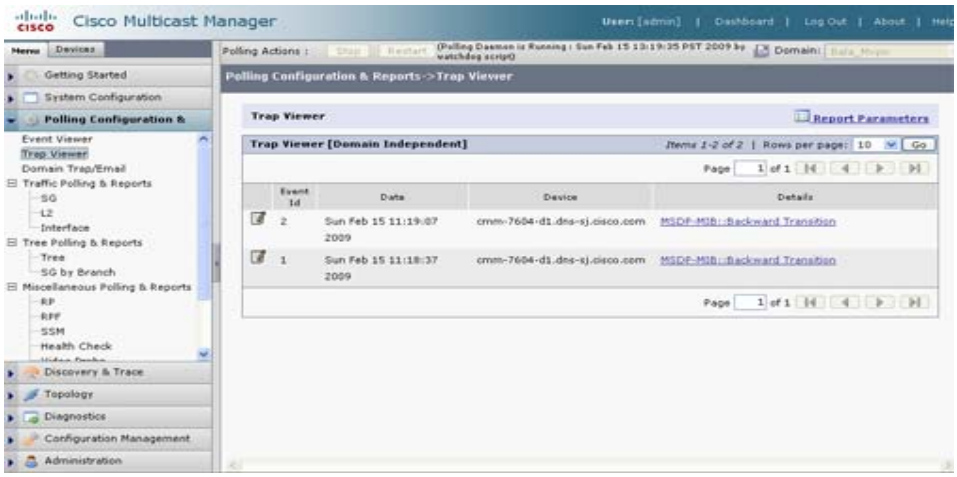
Step 3 Click **Submit**.

The Event Viewer appears with the specified events shown.

Trap Viewer

The Trap Viewer displays the traps generated by the network devices.

Figure 3-2 Polling Configuration Trap Viewer



Select **Report Parameters** to filter all event views.

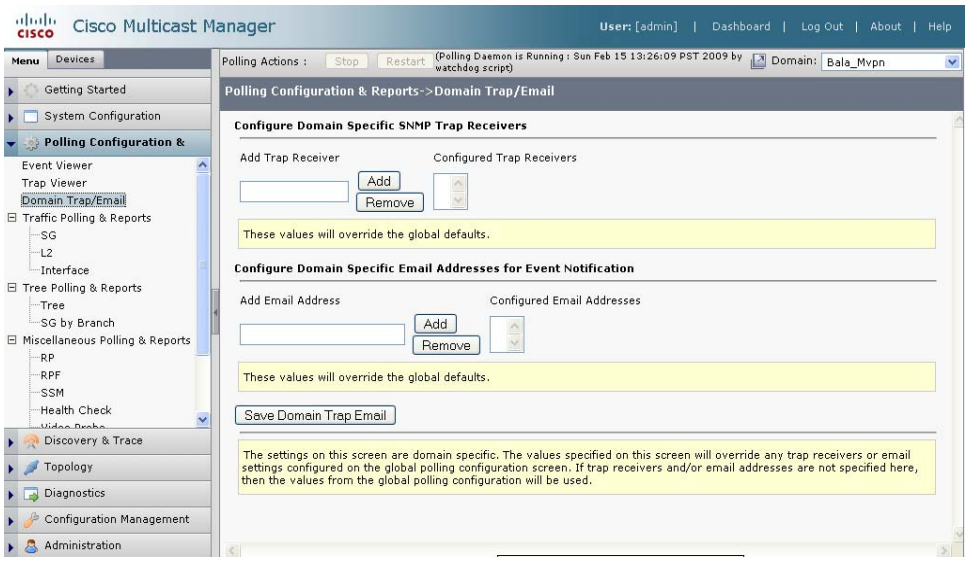
Note The Device, Source, Group and Baseline Name fields are disabled by default.

Field	Description
From Date	Type or select a start date.
To Date	Type or select an end date.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline Name	Type the baseline name.
Submit	Sets the values that you enter.

Domain Trap/Email

You can configure the CMM to send domain-specific SNMP trap receivers or email. Under the Polling Configuration & Reports menu, in the navigation pane at the left side of the window, click **Domain Trap/Email**. The Domain Trap/ Email page appears.

Figure 3-3 Domain Trap/Email



You can add or remove trap receivers using the Configure Domain Specific SNMP Trap Receivers section. The SNMP trap receivers specified here are only used if global SNMP trap receivers are not specified. Global trap receivers are specified from the Configure Global Default SNMP Trap Receivers page (see Global Polling Configuration, page 2-5).

You can add or remove email addresses using the Configure Domain Specific Email Addresses for Event Notification section. Email addresses are notified of SSG exceptions and threshold and existence events. The email addresses specified here are only used if global email addresses are not specified. Global email addresses are specified from the Configure Global Default Email Addresses for Event Notification (see Global Polling Configuration, page 2-5).

Traffic & Polling Reports

S,G

Using Cisco Multicast Manager, you can poll sources and groups with high and low thresholds.

You can select a source and group from the list, or you can enter them manually. If there are many sources and groups to choose from, you can use the filter option to ensure that you are selecting an S,G that actually exists on the network. The filter option displays only the sources for a selected group, or only the groups for a selected source.

Tip Pressing shift and control simultaneously allows you to select more than one item from a list

S,G Threshold Report

Using the S,G Threshold Report, you can view information about PPS/BPS rate deviation on multicast trees.

To view an S,G Threshold Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **S,G**.

Step 4 Select **Report Parameters**.

Field	Description
From Date	Type or select a start date.
To Date	Type or select an end date.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.

Field	Description
Baseline Name	Type the baseline name.
Submit	Sets the values that you enter.

Note You can also view the Historical Graph and Group Gone Report.

Historical Graph

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **S,G.**

Step 4 Select **Historical Graph**.

Step 5 In the Units field, select either PPS or BPS from the drop-down menu.

Step 6 Click the **Get Report(s)** button to refresh the display of multicast streams being monitored.

Step 7 In the **From Date** field, choose a date from the calendar.

Step 8 In the **To Date** field, choose a date from the calendar.

Step 9 Select one or more multicast streams from the table.

Step 10 Click the **Show Report** button to charts a graph.

Individual streams will indicated will be color coded with a unique color.

Group Gone Report

Step 1 Source and group make up a multicast stream monitor on a device

Step 2 If a multicast stream, being monitored on a device, disappears from that device, the application generates a report called a Group Gone Report. The Group Gone Report is a list all events.

Config S,G Polling

By S,G

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **S,G.**

Step 4 Select **Config SG Polling**.

Step 5 Click the **Add** button.

Step 6 Select **By S,G.**

Field	Description
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Reset SG List	Refreshes the source and group lists.
Select Router	Select a router/routers to configure SG polling.
Units	Select either packets per sampling period or bytes per sampling period.
High Threshold	Enter the high threshold value. If the value is exceeded, Cisco Multicast Manager generates a report.
Low Threshold	Enter the low threshold value. If that if the value is exceeded, Cisco Multicast Manager generates a report.

By Device

You can select a particular router using the Device SG Polling Configuration page, and you can configure which sources and routers to monitor on the specific device.

To configure SG polling for a particular device:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **S,G.**

Step 4 Select **Config SG Polling**.

Step 5 Click the **Add** button.

Step 6 Select **By Device**.

The Device SG Polling Configuration page contains the following fields and buttons:

Fields and Buttons	Description
Group Filter Regexp	Enter any part of the multicast address. Only those that match appear.
Refresh	Select referees to update the source and group displayed for the entered group filter regular expression and the selected router.
Select Routers	Select the router name.
Units	Select either packets per sampling period (pps) or bits per sampling period (bps).
High Threshold	Enter the high threshold value. If the value is exceeded, Cisco Multicast Manager generates a report.
Low Threshold	Enter the low threshold value. If that if the value is exceeded, Cisco Multicast Manager generates a report.

By Import

To configure SG polling by importing a file:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **S,G.**

Step 4 Select **Config SG Polling**.

Step 5 Click the **Add** button.

Step 6 Select **By Import**.

Step 7 Click the **Browse** button to upload the file.

Step 8 Select **Merge** to unify an existing configuration with the new configuration or select **Replace** to overwrite the existing configuration.

Step 9 Click **Upload**.

L2 Polling

You can add Layer 2 (L2) switches to Cisco Multicast Manager individually, or you can import a list. Cisco Multicast Manager can monitor the total number of multicast packets inbound and/or outbound from any Layer 2 port.

You can also configure up to 50 different time-of-day thresholds for each port.

To view an L2 PPS Threshold Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports**.

Step 3 Select **L2**.

Step 4 Select **Report Parameters**.

Field	Description
From Date	Type or select a start date.
To Date	Type or select an end date.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline Name	Type the baseline name.
Submit	Sets the values that you enter.

Historical Reports

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **L2.**

Step 4 Select **Historical Graph**.

Step 5 In the **From Date** field, choose a date from the calendar.

Step 6 In the **To Date** field, choose a date from the calendar.

Step 7 Select one or more multicast streams from the table.

Step 8 Click the **Show Report** button to charts a graph.

Individual streams will indicated will be color coded with a unique color.

Configuring L2 Polling

To configure Layer 2 switch polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **L2.**

Step 4 Select **Config L2 Polling**.

Step 5 Click the **Add** button.

Step 6 Select **By L2**.

The L2 Polling Configuration page contains the following fields and buttons:

Fields and Buttons	Description
Select Switch to Monitor	Select the name or IP address of the switch you want to monitor.
Select Port to Monitor	Select the port to monitor. Ports appear in the following format: ifIndex:module/port.
Direction	Select either inbound packets received at this port, or outbound packets sent from this port.
High PPS	Enter the high threshold that, if exceeded, generates a report.
Low PPS	Enter the low threshold that, if exceeded, generates a report.

Interface Polling

Cisco Multicast Manager can poll any interface on a router and calculate the percentage of bandwidth used by multicast traffic. You can then configure a high and low threshold, and if these are exceeded, a report is generated. This information is also kept for historical purposes.

Multicast Bandwidth Report

Layer 3 devices on interface the user can set threshold for aggregate threshold traffic and any breach of the thresholds generate an event. This report is a listing of those events.

To configure multicast bandwidth interface polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **Interface.**

Step 4 Select **Config Interface Polling.**

Step 5 Click the **Add** button.

Step 6 Select I**nterface Polling Configuration**.

Step 7 Select the device to monitor.

Step 8 Select at least one interface.

A separate list of devices appears, displaying a list of the chosen interfaces.

Step 9 Assign an inbound and outbound status by checking the box for each device. If a box is checked, a field will appear where you can assign values for Multicast Percentage Hi/Lo.

Step 10 Select inbound, outbound, or both, and enter values in percentages.

Step 11 Click **Save**.

Historical Graph

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **Interface.**

Step 4 Select **Historical Graph**.

Step 5 In the **From Date** field, choose a date from the calendar.

Step 6 In the **To Date** field, choose a date from the calendar.

Step 7 Select one or more multicast streams from the table.

Step 8 Click the **Show Report** button to charts a graph.

Individual streams will indicated will be color coded with a unique color.

Configuring Interface Polling

By Interface

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **Interface.**

Step 4 Select **Config Interface Polling**.

Step 5 Click **Add**.

Step 6 Select **By Interface**.

Step 7 Select a device.

Step 8 Click **Save**.

By Import

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **Interface.**

Step 4 Select **Config Interface Polling**.

Step 5 Click **Add**.

Step 6 Select **By Import**.

Step 7 Click the **Browse** button to upload the file.

Step 8 Select **Merge** to unify an existing configuration with the new configuration or select **Replace** to overwrite the existing configuration.

Step 9 Click **Upload**.

Tree Polling & Reports

The CMM tree polling feature notifies you of events that affect multicast trees, such as addition or removal of a router from a tree.

This section describes:

- Setting Up Tree Polling, page 3-12
- Tree Reports, page 3-13

Setting Up Tree Polling

Before you can configure tree polling, you must create a trace baseline from the Multicast Trace page. To set up tree polling:

Step 1 Complete these steps to create a trace baseline:

a. From the Main Menu, select **Discovery and Trace**.

b. Select **Multicast Trace**.

c. On the Multicast Trace page, enter the parameters for the trace.

d. Click the **Trace** button.

The Trace Data page appears with the trace entries and a trace topology diagram.

e. Scroll down to the Input file field.

f. If you want to change the name of the trace baseline file, modify the filename as shown in the Input file field.

g. Click the **Save As** button to save the trace baseline.

Step 2 Go to the following section, Configuring Tree Polling, page 3-12, for instructions on how to select the trace baseline file and configure tree polling.

Configuring Tree Polling

To configure tree polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Tree Polling & Reports.**

Step 3 Select **Tree**.

Step 4 Select **Config Tree Polling.**

The Tree Configurations page appears. Initially the list of tree configurations is empty.

Step 5 Click the **Add** button.

The Tree Polling Configuration page appears.

Step 6 Select a saved trace from the Saved Trees drop-down list.

Step 7 Click **Save**.

The saved trace appears in the Tree Configurations list.

Step 8 Click the **Configure** link next to the saved tree that you want to use for tree reporting.

A page appears for configuring the tree report parameters.

Step 9 In the Select Routers on Tree list, select the routers to include in the tree.

Step 10 In the Specify Max Delta Between PPS Samples field, enter the maximum change between PPS samples.

Step 11 Click the **Save** button.

Step 12 If you want to perform a trace, click on the baseline file name on the Tree Configurations page.

Tree Reports

Viewing a Tree Report

To view tree reports:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Tree Polling & Reports.**

Step 3 Select **Tree**.

Step 4 Select **Report Parameters**.

Step 5 On the Tree Report Configuration page, set the parameters for the report:

Fields and Buttons	Description
From Date	Type the start date of the Tree Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the Tree Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.

Step 6 Click the **Submit** button.

Viewing Historical Reports

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Traffic Polling & Reports.**

Step 3 Select **L2.**

Step 4 Select **Historical Graph**.

Step 5 In the **From Date** field, choose a date from the calendar.

Step 6 In the **To Date** field, choose a date from the calendar.

Step 7 Select one or more items from the table.

Step 8 Click the **Show Report** button to chart a graph.

Individual streams will indicated will be color coded with a unique color.

Viewing an S,G Delta Report

To view the S,G Delta Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Tree Polling & Reports.**

Step 3 Select **Tree**.

Step 4 Select **S,G Delta Report.**

Step 5 Select **Report Parameters**.

The Tree Polling Configuration page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the Tree Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the Tree Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.

Step 6 Click the **Submit** button.

Viewing a Tree Changed Report from the Dashboard.

To view a Tree Changed Report from the Dashboard.

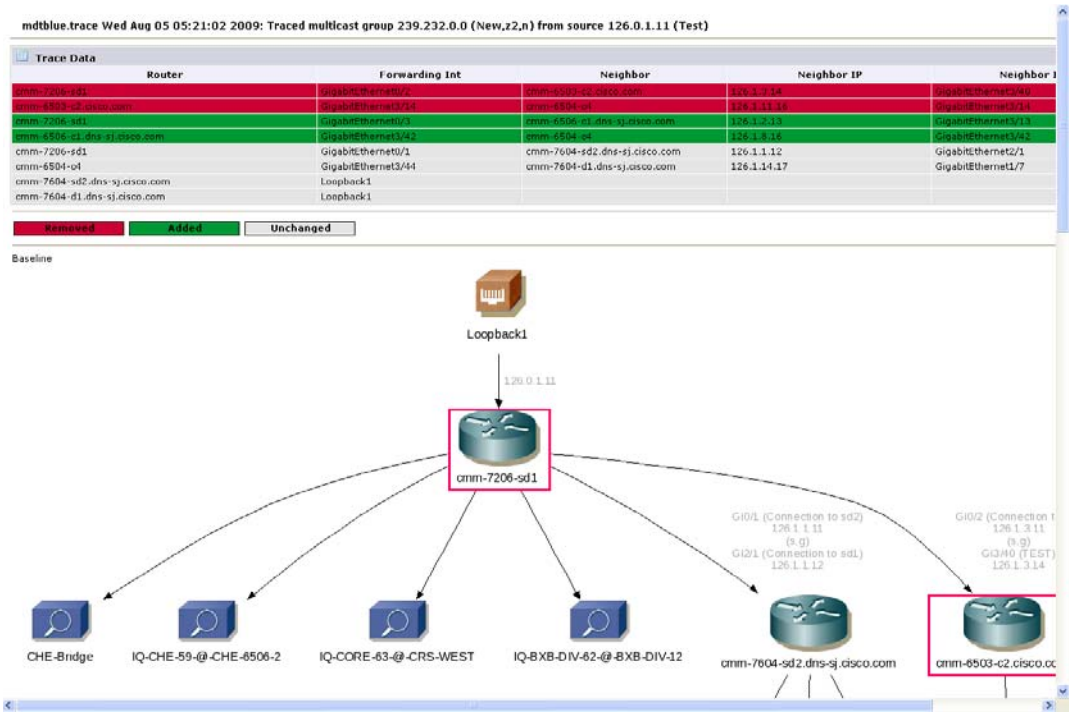
Step 1 From the Dashboard, click the **Tree Events** tab.

The Tree Events page appears.

Step 2 Locate a Tree Changed event and click on the **Changed** link in the event entry.

A Tree Trace Data page for the Tree Changed events appears. shows a sample Trace Data page.

Figure 3-4 Trace Data Page for a Tree Changed Event



On the Trace Data page, the tree report for the event shows events indicating that a router has been removed from the tree in red, and routers that have been added in green.

In the tree topology diagram, routers removed from the tree are outlined in red, and routers that have been added are outlined in green.

SG Polling By Branch

If you run a trace to understand a specific path, you can select a particular branch to poll.

To configure branch polling for a particular device:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Tree Polling & Reports.**

Step 3 Select **SG by Branch**.

Step 4 **Click Add.**

Fields and Buttons	Description
Source	Enter the source. You may either type the source address or select it from the drop-down menu.
Group	Enter the group. You may either type the group address or select it from the drop-down menu.
Service Type	Select the service type from the drop-down list.
FHR	Select the start destination for the first hop router.
LHR	Select the end destination for the last hop router.
Select Router	Select a single router or select multiple routers by pressing the **Shift** key and clicking on the desired routers.
Units	Select either packets per sampling period (pps) or bits per sampling period (bps).
High Threshold	Enter the high threshold value. If the value is exceeded, Cisco Multicast Manager generates a report.
Low Threshold	Enter the low threshold value. If that if the value is exceeded, Cisco Multicast Manager generates a report.
Save	Sets the values that you have entered.

Miscellaneous Polling & Reports

RP

Using the RP Polling Configuration page, you can enable Cisco Multicast Manager to:

- Monitor and report all leaves and joins.
- Set a threshold on the number of groups that can join an RP. If this is exceeded, a trap is sent.
- Find out if a specific RP is available.
- Create a list of all sources and groups to be excluded from polling and send a trap if any rogue sources or groups appear on the RP.

Note RP availability is configured from the Global Polling Configuration page. A trap is sent if an RP becomes unavailable, and a report is generated within the RP Polling Report page.

RP Report

To configure the RP Report:

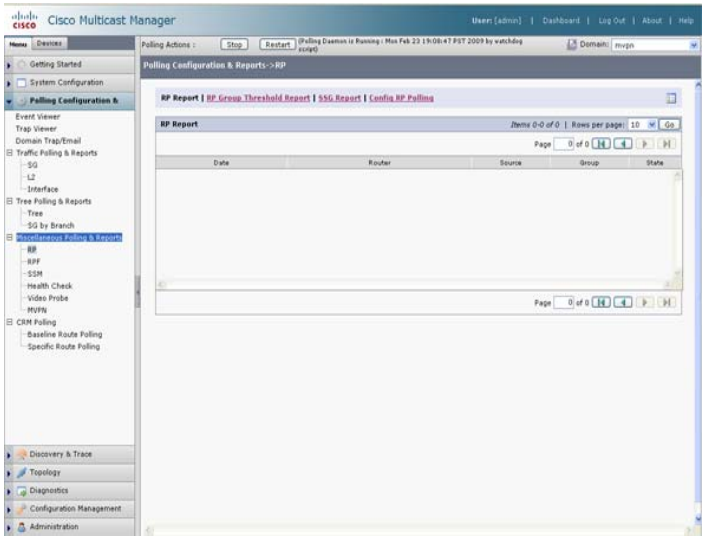
Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **RP**.

The RP Report page opens, as shown in Figure 3-5.

Figure 3-5 RP Report Page



Step 4 Select **Report Parameters**.

The RP Polling Configuration page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the RP Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the RP Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected RP for monitoring.

RP Group Threshold Report

To view the RP Group Threshold Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **RP**.

Step 4 Select **RP Group Threshold Report**.

Step 5 Select **Report Parameters**.

The RP Group Threshold Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the RP Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the RP Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected RP for monitoring.

SSG Report

To view the SSG Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **RP**.

Step 4 Select **SSG Report**.

Step 5 Select **Report Parameters**.

The SSG Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the RP Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the RP Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected RP for monitoring.

Configuring RP Polling

To view the RP Polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **RP**.

Step 4 Select **Config RP Polling**.

Step 5 Click the **Add** button.

Step 6 Select **By RP**.

The Configure RP Polling page contains the following fields and buttons:

Fields and Buttons	Description
Select RP	Select an RP to add to the RP Exclude list.Events from RPs on the RP Exclude list are ignored.
Group Limit	Set the parameter for the group limit. The default is -1.
Save	Click **Save** to retain the values set in the previous fields.
Enable RP Group Add Delete Traps	Click the check box to monitor all leaves and joins, which are then reported on the RP Polling Report page.
Single S,G Monitoring	Enter the group IP address. If more than one source becomes active for this group, a report is generated.
Save	Click Save to retain the values set in the previous fields.

RPF

Using Cisco Multicast Manager, you can monitor Reverse Path Forwarding (RPF) failures for a particular source and group on any selected router.

If any monitored source or group begin to experience RPF failures that rise above the delta, then SNMP traps can be sent, and a report generated. You can view the report under RPF Failures.

You can select the source and group from the list, or you can enter them manually. If there are a lot of sources or groups, you can use the filter option to ensure that you are selecting an S,G that actually exists in the network. The filter option displays only the sources for a selected group or only the groups for a selected source. To reset the lists, click **Reset S,G Lists**.

RPF Polling Report

To view the RPF Polling Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **RPF**.

The RPF Polling Report parameter page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the RPF Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the RPF Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Add the selected RPF for monitoring.

Configuring RPF Polling

To configure RPF polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **RPF**.

Step 4 Select **Config RPF Polling.**

Step 5 Click the **Add** button.

Step 6 Select **By RPF**.

The RPF Polling Configuration page contains the following fields and buttons:

Fields and Buttons	Description
Source	Select a source from the drop-down list.
Filter Groups	Filters the output to contain only the relevant groups.
Group	Select a group from the drop-down list.
Filter Sources	Filters the output to contain only the relevant sources.
Reset SG List	Clears any entries and refreshes the source and group lists.
Router	Enter the router name.
Delta	Number of RPF failures per sampling period that trigger a report.
Save	Applies the configuration and saves the changes.

Selective Source Monitoring

A source and group can be set up to monitor for a particular time and day.

Note The time interval configured should not be overlapping for the same source and group.

SSM Report

To view the SSM Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **SSM**.

The SSM Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the SSM Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the SSM Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.

Fields and Buttons	Description
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected SSM for monitoring.

As part of the results generated, a Source Offline event is generated for the source and group (S,G) configured when the source goes offline.

A **S**ource may be offline event will be generated for (S,G) configured under SG Polling Main, if the source is directly connected to the domain (FHR) and if there is no packet count increase for the monitoring period (typically 1 minute). This event also prevents the bogus trap occurring because of a source offline event.

SSM Configuration

To configure SSM Polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **SSM**.

Step 4 Select **Config SSM Polling.**

Step 5 Click the **Add** button.

Step 6 Select **By SSM**.

The SSM Polling Configuration page contains the following fields and buttons:

Fields and Buttons	Description
Source	Select a source from the drop- -down list.
Groups	Select a group from the drop-down list.
Reset SG Lists	Clears any entries and refreshes the source and group lists.
Configure threshold at ingress router	By default, CMM does not monitor the packet flow at ingress routers associated with the source device. If you want to monitor the packet flow at the ingress routers associated with the source, check the Configure threshold at ingress router check box and enter threshold values in the High Threshold and Low Threshold fields.
Units	Select either packets per sampling period (pps) or bits per sampling period (bps).
High Threshold	Enter the high threshold that, if exceeded, generates a report.
Low Threshold	Enter the low threshold that, if exceeded, generates a report.
Run Time Intervals	Enter a range of time to designate when to monitor the branch. Alerts are only based on activity during a designated time frame. Enter the time based on the time zone for the location of the server.
Reload Cache	If you are using S,G caching, the cache contents appear. Click **Reload Cache** to refresh the table of sources and groups.
Save	Adds the selected SSM polling configuration for monitoring.

Health Check

Health checks give you an immediate status update on several key multicast network indicators, including:

- Status of selected RPs.
- Multicast Source Discovery Protocol (MSDP) status.
- Existence of S,G entries on selected routers.
- Status of multicast forwarding trees.

You can create several health checks. Once you have created a health check, you can configure it to run at scheduled intervals, and add email alerts that summarize the results of the health check.

Health Check Failed Report

To view the Health Check Failed Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **Health Check**.

Step 4 Select **Report Parameters**.

The Health Check Failed Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the Health Check Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the Health Check Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline Name	Type the baseline name.
Submit	Adds the selected health check for monitoring.

Configuring Health Check Polling

To configure health check polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **Health Check**.

Step 4 Select **Config Health Check Polling.**

Step 5 Click the **Add** button.

The Health Check Configuration page contains the following fields and buttons:

Fields and Buttons	Description
Health Check Name	Type a name for the health check.
Notify on Success	Check this box to generate an email report if the health check completes successfully.

Fields and Buttons	Description
Email Addresses	Type an email address to which to send a notification, and click **Add.** To remove an email address, select it from the list and click **Remove**.
Save	Adds the Health Check configuration for monitoring.

After the Health Check Configuration is updated, the following tables appear:

- RPs Being Checked for <*health check name*>
- Current Source/Group Polling Configuration for <*health check name*>
- Forwarding Trees for <*health check name*>

:

Table 3-1 RPs Being Checked for <*health check name*> Table

Fields and Buttons	Description
RPs Being Checked for test	Select the RP from the drop-down list.
Save	Adds the Health Check configuration for monitoring.

Table 3-2 Current Source/Group Polling Configuration for <*health check name*> Table

Fields and Buttons	Description
Select a Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Reset SG List	Clears any entries and refreshes the source and group lists.
Select Router	Select one or more routers from the list. You can also click the Select All button to select all routers.
Save	Adds the Health Check configuration for monitoring.

Table 3-3 Forwarding Trees for <*health check name*> Table

Fields and Buttons	Description
Saved Trees	Select the a tree to trace from the drop-down list.
Save	Adds the Health Check configuration for monitoring.

Step 6 To add an item to the health check configuration:

a. Click the **Add** button in one of the tables.

b. On the configuration screen that appears, specify the configuration.

c. Click the Save button on the configuration screen.

The selected configuration now appears in the table.

Step 7 Click the **Save** button to save the health check polling configuration.

Video Probe

You can configure the operation of each video probe to specify the probe's delay factor (DF) threshold and the acceptable loss threshold.

You can configure one video probe or configure several video probes at the same time.

Video Probe Report

To view the Video Probe Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **Video Probe**.

Step 4 Select **Report Parameters**.

The Video Probe Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the Video Probe Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the Video Probe Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected Video Probe for monitoring.

Configuring Video Probe Polling

To configure video probe polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **Video Probe**.

Step 4 Select **Config Video Probe Polling.**

Step 5 Click the **Add** button.

Step 6 Select **By Video Probe**.

The Configure Video Probe Polling page contains the following fields and buttons:

Fields and Buttons	Description
Video Probe	Select one or more probes from the list. Assign Delay Factor (DF) Threshold (mSec) and Loss Threshold (MLR) values to each probe.
Save	Adds the video probe configuration for monitoring.

MVPN Polling

You can configure polling of multicast devices in Multicast Virtual Private Network (MVPN).

MDT Source Report

To view MDT Source polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **MVPN Polling.**

Step 4 Select **Report Parameters**.

The MDT Source Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the MDT Source Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the MDT Source Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected MDT source for monitoring.

MDT Default Report

To view MDT default polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **MVPN Polling.**

Step 4 Select **MDT Default Report**.

Step 5 Select **Report Parameters**.

The MDT Default Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the MDT Default Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the MDT Default Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected MDT default for monitoring.

VRF Interface Count Report

To view the Virtual Routing and Forwarding (VRF) Interface Count Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **MVPN Polling.**

Step 4 Select **VRF Interface Count Report**.

Step 5 Select **Report Parameters**.

The VRF Interface Count Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the VRF Interface Count Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the VRF Interface Count Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected VRF interface count for monitoring.

VRF Count Report

To view the VRF Count Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **MVPN Polling.**

Step 4 Select **VRF Count Report**.

Step 5 Select **Report Parameters**.

The VRF Count Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the VRF Count Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the VRF Count Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected VRF count for monitoring.

Configuring MVPN Polling

To configure MVPN polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **MVPN Polling.**

Step 4 Select **Config MVPN Polling.**

Step 5 Click the **Add** button.

Step 6 Select **By MVPN**.

The Configure MVPN Polling page contains the following fields and buttons:

Fields and Buttons	Description
PE Device	Select one or more devices from the list.
Save	Adds the MVPN configuration for monitoring.

CRM Polling

Baseline Route Polling

Note You must first create a baseline as described in Create Baseline, page 6-11.

Note You must restart the polling daemon after making configuration changes in this section. Click the **Restart** button in the Polling Actions field to restart polling. Click the **Stop** button to stop polling.

Unicast Report

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **CRM Polling.**

Step 3 Select **Baseline Report Polling.**

Step 4 Select **Unicast Report**.

Step 5 Click **View Report**.

Step 6 In the Select Route field, select a date from the drop-down menu.

Step 7 Select an object from the Filter MIB Objects field.

Step 8 Click **View**.

Multicast Report

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **CRM Polling.**

Step 3 Select **Baseline Report Polling.**

Step 4 Select **Multicast Report**.

Step 5 In the Select Route field, select a date from the drop-down menu.

Step 6 Select an object from the Filter MIB Objects field.

Step 7 Click **View**.

Historical Graph

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **CRM Polling.**

Step 3 Select **Baseline Report Polling.**

Step 4 Select **Historical Graph**.

Step 5 In the Report Type field, select either Unicast or Multicast from the drop-down menu.

Step 6 Click the **Get Report(s)** button to refresh the display of the streams being monitored.

Step 7 In the **From Date** field, choose a date from the calendar.

Step 8 In the **To Date** field, choose a date from the calendar.

Step 9 Select one or more stream from the table.

Step 10 Click the **Show Report** button to charts a graph.

Individual streams will indicated will be color coded with a unique color.

View Baseline

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **CRM Polling.**

Step 3 Select **Baseline Report Polling.**

Step 4 Select **View Baseline**.

Step 5 Select either Unicast or Multicast in the Report Type field.

Step 6 Select a router from the drop-down list.

Step 7 Select a baseline.

Step 8 Click **View**.

Compare Baseline

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **CRM Polling.**

Step 3 Select **Baseline Report Polling.**

Step 4 Select **View Baseline**.

Step 5 Select either Unicast or Multicast in the Report Type field.

Step 6 Select a router from the drop-down list.

Step 7 Select the first baseline from the Baseline1 drop-down list.

Step 8 Select the second baseline from the Baseline2 drop-down list.

Step 9 Click **View**.

Configuring Route Polling

To configure route polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **CRM Polling.**

Step 3 Select **Baseline Route Polling**

Step 4 Click the **Add** button.

Step 5 Select **By Baseline Route**.

The Configure Baseline Route page contains the following fields and buttons:

Fields and Buttons	Description
Routing Table Type	Select either Unicast or Multicast.
Select Router	Select a router.
Baseline	Select a baseline.
CPU Threshold	The CPU utilization of the router will be checked first to determine if a query of the routing table is acceptable based upon the configured CPU threshold. A value of -1, indicates that the routing table should be queried without checking CPU utilization.
Add/Modify	Updates the baseline route for monitoring.

Specific Route Polling

Unicast Report

To view the Unicast Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **CRM Polling**.

Step 3 Select **Specific Route Polling**.

Step 4 Select **Report Parameters**.

The Unicast Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the Unicast Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the Unicast Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected Unicast parameters for monitoring.

Multicast Report

To view the Multicast Report:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **CRM Polling**

Step 4 Select **Specific Route Polling**.

Step 5 Select **Multicast Report**.

Step 6 Select **Report Parameters**.

The Multicast Report page contains the following fields and buttons:

Fields and Buttons	Description
From Date	Type the start date of the Multicast Report. Click the icon next to the data field to select a date from a calendar.
To Date	Type the end date of the Multicast Report. Click the icon next to the data field to select a date from a calendar.
Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Baseline	Type the baseline name.
Submit	Adds the selected Multicast report parameters for monitoring.

Configuring Unicast Polling

To configure Unicast Polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **CRM Polling**

Step 4 Select **Specific Route Polling**.

Step 5 Select **Config Unicast Polling.**

Step 6 Click **Add**.

Step 7 Select **By Unicast Route**.

The Unicast Report page contains the following fields and buttons:

Fields and Buttons	Description
Select Router	Select a router.
CPU Threshold	The CPU utilization of the router will be checked first to determine if a query of the routing table is acceptable based upon the configured CPU threshold. A value of -1, indicates that the routing table should be queried without checking CPU utilization.
View Current Routes	Updates the baseline route for monitoring
Specific Unicast Routes List	To generate a specific unicast list, check the box and click **Add Selected Routes to Polling Config**.

Configuring Multicast Polling

To configure Multicast Polling:

Step 1 From the Multicast Manager menu, select **Polling Configuration & Reports**.

Step 2 Select **Miscellaneous Polling & Reports.**

Step 3 Select **CRM Polling**

Step 4 Select **Specific Route Polling**.

Step 5 Select **Config Unicast Polling.**

Step 6 Click **Add**.

Step 7 Select **By Multicast Route**.

The Multicast Route Configuration page contains the following fields and buttons:

Fields and Buttons	Description
Select Router	Select a router.
CPU Threshold	The CPU utilization of the router will be checked first to determine if a query of the routing table is acceptable based upon the configured CPU threshold. A value of -1, indicates that the routing table should be queried without checking CPU utilization.
View Current Routes	Updates the baseline route for monitoring
Specific Unicast Routes List	To generate a specific unicast list, check the box and click **Add Selected Routes to Polling Config**.

CHAPTER 4

Discovery and Trace

This chapter covers:

- Discovery, page 4-1
- Trace, page 4-5

Discovery

Multicast Discovery

To run multicast discovery:

Step 1 From the Multicast Manager menu, select **Discovery & Trace**.

Step 2 Select **Discovery.**

Step 3 Select **Multicast Discovery**.

Step 4 Click **Discover.**

The Multicast Discovery configuration page contains the following fields and buttons:

Table 4-1:Multicast Discovery

Parameter	Description
Seed Router Name/IP Address	Enter the seed router name or IP address.
Community Strings	Enter the community strings.
Discovery Depth	Select a value.
Network Discovery Type	Select All, Include, or Exclude.
Network Address and Network Mask	Allows you to filter network discovery types.
Start Discovery	Click **Start Discovery** to complete the configuration of multicast discovery.

Table 4-2:MVPN Discovery

Parameter	Description
Flat File Address	Enter the fully qualified name of the server file that contains CEs. File format: CE1=PE1:PE2:PE3
Community Strings	Enter the community strings.
Discovery Depth	Select a value.
Network Discovery Type	Select All, Include, or Exclude.
Network Address and Network Mask	Allows you to filter network discovery types.
Start Discovery	Click Start Discovery to complete the configuration of the MVPN discovery.

Table 4-3:Single Device Discovery

Parameter	Description
Router Name/IP Address	Enter the router name or IP address.
RO Community String	The read-only community string for the router.
Device	Select This Device Only or One hop from the device.
Save	Adds the selected L2 for discovery.

Note Run one discovery run at a time.

Note Stop the poller if devices have already been discovered in the domain.

L2 Discovery

To run L2 discovery:

Step 1 From the Multicast Manager menu, select **Discovery & Trace**.

Step 2 Select **Discovery.**

Step 3 Select **L2**.

Step 4 Click **Add.**

Step 5 Select **By L2.**

The add or rediscover a L2 Device configuration page contains the following fields and buttons:

Parameter	Description
Switch Name/IP Address	Enter the switch name or IP address.
RO Community String	The read only community string for the router.
Save	Adds the selected L2 for discovery.

Video Probe

Video Probe Discovery

To run video probe discovery:

Step 1 From the Multicast Manager menu, select **Discovery & Trace**.

Step 2 Select **Discovery.**

Step 3 Select **Video Probe**

Step 4 Click the **Add** button.

Step 5 From the pull-down menu, select **By Video Probe**.

The Add / Rediscover a Video Probe configuration page contains the following fields and buttons:

Parameter	Description
Probe Name/IP Address	Enter the probe name or IP address.
Probe RO Community String	Enter the SNMP read-only community string for the probe.
Probe RW Community String	SNMP read-write community string for the probe.
Application Type	Select an application type.
Router Name/IP Address	The hostname or IP address of the router on which the probe is running.
Router RO Community String	The read only community string for the router.
Interface Description	A brief description of the interface that the probe is monitoring.
Save	Adds the selected video probe for discovery.

Monitoring Application

To configure monitoring applications:

Step 1 From the Multicast Manager menu, select **Discovery & Trace**.

Step 2 Select **Discovery.**

Step 3 Select **Video Probe**.

Step 4 Click **Monitoring Application**.

Step 5 Click **Add.**

Step 6 From the pull-down menu, Select **By Monitoring Application**.

The add or rediscover a Monitoring Application configuration page contains the following fields and buttons:

Parameter	Description
Application Name	Enter the name of the monitoring application
Description	Enter a description of the application.
HostIp	Enter the IP address of the host where the application is running.
URL Port	Enter the URL port for the application.
Community String on Application	Enter the SNMP Community String for the application.
Application Type	From the pull-down list, select the application type.
Save	Adds the selected monitoring application for discovery.

Unicast

To configure unicast discovery:

Step 1 From the Multicast Manager menu, select **Discovery & Trace**.

Step 2 Select **Discovery.**

Step 3 Select **Unicast**.

Step 4 Click **Add.**

Step 5 Select **By Unicast Router**.

The Unicast Router Discovery configuration page contains the following fields and buttons:

Parameter	Description
Probe Name/IP Address	Enter the probe name or IP address.
RO Community String	The read only community string for the router.
Add/Modify	Adds the selected Unicast router for discovery.

Trace

Multicast Trace

To configure multicast trace:

Step 1 From the Multicast Manager menu, select **Discovery & Trace**.

Step 2 Select **Trace.**

Step 3 Select **Multicast Trace**.

The Multicast Trace configuration page contains the following fields and buttons:

Fields and Buttons	Description
Select a Device	Select a device.
Source	Select a source from the drop-down menu.
Group	Select a group from the drop-down menu.
Reset SG List	Click **Clear SG Filter** to reset the values from the source and group lists.
Select Service Type	Select a service type from the drop-down menu.
FHR	Select the start destination for the First Hop Router.
LHR	Select the end destination for the Last Hop Router.

Step 4 Click the **Trace** button.

The Trace Data page appears, showing the trace data and a topology diagram for the devices included in the trace.

The trace name at the top of the page has the following format:

Group (*Group_Description*) transport (*Transport_Description*) Source (*Source_Description*),

for example, “Tracing multicast group 211.22.2.0 (Midwest Region) transport (TBS Sports Network) Source (Region One).”

Step 5 If you want to save the trace, complete these steps:

a. Scroll down to the Input File field.

b. If you want to change the trace name, edit the trace filename shown in the Input File field.

c. Click the **Save As** button.

Step 6 To view additional information about the probe used in the trace, click on the probe icon.

If you click on the probe icon:

- For the MixedSignal probe, the latest traps for the probe are displayed.
- If the probe is a probe other than the MixedSignal, iVMS, or BridgeTech probe, a video probe application page for the probe launches.

Show Groups

To configure and run a Show Groups trace:

Step 1 From the Multicast Manager menu, select **Discovery & Trace**.

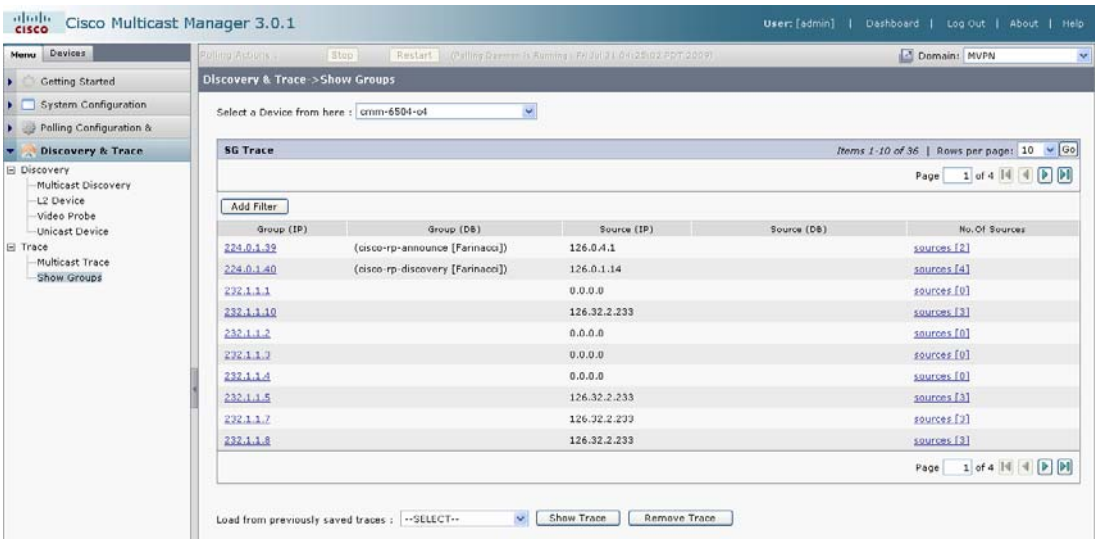
Step 2 Select **Trace.**

Step 3 Select **Show Groups**.

Step 4 Select a device from the pull-down list.

Step 5 The trace appears in the S,G Trace table.

Figure 4-1 Quick Trace - Select a Device



Step 6 To run a trace on a listed Multicast Group, click on the IP address for the group at the left of the group entry.

Step 7 If you want to see a trace for one of the sources for the group, click on the **sources** link to the right of the entry and then click on a source IP address on the page that appears.

Step 8 If you want to run a trace from a saved trace file, select a trace file from the pull-own list in the Load from previously saved traces field and then click the **Show Trace** button.

CHAPTER 5

Topology

Using Topology, you can display routers and their multicast information in the database, on an individual basis, or by showing the complete database.

If you are using video probes in your installation, the Cisco Multicast Manager home page displays threshold exceeded alerts that the probes generate. You can click on the group information in the alert (an underlined IP address) to launch the Diagnostics tool and view detailed information about the multicast, which includes a display of the network topology that includes both routers and probes.

This section contains:

- Topology, page 5-1
- All Device Information, page 5-2

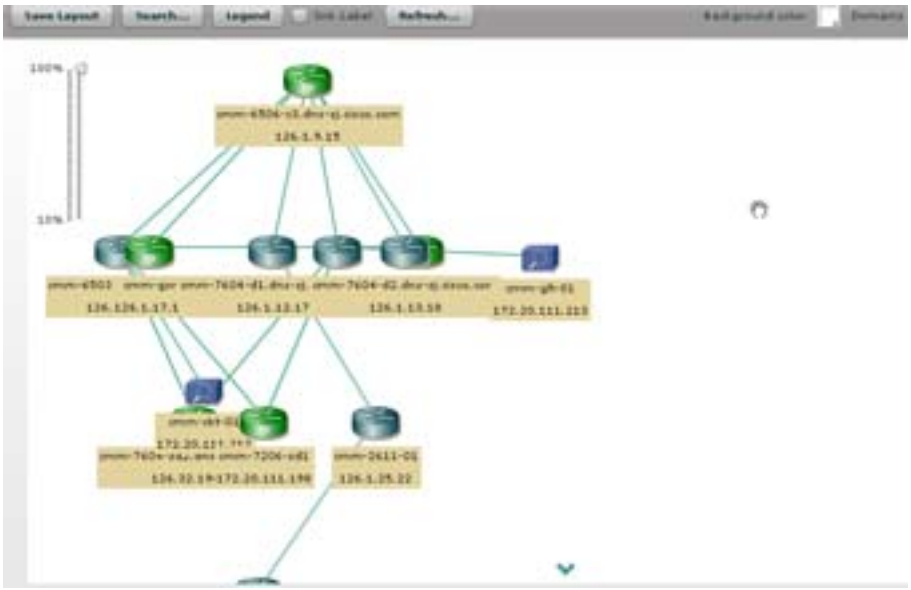
Topology

Step 1 From the Multicast Manager menu, select **Topology**.

Step 2 Select **Topology.**

Step 3 A new tab opens in your browser and a network topology table appears, as shown in Figure 5-1.

Figure 5-1 Topology



Step 4 Click on any of the topology graphics to move them.

Note The Search button allows you to specify the device name or IP address to conduct a search. If the search is successful, the device will be highlighted.

Note Checking the Link Label box will enable the map to display the interface names for all of the devices that the link is connected to.

Step 5 Click the **Save Layout** button.

All Device Information

To view Protocol Independent Multicast (PIM) neighbors and multicast information of one hop neighbors:

Step 1 From the Multicast Manager menu, select **Topology**.

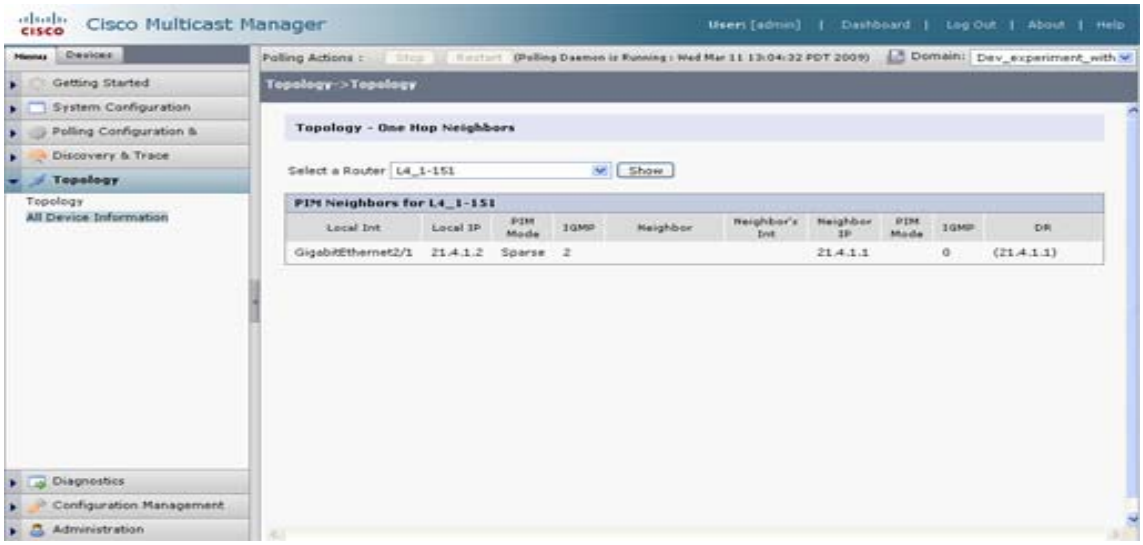
Step 2 Select **All Device Information.**

Step 3 Select a router and click **Show**.

A network topology table appears, as shown in Figure 5-2. The table will display the device and PIM neighbor information in one hop.

.

Figure 5-2 Topology - All Devices



CHAPTER 6

Diagnostics

This chapter covers:

- SG Diagnostics, page 6-1
- L2 Diagnostics, page 6-2
- Miscellaneous Diagnostics, page 6-3
- Tools, page 6-6
- CRM Diagnostics, page 6-11

SG Diagnostics

Packet Monitoring

To plot packet monitoring:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **S,G Diagnostics.**

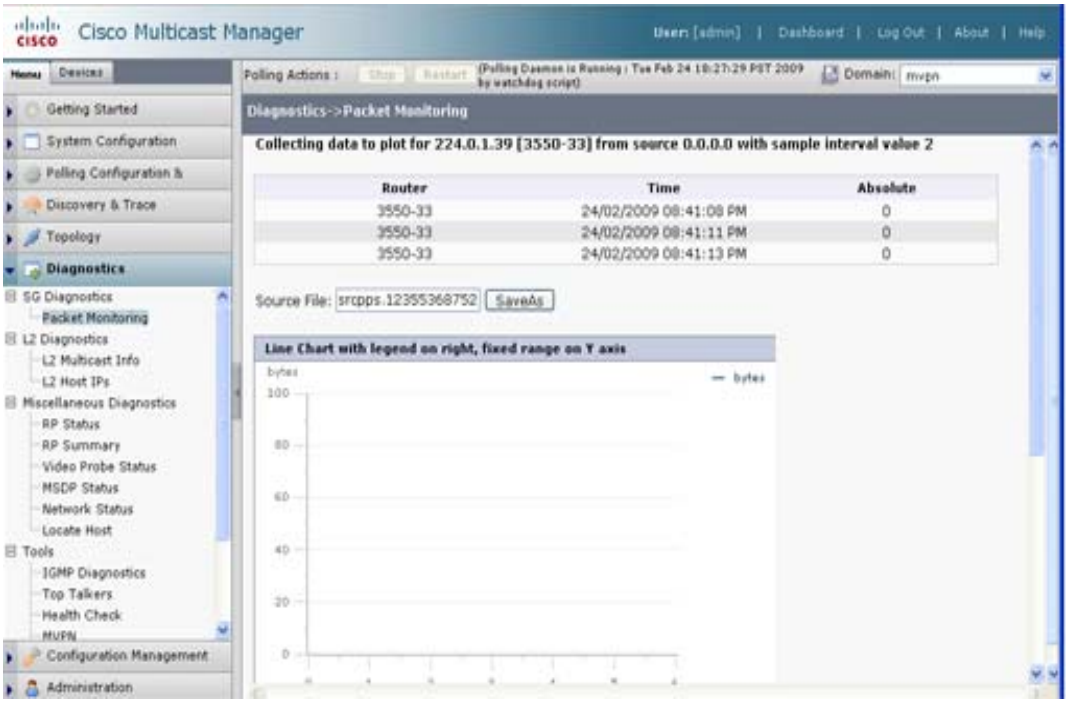
Step 3 Select **Packet Monitoring.**

The Packet Monitoring page contains the following fields and buttons:

Field	Description
Select a Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Reset SG List	Clears any entries and refreshes the source and group lists.
Samples	Enter the sample value.
Interval	Enter the interval value.
Graph	Select the graph type.
Value	Select the value that the chart will display.
Plot	Plot the graph for the values that you enter.

Step 4 The Packet Monitoring page appears. In the Source File field, click **Save As** to retain the parameters for future diagnostic reference.

Figure 6-1 Example of a Plotted Packet Monitoring Chart



Note To access saved plots, **Select saved plot field** and click **Show.**

L2 Diagnostics

L2 Multicast Information

To query L2 multicast information:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **L2 Diagnostics.**

Step 3 Select **L2 Multicast Info.**

The Layer 2 Multicast Information page contains the following fields and buttons:

Field	Description
Username	Enter the username.
Password	Enter the password.

Field	Description
Select a Switch	Select a switch.
Query	Run the query using the set parameters.

L2 Host IP Addresses

To query host IP addresses:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **L2 Diagnostics.**

Step 3 Select **L2 Host IPs.**

The Layer 2 Host IPs page contains the following fields and buttons:

Field	Description
Username	Enter the username.
Password	Enter the password.
Select Switches	Select switches.
Query	Runs the query using the set parameters.

Miscellaneous Diagnostics

RP Status

To view RP status:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

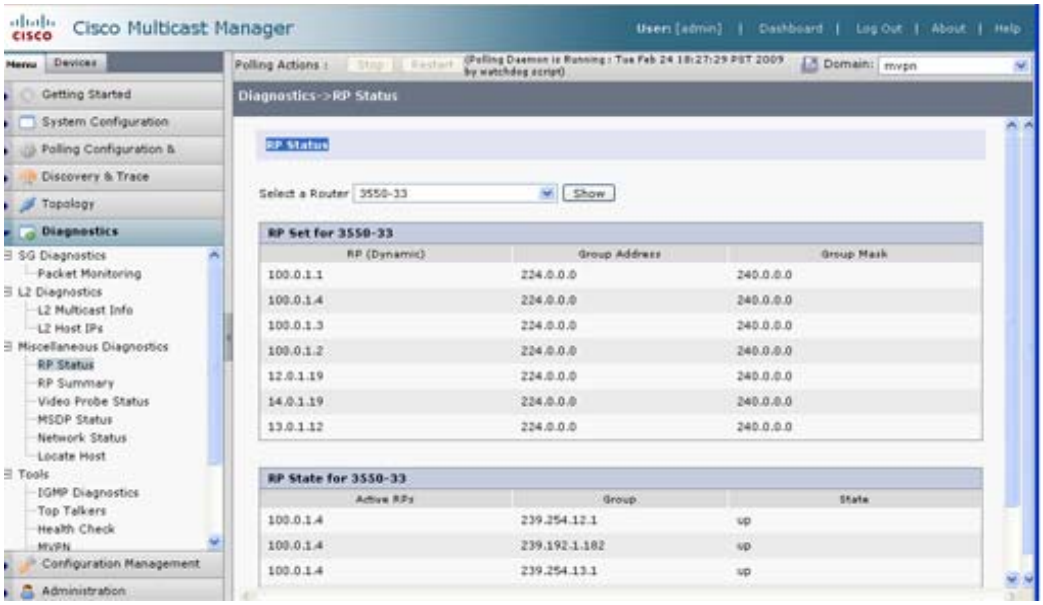
Step 2 Select **Miscellaneous Diagnostics**.

Step 3 Select **RP Status**.

Step 4 Select a router and click **Show**.

RP status is displayed, including RP set and RP state.

Figure 6-2 RP Status Table



RP Summary

To view the RP summary:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

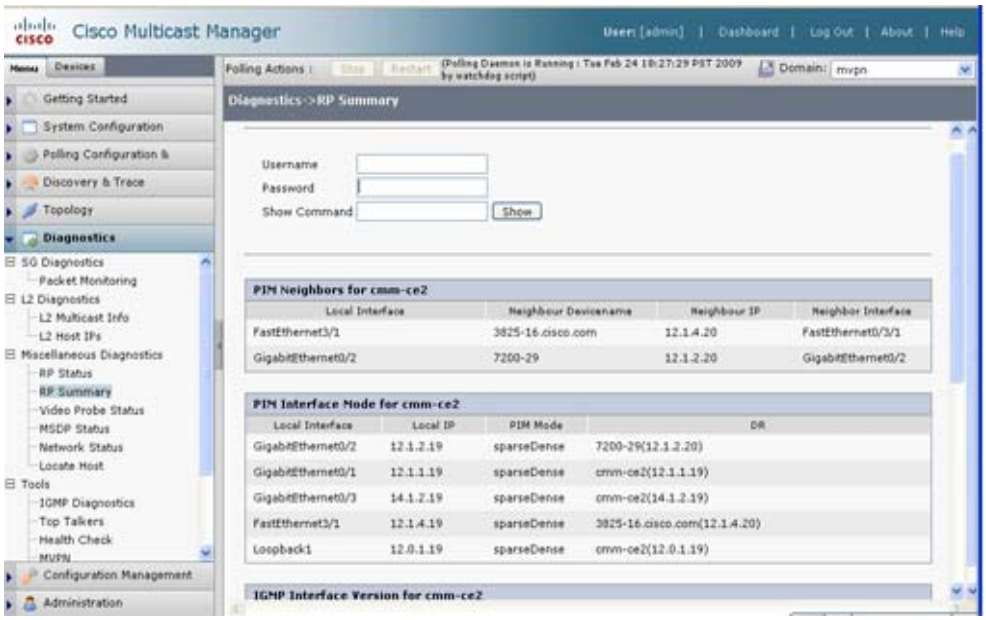
Step 2 Select **Miscellaneous Diagnostics**.

Step 3 Select **RP Summary**.

Step 4 Click an RP link.

PIM neighbor information is displayed.

Figure 6-3 RP Status Table



Video Probe Status

To view video probe status:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Miscellaneous Diagnostics**.

Step 3 Select **Video Probe Status**.

Step 4 Click a probe link.

Step 5 Click **Monitor Probes**.

MSDP Status

To view MSDP status:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Miscellaneous Diagnostics**.

Step 3 Select **MSDP Status**.

A table will appear populated with all MSDP Status for that domain.

Step 4 Select a MSDP Router from the drop-down menu and click **Peer Info** to view the peer information.

Step 5 Select a MSDP Router from drop-down and click **SA Cache Info** to view SA Cache information.

Network Status

The Network Status page displays the status of all routers. This table displays each router name and the amount of time that the system has been up. Routers that are not responding are highlighted in red.

To view network status:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Miscellaneous Diagnostics**.

Step 3 Select **Network Status**

Locate a Host

To locate a host:

Step 1 From the Multicast Manager menu, select **Diagnostic.**

Step 2 Select **Miscellaneous Diagnostics**.

Step 3 Select **Locate Host.**

Step 4 Enter an IP address.

Step 5 Click **Locate**.

Tools

IGMP Diagnostics

To run IGMP diagnostics:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Tools.**

Step 3 Select **IGMP Diagnostics.**

The IGMP Diagnostics page contains the following fields and buttons:

Field	Description
Select a Group	Select a group from the drop-down list.
Select a Router	Select one or more routers.
Select Diagnostic Type	Select the diagnostic type.
Output Filter	To display failures, check the Show Failure box.
Run	Create an IGMP cache.

Top Talkers

To view top talkers:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Tools.**

Step 3 Select **Top Talkers.**

The Top Talkers page contains the following fields and buttons:

Field	Description
Select a Device	Select a device from the drop-down list.
Username	Enter the username.
Password	Enter the password.
Polling Interval	Select a polling interval.
Top Talker	Create a list of top talkers.

Health Check

To run a health check:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Tools.**

Step 3 Select **Health Check.**

Step 4 Select a baseline from the Select Health Check list.

Step 5 Click **Run**.

MVPN

The MVPN tool displays the Virtual Routing and Forwarding (VRF) Table configurations and Provider Edge (PE) Device configurations.

To view MVPN diagnostics:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Tools.**

Step 3 Select **MVPN.**

Every VFR and PE configuration is displayed.

Step 4 Click on a device to view the details.

6500/7600 Troubleshooting

Full Trace

To view a full trace:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **Tools.**

Step 3 Select **6500/7600 Troubleshooting.**

Step 4 Select **Full Trace**.

The Full Trace page contains the following fields and buttons:

Field	Description
Select a Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Reset SG List	Clears any entries and refreshes the source and group lists.
Service Type	Select a service type from the drop-down list.
Run Full Trace	Click the Run Full Trace button to launch a full trace.

Diagnostics

To view 6500/7600 Troubleshooting Diagnostics:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **6500/7600 Troubleshooting.**

Step 3 Select **Diagnostics**.

The Diagnostics page contains the following fields and buttons:

Field	Description
Select a Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Reset SG List	Clears any entries and refreshes the source and group lists.
Service Type	Enter the service type.
Polling Interval	Enter the interval value.
Username	Enter the user name.
Password	Enter the password.
Enable Password	Enter the enable password.
Run Diagnostics	Launch a diagnostic trace.

Troubleshooting

To view 6500/7600 troubleshooting diagnostics:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **6500/7600 Troubleshooting.**

Step 3 Select **Troubleshooting**.

The Troubleshooting page contains the following fields and buttons:

Field	Description
Select a Device	Select a device from the drop-down list.
Source	Select a source from the drop-down list.
Group	Select a group from the drop-down list.
Reset SG List	Clears any entries and refreshes the source and group lists.
Username	Enter the user name.
Password	Enter the password.
Enable Password	Enter the Enable password.
Command	Select a command from the drop-down list.
Run Command	Launch a troubleshooting trace.

SNMP Utilities

IGMP Cache

To view the IGMP cache:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **SNMP Utils.**

Step 3 Select **IGMP Cache**.

The IGMP Cache page contains the following fields and buttons:

Field	Description
Select a Router	Select a router from the drop-down list.
Group	Select a group from the drop-down list.
Show	Display the IGMP cache.

PIM Neighbor

To view a PIM neighbor:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **SNMP Utils.**

Step 3 Select **PIM Neighbor**.

The PIM Neighbor page contains the following fields and buttons:

Field	Description
Select a Device	Select a device from the drop-down list.
Select a Neighbor Router	Select a neighbor router from the drop-down list.
Show	Display the relationship between the device and its neighbor.

CRM Diagnostics

Create Baseline

To create a routing table baseline:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **CRM Diagnostics.**

Step 3 Select **Create Baseline.**

The Create Routing Table Baseline page contains the following fields and buttons:

Field	Description
Routing Table Type	Select either Unicast or Multicast.
Select a Router	Select a router.
Baseline	Enter a baseline. If you check the box next to the baseline name, you can replace an existing value.
CPU Threshold	The CPU utilization of the router will be checked first to determine if a query of the routing table is acceptable based upon the configured CPU threshold. A value of -1, indicates that the routing table should be queried without checking CPU utilization.
Run	Click **Run** to create a routing table baseline.

Check Routing Table

To check a routing table baseline configuration:

Step 1 From the Multicast Manager menu, select **Diagnostics.**

Step 2 Select **CRM Diagnostics.**

Step 3 Select **Check Routing Table.**

The Check Routing Table Baseline page contains the following fields and buttons:

Field	Description
Routing Table Type	Select either Unicast or Multicast.
Select a Router	Select a router.
Baseline	Select a baseline from the drop-down list.
CPU Threshold	The CPU utilization of the router will be checked first to determine if a query of the routing table is acceptable based upon the configured CPU threshold. A value of -1, indicates that the routing table should be queried without checking CPU utilization.
Run	Run a check on the routing table baseline.

CHAPTER 7

Configuration Management

This chapter covers:

- Device Configuration, page 7-1
- MVPN Configuration, page 7-3

Device Configuration

Get All Configurations

To get all configurations:

Step 1 From the Multicast Manager menu, select **Configuration Management**.

Step 2 Select **Device Configuration.**

Step 3 Select **Get All Configuration**.

Step 4 Select a router.

Note Click **Select All** to include all listed routers.

Validate All Configurations

To validate all configurations:

Step 1 From the Multicast Manager menu, select **Configuration Management**.

Step 2 Select **Device Configuration.**

Step 3 Select **Validate All Configurations**.

Step 4 Select a configuration name.

Step 5 Select a router.

Note Click **Select All** to include all listed routers.

Step 6 Click **View**.

Configuring Static RPs

If you have static rendezvous points (RPs) configured, you must configure CMM to find these static RPs, which in turn populates the RP Summary within the Multicast Manager tool Diagnostics section.

To configure static RPs:

Step 1 From the Multicast Manager menu, select **Configuration Management.**

Step 2 Select **Device Configuration.**

Step 3 Select **Configure Static RPs.**

Step 4 In the Add Static RP **Search** field, enter the IP address of the RP. The Search field is address sensitive, so as you type in the IP address, a list of routers appear.

Step 5 Click **Add** next to the router(s) you want to select. The Static RPs table is populated.

Configuring SSM Devices

The CMM currently supplies you with a list of all active sources and groups when requested. In a network containing RPs, the CMM visits each RP and collates a list to provide this information when requested. This is not possible in a Source Specific Multicast (SSM) network that does not contain RPs. To provide you with a list of all active sources and groups in SSM networks, you can input routers to the CMM that it visits when asked for this information. You can decide which routers are considered RP-type devices that contain most of the active sources and groups in the network, and then specify those routers. When you request to Show All Groups, the CMM visits the specified routers and builds the list from them.

To configure SSM devices:

Step 1 From the Multicast Manager menu, select **Configuration Management**.

Step 2 Select **Device Configuration.**

Step 3 Select **Configure SSM Devices.**

Step 4 Within the Add Source Specific Multicast Device **Search** field, enter the IP address of the RP. The Search field is address sensitive, so as you type in the IP address, a list of routers appear.

Step 5 Click **Add** next to the router(s) that you want to select. The Source Specific Multicast Devices table is populated.

MVPN Configuration

To configure the MVPN service type:

Step 1 From the Multicast Manager menu, select **Configuration Management**.

Step 2 Select **MVPN Configuration.**

Step 3 Click **Add.**

Step 4 Select **By MVPN.**

The MVPN Configuration configuration page contains the following fields and buttons:

Parameter	Description
Service Type	Enter the service type.
CE Device	Select the CE Device.
CE Interface List	To map the Source CEs to Destination CEs, select an address from the list and click the >> button to move it to the SEL list.
CE Devices	Select a device from the list and click the >> button to move it to the SEL CEC Device list.
Save	Adds the MVPN configuration.

CHAPTER 8

Administration

System administrators can configure CMM by using CMM Administration.

This chapter covers:

- Managing Users and Access, page 8-1
- Address Management, page 8-4
- Logging Management, page 8-12
- License Information, page 8-13

Managing Users and Access

The CMM provides four privilege levels: NETWORKADMIN, SYSADMIN, OPERATOR, and HELPDESK. You need an administrator account to configure multicast domains, run discovery, create users, create health checks, and use the Admin Utilities functions.

This topic contains the following information:

- User Configuration
- Access Control
- Authentication & Audit
- ACS Server

User Configuration

Adding a User Configuration

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **RBAC**.

Step 3 Select **User Configuration**.

Step 4 Click the **Add** button.

Field	Description
User Name	Enter the user name
Password	Enter a password associated with this user name.
Confirm Password	Re-enter the password from the previous field.
Mail ID	Enter the user's mail ID.
Authorities	Assign the user access permissions by selecting a role from the list.
Add/ Modify	Click the Add/Modify button to add the record to the database.

Tip After files have been configured and added to the User Configuration List, you can sort the data by clicking on the **Add Filter** button. This will allow you to build up to two filters based on user name and role.

Modifying a User File

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **RBAC**.

Step 3 Select **User Configuration**.

Step 4 Check the box next to the user name for the file that you want to modify.

Buttons	Description
Delete	Deletes the user file.
Edit	Allows a modification to the user file.
Change Password	Allows the modification to a user's password.

Access Control

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **RBAC**.

Step 3 Select **Access Control**.

Step 4 Select a role from the list.

Step 5 Check the boxes next to the features that you want to assign to the role.

Step 6 Click the **Save** button.

Authentication & Audit

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **RBAC**.

Step 3 Select **Authentication & Audit.**

Step 4 Select an authentication mode from the drop-down menu.

Step 5 Check the **Enable** check box to create an audit log.

Step 6 Click the **Save** button.

Note There are three modes for authentication: LOCAL, TACACS, and RADIUS. The default authentication mode is LOCAL.

ACS Server

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **RBAC**.

Step 3 Select **ACS Server**.

Field	Description
Protocol	Choose either RADIUS or TACACS.
Primary Server	Enter the IP address of the TACACS server.
Primary Port	This field is dynamically populated based on the Protocol field. The TACACS port number default is 49 and the Radius port number default is 1812.
Secondary Server	Enter the IP address of the TACACS server.
Secondary Port	Enter the secondary TACACS port number. The default is 49.
Shared Secret	Enter the key.
Apply	Apply the configuration changes to the database.

Timeout Configuration

To change the session timeout settings:

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **RBAC**.

Step 3 Select **Timeout Configuration**.

Step 4 Enter the amount of time in minutes.

Step 5 Click **Save**.

Address Management

Using the Address Management menu selection page, you can enter multicast group and source addresses into the database with a description. When the CMM displays these sources and groups, the descriptions will be added for easy recognition.

This topic contains the following information:

- Group and Source Databases, page 8-4
- Transport Database, page 8-7
- Managing the Ad Zone Database, page 8-8
- Managing the Channel Map Database, page 8-9
- Managing the Multiplex Table Database, page 8-10

Note The database is already populated with all of the reserved address space.

Group and Source Databases

Using the Address Management menu, you can enter multicast group and source addresses into the database with a description. When the CMM displays these sources and groups, the descriptions will be added for easy recognition.

Adding a Group Address

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Group Database.**

The Group Database page appears. This page lists the default and configured Group addresses.

Step 4 Click the **Add** button.

Step 5 Select **By Address**.

Note You can also import an address file by selecting **By Import** from the Add button. Browse to the file location and select **Upload**.

Field	Description
IP Address	Type the IP address.
Description	Create and type a description.
Ad Zone	If you have entered data for the Ad Zone database, select zone from the drop-down list.
Mux ID	If you have entered data for the Mux ID database, select a Mux ID from the drop-down list.
Save	Apply the new address to the database.

Tip After files have been configured and added to the Address Database, you can sort the data by clicking on the **Add Filter** button.This will allow you to build up to two filters based on address and description.

Modifying a Group Address

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Group Database.**

Step 4 Check the check box next to the IP address that you want to modify.

Step 5 Click the **Edit** button.

Field	Description
IP Address	Type the IP address.
Description	Create and type a description.
Ad Zone	Select a zone from the drop-down list.
Mux ID	Select a Mux ID from the drop-down list.
Save	Apply the new address to the database.

Note To delete a file, click the **Actions** button and select **Delete** from the drop-down menu.

Note To export a file, click the **Actions** button and select **Export** from the drop-down menu. This will give you the option to save the file.

Adding a Source Address

You can add source addresses to the address management database. When a trace is performed that involves the source, the source description you enter is shown in the trace title on the Multicast Trace page.

To add a source address:

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Source Database.**

Step 4 Click the **Add** button.

Step 5 Select **By Source Address**.

Note You can also import an address file by selecting **By Import** from the Add button. Browse to the file location and select **Upload**.

Field	Description
IP Address	Type the IP address of the source.
Description	Create and type a description.
Save	Apply the new address to the database.

Tip After files have been configured and added to the Address Database, you can sort the data by clicking on the **Add Filter** button.This will allow you to build up to two filters based on address and description.

Modifying a Source Address

To modify a source address:

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Source Database.**

Step 4 Check the check box next to the IP address that you want to modify.

Step 5 If you want to delete the source address, click the **Actions** button and select **Delete** from the pull-down menu.

Step 6 To edit the source address information:

a. Click the **Edit** button.

b. Modify the Description field as required

c. Click the **Save** button.

Transport Database

You can add entries to the address database describing the transport streams (TS) in a multicast flow. When a trace is performed that involves the TS, the transport description that you enter is shown in the trace title on the Multicast Trace page

Adding a Transport Description

To add a transport description:

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Transport Database.**

Step 4 Click the **Add** button.

Step 5 Select **By Transport Description.**

Note You can also import an address file by selecting **By Import** from the Add button. Browse to the file location and select **Upload**.

Field	Description
Source IP Address	Enter the IP address of the source.
Group IP Address	Enter the IP address for the group.
Description	Enter a description for the TS.
Save	Apply the new address to the database.

Modifying a Transport Description

To modify a transport description:

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Transport Database.**

Step 4 Check the check box next to the IP address for the transport description that you want to modify.

Step 5 If you want to delete the transport description, click the **Actions** button and select **Delete** from the pull-down menu.

Step 6 To edit the transport description information:

a. Click the **Edit** button.

b. Modify the Description field as required

c. Click the **Save** button.

Managing the Ad Zone Database

Using the Ad Zone Database selection on the Address Management menu, you can manage digital advertising zones (ad zones) in your network.

Adding a Zone

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Ad Zone Database.**

Step 4 Click the **Add** button.

Step 5 Select **By Zone**.

Note You can also import a file by selecting **By Import** from the Add button. Browse to the file location and select **Upload**.

Field	Description
Zone Number	Create and type a zone number.
Zone Name	Create and type a zone name.
Save	Apply the new zone to the database.

Modifying a Zone

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Ad Zone Database.**

Step 4 Click the **Edit** button.

Field	Description
Zone Number	Create and type a zone number.
Zone Name	Create and type a zone name.
Save	Apply the edit the zone in the database.

Note To delete a file, click the **Actions** button and select **Delete** from the drop-down menu.

To export a file, click the **Actions** button and select **Export** from the drop-down menu. This will give you the option to save the file.

Managing the Channel Map Database

Using the Channel Map Database selection on the Address Management menu, you can manage the channel map database.

Adding a Channel

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Channel Map Database.**

Step 4 Click the **Add** button.

Step 5 Select **By Channel**.

Note You can also import a file by selecting **By Import** from the Add button. Browse to the file location and select **Upload**.

Field	Description
Channel Number	Enter a channel number.
Channel Name	Enter a channel name.
Short Name	Enter a short name for the channel.
CODEC Type	From the drop-down list in the CODEC Type field, select the type of CODEC the channel uses.
Screen Format	From the drop-down list in the Screen Format field, select the screen format for the channel.
Service Type	From the drop-down list in the Service Type field, select the service type for the channel.
Save	Apply the new record to the database.

Note After files have been configured and added to the channel map database, you can sort the data by clicking on the **Add Filter** button.This will allow you to build up to two filters based on channel name and short name.

Modifying a Channel

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Channel Map Database.**

Step 4 Check the check box next to the channel number that you want to modify.

Step 5 Click the **Edit** button.

Field	Description
Channel Number	Type the IP address.
Channel Name	Enter the channel number.
Short Name	Enter a short name for the channel.
CODEC Type	From the drop-down list in the CODEC Type field, select the type of CODEC the channel uses.
Screen Format	From the drop-down list in the Screen Format field, select the screen format for the channel.
Service Type	From the drop-down list in the Service Type field, select the service type for the channel.
Add/Modify	Apply the changes to the record in the database.

Note To delete a file, click the **Actions** button and select **Delete** from the drop-down menu.

Note To export a file, click the **Actions** button and select **Export** from the drop-down menu. This will give you the option to save the file.

Managing the Multiplex Table Database

Using the Multiplex Table Database selection on the Address Management menu, you can manage multiplexers in your network.

Adding a Record to the Multiplex Table Database

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Multiplex Table Database.**

Step 4 Click the **Add** button.

Step 5 Select **By Mux**.

Note You can also import a file by selecting **By Import** from the Add button. Browse to the file location and select **Upload**.

Field	Description
Mux Number	Type the Mux number.
Channel Number	Select a channel number.
Add/Modify	Apply the new entry to the database.

Note After files have been configured and added to the address database, you can sort the data by clicking on the **Add Filter** button.This will allow you to build up to two filters based on address and description.

Modifying a Record in the Multiplex Table Database

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Multiplex Table Database.**

Step 4 Check the check box next to the record that you want to modify.

Step 5 Click the **Edit** button.

Field	Description
Mux Number	Type the Mux number.
Channel Number	Select a channel number.
Add/Modify	Apply the new entry to the database.

Note To delete a file, click the **Actions** button and select **Delete** from the drop-down menu.

Note To export a file, click the **Actions** button and select **Export** from the drop-down menu. This will give you the option to save the file.

Export & Import

To simplify the process of configuring the address management database, you can import and export database table information from a database dump.

If you exported the address management database, you can import the database dump by selecting the file name and clicking the **Import** button.

If you want to export the database information for later use, you can save the database to a database dump file by entering a file name and clicking the **Export** button.

The export method is useful if you have multiple CMM installations that use the same address management database: you can set up a database on one CMM server and then import it into another server.

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Address Management**.

Step 3 Select **Export & Import.**

Step 4 Click **Export** to export all address management entries and save the file locally.

Step 5 Click **Import** to replace existing address management entries that you have imported.

Logging Management

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **Logging Management.**

Field	Description
Select the Log Type	Choose one of the following: • Discovery Log • Discovery Status Log • CLI Diagnostic Log • Polling Log
Action	Select **Show**. You can only use **Clear** to clear the Discovery Status Logs.
Lines Viewed	Select a number from the drop-down list. This feature will expand or restrict a list based on the number of log entries that you choose to display.
Submit	Runs a query that will display the information in a section below these fields.

License Information

Step 1 From the Multicast Manager menu, select **Administration**.

Step 2 Select **License Information.**

Product licensing information is displayed.

Field	Description
Licensed To	Who the product is licensed to.
IP	IP address
Expire Date	This field displays the date on which the software license is set to expire.
Features	Features that have been enabled.
Device Limit	The maximum number of devices.
Version	Cisco Multicast Manager software version.

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