CHAPTER 8

Other Network Management Tasks

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This chapter provides information on the following:

Performing Routine Network Management

This section presents checklists of routine procedures for network management using Cisco Media Gateway Controller (MGC) Node Manager (MNM). Because Cisco MNM is used in many different types of situations, no single checklist can describe optimal procedures for all cases. This information is designed to guide you with your own management routines, tailored to your particular network and users.

Note Cisco IP Transfer Point LinkExtender (ITP-L) is the new name for Cisco Signaling Link Terminal (SLT). Over time, ITP-L will replace SLT in publications and the product.

Procedures for Getting Started

Table 8-1 shows the procedures for getting started with network management.

Table 8-1 Procedures for Getting Started

Task	Location of Instructions
Install Cisco EMF and Cisco MNM (system administrator only).	See the *Cisco MNM Installation Guide*.
Configure network devices for management (system administrator only).	See Chapter 2, "Configuring Network Devices."
Set up security (system administrator only).	See Chapter 4, "Setting Up Cisco MNM Security."
Deploy the network, creating a model of your network in Cisco MNM.	See Chapter 5, "Deploying Your Network in Cisco MNM."
Identify key performance measurements to monitor.	See the "Selecting What to Monitor" section on page 7-16.
Set up threshold crossing alerts and scoreboards.	See the "Task 2— Customizing Event Management" section on page 6-4.

Routine Daily Procedures

Table 8-2 shows the routing daily procedures.

Table 8-2 Routing Daily Procedures

Task	Steps
(Ongoing) Monitor the network for changes in status.	1. At the top level of the Map Viewer, monitor changes. 2. When you see an alarm, drill down to find where the problem occurred. 3. Right-click the device object and choose **Tools > Event Browser** to view details on the alarm. 4. Click **Acknowledge** for this event to indicate that the problem is being investigated. See the "Using the Event Browser to Manage Events" section on page 6-11 for details. After identifying the alarm, use diagnostics to find out the cause of the problem. See the "Using Diagnostic Tools" section on page 8-57.
If the network is not monitored continuously, look at alarms that came in overnight, specifically: • Active alarms • Alarms that were received and cleared, including alarms cleared automatically • Destination in service alarms, such as PRIs or SS7s • Switchovers from standby to active status Work from the most severe alarm to the least severe.	Investigate active alarms as described in the previous task. Alternatively, in the Map Viewer, right-click the Cisco PGW 2200 Softswitch host object, choose **Properties**, and click the **Software** tab. See the "Viewing Properties for Devices" section on page 8-10 for details.
Check the health of the devices assigned to you: • Are they in service? • Are they reachable by the **ping** command? Is the device communicating with Cisco MNM?	If you cannot access a device, in the Map Viewer, right-click the device object, and choose **Tools > [Device name] Diagnostics**. On the General tab, click **IP Ping** or **SNMP Ping**. See the "Using Diagnostic Tools" section on page 8-57 for details.
Check the amount of disk space available on the Cisco PGW 2200 Softswitch host. Pay special attention to root (**/**) and **opt** directories.	Monitor the file system. In the Map Viewer, right-click the Cisco PGW 2200 Softswitch host object and choose **File Systems**. See the "Monitoring the Cisco PGW 2200 Softswitch Host, the Cisco HSI Server, and the Cisco BAMS File Systems" section on page 8-20 for details.
Check the amount of virtual memory available on the Cisco PGW 2200 Softswitch host.	In the Map Viewer, right-click the Cisco PGW 2200 Softswitch host object and choose **Devices > Virtual Memory Properties**. See the "Viewing System Component Properties" section on page 8-23 for details.

Table 8-2 Routing Daily Procedures (continued)

Task	Steps
Check the status of trunks.	Check status: In the Map Viewer, right-click the Trunking folder, choose **Properties**, and click the **Status** tab. Check trunk group: In the Map Viewer, right-click the BAMS, choose **Properties**, and click the **Status** tab.
Check CPU usage on the Cisco PGW 2200 Softswitch host.	In the Map Viewer, right-click the Cisco PGW 2200 Softswitch host object and choose **Devices > Processor Properties**. See the "Viewing System Component Properties" section on page 8-23 for details.
Check the number of processes running on the Cisco PGW 2200 Softswitch host. Generally, there should not be more than 60 to 70 processes running.	To see the number of processes: In the Map Viewer, right-click the Cisco PGW 2200 Softswitch host object, choose **Properties**, and click the **Software** tab. The number of processes is displayed at the bottom of the dialog box. See the "Viewing Properties for Devices" section on page 8-10 for details. To view the status of processes: In the Map Viewer, right-click the device object and choose **Tools > MGC Host Diagnostics**. On the General tab, click **Process Status**. See the "Using Diagnostic Tools" section on page 8-57 for details.
Check the number of users on the Cisco PGW 2200 Softswitch host.	In the Map Viewer, right-click the Cisco PGW 2200 Softswitch host object, choose **Properties**, and click the **Software** tab. See the "Viewing Properties for Devices" section on page 8-10 for details.
Cisco ITP-Ls: Check memory used and RAM.	In the Map Viewer, right-click the Cisco ITP-L object, choose **Properties**, and click the **Memory** tab. See the "Viewing Properties for Devices" section on page 8-10 for details.
For traffic engineering.	Look at trunk group measurements to identify when the network is reaching circuit capacity.
(As needed) Deploy new devices and delete obsolete devices.	See Chapter 5, "Deploying Your Network in Cisco MNM."

Routine Weekly Procedures

Table 8-3 shows the routine weekly procedures.

Table 8-3 Routing Weekly Procedures

Task	For More Information, see
Analyze measurement data for trends: 1. Export desired performance data. 2. Import the data into an external measurement report and analysis tool such as Trinogy Trend.	Chapter 7, "Managing the Performance of Cisco MNM Devices," "Exporting Bulk Performance Data" section on page 7-18

Using Cisco MNM to Launch Device Configuration

From Cisco MNM, you can launch configuration tools for the Cisco PGW 2200 Softswitch node devices. Specifically, you can launch

- The Cisco Voice Services Provisioning Tool (VSPT) to configure the Cisco PGW 2200 Softswitch host.

Note The Voice Services Provisioning Tool (VSPT) was formerly known as MNM-PT.

- CiscoView to configure the Cisco ITP-L and Cisco LAN switch.
- Telnet or an X terminal window to use MML, UNIX, and OSI commands. If SSH is enabled on Cisco MNM and the target device, SSH is used instead.

Launching Configuration Tools

You can launch configuration tools for various devices from the Cisco MNM Map Viewer (see Table 8-4).

Table 8-4 Configuration Tools for Cisco PGW 2200 Softswitch Node Devices

Cisco PGW 2200 Softswitch Node Device	Available Tools
Cisco PGW 2200 Softswitch host	Cisco VSPT or Cisco MNM Telnet or ssh; MML
Cisco BAMS	Telnet or ssh; MML
Cisco HSI server	Telnet or ssh; MML
Cisco ITP-L	CiscoView Telnet or ssh
Cisco LAN Switch	CiscoView Telnet or ssh

Use the following procedure to launch a configuration tool:

Step 1 In the Map Viewer window, right-click the device you want to configure, and choose **Tools**.

Step 2 From the **Tools** menu, choose one of the following:

- **Voice Services Provisioning Tool** (or for Cisco PGW 2200 Softswitch Releases below 7.4(12), **Cisco MGC Manager**) to configure the Cisco PGW 2200 Softswitch host

Note The Voice Services Provisioning Tool option is only available when VSPT is installed. To get more information on VSPT installation, see Chapter 2, "Installing Cisco VSPT" in the *Cisco Voice Services Provisioning Tool User Guide, Release 2.7(3)* at http://www.cisco.com/en/US/docs/net_mgmt/vspt/2.7/user/guide/install.html

- **CiscoView** to configure the Cisco ITP-L and Cisco LAN switch

The application opens.

Note The Cisco PGW 2200 Softswitch deployment user ID and password are passed to Cisco VSPT and you are logged in with the privileges assigned to that user: read-write or read-only. If there is no deployment user ID or password, Cisco VSPT opens to the login window, and you must log in manually.

Step 3 Perform the desired actions.

Step 4 Close the application when you are done.

Use the following procedure to launch a Telnet session (or ssh, if SSH is enabled) or an X terminal window to use UNIX, OSI, and MML commands:

Step 1 In the Map Viewer window, right-click the desired device, and choose **Tools**.

Step 2 From the Tools menu, choose **Connection Service**.

A Telnet, ssh, or X terminal window opens, and you are connected to the selected device.

Step 3 Perform desired actions.

Step 4 Close the window when you are done.

Viewing or Modifying Account and SNMP Information

You can view the account and SNMP information that resides in the Cisco MNM database for any of the following Cisco PGW 2200 Softswitch node devices:

- Cisco PGW 2200 Softswitch host
- Cisco BAMS
- Cisco ITP-L
- Cisco LAN Switch

- Cisco HSI server

Account information and SNMP read and write community strings are defined when a device is deployed. If the actual device information changes—for example, if a password is changed—you can modify the information to update the Cisco MNM database. The changed information is used in device rediscovery.

Use the following procedure to view or change account or SNMP information in the Cisco MNM database:

Step 1 In the Map Viewer window, select a device or devices.

Note Alternatively, if you have a Properties, States, Diagnostics, or File Systems dialog box open for the device, you can use the dialog box Navigation menu to open the Accounts dialog box.

Step 2 Right-click the device or devices and choose **Accounts**.

The Accounts dialog box opens.

Step 3 If you have selected more than one device, choose the desired device in the list box on the left side of the dialog box.

Step 4 Check or change device information. See the "Using the Accounts Dialog Box" section on page 8-7.

Step 5 If you make changes, click the toolbar **Save** button, or choose **File > Save**. The updated information is saved in the Cisco MNM database.

Step 6 In the Accounts dialog box, you can use the toolbar buttons or menu options to

- Print the information on the current tab
- Close the dialog box
- Toggle dynamic update mode off and on
- Refresh the window to update the information when dynamic update mode is off
- Acknowledge that you have seen dynamically updated changes

You can use the Navigation menu to open the Properties, File Systems (where applicable), States, or Diagnostics dialog box for the selected component.

Note

- The status bar shows the current status of the device.
- If the account is locked (lock icon is closed), you do not have permission to view this information.

Using the Accounts Dialog Box

The Accounts dialog box displays login and SNMP information for the selected network device. This information is used when the device is rediscovered. The Accounts dialog box contains the Accounts tab and the SNMP tab.

By default, the Accounts dialog box is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes when dynamic updating is off.

The Accounts dialog box includes a Navigation menu that allows navigating directly to Properties, File Systems, States, or Diagnostics dialog boxes for the selected component; you need not reselect the component in the Map Viewer. See the "Navigating Between Dialog Boxes for a Given Component" section on page 3-32 for details.

Accounts Dialog Box Toolbar

The Accounts dialog box toolbar buttons enable you to

- Close the current window
- Print the contents of the window
- Toggle dynamic update mode, to allow viewing or not viewing real-time changes
- Refresh the window, to update the information when dynamic update mode is off
- Acknowledge that you have seen dynamically updated dialog box changes
- Save your changes to the Cisco MNM database

Dynamic updates are displayed in blue. When an update occurs, the dialog box moves in front of other open Cisco MNM windows. Click **Acknowledge** to acknowledge that you have seen the changes and to remove the blue highlighting.

Accounts Tab

The Accounts tab contains the following fields:

- Login ID—The login ID defined in the Cisco MNM database
- Password—The password defined in the Cisco MNM database
- Root or Enable Password—The root or enable super-user password defined in the Cisco MNM database
- Security Policy—The security protocol used for communication with the device, SSH or None
  - Choose SSH if you have installed the Cisco EMF SSH add-in and the device is SSH-enabled. With SSH support installed, all operations that previously used Telnet or FTP to communicate with network elements instead use ssh (the secure shell program, the SSH counterpart of Telnet) and sftp (secure FTP).
  - Choose None for nonsecure devices.

SNMP Tab

The SNMP tab contains the following fields:

- Read Community—SNMP read-community string.
- Write Community—SNMP write-community string.
- Timeout (seconds)—The number of milliseconds the system attempts to connect remotely when performing an SNMP operation before timing out. The default value is 5000.
- Retries—The number of times the system attempts to connect when performing an SNMP operation. The default value is 2.
- Varbinds/Packet—The number of varbinds sent in a single packet to an SNMP agent. The default value is 5.
- SNMP Version—The version of SNMP running on the device. Versions 1 and 2c are supported.

Viewing Properties for Devices and Their Components

You can view properties for the following devices, including Cisco PGW 2200 Softswitch node devices and their components. See the "Viewing Properties for Devices" section on page 8-10.

- Cisco PGW 2200 Softswitch host
- Cisco BAMS
- Cisco HSI server
- Cisco ITP-L
- Cisco LAN switch

You can view properties for serial, Ethernet, and TDM interfaces. See the "Viewing Properties for Interfaces" section on page 8-15.

You can view properties and monitor the usage of the Cisco PGW 2200 Softswitch host, the Cisco HSI server, and the Cisco BAMS file systems. See the "Monitoring the Cisco PGW 2200 Softswitch Host, the Cisco HSI Server, and the Cisco BAMS File Systems" section on page 8-20.

You can view properties for system components (disk partitions, processor, RAM, and virtual memory) of the Cisco PGW 2200 Softswitch host, the Cisco HSI server, and the Cisco BAMS. See the "Viewing System Component Properties" section on page 8-23.

You can view properties for the following Cisco PGW 2200 Softswitch node components:

- Dial plan components. See the "Viewing Dial Plan Component Properties" section on page 8-25.
- Signaling components. See the "Viewing Signaling Component Properties" section on page 8-30.
- Trunking components. See the "Viewing Trunk Group Component Properties" section on page 8-47.

All Properties dialog boxes share the basic functionality described in the following section.

Note Dial Plan Components on Cisco PGW 2200 Softswitch are no longer supported since Cisco MNM Release 2.7(3) Patch 4.

Common Functionality in Properties Dialog Boxes

All Properties dialog boxes display dynamically updated information and provide functionality similar to that available with the main functions accessible from a toolbar. If a Properties dialog box is opened for more than one component, a list box on the left side of the dialog box lists the available components. The Properties information applies to the selected component.

Properties dialog boxes include a menu where you can navigate directly to other dialog boxes for the selected component without having to reselect the component in Map Viewer. See the "Navigating Between Dialog Boxes for a Given Component" section on page 3-32.

Note The specific properties you see depends not only on the network element you are inspecting but also on the release of the Cisco PGW 2200 Softswitch host software that you are using.

Properties Dialog Box Toolbar

In every Properties dialog box (see Figure 8-1), a toolbar contains buttons for these functions:

- Close the current window
- Print the contents of the window
- Toggle dynamic update mode, to allow viewing or not viewing real-time changes
- Refresh the window, to update the information when dynamic update mode is off
- Acknowledge that you have seen dynamically updated dialog box changes

In addition, because the File System dialog box includes settings that you can modify to change how the file system is monitored, the File System Properties dialog box contains a Save button.

Dynamic updates are displayed in blue. When an update occurs, the dialog box moves in front of other open Cisco MNM windows. Click **Acknowledge** to acknowledge that you have seen the changes and to remove the blue highlighting.

Figure 8-1 Device Properties Dialog Box Toolbar

Viewing Properties for Devices

You can view properties for any of the following Cisco PGW 2200 Softswitch node devices. Property fields may vary.

- Cisco PGW 2200 Softswitch host
- Cisco HSI server
- Cisco BAMS
- Cisco ITP-L
- Cisco LAN switch

Use the following procedure to view properties for a device:

Step 1 In the Map Viewer window, select a device or devices.

Step 2 Right-click and choose **Properties**.

The Properties dialog box opens.

If you have selected more than one device, choose a device in the list box on the left side of the dialog box.

Step 3 Check device properties. See the "About the Device Properties Dialog Box" section on page 8-11 for details on properties.

Step 4 (Optional) In the Properties dialog box, use the toolbar buttons or menu options to manipulate the display.

Note The status bar shows the current status of the device.

About the Device Properties Dialog Box

The Properties dialog box contains a toolbar and tabs displaying various categories of device properties. The contents of the tabs vary with the device type.

By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, to acknowledge that you have seen updated information, and to check for changes when dynamic updating is off. All fields are display-only.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more information.

General Tab

The General tab contains the following display-only fields:

- Management Address—Network management IP address.
- System Name—Administratively assigned name for the device.
- Location—Physical location of the device.
- Contact—Contact person or organization and brief contact information, such as phone number.
- System Status (valid only for the Cisco BAMS, the Cisco HSI server, and the Cisco PGW 2200 Softswitch)—Current operational status of the device. Values are Active, Standby, Outage, Error, and Other.
- Up-time—Time since the device was initialized.
- Description—Description of the device.

Details Tab

The Details tab contains the following fields:

For the Cisco PGW 2200 Softswitch, the Cisco HSI Server, and the Cisco BAMS

- Hardware Model—Hardware model for the device
- OS Version—Version of the operating system
- OS Release—Release level of the operating system
- Host ID—Host ID
- Memory Size—Amount of physical main memory
- System Date—Local time and day on the host
- Last Boot Time—Time the machine was last booted

For the Cisco ITP-L and Cisco LAN Switch

- Model—Chassis type
- Chassis ID—Unique identifier for the chassis (Cisco ITP-L) or serial number (Cisco LAN switch)

For the Cisco ITP-L Only

- Hardware Version—Chassis hardware revision level
- ROM System Version—ROM system software version
- ROM Monitor Version—ROM monitor version

For the HSI Server Only

- Host Port-1—The first port number to be used by the Cisco HSI. The default value is 0.
- Host Port-2—The second port number to be used by the Cisco HSI. The default value is 0. This value should not be changed; it should always be set to 0.

Note These values must match the peer port setting on the Cisco PGW 2200 Softswitch EISUP IPLNK object.

For the Cisco LAN Switch Only

- Fan Status—Status of the fan. Values are OK, Other, Minor Fault, and Major Fault.

Details Area

- System Type—Chassis system type
- Backplane Type—Chassis backplane type

Power Supply Area

- Status (Primary and Secondary)—Power supply status. Values are OK, Other, Major Fault, and Minor Fault.
- Type (Primary and Secondary)—Type of power supply.

Host, HSI, or BAMS Tab (Cisco PGW 2200 Softswitch host, Cisco HSI server, or Cisco BAMS)

The MGC Host or BAMS tab contains the following fields:

- In the Call Agent, BAMS Software, or HSI Software area, information about the software:
  - Host, BAMS version, or HSI version—Software version.
  - Patch Level—Patch level of the software.
  - (Cisco PGW 2200 Softswitch only) Host Vendor—Vendor of the host software.
  - Home Directory—Software home directory.
  - (Cisco PGW 2200 Softswitch only) Active Config Name—Name of the active MML configuration, if any.
  - (Cisco PGW 2200 Softswitch only) Desired State—Desired state of the platform, such as standalone.
  - (Cisco PGW 2200 Softswitch only) Switch Type—Switching configuration of the host.
  - (Cisco PGW 2200 Softswitch only) Failover Peer Addresses A and B—IP address of each failover machine.
  - (Cisco HSI server only) Primary MGC—In the first row, under IP Address, the primary IP address of the primary Cisco PGW 2200 Softswitch; under Port, the first port number of the primary Cisco PGW 2200 Softswitch.

    In the second row, the secondary IP address and the second port number of the primary Cisco PGW 2200 Softswitch. These must match the primary information in the first row.

- (Cisco HSI server only) Secondary MGC—In the first row, under IP Address, the primary IP address of the secondary Cisco PGW 2200 Softswitch; under Port, the first port number of the secondary Cisco PGW 2200 Softswitch.

  In the second row, the secondary IP address and the second port number of the secondary Cisco PGW 2200 Softswitch. These must match the information in the first row.

Note The Secondary MGC parameter is not used in a standalone Cisco PGW 2200 Softswitch configuration.

Network Tab (All)

The Network tab contains the following fields:

- IP addresses configured on the device—IP addresses from the IP address table. A device can have more than one IP address.
- IP Address—IP address of the selected entity.
- Net Mask—Subnet mask associated with the IP address.
- Interface Index—Interface on which the IP address is configured.

For the Cisco LAN switch, the Network tab contains these fields as well:

- Broadcast Address—The broadcast address of the switch.
- Net Mask—The net mask of the chassis.
- Booted Image—The name of the image from which the system was booted.
- Last Configuration Change—Time (in hundredths of a second) since the configuration of the system was last changed.

The Cisco PGW 2200 Softswitch host also contains a **Configuration** area:

- IP addresses configured on the Call Agent—Cisco PGW 2200 Softswitch host network addresses

Software Tab (Cisco PGW 2200 Softswitch Host, Cisco HSI Server, and Cisco BAMS)

The Software tab contains the following fields, whose values describe software installed on the device:

- The software running on the selected device—A list of installed software. Select the software whose details you want to view.
- Name—Name of the selected software.
- Parameters—Parameters supplied to the software when it was run.
- Path—Location where the software was run.
- Type—Type of software, such as operating system or device driver.
- Status—Status of the running software. Values are Running, Runnable, Not Runnable, and Invalid.

These fields apply to the Cisco PGW 2200 Softswitch host overall:

- Number of Processes
  - Actual: Number of process contexts currently running.
  - Maximum: Number of process contexts this system can support.
- Number of Users
  - Actual: Number of user sessions for which this host is storing information.

  - Maximum: Number of user sessions this host can support.

Virtual IP Tab (Cisco PGW 2200 Softswitch Host)

The Virtual IP tab contains the following fields:

- Pool Name—Name assigned to the selected memory pool, such as DRAM.
- Virtual IP address 1—Virtual IP address from Cisco PGW 2200 Softswitch host.
- Virtual IP Address 2—Second Virtual IP address from Cisco PGW 2200 Softswitch host.

Memory Tab (Cisco ITP-L and Cisco LAN Switch)

The Memory Tab contains the following fields:

- Memory Pool—A list of memory pools supported by the device. Select the memory pool whose details you want to view.
- Pool Name—Name assigned to the selected memory pool, such as DRAM.
- Memory Used—Number of memory pool bytes that are currently in use by applications.
- Memory Free—Number of memory pool bytes that are unused.
- Largest Free—Largest number of contiguous bytes that are currently unused.

Cisco ITP-L only:

- Configuration Memory—Bytes of nonvolatile configuration memory In Use/Total bytes of nonvolatile configuration memory.
- Processor RAM—Bytes of RAM available to the CPU.

Configuration Tab (Cisco ITP-L)

The Configuration Tab contains the following fields:

History Area

- Configuration events on the device—List of configuration events in the device history. Select a device to view its details.

Event Time

- Source—Source of the selected configuration event
- Destination—Configuration data destination for the event
- Image Name—Name of the system boot image
- Reason for Last Reload—Reason the system was last restarted
- Running Last Changed—Value of system uptime (sysUpTime) when the running configuration last changed
- Startup Last Changed—Value of system uptime when the startup configuration was last saved
- Running Last Saved—Value of system uptime when the running configuration was last saved

Poll Tab (BAMS)

The Poll tab contains the following fields:

- Poll information—Poll table.

- Host Name (primary and secondary)—MGC host for this BAMS.
- Prefix (primary and secondary)—Prefix for data files on the host.
- Suffix (primary and secondary)—Suffix for data files on the host.
- Remote Directory (primary and secondary)—Remote directory on the host.
- Action—Action to perform after polling.
- Interval—Polling unit (in minutes). Default value is 10.
- Timeout—Timeout for file transfer. Default value is 10.
- Maxtries—Maximum number of retries on each file. Default value is 3.

RAS Parameters Tab (HSI Server)

The RAS Parameters Tab contains the following fields:

- Gatekeeper ID—Identifying name of the gatekeeper with which the endpoint is trying to register.
- Gateway Prefix—The telephone prefix for which the gateway is registering as being able to terminate.
- RAS Port—Number of the port receiving all RAS transactions for the current endpoint. Set to 0 to allow the OS to look for the available port.
- Gatekeeper IP Address—The IP address of a known gatekeeper with which an endpoint attempts to register.
- Gatekeeper Port—The port associated with the Gatekeeper IP Address, which can be either a well-known port or another port by agreement.

Viewing Properties for Interfaces

You can view properties for serial, Ethernet, loopback, and TDM interfaces of the various MGC node devices. You can view properties for ports, VLAN, and SCO/SLO interfaces of the Cisco LAN switch.

Use the following procedure to view property information for interfaces:

Step 1 In the Map Viewer window, select the desired interface.

Note Find TDM interfaces under the Cisco ITP-L.

Step 2 Right-click and choose **Properties**.

The Properties dialog box opens.

Step 3 If you have selected more than one device, choose a device in the list box on the left side of the dialog box and check device properties.

See the "About the Serial, Ethernet, Loopback, and SCO/SLO Interface Properties Dialog Box" section on page 8-16 and the "About the TDM Interface Properties Dialog Box" section on page 8-16 for details on interface properties.

Step 4 (Optional) In the Properties dialog box, you can use the toolbar buttons or menu options to

- Print the information on the current tab.
- Close the dialog box.

- Toggle dynamic update mode off and on.
- Refresh the window to update the information when dynamic update mode is off.
- Acknowledge that you have seen dynamically updated changes.

Note The status bar shows the current status of the interface.

About the Serial, Ethernet, Loopback, and SCO/SLO Interface Properties Dialog Box

The Serial, Ethernet, Loopback, and SCO/SLO Interface Properties dialog boxes contain a toolbar and General and Details tabs. All fields are display-only.

By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes as desired when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality.

General Tab

The General tab contains the following display-only fields:

- Physical Address (Ethernet, Loopback, and SCO/SLO only)—The interface address at the protocol sublayer.
- Description—A description of the interface.
- System Name—The administratively assigned name for the interface.
- Interface Type—The type of interface, such as FDDI.
- Admin Status—The desired state of the interface. The value can be Up, Down, or Testing.
- Operational Status—The current operational state of the interface. Values are Up, Down, Testing, Unknown, Dormant, Not Present, and Lower Layer Down.

Details Tab

The Details tab contains the following fields:

- Interface Index—Index of this interface in the interface table (ifTable)
- MTU—Size of the largest packet that can be sent or received on the interface
- Speed (Ethernet, Serial, SCO/SLO only)—Estimated speed of the interface, in bits per second
- Last Change—Time at which an interface was last created or deleted

About the TDM Interface Properties Dialog Box

The TDM Interface Properties dialog box contains a toolbar and General and Details tabs. All fields are display-only.

By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes as desired when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality.

General Tab

The General tab contains the following display-only fields:

- Description—A description of the interface
- System Name—The administratively assigned name for the interface
- Circuit ID—Transmission vendor's circuit identifier
- Speed—Estimated speed of the interface, in bits per second
- Interface Index—Index of this interface in the interface table (ifTable)
- Interface Type—The type of interface, such as FDDI
- Line Type—DS1 line type
- Line Coding—Variety of Zero Coding Suppression used on the link
- Last Change—Time at the last creation or deletion of an interface

Details Tab

The Details tab contains the following fields:

Status Area

- Admin Status—The desired state of the interface. Values are Up, Down, and Testing.
- Operational Status—The current operational state of the interface. Values are Up, Down, Testing, Unknown, Dormant, Not Present, and Lower Layer Down.
- Line Status—Alarm status of the line.

Configuration Area

- Signal Mode—Signaling mode. Values are None, Robbed bit, Bit oriented, and Message oriented.
- Send Code—Type of code sent across the interface. Values are No code, Line code, Payload code, and Reset code.
- Facilities Data Link—Use of the facilities data link.
- Loopback Config—Loopback configuration of the interface. Values are No loop, Payload loop, line loop, and other loop.
- Transmit Clock Source—Source of the transmit clock. Values are Loop timing, local timing, and through timing.

About the Cisco LAN Switch Port Properties Dialog Box

The Port Properties dialog box contains a toolbar and General, Details, and VLAN tabs. All fields are display-only.

By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes as desired when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality.

General Tab

The General tab contains the following display-only fields:

- Physical Address—The interface address at the protocol sublayer.
- Description—A description of the interface.
- System Name—The administratively assigned name for the interface.
- Interface Type—The type of interface, such as FDDI.
- Admin Status—The desired state of the interface. Values are Up, Down, and Testing.
- Operational Status—The current operational state of the interface. Values are Up, Down, Testing, Unknown, Dormant, Not Present, and Lower Layer Down.
- MTU—Size of the largest packet that can be sent or received on the interface.
- Last Change—Time at the last creation or deletion of an interface.

Details Tab

The Details tab contains the following fields:

- Port Name—Name of the port.
- Port Type—Type of physical layer medium dependent interface on the port.
- Port Status—Current operational status of the port. Values are Up, Down, Testing, Unknown, Dormant, Not Present, and Lower Layer Down.
- Duplex—Indicates whether a port is operating in half-duplex, full-duplex, disagree, or auto-negotiation mode.
- Span Tree Fast Start—Whether the port is operating in span tree fast mode. Values are Enabled and Disabled.
- Desired Speed—Desired speed of the port, in bits per second.
- Speed—Estimated speed of the interface, in bits per second.

VLAN Tab

The VLAN tab contains the following fields:

- VLAN Number—Number assigned to the port.
- Switching Priority—Priority level the port uses to access the switching media. Values are Normal, High, and Not Applicable.
- Admin Status—Indicates whether the port will be assigned to a VLAN statically or dynamically. Values are Static and Dynamic.
- Operational Status—Current VLAN status of the port. Values are Inactive, Active, Shutdown, and VLAN Active Fault.

About the Cisco LAN Switch VLAN Properties Dialog Box

The VLAN Properties dialog box contains a toolbar and the fields described below. All fields are display-only.

By default, the Properties dialog box is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality.

Fields

- System Name—The administratively assigned name for the interface
- Spanning Tree Enabled—Whether Spanning Tree Protocol is enabled for this VLAN

Viewing Properties for the Cisco ITP-L SS7 MTP2 Channel

Use the following procedure to view information on properties for the MTP2 channel:

Step 1 In the Map Viewer widow, select the Cisco ITP-L.

Step 2 Right-click and choose **Channels > MTP2 Channel Properties**.

The SS7 MTP2 Properties dialog box opens.

Step 3 If you have selected more than one device, choose a device in the list box on the left side of the dialog box.

Step 4 Check device properties. See the "About the Serial, Ethernet, Loopback, and SCO/SLO Interface Properties Dialog Box" section on page 8-16 or the "About the TDM Interface Properties Dialog Box" section on page 8-16 for details on interface properties.

Step 5 (Optional) In the Properties dialog box, you can use the toolbar buttons or menu options to

- Print the information on the current tab.
- Close the dialog box.
- Toggle dynamic update mode off and on.
- Refresh the window to update the information when dynamic update mode is off.
- Acknowledge that you have seen dynamically-updated changes.

Note The status bar shows the current status of the channel.

About the SS7 MTP2 Channel Properties Dialog Box

The Cisco ITP-L SS7 MTP2 Channel Properties dialog box contains a toolbar and the fields described below. All fields are display-only.

By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes as desired when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more information on dialog box functionality.

The SS7 MTP2 Channel Properties dialog box contains the following fields:

- Channel Number—MTP2 channel number
- Link Status—Overall status of the link
- Alignment Error Rate Monitor—Status of the alignment error rate monitor state machine
- Signal Unit Error Monitor—Status of the signal unit error monitor (SUERM)
- Transmission Control—Status of the initial alignment control state machine
- Receive Control—Status of the receive control state machine
- Remote Processor Outage—Processor outage status of the remote processor
- Congestion Backhaul—Congestion control state between the Cisco PGW 2200 Softswitch host and the Cisco ITP-L
- Congestion—Status of the congestion control state machine

Monitoring the Cisco PGW 2200 Softswitch Host, the Cisco HSI Server, and the Cisco BAMS File Systems

You can monitor file systems on the Cisco PGW 2200 Softswitch host, the Cisco HSI server, and the Cisco BAMS by doing any of the following:

- Viewing file system information
- Setting a threshold to have the device send a trap if file system usage passes the threshold
- Viewing which file systems have exceeded their threshold
- Polling file systems at a desired frequency. (You set the frequency, either a global polling frequency or an individual frequency, before the polling begins.)
- Polling all file systems
- Turning traps on or off for individual file systems based on trap severity

Use the following procedure to monitor the Cisco PGW 2200 Softswitch host, the Cisco HSI server, and the Cisco BAMS file systems:

Step 1 In the Map Viewer window, right-click a Cisco PGW 2200 Softswitch host, a Cisco HSI server, or a Cisco BAMS, and choose **File Systems**.

The File System Properties dialog box opens, displaying file system properties and settings for monitoring the file system.

If there is more than one selected device, the details shown apply to the currently highlighted device. In the list, click the device whose details you want to view or change. See the "About the File System Properties Dialog Box" section on page 8-21 for details.

Note Alternatively, if you have an Accounts, Properties, States, or Diagnostics dialog box open for the device, you can use the dialog box Navigation menu to open the File Systems dialog box.

Step 2 Check or change settings as needed:

- Use the **General** tab to view file system information.
- Use the **Monitor** tab to change settings for monitoring file system usage.
- Use the **Exception** tab to check file systems that have crossed their threshold.

Step 3 If you make changes, click the toolbar **Save** button.

About the File System Properties Dialog Box

The File System Properties dialog box contains a toolbar and three tabs (General, Monitoring, and Exceptions).

By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality. Unlike other Properties dialog boxes, the File System Properties dialog box includes a toolbar Save button for saving changes to monitoring specifications.

General Tab

The General tab contains the following display-only fields:

- File System—List of file systems for this device. Select a system to view details.
- Capacity—Percentage of normally available space that is currently allocated to files on the system.
- Used Space—Amount of space allocated to existing files.
- Free Space—Total amount of space available for the creation of new files by unprivileged users.
- Mount Point—Mount point (directory) of the file system.

Monitor Tab

The Monitor tab contains the following fields:

- File System—List of file systems. Select a system to check or change monitoring settings.
- Current Utilization—Percent of disk space currently In Use or the Percent full at which an event (alarm) is triggered for the selected file system. Set alarm severity with Trap Severity.
- Poll Interval—Period of time, in seconds, between two successive checks of the file system, to see if it exceeds its threshold.
- Threshold Command—Command to execute when the threshold is exceeded.
- Trap Severity—Severity of the trap that is sent when the threshold is exceeded. Values are Warning and Critical.
- When Above Threshold—Send a trap if the threshold is exceeded. Values are Send Trap and Don't Send Trap. Use Don't Send Trap to turn off notification for the selected file system.

- When Below Threshold—Send a trap if file system usage falls below the threshold. Values are Send Trap and Don't Send Trap. Use Don't Send Trap to turn off notification for the selected file system.
- Global Poll Interval—Period of time, in seconds, between two successive checks of all file systems, to see if any exceed the threshold.
- Poll Now button—Check all file systems for this device immediately.

Note The Poll Now function is not currently supported for an individual file system. Global Poll Now (all file systems) is supported.

Exceptions Tab

- File system list box—List of file systems that have exceeded their threshold. Select a file system to view details.
- File System—Name of the selected file system.
- Threshold—Threshold that has been exceeded.
- Current Utilization—Current percent utilization of the file system.

Viewing BAMS Node Properties

Use the following procedure to view BAMS Node properties:

Step 1 In the Map Viewer window, select the desired BAMS node.

Step 2 Right-click and choose **Properties**.

The BAMS Node Properties dialog box opens.

Step 3 (Optional) In the Properties dialog box, you can use the toolbar buttons or menu options to:

- Print the information on the current tab.
- Close the dialog box.
- Toggle dynamic update mode off and on.
- Refresh the window to update the information when dynamic update mode is off.
- Acknowledge that you have seen dynamically updated changes.

Note The status bar shows the current status of the interface.

About the BAMS Node Properties Dialog Box

The BAMS Node Properties dialog box contains a toolbar and tabs displaying various categories of component properties. All fields are display-only.

By default, the Properties dialog box is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes as desired when dynamic updating is off.

Properties Tab

The Properties tab contains the following display-only fields:

- Node Name—The name of the node.
- Node Status—Current Operational state of the node. Values are Active, Standby, Outage, Error, and Other.
- Measurement Interval—Interval in minute to generate measurement data.
- SC Collection—Indication flag of nail configuration collection.
- Dynamic Accumulator—Indication flag of dynamic accumulator usage.
- Zero-Count Suppression—Indication flag of the zero-count suppression feature.
- BAF ASCII Output—Indication flag of BAF records output in ASCII format.
- BAF Output—Indication flag of BAF records output.
- BAF Error Output—Indication flag of printing BAF error to syslog.
- ASCII Output—Indication flag of ASCII output.
- Measurement Output—Indication flag of measurement output function.
- Lookup Error Output—Indication which lookup errors are printed to syslog.

Poll Tab

The Poll tab contains the following fields:

- Poll information—Poll table.
- MGC Host (primary and secondary)—Cisco PGW 2200 Softswitch hosts that this BAMS node polls for CDR records.
- Prefix (primary and secondary)—Prefix for CDR data files on the Cisco PGW 2200 Softswitch host.
- Suffix (primary and secondary)—Suffix for CDR data files on the Cisco PGW 2200 Softswitch host.
- CDR Directory (primary and secondary)—Directory of the CDR data files on the Cisco PGW 2200 Softswitch host.
- Interval—Polling unit (in minutes). Default value is 10.
- Timeout—Timeout for file transfer. Default value is 10.
- Max Attempt—Maximum number of retries on each file. Default value is 3.

Viewing System Component Properties

You can check properties on the following system components of a Cisco PGW 2200 Softswitch host, a Cisco HSI server, or a Cisco BAMS:

- Disk partitions
- Processor
- RAM
- Virtual memory

Note For information about viewing performance data for system components, see the "Performance Data Collected for System Components" section on page B-11.

Use the following procedure to view system component properties:

Step 1 In the Map Viewer window, do one of the following:

- To view information for all components of a particular type, right-click a Cisco PGW 2200 Softswitch host, Cisco HSI server, or Cisco BAMS. Choose **Devices**, and then choose one of the following:
  - Disk Partition Properties
  - Processor Properties
  - RAM Properties
  - Virtual Memory Properties
- To view information for a particular component, under the Cisco PGW 2200 Softswitch host, Cisco HSI server, or Cisco BAMS, select the component and right-click. Choose **Properties**.

  The dialog box displays information on the selected component's properties. See the "About the System Components Properties Dialog Boxes" section on page 8-24 for details.

Step 2 (Optional) In the Properties dialog box, you can use the toolbar buttons or menu options to

- Print the information on the current tab
- Close the dialog box
- Toggle dynamic update mode off and on
- Refresh the window to update the information when dynamic update mode is off
- Acknowledge that you have seen dynamically updated changes

About the System Components Properties Dialog Boxes

There are two types of system component Properties dialog boxes for the Cisco PGW 2200 Softswitch host, Cisco HSI server, and Cisco BAMS:

- A Properties dialog box for fixed disk, RAM, and virtual memory
- A Properties dialog box for the processor

By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off and check for changes when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality.

Fixed Disk, RAM, and Virtual Memory Properties Dialog Box

The Disk, RAM, and Virtual Memory Properties dialog boxes contain the following fields:

- Description—Description of the type and instance of the selected storage device.
- Allocation Units—Size in bytes of the data object allocated from this pool.

- Space Used—Amount of the storage that is allocated.
- Total Size—Size of the total device storage.
- Allocation Failures—Number of requests for storage that could not be honored.

Processor Properties Dialog Box

The Processor Properties dialog box contains the following fields:

- Description—Description of the processor.
- Status—Current operating status. Values are Running, Unknown, Testing, Warning, and Down.
- Utilization—Average amount of time that the processor was active over the last minute.
- Errors—Number of errors detected on this device.

Viewing Dial Plan Component Properties

You can view the properties of the following dial plan components of a Cisco PGW 2200 Softswitch node:

- A- and B-digit trees
- Routes
- Routing
- Dial plan properties

Note Dial Plan Components on Cisco PGW 2200 Softswitch are no longer supported since Cisco MNM Release 2.7(3) Patch 4.

In addition, you can set and view these relationships between dial plan components:

- The relationship between conditional route and day of the week. A single conditional route can be associated with one or more conditional route descriptors on a given day, or it can be related to the same descriptor on multiple days. This appears in the Map Viewer as the Conditional Route Day, with the day of the week and the conditional route name appended to it.
- The relationship between conditional route descriptor and the route list or percentage route. A single conditional route descriptor can be associated with one or more conditional route lists or percentage routes. This appears in the Map Viewer as the Conditional Route Descriptor Details, which has the route list or percentage route with the conditional route descriptor name appended to it.
- The relationship between the percentage route and the route list or conditional route. A single percentage route can be associated with one or more conditional routes or route lists. This appears in the Map Viewer as the Percentage Route Descriptor, which has the route list or conditional route with the percentage route name appended to it.

Use the following procedure to view dial plan component properties:

Step 1 In the Map Viewer window, do one of the following:

- To view information for all components of a particular type, select the dial plan folder and right-click. Choose one of the following:
  - **Digit Trees**, and then one of the following:

- A-Digit Tree Properties
- B-Digit Tree Properties

– **Routes**, and then one of the following:

- Route Trunk Properties
- Route List Properties
- Route Trunk Group Properties
- Bearer Cap(ability) Properties

– **Routing**, and then one of the following:

- Percentage Routes > Percentage Route or Relationship between Percentage Route and RouteList/Conditional Route
- Conditional Routes > Conditional Route, Relationship between Conditional Route and Day of Week, Conditional Route Descriptor, Conditional Route Descriptor Details, or Relationship between Conditional Route Descriptor and RouteList/Percentage Route
- Route Holiday Properties
- Result Table Properties
- Result Set Properties
- CPC Properties
- Codec String Properties
- TMR Properties
- TNS Properties

– Dial Plan Properties

- To view information for a particular component, under the dial plan folder, select the desired component and right-click. Choose **Properties**.

  The dialog box displays information on the selected component's properties. See the "About the Dial Plan Properties Dialog Boxes" section on page 8-26 for details.

Step 2 (Optional) In the Properties dialog box, you can use the toolbar buttons or menu options to:

- Print the information on the current tab.
- Close the dialog box.
- Toggle dynamic update mode off and on.
- Refresh the window to update the information when dynamic update mode is off.
- Acknowledge that you have seen dynamically-updated changes.

About the Dial Plan Properties Dialog Boxes

The various Properties dialog boxes for dial plan components contain a toolbar and the fields described in Table 8-5. By default, the Properties dialog is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes as desired when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more information on dialog box functionality.

Table 8-5 Properties of Dial Plan Components

Field Name	Description
A- or B-Digit Tree Properties dialog box	
Customer Group ID	ID of the customer associated with the selected trunk group.
Digit String	All the digits in a calling or called number.
Digit-to-Present	Number of digits to skip (backward or forward) during analysis. Enter - to skip backwards.
Set Name	Name of the result set for the selected component.
Call side	Side of the call. Values are Originating and Terminating.
Route Trunk Properties dialog box	
MML Name	Name of the component.
Trunk Group	Name of the trunk group.
Next Trunk Group	Trunk group number of the next trunk group, if any.
Weighted Trunk	Set to on if weighted trunk group routing is desired. Values are On or Off.
Route List Properties dialog box	
MML Name	Name of the component.
Route Name	Name of the route.
Carrier ID	Carrier ID with which users on this trunk group are associated.
Distribution	Sequential distribution. Values are On (trunk groups in a route are selected sequentially) and Off (trunk groups in a route are selected randomly).
Route Trunk Group Properties dialog box	
MML Name	Name of the component.
Trunk Type	The trunk transmission media.
Cut-through	The point in the calling process where the trunk is seized from end point to end point.
Queuing	Duration in seconds the call is queued.
Reattempts	The number of times the system attempts to select a trunk group.
Reserve Circuits %	Reserve circuits percentage.
Bearer Capability Name	Bearer capability name (the MML name in the Bearer Capability Properties dialog box).
SIP Route Trunk Group Properties	
Bearer Capability Name	Bearer capability name (the MML name in the Bearer Capability Properties dialog box).
Bearer Capability Properties (in the Map Viewer, appears under route trunk, route trunk group)	
MML Name	Name of the component, such as **bearer1**.
Bearer Capability	Series of transmission medium requirements (TMR) values (see TMR Properties), separated by semicolons, such as **12;05;21**.
Percentage Route Properties dialog box	

Table 8-5 Properties of Dial Plan Components (continued)

Field Name	Description
MML Name	Name of the component.
Relationship between Percentage Route and RouteList/Conditional Route	
Percentage Route Name	Percentage route name.
Name	
Over Flow Supported	Overflow supported.
Over Flow	This entry is the overflow entry [y/n].
Primary	This entry is the primary entry [y/n].
Route List Name	Route list name.
Conditional Route Name	Conditional route name.
Conditional Route Properties	
MML Name	Name of the component.
Day of Week	Day of the week.
Relationship between Conditional Route and Day of Week	
Conditional Route Name	Name of the conditional route.
Day of Week	Day of the week to associate with this conditional route, either a default or a day between Sunday and Saturday, or one of the days defined as a holiday in Route Holiday Properties.
Conditional Route Descriptor	Conditional route descriptor name.
Conditional Route Descriptor Properties	
MML Name	MML name.
Relationship between Conditional Route Descriptor and RouteList/Percentage Route	
Conditional Route Descriptor	Conditional route descriptor name.
Start Time	Time to start, in the form **hhmm**, 24 hour day.
End Time	Time to end.
Route List Name	Route list name.
Percentage Route Name	Percentage based route name.
Primary	The primary entry for percentage-based routing.
Route Holiday Properties	
Note In the Map Viewer, the Route Holiday component appears under the dial plan object and is named for the date, such as 2003.12.25.	
Customer Group ID	ID of customer associated with the selected trunk group.
Holiday Day	Holiday day.
Date of Holiday	Date of the holiday, in the form YYYY.MM.DD.
Result Set Properties dialog box	

Table 8-5 Properties of Dial Plan Components (continued)

Field Name	Description
MML Name	Name of the component.
Customer Group ID	ID of customer associated with the selected trunk group.
Result Table Properties dialog box	
MML Name	Name of the component.
Customer Group ID	ID of customer associated with the selected trunk group.
Set Name	Name of the result set.
Result type	Type of result set.
Data word 1 to Data word 4	Data words 1 through 4.
CPC (Calling Party Category) Properties. These properties detect and effect routing based on CPC.	
Note In the Map Viewer, the CPC component appears under the result set object, below the result table, with a name in the form cpc-*CPC value*, such as "cpc-15".	
Customer Group ID	ID of customer associated with the selected trunk group.
CPC Value	Calling party category value.
Set Name	Name of the result set.
Codec String Properties (in the Map Viewer, appears under result set, result table).	
MML Name	Name of the component, such as **codec1**.
Codec String	Set of codec choices separated by semicolons, such as **G.726-32;G.729b-L**.
TMR (Transmission Medium Requirements) Properties	
Note In the Map Viewer, the TMR component appears under the result set object with a name in the form tmr-*TMR value*, such as "tmr-1".	
Customer Group ID	ID of customer associated with the selected trunk group.
TMR Value	Transmission medium requirements value.
Set Name	Name of the result set.
TNS (Transit Network Selection) Properties	
Note In the Map Viewer, the TNS component appears under the result set object with a name in the form tns-*TNS value*, such as "tns-333".	
Customer Group ID	ID of customer associated with the selected trunk group.
TNS Value	Transit network selection value.
Set Name	Name of the result set.
Dial Plan Properties	
Customer Group ID	ID of customer associated with the selected trunk group.
Over-Decadic Status	Over-decadic status. Value: YES or NO.

Viewing Signaling Component Properties

You can view properties of the following signaling components of a Cisco PGW 2200 Softswitch node:

- Paths
- Links
- Point codes
- External nodes
- Interfaces
- SS7 components
- M3UA/SUA components
- IPs In Mapping (Added in Release 2.7(3) Patch 3, used only for EISUP and SIP signaling services)

Use the following procedure to view signaling component properties:

Step 1 In the Map Viewer window, do one of the following:

- To view information for a particular component, under the Signaling folder, right-click the desired component and choose **Properties**.

  The dialog box displays information on the selected component's properties. See the "About the Signaling Components Properties Dialog Boxes" section on page 8-31 for details.

- To view information for all components of a particular type, right-click the Signaling folder and choose one of the following:
  - **Paths**, and then choose the desired type of path component. See Table 8-6 for dialog box details.
  - **Links**, and then choose the desired type of link component. See Table 8-7 for dialog box details.
  - **Point Codes**, and then choose the desired type of point code component. See Table 8-8 for dialog box details.

Note In Cisco PGW 2200 Softswitch Release 9.x, detailed DPC point code properties do not appear on the Details tab of the DPC Properties dialog box. Instead, drill down from the DPC to the SS7 path object (ss7svc1, for example), choose Properties, and in the Properties dialog box click the **Details** tab.

  - **External Nodes**, and then choose the desired type of external node component. See Table 8-9 for dialog box details.
  - **Interfaces**, and then choose the desired type of interface component. See Table 8-10 for dialog box details.
  - **SS7 Components**, and then choose the desired type of SS7 component. See Table 8-11 for dialog box details.
  - **M3UA/SUA Components**, and then choose either the M3UA Key or Route component, or SUA Key or Route component. See Table 8-12 for details.
  - **IPs In Mapping Components**, and then choose the desired type of mapping. See Table 8-13 for dialog box details. (Added in Release 2.7(3) Patch 3)

Step 2 (Optional) In the Properties dialog box, you can use the toolbar buttons or menu options to

- Print the information on the current tab

- Close the dialog box
- Toggle dynamic update mode off and on
- Refresh the window to update the information when dynamic update mode is off
- Acknowledge that you have seen dynamically updated changes

About the Signaling Components Properties Dialog Boxes

The various Properties dialog boxes for signaling components contain a toolbar and fields described in tables below for each component type. By default, the Properties dialog box is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes when dynamic updating is off.

- Signaling path components, in Table 8-6
- Signaling link components, in Table 8-7
- Signaling point code components, in Table 8-8
- Signaling external node components, in Table 8-9
- Signaling interface components, in Table 8-10
- Signaling SS7 components, in Table 8-11
- Signaling M3UA/SUA components, in Table 8-12
- IPs In Mapping components, in Table 8-13 (Added in Release 2.7(3) Patch 3)

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality.

Table 8-6 Properties of Signaling Path Components

Property	Description
Association Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML componen.t
Port	Local SCTP port number.
Peer Port	Destination SCTP port number.
External Node	Name of a previously configured external node.
First IP Address	First local address.
Second IP Address	Second local address.
First Peer Address	The highest priority destination address.
Second Peer Address	The lowest priority destination address.
Receive Window Bytes	Number of bytes to advertise for the local receive window.
IP Route 1	MML name of the first IP route.
IP Route 2	MML name of the second IP route.

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
Time Between Heartbeats	Time between heartbeats. The heartbeat is this value plus the current retransmission timeout value.
Max Retransmissions	Maximum number of retransmissions to either the first or second peer address before the association is declared failed.
Previously Configured SGP	MML name of a previously configured SGP.
Details Tab	
Maximum Init Retransmission Timer	Maximum initial retransmission timer value.
Max Retransmission Timer	Maximum value allowed for the retransmission timer.
Min Retransmission Timer	Minimum value allowed for the retransmission timer.
Maximum Retransmissions to Dest	Maximum number of retransmissions over all destination addresses before the association is declared failed.
Max Bundling Wait Time	Maximum time SCTP waits for other outgoing datagrams for bundling.
Max Init Retransmission Times	Maximum number of times to retransmit SCTP INIT message.
Max Time Before Sending SACK	Maximum time after a datagram is received before an SCTP SACK is sent.
Association State	State of SCTP association.
AXL Server Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
First IP Address	First local address.
Second IP Address	Second local address.
Port	Local SCTP port number.
First Peer Address	The highest priority destination address.
Peer Port	Destination SCTP port number.
IP Route 1	MML name of the first IP route.
IP Route 2	MML name of the second IP route.
CTI Path	CTI Sig Path component.
Version	The version of CTI Path supported by Cisco PGW 2200 Softswitch.
BRI Path Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	MML Name of a previously configured external node.
Side	User for user side and network for network side; (network).

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
MDO	Message definition object file protocol name.
Customer Group ID	Four-digit ID; (0000).
Call Ref Length	1 for 1-byte or 2 for 2-byte call reference length; (0).
Admin State	Administrative state of the component.
Destination Association	Destination Association.
Destination State	Destination State.
Destination Package	Destination Package.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
CAS Path Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node.
Customer Group ID	ID of the customer group associated with the selected trunk group.
Side	Q.931 call model side.
Admin State	Administrative state of the component.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
CTI Path Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	MML name of a previously configured external node for this CTI path.
CTI Manager Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
First IP Address	First local address.
Second IP Address	Second local address.
Port	Local SCTP port number.
First Peer Address	The highest priority destination address.
Peer Port	Destination SCTP port number.
IP Route 1	MML name of the first IP route.
IP Route 2	MML name of the second IP route.
CTI Path	CTI Sig Path component configured for this CTI Manager.

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
Version	The version of CTI Manager supported by Cisco PGW 2200 Softswitch.
DPNSS Path Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
Destination Association	Type of association.
Component Type	Type of component.
External Node	External node.
Customer VPN ID	VPN customer name assigned to the selected trunk group.
Customer Group ID	ID of the customer group associated with the selected trunk group.
Signal Slot	Physical slot on Cisco 2600/3660 router (optional).
Signal Port	Physical port on the slot of Cisco 2600/3660 router (optional).
Destination Package	Name of the installed package.
A/B Flag	DPNSS side.
Details Tab	
Admin State	Administrative state of the component.
Destination State	Destination state.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
EISUP Path Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node
Customer Group ID	ID of the customer associated with the selected trunk group.
Customer Group Table	Customer group table.
Side	Q.931 call model side.
Admin State	Administrative state of the component. (Removed in Release 2.7(3) Patch 3)
Destination State	Point-code state
Locked	Number of bearer channels in LOCKED state. (Removed in Release 2.7(3) Patch 3)
Unlocked	Number of bearer channels in UNLOCKED state. (Removed in Release 2.7(3) Patch 3)
Shutdown	Number of bearer channels in SHUTDOWN state. (Removed in Release 2.7(3) Patch 3)

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
Orig Label	Origination Location Label
Term Label	Termination Location Label
FAS Path Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Customer Group Table	Customer group table.
Customer Group ID	ID of the customer associated with the selected trunk group.
Call Ref Length	Call reference length.
Side	Q.931 call model side.
MDO	Message definition object file protocol name.
A/B Flag	Specifies DPNSS a or b side.
ASP Part	Auxiliary signaling path.
IP FAS Path Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node.
Customer Group Table	Customer group table. This is a 4-digit index used in the Customer Group table.
Customer Group ID	ID of the customer associated with the selected trunk group.
Call Ref Length	Call reference length.
Side	Q.931 call model side.
MDO	Message definition object file protocol name.
Details Tab	
A/B Flag	A/B flag.
ASP Part	Auxiliary signaling path.
Admin State	Administrative state of the component.
Destination State	Point-code state.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
MGCP Path Properties Dialog Box and SGCP Path Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node.
NAS Path Properties Dialog Box	

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node.
MDO	Message definition object file protocol name.
Customer Group ID	ID of the customer associated with the selected trunk group.
Signal Slot	Physical slot on the NAS defining the NFAS Group (optional).
Signal Port	Physical port on the slot of NAS defining the NFAS Group (optional).
Details Tab	
Admin State	Administrative state of the component.
Destination State	Point-code state.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
Session Set Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node.
First IP Address	First logical IP address.
Second IP Address	Second logical IP address.
First Peer Address	Remote IP address 1.
Second Peer Address	Remote IP address 2.
Ext Node Type	Session set external node type.
IP Route 1	Name of first IP route.
IP Route 2	Name of second IP route.
Details Tab	
Port	Local port number of link interface on the Cisco PGW 2200 Softswitch host.
Peer Port	Port number of the link interface on the remote device.
Network Mask Address 1	Network mask (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
Next Hop Address 1	Next hop (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
Network Mask Address 2	Network mask (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
Next Hop Address 2	Next hop (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
SIP Path Properties Dialog Box	
MML Name	Name of the component
Description	Description of the MML component.
MDO	Message definition object file protocol name.
Admin State	Administrative state of the component.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
SS7 Path Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
Customer Group ID	ID of the customer associated with the selected trunk group.
Customer Group Table	Customer group table.
ASP Part	Auxiliary signaling path.
MDO	Message definition object file protocol name.
Side	Q.931 call model side.
OPC	Originating point code.
DPC	Destination point code.
M3UAKey	MML name of M3UAKEY.
Details Tab	
Admin State	Administrative state of the component.
Destination State	Point-code state.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
SS7 Signaling Gateway Path Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
Customer Group ID	ID of the customer associated with the selected trunk group.
Customer Group Table	Customer group table.
ASP Part	Auxiliary signaling path.
MDO	Message definition object file protocol name.

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
Side	Q.931 call model side.
OPC	Originating point code.
DPC	Destination point code.
Details Tab	
Admin State	Administrative state of the component.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
Destination State	Point-code state.
TCAP Path Property Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node.
Label Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Call Limit	Max number of calls allowed on this location label. 0–n. Integer value 0 (default).
AXL Server Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
First IP Address	First local address.
Second IP Address	Second local address.
Port	Local SCTP port number.
First Peer Address	The highest priority destination address.
Peer Port	Destination SCTP port number.
IP Route 1	MML name of the first IP route.
IP Route 2	MML name of the second IP route.
CTI Path	CTI Sig Path component.
Version	The version of CTI Path supported by Cisco PGW 2200 Softswitch.
CTI Path Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	MML name of a previously configured external node for this CTI path.
CTI Manager Properties Dialog Box	
MML Name	Name of the component.

Table 8-6 Properties of Signaling Path Components (continued)

Property	Description
Description	Description of the MML component.
First IP Address	First local address.
Second IP Address	Second local address.
Port	Local SCTP port number.
First Peer Address	The highest priority destination address.
Peer Port	MML name of the first IP route.
IP Route 1	MML name of the first IP route.
IP Route 2	MML name of the second IP route.
CTI Path	CTI Sig Path component configured for this CTI Manager.
Version	The version of CTI Manager supported by Cisco PGW 2200 Softswitch.
H248 Path Properties Dialog Box (Added in Release 2.7(3) Patch 2)	
MML Name	Name of the component
Description	Description of the MML component
External Node	External node.

Table 8-7 Properties of Signaling Link Components

Field Name	Description
C7 IP Link Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
IP Address	IP address.
Interface	Ethernet interface to which the link connects.
Priority	Priority of the route.
Timeslot	Time slot used by the link.
Details Tab	
Port	Local port number of the link interface on the Cisco PGW 2200 Softswitch host.
Peer Address	Remote IP address of link address.
SLC	SS7 signaling link code.
Signal Channel State	State of the signaling channel.
Network Mask	Network mask.
Next Hop	Next hop.
D Channel Properties Dialog Box	
MML Name	Name of the component.

Table 8-7 Properties of Signaling Link Components (continued)

Field Name	Description
Description	Description of the MML component.
Service	Signaling service.
Status	Operational status of the D-channel.
Priority	Priority of the route.
Signal Slot	Physical slot on the gateway into which the T1/E1 is plugged.
Signal Port	Physical port on the gateway.
Session Set	Session set of backhaul link to the gateway.
TCP Link	Name of an existing TCP Link.
Sub Unit	Only for BRI D-Channel. Integer 0 or 1.
IP Link Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
IP Address	IP address.
Interface	Ethernet interface to which the link connects (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
Service	Signaling service.
Priority	Priority of the route.
Port	Local port number of link interface on the Cisco PGW 2200 Softswitch host.
Peer Port	Port number of the link interface on remote device.
Signal Slot	Physical slot on the gateway into which the T1/E1 is plugged.
Signal Port	Physical port on the gateway.
Signal Channel State	State of the signaling channel.
Network Mask	Network mask (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
Next Hop	Next hop (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
IP Route	IP route's MML name.
State	State of the IP route.
IP Route Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
IP Address	Local IP address.
Destination	Destination hostname or IP address.
IP Route State	IP route state.
Priority	Priority of the route.
Network Mask	Subnet mask of destination (optional).

Table 8-7 Properties of Signaling Link Components (continued)

Field Name	Description
Next Hop	Next hop router IP address.
Link Set Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Protocol Family	Protocol used by the component.
APC	Adjacent point code for an STP.
Linkset Type	Type of transport for this linkset.
Linkset State	Service state of the link.
SIP Link Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
IP Address	IP address.
Interface	Ethernet interface to which the link connects (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
Priority	Priority of the route.
Details Tab	
Service	Type of signaling service.
Port	Local port number of the link interface on the Cisco PGW 2200 Softswitch host.
Signal Channel State	State of the signaling channel.
Network Mask	Network mask (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
Next Hop	Next hop (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
SS7 Signaling Gateway IP Link Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
IP Address	IP address.
Peer Address	IP address of the remote peer.
Peer Port	Port number of the link interface on the remote device.
Interface	Ethernet interface to which the link connects (not supported after Cisco PGW 2200 Softswitch Release 9.3(2)).
Priority	Priority of the route.
SLC	SS7 Signaling Link Code.
Signal Channel State	State of the signaling channel.
TDM Link Properties Dialog Box	

Table 8-7 Properties of Signaling Link Components (continued)

Field Name	Description
MML Name	Name of the component.
Description	Description of the MML component.
Interface	Ethernet interface to which the link connects.
Priority	Priority of the route.
Timeslot	Time slot used by the link.
Service	Type of signaling service.
SLC	SS7 signaling link code.
TCP Link Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
IP Address	IP address.
Type	Signaling Type. BRI.
Port	Local port number of link interface on the Cisco PGW 2200 Softswitch host.
IP Route	IP route's MML name.
External Node	External node.
Peer Port	Port number of the link interface on remote device.
Peer Address	Peer IP address.
Signal Channel State	State of the signaling channel.

Table 8-8 Properties of Signaling Point Code Components

Field Name	Description
APC Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Network Address	SS7 network address in dotted notation.
Network Indicator	Indicator assigned by the network administrator.
OPC	Originating point code.
DPC	Destination point code.
Route Set State	State of the point code.
DPC Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
Network Address	SS7 network address in dotted notation.
Network Indicator	Indicator assigned by the network administrator.

Table 8-8 Properties of Signaling Point Code Components (continued)

Field Name	Description
OPC	Originating point code.
DPC	Destination point code.
Details Tab	
Admin State	Administrative state of the component.
Route Set State	State of the point code.
Destination State	Point-code state.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
OPC Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Network Address	SS7 network address in dotted notation.
Network Indicator	Indicator assigned by the network administrator.
OPC Type	Originating point code type.

Table 8-9 Properties of Signaling External Node Components

Field Name	Description
External Node Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Extnode Type	Type of the external node.
Admin State	Administrative state of the component.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
M3UA/SUA Group Number	M3UA/SUA group number.
ISDN Signaling Type	ISDN signaling type (optional).
SGP Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
External Node	External node's MML name.
SGP State	State of the Signaling Gateway Process.

Table 8-10 Properties of Signaling Interface Components

Field Name	Description
Card Interface Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Card Type	Type of card or adapter.
Slot	Location of card or adapter within host device.
Ethernet Interface Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Card	Card that supports the interface.
TDM Interface Properties Dialog Box	
General Tab	
MML Name	Name of the component.
Description	Description of the MML component.
Card	Card that supports the interface.
Signal Type	Signal type.
Coding	Line coding.
Format	Interface format.
Details Tab	
Line Interface Number	Line interface number.
Resistance	Resistance.
Data Rate	Data rate.
Clock	Clock.
HDLC	High-level data link control.
DTE/DCE	Data terminal equipment/Data communications equipment.

Table 8-11 Properties of Signaling SS7 Components

Field Name	Description
SS7 Route Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Link Set	Link set that leads to destination device.
Priority	Priority of the route.
OPC	Originating point code.
DPC	Destination point code.
SS7 Subsystem Properties Dialog Box	

Table 8-11 Properties of Signaling SS7 Components (continued)

Field Name	Description
MML Name	Name of the component.
Description	Description of the MML component.
Subsystem Number	Subsystem number.
Priority	Priority of the route.
Service	Type of signaling service.
Protocol Family	Protocol used by the component.
Transport Protocol	Transport protocol.
Mated APC	Adjacent point code for an STP mate.
STP/SCP Index	STP/Service control point index.
SuaKey	MML name of SUAKEY.
Local Subsystem Number	Local subsystem number (beginning in Release 9.5(2), used instead of Subsystem number).
Remote Subsystem Number	Remote subsystem number.
OPC	Origination point code.
SS7 Signaling Gateway Subsystem Properties Dialog Box	
MML Name	Name of the component.
Description	Description of the MML component.
Subsystem Number	Subsystem number.
Priority	Priority of the route.
Protocol Family	Protocol used by the component.
OPC	Originating point code.
APC	Adjacent point code for an STP.
STP/SCP Index	STP/Service control point index.

Table 8-12 Properties of Signaling M3UA/SUA Components

Field Name	Description
M3UA Key Properties Dialog Box	
MML Name	Routing key name. An alphanumeric string up to 20 characters.
Description	Description of the MML component, up to 128 characters.
Service Indicator	(Optional) Service indicator: ISUP,TUP,N/A. Default: N/A.
Routing Context	Routing context value. Any integer except 0. Default: 0.
DPC	(Optional) Destination point code.
Network Appearance	(Optional) Network appearance. 0–32767. 0 indicates an invalid network appearance. Default: 0.
OPC	(Required) Originating point code.

Table 8-12 Properties of Signaling M3UA/SUA Components (continued)

Field Name	Description
M3UA Route Properties Dialog Box	
MML Name	M3UA route name. An alphanumeric string up to 20 characters.
Description	Description of the MML component, up to 128 characters.
DPC	MML name of previously defined destination point code.
Pri	Priority.
External Node	MML name of a previously configured external node.
OPC	MML name of a previously configured origination point code.
SUA Key Properties Dialog Box	
MML Name	Routing key name. An alphanumeric string up to 20 characters.
Description	Description of the MML component, up to 128 characters.
OPC	(Required) Origination point code.
APC	(Optional) Adjacent point code.
Local SSN	Local subsystem number.
Routing Context	Routing context value, any integer except 0. Default: 0.
Network Appearance	(Optional) Network appearance. 0–32767. 0 indicates an invalid network appearance. Default: 0.
SUA Route Properties Dialog Box	
MML Name	SUA route name. An alphanumeric string up to 20 characters.
Description	Description of the MML component, up to 128 characters.
APC	MML name of previously defined adjacent point code.
External Node	MML name of a previously configured external node.
Remote SSN	Remote subsystem number (destination).
OPC	MML name of a previously configured origination point code.

Table 8-13 Properties of IPInMapping Components

Field Name	Description
IpInMapping Properties Dialog Box	
MML Name	MML name of this IpInMapping.
Description	Description of the MML component.
Sigsvc	Signaling services in which this IpInMapping is applied, SIP sigpath or EISUP sigpath.
Allowed IP Address	Allowed IP address. Host name or IP address with format x.x.x.x, where x is 0–255.
Allowed IP NetMask	Allowed net mask. The format is x.x.x.x, where x is 0–255. The default is 255.255.255.255.

Table 8-13 Properties of IPInMapping Components

Field Name	Description
Port	Allowed SIP Port. Effective only for SIP sigpath.
Trunk Group Number	Trunk group number using the signaling services specified in Sigsvc (SIP or EISUP).

Viewing Trunk Group Component Properties

You can view the properties of trunk group components of a Cisco PGW 2200 Softswitch node such as

- Configuration
- Status
- SIP attributes (Cisco PGW 2200 Softswitch Release 9 and later)

Use the following procedure to view trunk group component properties:

Step 1 In the Map Viewer window, do one of the following:

- To view information for all trunk group components, right-click the Trunking folder, and choose **Trunk Group Properties**.
- To view information for a particular trunk group component, under the Trunking folder, right-click the desired component and choose **Trunk Group Properties**.

  The dialog box displays information on the selected component's properties. See the "About the Trunk Group Properties Dialog Box" section on page 8-47 for details.

Step 2 (Optional) In the Properties dialog box, you can use the toolbar buttons or menu options to

- Print the information on the current tab.
- Close the dialog box.
- Toggle dynamic update mode off and on.
- Refresh the window to update the information when dynamic update mode is off.
- Acknowledge that you have seen dynamically updated changes.

About the Trunk Group Properties Dialog Box

The Properties dialog box for trunk group components contains a toolbar and the fields described in Table 8-14. By default, the Properties dialog box is dynamically updated as device information changes. You can use toolbar buttons to turn updating on or off, acknowledge that you have seen updated information, and check for changes as desired when dynamic updating is off.

See the "Common Functionality in Properties Dialog Boxes" section on page 8-9 for more on dialog box functionality.

Note The trunk group properties you see and the tabs where they are located depend on the release of the Cisco PGW 2200 Softswitch software you are using.

Table 8-14 Properties of Trunk Group Components

Field Name	Description
General Tab	
Trunk Group Number	Unique number (up to seven digits) assigned to each trunk group that is used by route analysis. (The string "tg-" is prepended to this number to create the MML name of the trunk group used in components.dat yielding an MML name of no more than 10 characters.)
Trunk Type	Identified the trunk transmission media.
Customer Group ID	ID of the customer group associated with the selected trunk group.
Priority	Priority of the route.
Select Sequence	Selection sequence.
Service	Type of signaling service.
Queuable	Indicates whether the trunk group can queue calls.
Package Type	CAS trunk group package.
Glare	Call collision handling.
Default Presentation Number NOA	Sets the default for Presentation Number NOA value.
Default Presentation Number NPI	Sets the default for Presentation Number NPI value.
Default PN	Enables the incoming trunk group to have a default presentation number if the incoming call does not have one; overdecadic digits are supported.
Maximum ACL	Maximum congestion level.
Number Plan Area	The numbering plan area (NPA) code associated with the incoming trunk group.
Carrier ID	The carrier ID to which users on this trunk group are associated.
Orig. Carrier ID	Carrier ID digit string.
CLLI	Common language location identifier.
Carrier Screening	Whether to apply carrier selection and screening on the call.
Notify Setup Complete	Whether to send notification when call setup completes.
Send Address to CGPN	Determines if CLI digits should be sent in outgoing CgPN parameter. Value is 0 (False) for don't include address digits in CgPN param or 1 (True) for including address digits in CgPN param; default is 1.
CGPN Presentation Restricted	Determines if incoming Presentation Indication should be overridden. Value is 0 (False) for leave as-is or 1 (True) for set to presentation restricted; default is 0.
Enable IP Screening	Enables the incoming trunk group to select dial plan based on IP address, source ID and CLI prefix tables.
Default PN Presentation Indicator	Sets default Presentation Number Presentation Indicator value.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
O Min Digits	Added in Release 2.7(3) Patch 3. This property specifies the minimum number of digits to receive for overlap digit processing for call origination from this traffic path (integer, from 0 to 32). Default value: 0.
O Max Digits	Added in Release 2.7(3) Patch 3. This property specifies the maximum number of digits to receive for overlap digit processing for call origination from this traffic path (integer, from 1 to 32). Default value: 24.
O Overlap	Added in Release 2.7(3) Patch 3. This property indicates whether overlap signaling for call origination from this traffic path is enabled (1=enabled, 0=not enabled). Default value: 0.
Overlap Digit Time	Added in Release 2.7(3) Patch 3. This property specifies the waiting period for the rest of the digits (integer, from 0 to 60). Default value: 6.
T Max Digits	Added in Release 2.7(3) Patch 3. This property specifies the maximum number of digits to receive for overlap digit processing for call termination to this traffic path (integer, from 1 to 32). Default value: 24.
T Min Digits	Added in Release 2.7(3) Patch 3. This property specifies the minimum number of digits to receive for overlap digit processing for call termination to this traffic path (integer, from 0 to 32). Default value: 0.
T Overlap	Added in Release 2.7(3) Patch 3. This property indicates whether overlap signaling for call termination to this traffic path is enabled (1=enabled, 0 = not enabled). Default value: 0.
Configuration Tab	
Fax/Modem Tone	Specifies if notification of the fax/modem tone from the Cisco PGW 2200 Softswitch is desired. Values are 0 (no) and 1 (yes).
Screen Fail Action	Indicates if an action is to be performed when a screening failure occurs. Values and 0 (no) and 1 (yes).
Ring-No-Answer	Time (in seconds) during which ringing can occur.
AOC Enabled	Whether advice of charge handling should be applied to this call. Values: 0 (no) and 1 (yes).
Echo Cancel	Whether echo cancellation is required. Values and 0 (no) and 1 (yes).
ACC Control	ACC control procedure flag.
D Channel Status	Host controller-MIB accRespCatName.
External COT	External continuity test indicator.
Support 183 Response Code	Flag indicating support of 183 response code.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
Customer VPN ID	Assigns a VPN ID to a trunk group or system. Valid values: 1 through 8 numeric character string. Default value: 00000000.
VPN On-Net Table Number	Assigns a VPN ON NET profile table index for a particular trunk group.
VPN Off-Net Table Number	Assigns a VPN OFF NET profile table index for a particular trunk group.
Populate SDP Info in CDR	Enables extraction of information from SDP. 1 enables, 0 disables. Default 0.
Support 100 Response Code	Flag indicating support of 100 response code.
ACL Duration	Duration (in seconds) that ACL remains in effect.
Satellite	Indicates if the trunk group is going over a satellite. Values are 0 (no) and 1 (yes).
Call Orig. Index	Starting number analysis digit index for call origination.
Call Term. Index	Starting number analysis digit index for call termination.
Transparency Disabled	Indicates if ISDN User Part (ISUP) transparency is disabled. Values: 0 (no) and 1 (yes).
COT Percentage	Statistical continuity test percentage.
Compression Type	The G.711 compression type used on the trunk.
From	The display name of the calling party.
Call Forward Reroute Disabled	Disables Call Forward rerouting for all calls. Range 0–1. Default: 0.
Feature Transparency Disabled	Disables Feature Transparency for all calls. Range 0–1. Default: 0.
OD 32 Digit Support	Indicates whether overdecadic and 32 digits are supported for ANSI, Q721, Q761, and Q767 protocol variants. Values are 0 (no) and 1 (yes). Default: 0.
RejectOfferForResourcePending	Added in Release 2.7(3) Patch 4. Enable the Cisco PGW 2200 Softswitch to either reject or buffer new offer when resource is temporarily unavailable.
Status Tab	
Admin State	Administrative state of the component.
Locked	Number of bearer channels in LOCKED state.
Unlocked	Number of bearer channels in UNLOCKED state.
Shutdown	Number of bearer channels in SHUTDOWN state.
SIP Tab	
Local Port	UDP port for SIP communication.
VSC SIP Version	Supported SIP version.
VSC Domain	Cisco PGW 2200 Softswitch domain name in SIP messages.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
Max Redirection	The maximum number of SIP message redirects allowed.
Max SIP Forward	The maximum number of SIP forwards allowed.
T1 Timer	T1 timer (in milliseconds) for SIP messages other than INVITE messages.
INVITE Timer	T1 timer for INVITE messages.
Invite Attempts	The transmission times for INVITE requests. Valid values are 1–15. Default: 7.
Non Invite Req Attempts	The transmission times for Non-INVITE requests. Valid values are 1–15. Default, 11.
Response Attempts	The transmission times for response. Valid values are 1–15. Default: 11.
Retrans Method	The re-transmission method. 1—exponential. 2—linear. Default: 1.
Invite Wait Timer	The timer (in milliseconds) of waiting for final response of INVITE request. Valid values are 10000–500000. Default: 200000.
Orig. Session Timer	The maximum session time (in milliseconds) for a SIP call originated by the Cisco PGW 2200 Softswitch.
Hold Timer	Maximum hold time for a SIP call.
MIN Event Subscribe Duration	Minimum duration for which an event can be subscribed, in millisecond. Range: 40–3600 ms.
MAX Subscription Duration	Maximum duration for which the subscription can exist before it needs a resubscription, in millisecond. Range: 0–3600 ms.
ISUP Trans Early Backward Disabled	Disable sending the early backward message–183 session progress without the SDP MIME body. 0—Enable, 1—Disable. Default: 1.
SIP MIME Body Support	Determines SIP-T and SIP-GTD related special processing of data (used by SS7 and SIP trunk groups). 0—None, 1—SIP-T supported, 2—SIP-GTD supported. Default: 0.
MGC SIP Version	The version of SIP protocol supported by Cisco PGW 2200 Softswitch. Maps to trunk group property MGCSipVersion. Any valid SIP version. Default: SIP2.0.
MGC Domain	Cisco PGW 2200 Softswitch's domain name used in SIP messages. Maps to trunk group property MGCDomain. Any valid domain name or NULL string.
Max SIP Forward	The maximum number of SIP forward allowed. Maps to trunk group property MaxForwards. Any value > 0, default 10.
T2 Timer	T2 timer (in milliseconds) for SIP messages other than INVITE messages.
EXPIRE Timer	Timer value (in milliseconds) in the EXPIRE header of SIP messages.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
Term. Session Timer	The maximum session time (in milliseconds) for a SIP call terminated by the Cisco PGW 2200 Softswitch.
Retry Timer	The time (in milliseconds) that Cisco PGW 2200 Softswitch waits before retrying SIP calls.
GTD Cap Type	Used as a pointer to the subset of GTD configuration parameters. Values: 0 - No GTD parameter string. Any other string - points to entry in gtdParam.dat file. Default: 0.
Subscribe Notify Support	Enables or disables Unsolicited Notify method for solicited notification of SIP DTMF digits.
GTD Message Format	Selects GTD message format. C - Compact mode, V - verbose mode. Default C.
Unsolicited Notify Method	Enables or disables Subscribe/Notify method for solicited notification of SIP DTMF digits.
SIP IP Source	Tells MDL to use IP packet source address or IP address from SDP in INVITE message to do dial plan selection for SIP calls.
SIP Egress Routing Control	Added in Release 2.7(3) Patch 2. The preferred SIP header used for the initial routing decisions during sending of the Initial INVITE
SIP-II Tab	
SIP Ingress Routing Control	Added in Release 2.7(3) Patch 2. The preferred SIP header used for the initial routing decisions (Initial INVITE)
Respect SIP URI User Parm	Added in Release 2.7(3) Patch 2. Determines whether or not respect user=phone in p-asserted-id and remote-party-id header. Values: 0 (no) or 1 (yes)
Map CLI to SIP Header	Added in Release 2.7(3) Patch 2. Determines the mapping rule from calling line identity to SIP Headers. Values: 0,1,2,3,4
Sip Dtmf Content Type	Added in Release 2.7(3) Patch 4. Determines the Content-Type header and the SDP content of INFO requests Cisco PGW 2200 Softswitch sends. Valid values: • 0—Sets the Content-Type header to audio/telephone-event • 1—Sets the Content-Type header to application/dtmf-relay Default value: 0
Refer Redirecting Indicator	Added in Release 2.7(3) Patch 4. Redirecting indicator of Redirection Information in ITU SS7 REL message for blind transfer by SIP REFER. Value range: 0–6.
Refer Redirecting NOA	Added in Release 2.7(3) Patch 4. NOA value of redirection number in ITU SS7 REL message for blind transfer by sip REFER. Use internal NOA value. Value range: 1–5.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
Profile Tab	
Originating Line Information	Default originating line information.
Carrier Network ID	Default carrier identifier network identifier.
Carrier Network Type	Default carrier identifier national network type.
Carrier Network ID Plan	Default carrier network national network identifier plan.
Charge Number	Default charge number.
Charge Number NOA	Default charge number nature of address.
Charge Number NPI	Default charge number plan identification.
Charge Origin	Specifies the charge origin. It is up to the network engineer to decide what value of charge origin will be used. Value is 0 to 9999; default is 0.
Directory Number Presentation	Default directory presentation indicator.
Directory Number Screening	Default directory screening indicator.
Directory Number	Default directory number.
Directory Number NOA	Default directory number nature of address.
Directory Number NPI	Default directory number plan identification.
H.323 Tab	
Gateway Ring Back Tone	Indicates if the gateway ring back tone application is supported within the gateway that hosts the trunk group and the connection method that is applied.
Wait for Answer Timer	Duration, in seconds, that the Cisco PGW 2200 Softswitch waits to receive the Answer message after instructing the MGW to apply ring back tone.
Wait for Originating SDP Timer	Duration, in seconds, that the Cisco PGW 2200 Softswitch waits for the originating SDP information after transiting the answer message.
Wait for Terminating SDP Time	Duration, in seconds, that the Cisco PGW 2200 Softswitch waits for the terminating SDP information after transiting the answer message.
Allow H.323 Hairpin	Whether to allow the HSI component connected through the EISUP path to make and receive H.323 calls to and from another HSI component.
Fax Support	What fax support, if any, is available on the incoming trunk group.
H.323 Adjunct Link	Identifies an EISUP link that is connected to an H.323 adjunct platform.
H323Destination	HSI 323 Destination.
Characteristics Tab	
A Number National Prefix	National prefix string to be added to the national dialed number when NOA is enabled.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
A Number International Prefix	International prefix string to be added to the international dialed number when NOA is enabled.
B Number National Prefix	National prefix string to be added to the national dialed number when NOA is enabled.
B Number International Prefix	International prefix string to be added to the international dialed number when NOA is enabled.
Apply Country Code to A Number	Whether to apply the country code to A numbers.
Apply Country Code to B Number	Whether to apply the country code to B numbers.
Country Code to be Removed	Country code string to be removed.
Country Code to be Prefixed	Country code string to be prepended.
A-number Normalization	(European feature; ingress trunk groups) Indicates that A-number (Calling Party Number) normalization is appropriate based on the NOA value and the leading digits of the A-number. Leading digits 0: Remove 0 and set NOA to NATIONAL. 00: Remove 00 and set NOA to INTERNATIONAL.
B-Number Normalization	(European feature; ingress trunk groups) Indicates that B-number (Called Party Number) normalization is appropriate based on the NOA value and the leading digits of the B-number. Leading digits 0: Remove 0 and set NOA to NATIONAL. 00: Remove 00 and set NOA to INTERNATIONAL.
SCP Credit Expired Timer	Time period before credit expiry that the SCP is notified.
SSF Credit Expired Timer	Time period before credit expiry that the SSF is notified.
Warning Credit Expired Timer	Time period before credit expiry that a warning tone or announcement is played.
Expiry Warning Tone Type	Type of warning tone.
Expiry Warning Tone Duration	Duration of warning tone.
CLI Select	Whether the Dual CLI feature is supported (default is N).
GW Default Codec String	Ordered series of codec choices, separated by semicolons.
AdigitCCrm	A-Number Country Code Digit Remove Property.
DPNSS RO Routing Number Length	Added in Release 2.7(3) Patch 2. For DPNSS - QSIG PR ROO inter-working, the DPNSS RO routing number and call reference are concatenated and in QSIG they are separate fields. An indication of where the divide point is between the fields is an optional parameter in the DPNSS spec. It is therefore necessary to provide a configurable definition of how to split these two fields.
Enable CCBS Path Reservation	Added in Release 2.7(3) Patch 2. Support for the Path Reservation option should be configurable against each QSIG destination. In the case of EISUP, this is valid for HSI destinations only.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
Own Routing Number	Added in Release 2.7(3) Patch 2. To disable/enable RO service handling at point of interconnect. Value: NULL or a numeric string
H248 Gateway Reserve Value	Added in Release 2.7(3) Patch 2. Enable Megaco to send ADD commands with ReserveValue ON or OFF to indicate MG to reverse resource or not. Removed in Release 2.7(3) Patch 5.
Disable QSIG Release Method	Added in Release 2.7(3) Patch 3. This property indicates the QSIG release method. An H.225 signaling connection can be released with a single Release Complete message instead of a three-stage QSIG release sequence.
UseGtdCalledPartyNumber	Added in Release 2.7(3) Patch 5. Enables the Cisco PGW 2200 Softswitch to use embedded calledPartyNumber field of GTD in the invite message instead of URL/number contained in the request line. Values: 0—disable, 1—enable.
More Tab	
GW Default ATM Profile	Provides an initial list of profiles for use in ATM gateway profiles negotiation per trunkgroup. Default “NULL” type=”string” size min=”1” max=”140”.
Play Announcement	Contains announcement id. 0 means the functionality will be considered as switched off at the trunk group level. Default “0” type=”int”.
ATM Connection Type	Populates connection type indicator (ct:) in local connection option parameters. This property is read for both originating and terminating legs of all ATM switched calls. Property Valid Values: 1-->AAL1,2--> AAL1_SDT, 3-->AAL1_UDT, 4-->AAL2, 5-->AAL 3/4, 6-->AAL5. default=”4” type=”int” range min=”1” max=”6”.
B-number Tech Prefix	This property will provide a digit string to be used as a Tech Prefix to the B-number when sending the call forward.type=”string” size min=”1” max=”16”.
Loop Avoidance Support	This property will indicate whether to support Lop Avoidance feature in DPNSS or not. Default 0 not supported, 1 - supported.
Loop Avoidance Counter	Loop Avoidance counter for DPNSS. Min value is 0 and Max 25. default 0.
Country Code to be Removed	Country code string to be removed.
Country Code to be Prefixed	Country code string to be prepended.
MWI String OFF	MWI OFF string as used by DPNSS PBX, Default = NULL.
MWI String ON	MWI ON string as used by DPNSS PBX, Default = NULL.

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
Inhibit Incoming Calling Name Display	This property inhibit the support of incoming calling name display in DPNSS and EISUP(HSI) protocols. “1” = inhibit incoming calling name display. “0” = enable incoming calling name display.
Inhibit Outgoing Calling Name Display	This property inhibit the support of outgoing calling name display in DPNSS and EISUP HSI) protocols. “1” = inhibit outgoing calling name display. “0” = enable outgoing calling name display.
Inhibit Incoming Connected Number Display	This property inhibit the support of the incoming connected name display for call transfer in DPNSS and EISUP (HSI) protocols. “1” = inhibit incoming connected name display. “0” = enable incoming connected name display.
AOC Default Tariff Id	This property is used to configure the default tariff to be applied when AOCInvokeType is configured as “All Calls”. Min = “1”, max = “9999”. Default = “1”.
AOC Invoke Type	This property is used to configure whether the AOC Supplementary services should be applicable for all calls or for per call basis. (“1” = per call, “2” = All calls). Default = “1”.
Mid-Call Check Pointing Interval	A property to allow user to enable/disable mid-call checkpointing and when enabled, it specifies the interval between checkpointing event in the connected state. min = 0, max=60(in minute unit). value zero means disabled.
CLI Selection For Code Of Practice3	A new PGW2200 Trunk Group Property called “CliSelectionForCodeOfPractice3” will be introduced in order to provision “per Trunk Group” which level of CLI selection should be employed when sending the Calling Line Identities (such as Calling Party Number or Generic Number parameter) to the succeeding exchange. 0 - Indicates no specific CLI selection. 1 - Indicates Single CLI selection 2 - Indicates Dual (double) CLI selection Property Valid Values: 0 to 2 Property Default Value: 0.
Inhibit Outgoing Connected Name Display	This property inhibit the support of the outgoing connected name display for call transfer in DPNSS and EISUP (HSI) protocols. “1” = inhibit outgoing connected name display. “0” = enable outgoing connected name display.
Dtmf Cap	The DTMF capability in A-number or B-number analysis.
Inhibit Outgoing Connected Number Display	This property inhibit the support of the outgoing connected number display for call transfer in DPNSS and EISUP (HSI) protocols. “1” = inhibit outgoing connected number display. “0” = enable outgoing connected number display.
Inhibit Sip From Mapping	Added in Release 2.7(3) Patch 2. Decides the mapping from incoming SIP message to ISUP CLI
ITP Action Request	Added in Release 2.7(3) Patch 2. The indication of the required ITP action

Table 8-14 Properties of Trunk Group Components (continued)

Field Name	Description
Map Redirecting Number Method	Added in Release 2.7(3) Patch 2. Decides the mapping from ISUP Redirecting Number and Original Called Number to outgoing SIP/EISUP message
Mid-Call Service Customer ID	Added in Release 2.7(3) Patch 2. Customer ID associated with mid-call service. Values are any alphanumeric with length of 4.
Default	Added in Release 2.7(3) Patch 3. Default trunk group of SIP/EISUP PATH for incoming call
IsdnNSF	Added in Release 2.7(3) Patch 5. Indicates Network Specific Facilities parameter for ISDN PRI. Value range: 0–256.
MidCallCodecSelect	Added in Release 2.7(3) Patch 5. Enables codec selection on SIP Re-Invite message. Values: 0—disable, 1—enable.

Using Diagnostic Tools

When you need to troubleshoot Cisco PGW 2200 Softswitch node devices, you can use the Diagnostics dialog box to access a variety of diagnostic tools. The Diagnostics dialog box provides shortcuts for common diagnostics that normally require the use of UNIX or MML commands. For example, you can use the ping command to determine why a device is not responding. It might be because of an SNMP agent failure or because of a true network connectivity failure.

After the command is run, the results in the Action Result window displays. If the diagnostic command generates more information than can be shown in the Action Result window, the results are written to a file and the name of that file displays. The file can be retrieved and analyzed by external systems.

Note Many diagnostic commands are time consuming to run. Take this into account when planning your use of diagnostic tools.

Related Topics

The "Using Cisco MNM to Launch Device Configuration" section on page 8-5 describes how to use various configuration and diagnostic tools such as Cisco VSPT, CiscoView, and launching Telnet (or ssh) or X-windows to a device.

The "Using the MGC Toolbar" section on page 8-60 describes how to use the MGC Toolbar, a diagnostic component of the Cisco PGW 2200 Softswitch software.

Use the following procedure to run diagnostics on a Cisco PGW 2200 Softswitch node device:

Step 1 In the Map Viewer window, right-click a device and choose **[Device Name] Diagnostics** or **Tools > [Device Name] Diagnostics**.

The Diagnostics dialog box for the selected device opens.

Note Alternatively, if you have an Accounts, Properties, States, or File Systems dialog box open for the device, you can use the dialog box Navigation menu to open the Diagnostics dialog box.

Step 2 Select a diagnostic option. For details, see the "About the Diagnostics Dialog Box" section on page 8-58.

You are asked to confirm the operation.

Step 3 Click **Yes** to confirm or **No** if you decide not to continue.

If you click **Yes**, An Action Report box displays containing the results of the diagnostic operation or the name of the file to which the results have been saved.

Step 4 Review the results, and then click **Close** to close the Action Report box.

About the Diagnostics Dialog Box

The Diagnostics dialog box lets you run common UNIX and MML diagnostic commands from Cisco MNM without knowing any UNIX or MML or having to launch an X window to connect to the device.

For the Cisco PGW 2200 Softswitch host and the Cisco HSI host, the dialog box contains two tabs: the Diagnostics tab and the Advanced tab. The Advanced tab provides status check functions. For all other devices, the dialog box contains the Diagnostics option only.

The Diagnostics dialog box includes a Navigation menu that allows you to navigate directly to Properties, Accounts, File Systems (where applicable), or States dialog boxes for the selected component, without having to reselect the component in the Map Viewer. See the "Navigating Between Dialog Boxes for a Given Component" on page 32 for details.

Table 8-15 describes the diagnostic tools available from the General tab of the Diagnostics dialog box. Table 8-16 describes the tools available for the Cisco PGW 2200 Softswitch host from its Diagnostics dialog box Advanced tab. Table 8-17 describes the tools available for the HSI host from its Diagnostics dialog box Advanced tab.

Table 8-15 Diagnostic Tools in the Diagnostics Dialog Box General Tab

Diagnostic Tool	Command	Available Devices	Description
IP Ping	—	Cisco PGW 2200 Softswitch host, BAMS, Cisco ITP-L, Cisco LAN Switch	Performs standard UNIX ping application on the device to check if its management interface is reachable
SNMP Ping	—	All IP devices	Makes an SNMP request to the device to determine if its SNMP agent is running and accessible
Traceroute	—	All IP devices	Determines the route that packets take from Cisco MNM to the device's management interface
Alarm Log	rtrv-alms	Cisco PGW 2200 Softswitch host, HSI server, and BAMS	Displays and saves current alarm log information
Process Status	rtrv-softw:all	Cisco PGW 2200 Softswitch host, HSI server, and BAMS	Displays and saves current status of all device processes

Table 8-15 Diagnostic Tools in the Diagnostics Dialog Box General Tab (continued)

Diagnostic Tool	Command	Available Devices	Description
System Log	RTRV-FILES:: /acec/files/syslog	BAMS	Displays the BAMS system log
Cross-Device Audit	prov-rtrv:trunkgrp	BAMS	Compares BAMS trunk groups to the Cisco PGW 2200 Softswitch host configuration, producing a list of discrepancies, if any

Table 8-16 Options in the MGC Host Diagnostics Dialog Box Advanced Tab

Option	MML Command[1]	Description
1	rtrv-admin-state	Retrieves the administrative state for all (applicable) components
2	rtrv-dest	Retrieves state information for all DPCs[2] and signaling paths
3	rtrv-lnk-ctr	Retrieves the service state of all linksets
4	rtrv-lssn	Retrieves the state of all local SSNs
5	rtrv-ne-health	Retrieves CPU occupancy and disk utilization
6	rtrv-rssn	Retrieves the state of all remote SSNs[3]
7	rtrv-rte	Retrieves the SS7 routes for all point codes
8	rtrv-sc	Retrieves the state of all signaling channels and linksets
9	rtrv-tc	Retrieves the state of bearers for all signaling paths
10	rtv-association	Retrieves the state of all associations
11	rtrv-dest:all	Retrieves the state of all DPNSS paths
12	rtrv-lics	Retrieves the license status
13	rtrv-h248:cntxs:sigpath=”all”,cntxid=”all”	Added in Release 2.7(3) Patch 2. Retrieves all the H.248 context information
14	rtrv-ovld	Added in Release 2.7(3) Patch 2. Retrieves information on overload level and number of messages in a queue
15	rtrv-loclabel	Added in Release 2.7(3) Patch 2. Retrieves location label information

1. The MML command invoked by the Status Check options, which runs in the background.
2. Destination point codes.
3. Subsystem numbers.

Table 8-17 Options in the HSI Host Diagnostics Dialog Box Advanced Tab

Option	Description
Configuration	Displays current configuration of the HSI host using the rtrv-config command
HSI Link Status	Displays current status of the IP/EISUP links

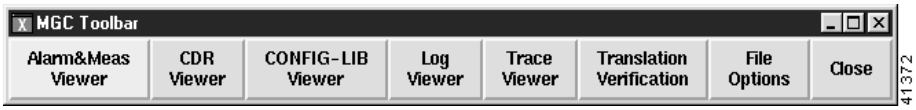
Table 8-17 Options in the HSI Host Diagnostics Dialog Box Advanced Tab (continued)

Option	Description
HSI Host Status	Displays current status of the HSI host
HSI License Status	Added in Release 2.7(3) Patch 2. Display current status of the license

Using the MGC Toolbar

From Cisco MNM, you can access the MGC toolbar (see Figure 8-2), a standalone diagnostic component of the Cisco PGW 2200 Softswitch software. The toolbar contains a suite of tools for viewing diagnostic and troubleshooting information.

Figure 8-2 MGC Toolbar



From the MGC Toolbar you can access these viewers:

- Alarm and Measurement Viewer—Search and view alarms and system statistics
- Call Detail Record (CDR) Viewer—Search and view CDRs
- CONFIG-LIB Viewer—Manage the contents of the configuration library
- Log Viewer—Search and view system logs
- Trace Viewer—View and navigate through call trace output

- Translation Verification—View called number analysis results
- File Options—A tool to manage these toolkit files

Instructions for using the toolbar are provided in Chapter 3 of the *Cisco Media Gateway Controller Software Release 9 Operations, Maintenance, and Troubleshooting Guide* at

http://www.cisco.com/en/US/docs/voice_ip_comm/pgw/9/maintenance/guide/omtguide.html