Introduction

This chapter describes Cisco Media Gateway Manager, and gives a basic sequence of tasks to get started. It contains the following sections:

1.1 What Is Cisco Media Gateway Manager?

Cisco Media Gateway Manager (Cisco MGM) is the element management system for the Cisco MGX 8880 Media Gateway and voice enabled Cisco MGX 8850 Multiservice Switch for voice solutions based on VoIP technologies. Cisco MGM supports fault, configuration, performance, and security management functional areas. Cisco MGM also serves as a foundation for integration into a larger overall operations support system (OSS) environment by providing northbound gateway interfaces to higher layer management systems.

Cisco MGM 5.0 includes the following components:

- Cisco MGM 5.0
- Cisco MGM CORBA/GateWay
- Cisco MGM High Availability

Cisco MGM GateWay is an architectural component that provides EMS-to-network management system (NMS) interface mediation. Cisco MGM GateWay enables service providers to integrate Cisco MGM with their Operations Support Systems (OSSs) by using open, standard TMF interfaces. Cisco MGM offers Common Object Request Broker Architecture (CORBA) interface options for alarm forwarding.

The Cisco MGM high availability solution provides automatic failover for specific software and single hardware failures without the need to reconfigure IP addresses on your switched/router network.

Note In Cisco MGM, the GateWay/CORBA and high availability functionalities are sold separately.

1.2 What Are the NE Modules Supported by Cisco MGM?

Table 1-1 lists the modules in the MGX8880 chassis and the MGX8850 chassis that can be managed by the element management functions provided by Cisco MGM Release 5.0.

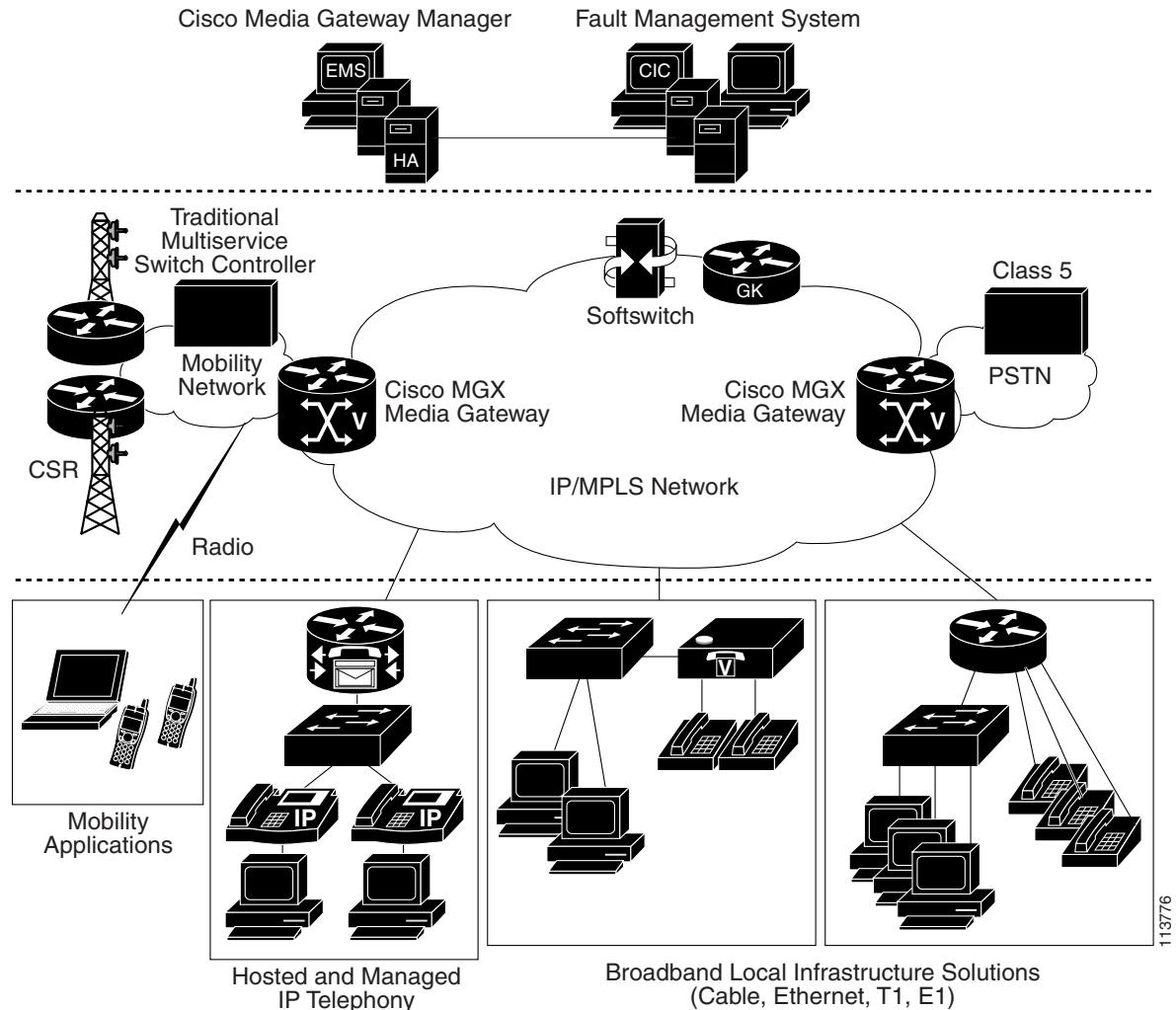*Table 1-1   MGX8880 and MGX8850 Modules and Cards*

Module	Front Card	Back Card
PXM45	PXM45/B	PXM-UI-S3
		PXM-HD
	PXM45/C	PXM-UI-S3/B
		PXM-HD
RPM-PR	MGX-RPM-PR-256	MGX-RJ45-4E/B
		MGX-RJ45-FE
		MGX-MMF-FE
RPM-XF	MGX-RPM-XF-512	MGX-1OC12POS-IR
		MGX-1GE
		MGX-2GE
		MGX-2OC12POS
AXSM/B	AXSM-16-T3E3/B	SMB-8-T3
		SMB-8-E3
	AXSM-16-155/B	MMF-8-155-MT/B
		SMFIR-8-155-LC/B
		SMFLR-8-155-LC/B
		SMB-4-155
	AXSM-4-622/B	SMFIR-2-622/B
		SMFLR-2-622/B
	AXSM-1-2488/B	SMFSR-1-2488/B
		SMFLR-1-2488/B
AXSME	AXSM-32-T1E1-E	MCC-16-E1
		RBBN-16-T1E1
VXSM	MGX-VXSM-155	VXSM-BC-4-155
	MGX-VXSM-T1E1	VXSM-BC-24T1E1
VXSM redundant backcard		VXSM-R-BC
RCON-1TO5-8850		

Table 1-1   MGX8880 and MGX8850 Modules and Cards (continued)

Module	Front Card	Back Card
VISM-PR	MGX-VISM-PR-8T1	AX-RJ48-8T1
		AX-R-RJ48-8T1
	MGX-VISM-PR-8E1	AX-RJ48-8E1
		AX-R-RJ48-8E1
		AX-SMB-8E1
		AX-R-SMB-8E1
SRME/B	MGX-SRME/B	MGX-SMFIR-1-155
		MGX-STM1-EL-1
		MGX-BNC-3T3-M
SRME	MGX-SRME	MGX-SMFIR-1-155
		MGX-STM1-EL-1

Cisco MGM provides a comprehensive management solution as illustrated in Figure 1-1.

Figure 1-1   *Cisco MGM Comprehensive Management Solution*

Cisco Media Gateway Manager   Fault Management System

1.3 What Are the Key Features of Cisco MGM?

Cisco MGM provides the following key features:

- An intuitive Java-based graphical user interface (GUI) that provides a native "look-and-feel" on both Microsoft Windows and Sun Solaris client platforms

- User-defined domain explorer network views with "bubble-up" alarm severity propagation and drill-down capabilities to isolate fault conditions and service-delivery impact

- Geographic Network Maps and explorer views that reflect the physical layout and configuration of the network

- Alarm Browser and Alarm Log views that provide a listing of all current and historical alarms and events

- A desktop-resident dashboard that provides alarm status for the Cisco MGM user's entire span of control with quick access to the Domain Explorer and the Alarm Browser

- Diagnostic capabilities using the Diagnostic Center

- Real-time network surveillance with configurable popup alarm and event notifications

- Real-time shelf views with full alarm and operational status indicators

- Automated configuration backup with manual restore capabilities, plus remote software download capability across the entire network domain

- GUI-based NE configuration

- Extensive performance monitoring (PM) statistics collected for display or export

- Custom profiles that can be used to grant separate permissions for various Cisco MGM operation

- Comprehensive security management providing flexible user access

- High-availability solution includes seamless client re-connect on switch over, database and disk redundancy, and automatic reconnection to the network elements

- Cisco MGM 5.0 supports northbound integration (based on SNMP) with Cisco Info Center

- Northbound CORBA gateway for fault and inventory management

- Northbound SNMP-based integration with Cisco Info Center

1.4 A Typical Workflow in Cisco MGM

The following sections give brief details of the steps needed to get started with Cisco MGM. More details are available in the other chapters in this User Guide.

A typical workflow in Cisco MGM is:

- 1.4.1 Starting and Stopping the Cisco MGM Server

- 1.4.2 Adding a User

- 1.4.3 Adding a New Group

- 1.4.4 Adding a Network Element

The element management functions of Cisco MGM are divided into the following categories.

- Network elements—Manages the network nodes and their components.

- Fault management—Detects, isolates, corrects, and reports faults for the NE and service.

- Configuration management—Configures and controls NEs, identifies resources, collects information about a resource, and manages intra-chassis connections between NEs.

- Performance management—Gathers and reports the behavior of NEs, network, and services, including quality assurance, monitoring, management control, and analysis.

- Security management—Prevents and detects any improper use of network resources and services as well as recovery from security violations.

- Connections—Manages the connections within the nodes.

By managing network elements with the Configuration Center, you can:

- Configure numerous managed device objects, such as configuration settings, interface status, counter values, and so forth in a Cisco network.

- Display and modify the values for the objects.

- Perform tasks, such as supporting connections, displaying statistics, and setting up controllers and partitions.

Table 1-2 describes the tools you will use to get started:

Table 1-2   Getting Started Tools

Item	Tool	Description
Create a New User		Displays the Create New Cisco Media Gateway Manager User wizard, which allows you to add a new user.
Add a New Group		Displays the New Group dialog box. From here, you can add a new user group, give the group a name, and provide a brief description of the group.
Add Network Element(s)		Displays the Add Network Element(s) wizard, which allows you to add a new network element.

1.4.1 Starting and Stopping the Cisco MGM Server

A complete set of administrative command scripts is added to the application during installation. One command automatically starts the Cisco MGM server processes every time the server is started. The server processes can also be started or stopped manually as necessary; the scripts are located in the /opt/CiscoMGMServer/bin directory.

Note   The default directory /opt/CiscoMGMServer may have been changed during installation of the Cisco MGM server.

The **mgms-start** command sets the appropriate environment variables and starts the Cisco MGM server. The amount of time it takes for the Cisco MGM server to start varies based on the number of network elements (NEs) in the configuration and the size of the database. Use **mgms-start** only when the Cisco MGM server has stopped.

To start the Cisco MGM server:

Step 1   Log into the Cisco MGM server workstation as the root user.

Step 2   On the command line, enter the following:

```
mgms-start
```

Note   Use the **showmgm** command from the CLI to view processes or services that are running in the Cisco MGM server.

The **mgms-stop** command stops the Cisco MGM server. The stop procedure shuts down the server and cleans all memory and connections. The overall process takes less than five minutes.

To stop the Cisco MGM server:

Step 1 Log into the Cisco MGM server workstation as the root user.

Step 2 On the command line, enter the following:

```
mgms-stop
```

1.4.2 Adding a User

When Cisco MGM is installed, the System Administrator must create users, who can then perform tasks such as adding network elements.

To add a new Cisco MGM user, go to the Domain Explorer window and choose **Administration > Cisco MGM Users**. In the Cisco Media Gateway Manager Users window, click the **Create a New User** tool, or choose **Edit > Create**. Follow the prompts to create a new user.

✎
Note You must set the appropriate user privilege for each new user.

1.4.3 Adding a New Group

Groups are a collection of groups or collection of NEs. NEs are often grouped geographically or by domain. Groups can be used to organize the domain into a hierarchy. A Network Map can be opened for a group.

After installing the Cisco MGM server and client, complete the following steps:

Step 1 Log into the Cisco MGM client with the appropriate user access profile.

Step 2 In the Domain Explorer window, click the **Add a New Group** tool, or choose **File > New Group** and add one or more groups to the tree:

   a. Enter a group ID.

   b. Enter a group location.

   c. Enter a group description.

   d. Click **OK**.

1.4.4 Adding a Network Element

To add a network element (NE):

Step 1 In the Domain Explorer window, click the **Add Network Element(s)** tool, or choose **File > Add Network Element(s)**.

Step 2 Enter the requested information.

Change the operational state for the NE to In Service.

Make sure you entered the IP address correctly.

Step 3 Click **Finish**.

Step 4 (Optional) Add more network elements.

> ✎
> **Note**   Wait two to five minutes while the Cisco MGM server completes the node discovery.

Step 5 Check to see if the connectivity state is correct. If Cisco MGM cannot connect to the network element, the network element displays an unavailable connectivity state in the Domain Explorer topology tree. If there is a connectivity problem, try to diagnose the connectivity configuration.