Installation

Cisco MGM is based on Cisco's Element Management Framework (EMF) software, which operates in a distributed environment using a server and clients. This chapter describes the deployment options, software components, hardware requirements, and installation procedures for Cisco MGM, and identifies the Cisco EMF options that are important when you are installing Cisco MGM.
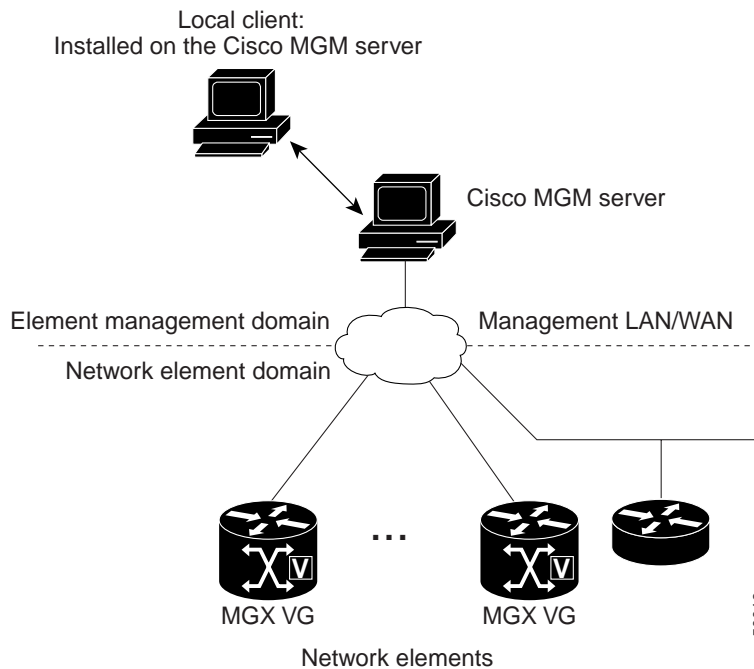
Deployment Options

The following types of deployment are available:

- Server with local client. (See Figure 2-1.) A client can be local or remote. A local client is one that is running on the server itself.

- Server with local and remote clients. (See Figure 2-2.) A remote client is running on a Sun workstation separate from the server.

Server with Local Client

Every deployment includes Cisco EMF erver and Cisco MGM extensions. Processes on the server keep track of the current state of the network, user access, and events. The Cisco EMF clients provide the user interface to the system. When you install a Cisco EMF server, you automatically add a local client. (See Figure 2-1.)

Figure 2-1   Server With Local Client

Local client:
Installed on the Cisco MGM server

Cisco MGM server

Element management domain   Management LAN/WAN

Network element domain

MGX VG   MGX VG

Network elements

Note   You can also log on to the server from a PC running X-window emulation software, such as ReflectionX or Exceed.

Server with Remote Clients

A Cisco EMF deployment can have additional clients installed on separate workstations. (See Figure 2-2.) A client installation retrieves management information from the Cisco EMF server and displays it on the user interface. Using clients that run on separate hosts frees system resources on the server and improves overall performance. You can install client software from a local CD ROM drive; you do not need to mount files across a network.

Figure 2-2   Server with Local and Remote Clients
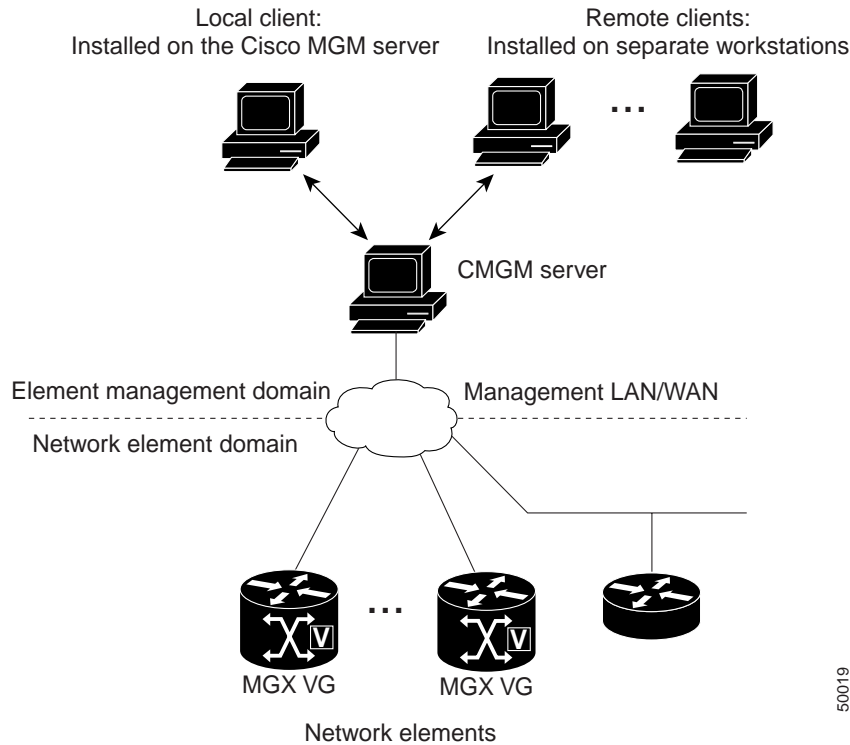
System Requirements

Cisco MGM and MGX 8000 Series hardware and software requirements are listed in the following sections.

Cisco MGM Hardware Requirements

The hardware resources you need for Cisco MGM depend on the number of Cisco MGX 8000 Series gateways and associated MGCs that Cisco MGM will manage. Table 2-1 lists the server and client requirements for small and large Cisco MGM installations.

Table 2-1   Cisco MGM Platform Requirements

| Resource | Cisco MGM Server | | Cisco MGM Client |
	Small Installation	Large Installation	
Workstation	Sun Netra t1400 or Sun Ultra 60	Sun Netra t1400	Sun Ultra 10
Operating system	Solaris 8	Solaris 8	Solaris 8
Memory	2 GB RAM	4 GB RAM	256 MB RAM
Disk space	Two hard disks, each one 18 GB or larger	Four hard disks, each one 18 GB or larger	One hard disk, 9 GB or larger

Table 2-1   Cisco MGM Platform Requirements (continued)

Resource	Cisco MGM Server		Cisco MGM Client
	Small Installation	Large Installation	
Processor	2 x 450 MHz	4 x 440MHz	440 MHz
Swap space	4 GB[1]	8 GB[1]	2 GB
Monitor	17-inch color	17-inch color	17-inch color
Graphics card	24-bit	24-bit	24-bit
Power supply	1	2 (second power supply optional for high availability installations)	1
Miscellaneous Resources	Local or remote CD ROM DAT tape backup	Local or remote CD ROM DAT tape backup	Local or remote CD ROM

1. If CiscoView is running on the same system as Cisco MGM, you will need an additional 1 GB swap space.

Cisco MGM Software Requirements

Cisco MGM 2.0 requires the following software components:

- Cisco EMF Release 3.2 Patch 1.4
- Netscape 4.76 for Solaris (included and automatically installed with Cisco EMF 3.2)
- CiscoView 5.4
- WANCV package release 3.60 (included with Cisco MGM 2.0 package)

Note Solaris patch 108528-14 is required for critical performance improvement. Without installing this patch, Cisco MGM will function. However, installation of 108528-14 will improve Cisco MGM performance by approximately 70 percent.

Cisco MGX 8000 Series Software Requirements

Cisco MGM 2.0 manages Cisco MGX 8000 Series gateways based on the Cisco Processor Switch Module (PXM1). Cisco MGM 2.0 also provides management of VISM, VISM-PR, RPM-PR, SRM, and SRM-E cards. Table 2-2 shows the matrix of card software requirements for Cisco MGM 2.0.

Table 2-2   Cisco MGX 8000 Series Software Requirements for CMGM 2.0

PXM1 Release 1.1.40	VISM Release 2.2 RPM-PR Release 1.2.2
PXM1 Release 1.2.00	VISM Release 2.2 RPM-PR Release 1.2.2
PXM1 Release 1.2.10	VISM Release 3.0 VISM-PR Release 3.0 RPM-PR Release 1.2.2

Media Gateway Controller Software Requirements

Cisco EMF and Cisco MGM provide integrated connection to the management interfaces of the following Media Gateway Controllers (MGCs):

- Cisco BTS 10200 Softswitch
- Tekelec VX*i* Media Gateway Controller (MGC)
- NexVerse ipVerse ControlSwitch

Table 2-3 shows the software requirements for each supported media gateway controller.

Table 2-3   Media Gateway Controller Software Requirements

Cisco BTS 10200	Release 3.1
Tekelec Vxi	Release 4.0
NexVerse ipVerse	Release 5.1

Configuring /etc/hosts Files

Before installing the Cisco MGM 2.0 client software, the /etc/hosts file of the server and client machines must be modified.

Configuring the Server /etc/hosts File

Modify the server /etc/hosts file by adding the IP address and name of the client machine. Following is an example of the server hosts file before and after the modification:

Before:

```
# more /etc/hosts
#
# Internet host table
#
127.0.0.1       localhost
172.29.51.179   cmgm-server     loghost
```

After:

```
# more /etc/hosts
#
# Internet host table
#
127.0.0.1       localhost
172.29.51.179   cmgm-server     loghost
172.29.51.164   cmgm-client
```

Note   If the Cisco MGM server does not have DNS or NIS service, you need to also add the following line to your server /etc/hosts file to access the Cisco MGM online user guide:

```
198.133.219.25   www.cisco.com   www.cisco.com
```

If you do not update the server etc/hosts file, the warning dialog box and error message shown in Figure 2-3 will appear when you attempt to login to Cisco MGM from the client machine:

Figure 2-3   Cisco MGM Login Warning Dialog
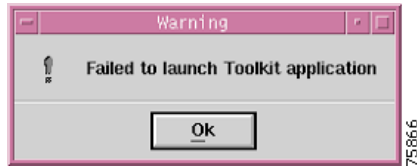
After you modify the /etc/hosts file, enter the following commands to restart the Cisco MGM server:

```
cd /opt/cemf/bin
./cemf shell
./cemf stop
./cemf start
```

Note Wait until Cisco EMF stops before executing the cemf start command.

Configuring the Client /etc/hosts File

Modify the client /etc/hosts file by adding the IP address and name of the server machine. Following is an example of the client hosts file before and after the modification:

Before:

```
CEMF Client> more /etc/hosts
#
# Internet host table
#
127.0.0.1       localhost
172.29.51.164   cmgm-client     loghost
```

After:

```
CEMF Client> more /etc/hosts
#
# Internet host table
#
127.0.0.1       localhost
172.29.51.164   cmgm-client     loghost
172.29.51.179   cmgm-server
```

Installing the Cisco MGM Server

Installing the Cisco MGM server software requires the following procedures:

1. Installing the Cisco EMF server software

2. Configuring raw partitions

3. Backing up the Cisco EMF database

4. Installing the Cisco MGM server software

> **Note** Before beginning the installation process, refer to the "Important Notes" section of *Release Notes for Cisco Media Gateway Manager, Release 2.0.*

> **Note** For additional information about installing Media Gateway Controller (MGC) EMS packages, refer to Chapter 8, "Media Gateway Controllers".

Installing Cisco EMF Server Software

Install the Cisco EMF server software according to the procedures described in the *Cisco Element Management Framework Installation and Administration Guide*.

Configuring Raw Partitions

In the RAW File System (RAWFS), databases can be placed in a raw partition. If you have a large deployment, the databases should be placed in a raw partition. This improves Cisco EMF performance and allows databases to grow larger than 2 GB.

For more detailed information about configuring raw partitions for the Cisco EMF database, refer to the *Cisco Element Management Framework Installation and Administration Guide*, Chapter 2, "Cisco EMF Configuration Options".

Backing up the Cisco EMF Database

Cisco EMF backup and restore functions allow you to recover from hardware or software failures with minimal loss of management data. You can also use the backup and restore functions to move databases from one Cisco EMF installation to another, for example, to facilitate hardware upgrades.

Cisco EMF backups should be performed for the following circumstances:

- Before upgrading Cisco EMF
- Before you install a new element manager, such as Cisco MGM
- Before uninstalling an element manager
- Before installing an upgrade for installed Cisco EMF element manager packages
- Before installing a patch for installed Cisco EMF or element manager packages
- Before making major changes to the network data model (such as deletion or untested changes)
- Before making major changes to the network hardware
- On a daily basis

For detailed Cisco EMF backup and restore instructions, refer to *Cisco Element Management Framework Installation and Administration Guide,* Chapter, 10, "Cisco EMF Database Backup and Restore".

Installing Cisco MGM Server Software

Before installing Cisco MGM server software, uninstall any previous Cisco MGM releases. For more information, see the "Uninstalling Cisco MGM Server or Client" section on page 2-10.

To install the Cisco MGM server, follow these steps:

Step 1 Log in to the Cisco EMF server as the root user.

Step 2 Ensure that CiscoView 5.4 is installed and running on either the local or remote machine. For information about installing CiscoView, refer to the CiscoView product documentation located in the documentation directory of the CiscoView CD ROM.

Step 3 If the CiscoView server is on the local machine, the security and WanCV installation will be automatically performed by the Cisco MGM installation. Proceed to Step 4.

If the CiscoView server is on the remote machine, manually run the CV security integration script and WanCV installation by entering the following commands on the remote machine:

```
/cdrom/cmgm2.0pkg/ciscoview/cvsecurity/cvsecurityinstall
/cdrom/cmgm2.0pkg/ciscoview/wancv/wancvinstall
```

Step 4 Change to the cmgm2.0pkg package directory on the CD ROM.

```
cd /cdrom/cmgm2.0pkg/cmgmv
```

Step 5 Start the installation script.

```
./cmgmvinstall
```

Tip To get help, enter **cmgmvinstall -h**

Note During installation, you may get the following CiscoView installation message that can be ignored:
```
Preparing to install CiscoView Security files...
ERROR: cmd failed. Server reason:
CiscoView Security installation completed successfully.
```

Step 6 Follow the onscreen instructions. When prompted for the type of installation, select the **cmgmpkg Server Package** option.

Step 7 Check the installation log for errors. The log file is in the following location:

```
/var/adm/Atlantech/avinstall/cmgmvpkg_Server_Package/logfile
```

Step 8 Verify that the cmgmCtlr process is running. For example:

```
/opt/cemf/bin/cemf query
```

The Cisco MGM plugin automatically starts on Cisco EMF.

Installing Cisco MGM Clients

The Cisco EMF clients provide the user interface to the system. When you install a Cisco EMF Server, you automatically add a local client. (See Figure 2-1).

Installing the Cisco MGM clients requires the following procedures:

1. Installing the Cisco EMF client

2. Installing the Cisco MGM client

> **Note**   Before beginning the installation process, refer to the Important Notes section of *Release Notes for Cisco Media Gateway Manager, Release 2.0.*

> **Note**   For additional information about installing MGC EMS packages, refer to Chapter 8, "Media Gateway Controllers".

Installing Cisco EMF Client Software

Install the Cisco EMF client software according to the procedures described in the *Cisco Element Management Framework Installation and Administration Guide*, Chapter 4, "Installing Cisco EMF".

Installing Cisco MGM Client Software

Before installing a client, remove any previous Cisco MGM client releases. For more information, see the "Uninstalling Cisco MGM Server or Client" section on page 2-10.

To install Cisco MGM client software, follow these steps:

Step 1   Log in to Cisco EMF as the root user.

Step 2   Change to the cmgm2.0pkg package directory on the CD ROM.

```
cd /cdrom/cmgm2.0pkg/cmgmv
```

Step 3   Start the installation script.

```
./cmgmvinstall
```

> **Tip**   To get help, enter **cmgmvinstall -h**

Step 4   Follow the onscreen instructions. When prompted for the type of installation, select the **cmgmvpkg Client Package** option.

Step 5   Check the installation log for errors. The log file is in the following location:

```
/var/adm/Atlantech/avinstall/cmgmvpkg_Client_Package/logfile
```

The Cisco MGM client automatically starts.

Installing MGC EMS Packages

For information about media gateway controllers (MGCs) supported in Cisco MGM, refer to Chapter 8, "Media Gateway Controllers."

Changing the Installation

Cisco MGM includes scripts and options for viewing software information and uninstalling software.

Viewing Software Version Information

To view software version information, follow these steps:

Step 1   Log in as the root user.

Step 2   Change to the directory for the installation script.

```
cd <CEMFROOT>/config/scripts/cmgmv
```

Step 3   Run the installation script with the -s option.

```
./cmgmvinstall -s
```

The script displays software information

Uninstalling Cisco MGM Server or Client

The uninstall script can be run on the server and/or client machines. When you uninstall the Cisco MGM server, you also remove the Cisco MGM client from the same host. On a client machine, the script just removes the client software.

Note   Before uninstalling the Cisco MGM server or client, backup your Cisco EMF database according to the procedures described in the *Cisco Element Management Framework Installation and Administration Guide,* Chapter, 10, "Cisco EMF Database Backup and Restore".

To remove Cisco MGM, follow these steps:

Step 1   Log in as the root user.

Step 2   Change to the script directory.

```
cd <CEMFROOT>/config/scripts/cmgmv
```

Step 3   Run the uninstallation script.

```
./cmgmvinstall -r
```

Step 4   If you receive a "port not ready" message, repeat Step 3. If the problem persists, contact technical support.

Step 5   Check the installation log for errors. The server log file is in the following location:

```
/var/adm/Atlantech/avinstall/cmgmvpkg_Server_Package/logfile
```

The client log file is in the following location:

```
/var/adm/Atlantech/avinstall/cmgmvpkg_Client_Package/logfile
```

Note   Uninstalling Cisco MGM does not uninstall WanCV and other CiscoView integration files that were installed in Step 2 of the installation procedures. The following directory and files remain in your CiscoView installation:

```
<CiscoView Root>/www/classpath/ems
<CiscoView Root>/www/classpath/cvpars.properties
<CiscoViewRoot>/www/classpath/com/cisco/nm/cvw/devpkgs/MGX8*.zip
<CiscoView Root>/htdocs/CmgmSessionTimeOut.html
```

Configuring Cisco MGX 8000 Series Gateways

For the Cisco MGM to communicate with Cisco MGX 8000 Series Carrier Voice Gateways, you must initialize the following parameters for each chassis:

- Management IP address
- Site name
- Read-write community strings

For information about configuring Cisco MGX 8230 nodes, refer to the *Cisco MGX 8230 Command Line Interface Guide.* For information about configuring Cisco MGX 8250 nodes, refer to the *Cisco MGX 8250 Command Line Interface Guide.* For information about configuring Cisco MGX 8850 nodes, refer to the *Cisco MGX 8850 Command Line Interface Guide.*

For detailed information about managing Cisco MGX 8000 Series gateways using CiscoView, refer to CiscoView Documents on CCO, or refer to the following individual documents:

WAN CiscoView Release 3 for the MGX 8230

WAN CiscoView Release 3 for the MGX 8250

WAN CiscoView Release 3 for Release 1 of the MGX 8850

WAN CiscoView Release 3 for Release 2 of the MGX 8850