Installation Overview and Planning

Revised: March 11, 2011, OL-18332-04

This chapter provides overview and planning information for installation of the Cisco Media Gateway Controller (MGC) Node Manager (MNM). Chapter 2 provides detailed installation procedures.

Note In Cisco MNM Release 2.8(1), the Cisco Voice Services Provisioning Tool (VSPT) is packaged with Cisco MNM.

The following topics are covered in this chapter:

- Installation Overview, page 1-1
- Determine Your Hardware Requirements, page 1-2
- Installation Checklist, page 1-5

Installation Overview

Successful network management using Cisco MNM begins with a well planned and carefully executed installation. Network element management involves many interdependent factors, including:

- The correct Sun server for your network size
- The correct software release and patch levels on managed devices
- The correct installation of Cisco Element Management Framework (EMF), the foundation software for Cisco MNM
- Performing installation tasks in the required order, so that required items are in place

To organize the installation process, use the Installation Checklist, page 1-5, to plan and execute your installation. Read through the checklist and check off each task as it is completed.

Who Should Install Cisco MNM?

Installing Cisco MNM involves setting up hard drives, and checking and modifying system files, tasks that are best performed by a system administrator with good knowledge of the Solaris operating system.

Determine Your Hardware Requirements

The hardware required and the way Cisco MNM is installed depend on the size of the network you are managing and the amount of data you collect. Use this section to determine your hardware requirements and software configurations.

Cisco Element Management Framework (Cisco EMF) and Cisco MNM consist of server and client software. You can manager all small, medium, and most large networks from a single server, using the Sun T5220 server which combines the client and server software. The multicore, multithread architecture of the Sun T5220 servers works well with the Virtual Network Computing (VNC) technology. It gives each VNC server a processor thread, and keeps the X-terminal traffic off the network. The combination of the Sun T5220 server and VNC for Cisco MNM provides excellent response time, even when your access is over WAN network connections.

Here is a breakdown of the client and server roles:

Server Software

- Network management, including management of databases that contain network information, store alarms, and performance data

- GUI applications, with user interaction, when Cisco MNM is installed on a standalone server

Client Software

- GUI applications, with which users interact.

The Cisco EMF and Cisco MNM software run on a separate machine, or on machines other than the Cisco MGC host. In a small network, server and client software might reside on a single machine (a standalone configuration). In larger networks, the software is installed on two or more machines in the following distributed configuration:

- One machine, known as the management server, contains the server software (including the ObjectStore database management software in the Cisco EMF) and client software.

- One machine, known as the presentation server, contains the client software only. In some large networks, more than one Presentation server might be required.

In either configuration, users typically access Cisco MNM from X terminal workstations that run the Client software through a Telnet session. In the distributed configuration, the X terminal workstations connect directly to the Presentation server to run the client software.

See the standalone and distributed configurations illustrated in Figure 1-1.

Figure 1-1   Standalone and Distributed Configurations
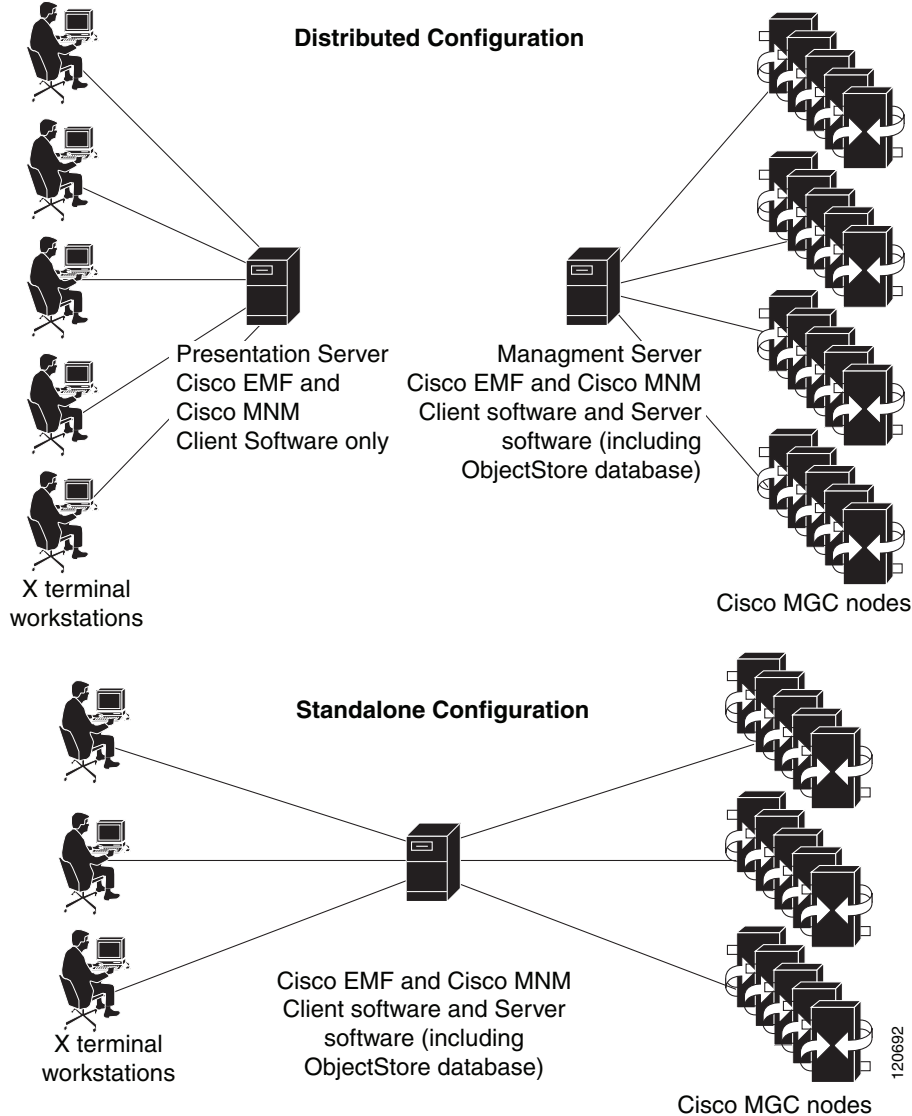
Note   The management server is sometimes called the database server. The presentation server is sometimes called the client, GUI, or application server. To avoid confusion, this document uses management server and presentation server consistently, and these terms denote the machines in a distributed configuration, not the software that resides on them.

The Cisco MNM client simultaneously supports up to ten X terminal users or VNC users. The exact number supported in a given installation depends on your processing resources, and the network size.

Supported Configurations

The following configurations are supported:

- Cisco MNM and Cisco VSPT installed together on a server (recommended)

- Cisco VSPT (only) installed on a Cisco PGW 2200 Softswitch host machine
- Cisco MNM installed on a server and Cisco VSPT installed on a separate server

⚠

Caution   Cisco MNM is not supported on a Cisco PGW 2200 Softswitch host machine.

Hardware Recommendations

Before you find the suitable hardware platform for Cisco MNM, determine your network deployment size. Table 1-1 gives guidance on how to determine your network deployment size.

Table 1-1   Network Deployment Size

Criteria	Small Deployment	Medium Deployment	Large Deployment
PGW Pairs	1–3	6–10	11–20
Gateways	1–10	11–40	41–100
HSI	1–3	6–10	11–20
BAMS	1–2	2–3	2–5

You have two options to get the hardware platforms for Cisco MNM:

- Reuse old Sun SPARC-based platforms.

  You cannot use Sun OPETRON-based platforms or X86 platforms for Cisco MNM. Old Sun SPARC-based platforms, Sun Fire 240 and Sun Netra 240, were fully tested with Cisco MNM. Other old Sun SPARC-based platforms might be interoperable.

- Order new hardware platforms.

  Table 1-2 describes Cisco MNM hardware recommendations for various network sizes.

Table 1-2   Hardware Recommendations for the Cisco MNM Host Machine

| Network Deployment Size | Host Machine Components | | | |
	Platform	CPU	Hard Disks	RAM
Small Deployment	Sun Netra T5220	4 core	2 x 73 GB[1]	8 GB
Medium Deployment	Sun SPARC Enterprise T5220	8 core	7 x 146GB	16GB
Large Deployment	Sun SPARC Enterprise T5220	8 core	7 x 146GB	16GB

1. Two-drive machines work for smaller networks that have less traffic and fewer operators. Response time to operator commands increases as the network grows and additional operators are added.

✎

Note   The Cisco MNM host machine requires the minimum number of drives indicated in Table 1-2. These are *recommendations* to aid you in planning. The total amount of disk space required depends on many factors, such as the amount of alarm and performance data collected.

Disk Drives and Database Storage

In a medium or large network, using multiple disk drives to store databases helps alleviate I/O bottlenecks and improves software performance. If you are using multiple disk drives for database storage, or you expect to generate large database files, use raw partitions, as described in the *Cisco Element Management Framework Installation and Administration Guide* at

http://www.cisco.com/en/US/docs/net_mgmt/element_manager_system/3.2_service_pack_7/installation/guide/3_2p7adm.pdf

Note   If you are using UNIX File System (UFS) partitions, installing more than one drive for database storage does not improve performance because the databases cannot span multiple partitions.

Installation Checklist

This checklist summarizes the tasks required for an initial installation of Cisco MNM. The procedures for completing each task are provided in the following chapter.

We recommend that you print out the checklist and use it during the installation. Perform the tasks in sequence unless otherwise noted.

Before You Begin

Read the release notes. If information there differs from what is presented here, use the information in the release notes.

You can find installation tasks in Table 1-3.

Table 1-3   Installation Tasks

Task	Description
Determine Your Hardware Requirements.	—
Task 1: Gather Installation Software and Required Information.	—
Task 2: Ensure That Network Devices Have the Correct Software.	—
Task 3: Plan and Execute Hard Drive Partitioning.	—
Task 4: Ensure That the Sun Solaris 10 Operating System Is Installed.	—
Task 5: Make System Configurations.	—
Task 6: Obtain a Cisco EMF License.	—

Table 1-3   Installation Tasks (continued)

Task	Description
Task 7: Install CiscoView 6.1.8 on a Solaris 10 Operating System.	This task is required only if you want to manage Cisco IP Transfer Point - LinkExtenders (Cisco ITP-Ls) or LAN switches from Cisco MNM, which uses the CiscoView server as the management interface.
	CiscoView now ships as part of LAN Management Solution (LMS) 3.1 with MGC Node Manager. Only the CiscoView part of LMS is provided. To obtain licenses for other LMS features, order LMS 3.1 from the Cisco.com website.
	Cisco MNM Release 2.8(1) includes CiscoView for Solaris 10 only. CiscoView for Solaris 8 is not provided with the Cisco MNM media kit. However, old CiscoView versions shipped with previous Cisco MNM media kits can be re-used. New Cisco MNM customers should be using Solaris 10 for the best long-term satisfaction and full CiscoView support. New Cisco MNM customers who only use Solaris 8 operating systems must obtain CiscoView for Solaris 8 separately, possibly by purchasing the appropriate LMS 2.5.1 package.
Task 8: Install Cisco EMF 3.2.	—
Task 9: Install Cisco MNM Release 2.8(1) and Verify the Installation.	If you want to install other element managers to run co-resident with Cisco MNM, install them now.
Task 10: Set Up the X Terminal Workstations for Remote Access.	—
Task 11: Synchronize Time.	—
Task 12: Configure Network Devices to Forward Alarms.	This task, which must be completed before Cisco MNM can collect alarm information from network devices, is covered in Chapter 2 in the "Configuring Network Devices for Management" section of the *Cisco Media Gateway Controller Node Manager User Guide,* Release 2.8(1).