



Preparing to Install SGM

This chapter can help you plan your installation of SGM. This chapter describes SGM's installation methods, supported platforms, and hardware and software requirements. It includes the following sections:

- [Installation Methods, page 1-1](#)
- [Licensing Information, page 1-2](#)
- [Supported Platforms, page 1-2](#)
- [Solaris System Requirements, page 1-3](#)
- [Linux System Requirements, page 1-7](#)
- [Windows System Requirements, page 1-9](#)
- [Cisco IOS Software Requirements, page 1-10](#)
- [ITP Requirements, page 1-11](#)
- [MIB Reference, page 1-12](#)

Installation Methods

You can install the SGM server and client software on the same workstation or on different workstations. You can install the SGM server and client software locally or remotely using one of the following methods:

- From a locally-mounted CD-ROM drive
- From a Network File System-exported CD-ROM drive
- From the SGM Web server (SGM client software only)

For more information about installing the SGM client software from the Web interface, see the following sections:

- [Installing the SGM Client for Solaris Using the Web Server, page 2-25](#)
- [Installing the SGM Client for Windows Using the Web Server, page 5-2](#)

Licensing Information

A single license for SGM allows you to install one SGM server and an unlimited number of SGM clients.

SGM recommends a maximum of 20 clients per SGM server. If you connect more than 20 clients to a single server, the server requires additional memory and a more powerful CPU.

Supported Platforms

SGM Release 4.1 supports the following operating system platforms:

- Sun Solaris version 2.8 or 2.9 with the latest recommended patches from Sun Microsystems, Inc. (SGM server and client)
- RedHat Enterprise Linux version 3.0 AS AMD64 (Linux server only)
- Windows 2000 Professional (SGM client only)
- Windows XP Professional (SGM client only)

**Note**

You can download and install an SGM SSL package that secures communications between the SGM client and server. Please contact your Cisco representative for details on obtaining the SSL package. For details on installing the SSL package, see [Appendix B, “Installing SSL on the SGM Server.”](#)

SGM Release 4.1 supports the following Cisco ITP platforms, configured with the Simple Network Management Protocol (SNMP):

- Cisco 2600 Series Routers: Cisco 2650XM, Cisco 2651XM
- Cisco 7204 Series Routers: Cisco 7204VXR
- Cisco 7206 Series Routers: Cisco 7206VXR
- Cisco 7300 Series Routers: Cisco 7301
- Cisco 7500 Series Routers: Cisco 7505
- Cisco 7507 Series Routers: Cisco 7507, Cisco 7507mx, Cisco 7507z
- Cisco 7513 Series Routers: Cisco 7513, Cisco 7513mx, Cisco 7513z
- Cisco 7600 Series Routers: Cisco 7603, Cisco 7604, Cisco 7606, Cisco 76090, Cisco 7613

For more information about SNMP, refer to “Configuring SNMP Support” in the Cisco IOS Release 12.2 *Configuration Fundamentals Configuration Guide*, Part 3, System Management.

Solaris System Requirements

This section describes the hardware and software requirements to run SGM on a Solaris system. It includes the following sections:

- [Solaris Hardware Requirements, page 1-3](#)
- [Solaris Software Requirements, page 1-5](#)
- [Solaris Patch Requirements, page 1-5](#)

**Note**

Hardware and software version information is subject to change, based on enhancements to the product. For the most current version information, refer to the *Release Notes for Cisco Signaling Gateway Manager* available on Cisco.com.

Solaris Hardware Requirements

Your system must meet the following hardware requirements to run SGM:

System Hardware

For server software only, or for server and client software running together on the same device:

- If your system does not comply with Network Equipment Building Standards (NEBS), use a SunFire V120 or greater with a 500 Mhz processor or greater.
- If your system is NEBS-compliant, use a Netra 120 or greater with a 500 Mhz processor or greater.
- You can use a Netra T1 or greater, with a 440 Mhz processor or greater, if absolutely necessary, but these devices are not recommended.
- If your network contains more than 50 nodes or 100 links, or if your system uses more than one SGM client, a more powerful CPU is strongly recommended.
- For medium-size networks, a SunFire V210, SunFire V240, or Netra 20 is recommended.
- For larger networks, a SunFire V440, SunFire V240, or Netra 20 with maximum CPU and memory is recommended.
- For medium-size and larger networks, you can use a Sun Netra 1400 or greater, if absolutely necessary, but this device is not recommended.

For client software only:

- Sun SunBlade 100 with a 500 Mhz processor or greater.

To install software, a CD-ROM drive on the server or on a remote host system that can be accessed by the Network File System (NFS).

A color monitor is required if you will run the SGM client on the host system.

A PostScript-compatible printer is required for printing graphs and charts.

Memory (RAM)

For server software only, or for server and client software running together on the same device:

- 512 MB RAM is required (768 MB strongly recommended).
- If you are running more than one SGM client on the same device, an additional 256 MB RAM is required for each additional client.
- If your network contains more than 50 nodes or 100 links, 1024 MB RAM is required.
- If your system uses more than one SGM client, 768 MB RAM is required.
- If you are running the server and client software on the same device, and you intend to use the client to configure Global Title Translation (GTT) tables, Multi-Layer Routing (MLR) address tables, or Distributed Short Message Routing (DSMR) address tables, up to 512 MB of additional RAM is required.

For example, a client used to configure 500,000-line GTT tables (the largest supported size) requires at least 512 MB of additional RAM, for a total of at least 1024 MB RAM on the device.

For client software only:

- 512 MB RAM or greater is required (512 MB recommended).
- If you are running more than one SGM client on the same device, an additional 256 MB RAM is required for each additional client.
- Larger networks require more RAM to maintain performance.
- If you intend to use the client to configure GTT tables, up to 512 MB of additional RAM is required. For example, a client used to configure 500,000-line GTT tables (the largest supported size) requires at least 512 MB of additional RAM, for a total of at least 1024 MB RAM on the client.

Hard Disk Space

For server software only, or for server and client software running together on the same device, 500 MB is required.

For client software only, 75 MB is required (150 MB if installing the client from the SGM Web Server).

SGM statistics reporting requires approximately 1 MB of hard disk space for every 10 links in your network.

By default, the SGM event database can hold a maximum of 5000 events. If you change the default SGM settings to significantly increase the size of the message archive, or if you increase the default aging intervals for reports, additional hard disk space might be required, and the performance of the SGM server and clients is impacted.

Swap Space

Swap space of 1024 MB or greater is required (swap space twice the size of RAM is recommended). Swap space is in addition to the recommended hard disk space.

CiscoWorks and HP OpenView

SGM does not require either CiscoWorks or HP OpenView, but SGM does integrate with those products to provide added value. The above hardware requirements assume that you are not installing SGM on the same device as CiscoWorks or HP OpenView. If you want to install and operate SGM, CiscoWorks, and HP OpenView on the same device at the same time, you need a SunFire V240, Netra 20, or Sun 280R or greater, with enough memory and disk space to support the requirements of each product, as specified in its system requirements section.

Solaris Software Requirements

Your system must meet the following software requirements to run SGM:

System Software

Sun Solaris version 2.8 or 2.9 is required, with the latest recommended patches from Sun Microsystems, Inc., and the required patches for SGM. For a list of the required patches for SGM, see the “[Solaris Patch Requirements](#)” section on page 1-5.

- Solaris version 2.8 is equivalent to SunOS version 5.8.
- Solaris version 2.9 is equivalent to SunOS version 5.9.

The SGM installation program automatically verifies your operating system version and checks for the required level of Solaris patches.

Web Browser Software

Netscape Navigator 7.1 or later, Microsoft Internet Explorer version 6.0 (SP1) or later, or Mozilla 1.6 or later (including Firefox 1.0) browser software is required to access SGM’s online help, to download the SGM client software using the Web interface, and to access the SGM server home page and the Web-based SGM features.

To enable a remote Solaris workstation to access SGM on a local workstation, you can use the **xhost + UNIX** command. However, performance is always better if you access SGM by installing the SGM client on the remote workstation.

OpenWindows

OpenWindows Version 3.7 with CDE is required.

CiscoWorks and HP OpenView

SGM does not require either CiscoWorks or HP OpenView, but SGM does integrate with those products to provide added value.

Solaris Patch Requirements

The Solaris patches listed by version in this section are required to install SGM. These patches can be installed separately or as a jumbo patch from Sun Microsystems, Inc.



Caution

If the required patches are not installed, SGM might not operate as expected.

To verify the patches installed on your Solaris system, run the **showrev -p** command. The SGM installation program also checks for these patches automatically, and reports any missing patches.

To obtain the patches, download and install the entire recommended patch cluster for your OS version from the Sun Microsystems Web site:

<http://sunsolve.sun.com>

Solaris 2.8 Patches

The following minimum patch levels are required to run SGM on Solaris version 2.8.

Patches required for all system configurations:

- Patch 108528-29 or later
- Patch 108993-49 or later
- Patch 108987-17 or later
- Patch 109147-40 or later
- Patch 109326-17 or later
- Patch 110386-03 or later
- Patch 110615-13 or later
- Patch 111023-03 or later
- Patch 111111-04 or later
- Patch 111308-05 or later
- Patch 111317-06 or later
- Patch 112396-02 or later
- Patch 112438-03 or later
- Patch 113648-04 or later
- Patch 115827-01 or later
- Patch 116602-01 or later
- Patch 117000-05 or later
- Patch 117350-31 or later

Patches required for some specific system configurations:

- Patch 108434-20 or later
- Patch 108435-20 or later
- Patch 108652-95 or later
- Patch 108773-21 or later
- Patch 108921-23 or later
- Patch 108940-71 or later
- Patch 108989-02 or later
- Patch 11310-01 or later
- Patch 112003-03 or later
- Patch 112472-01 or later
- Patch 113886-32 or later
- Patch 113887-32 or later

Solaris 2.9 Patches

The following minimum patch levels are required to run SGM on Solaris version 2.9.

Patches required for all system configurations:

- Patch 112785-52 or later
- Patch 112963-25 or later
- Patch 113096-03 or later

Patches required for some specific system configurations:

- Patch 111711-14 or later
- Patch 111712-14 or later
- Patch 112233-12 or later
- Patch 112601-09 or later
- Patch 112661-08 or later
- Patch 112811-02 or later
- Patch 112912-01 or later
- Patch 112951-12 or later
- Patch 113273-10 or later
- Patch 113713-21 or later
- Patch 113886-32 or later
- Patch 113887-32 or later
- Patch 114016-01 or later
- Patch 114356-06 or later
- Patch 117067-01 or later
- Patch 117071-01 or later
- Patch 117171-17 or later
- Patch 118558-18 or later
- Patch 119449-01 or later

Linux System Requirements

This section describes the hardware and software requirements to run SGM on a Linux system. It includes the following sections:

- [Linux Hardware Requirements, page 1-8](#)
- [Linux Software Requirements, page 1-9](#)



Note

Hardware and software version information is subject to change, based on enhancements to the product. For the most current version information, refer to the *Release Notes for Cisco Signaling Gateway Manager* available on Cisco.com.

Linux Hardware Requirements

Your system must meet the following hardware requirements to run SGM:

System Hardware

For SGM and CDM server software use a SunFire V20z with one or two AMD Opteron 200 series processors. For large networks, use a SunFire V20z with two processors and maximum memory requirements.

To install software, a CD-ROM drive on the server or on a remote host system that can be accessed by the Network File System (NFS).

Memory (RAM)

For SGM server software only:

- 512 MB RAM is required (768 MB strongly recommended).
- If your network contains more than 50 nodes or 100 links, 1024 MB RAM is required.

For CDM server software only:

- 1 GB RAM and 1.73 GB HDD are required.

For SGM and CDM server software:

- If CDM will be running concurrently with SGM then a minimum of 2 GB RAM is required.



Note

A warning message may appear, indicating insufficient memory. If you know the minimum requirements are met, please ignore this warning.

Hard Disk Space

For SGM server software only, 500 MB is required.

SGM statistics reporting requires approximately 1 MB of hard disk space for every 10 links in your network.

By default, the SGM event database can hold a maximum of 5000 events. If you change the default SGM settings to significantly increase the size of the message archive, or if you increase the default aging intervals for reports, additional hard disk space might be required, and the performance of the SGM server is impacted.

For SGM and CDM server software on the same device:

- For CDM server software only, 256 MB is required. For CDM call detail record (CDR) storage, a minimum of 1 GB is required. Additional disk space may be required, depending upon the rate at which CDRs are generated, and the frequency at which CDR datastore files are removed.

Swap Space

Swap space of 1024 MB or greater is required (swap space twice the size of RAM is recommended). Swap space is in addition to the recommended hard disk space.

Linux Software Requirements

Your system must meet the following software requirements to run SGM:

System Software

RedHat Enterprise Linux version 3.0 AS AMD64 is required. The SGM installation program automatically verifies your operating system version.

Web Browser Software

Netscape Navigator version 7.1 or later, Microsoft Internet Explorer version 6.0 (SP1) or later, or Mozilla 1.6 or later (including Firefox 1.0) browser software is required to access SGM's online help, to download the SGM client software using the Web interface, and to access the SGM server home page and the Web-based SGM features.

Windows System Requirements

This section describes the hardware and software requirements to run the SGM client on a Windows 2000 Professional or Windows XP Professional system. (You cannot install the SGM server on a Windows system.)

This section includes the following information:

- [Windows Hardware Requirements, page 1-9](#)
- [Windows Software Requirements, page 1-10](#)



Note

Hardware and software version information is subject to change, based on enhancements to the product. For the most current version information, refer to the *Release Notes for Cisco Signaling Gateway Manager* available on Cisco.com.

Windows Hardware Requirements

Your system must meet the following hardware requirements to run the SGM client:

System Hardware

An IBM PC-compatible computer is required, with the following specifications:

- A 500 Mhz or faster Pentium III processor or later.
- A color monitor.
- A CD-ROM drive (ISO 9660-compliant) on the host system, or access to the SGM Web Server.

A PostScript-compatible printer is required for printing graphs and charts.

Memory (RAM)

256 MB minimum is required.

If you intend to use the client to configure GTT tables, MLR address tables, or DSMR address tables, between 256 MB and 1 GB of additional RAM is required. For example, a client used to configure 500,000-line GTT tables (the largest supported size) requires at least 1 GB of additional RAM on the client.

Hard Disk Space

100 MB minimum on the drive where you install the SGM client is required (200 MB if installing the client from the SGM Web Server, plus 20 MB minimum on the drive on which you save the downloaded client package).

30 MB minimum on the drive that contains the TEMP directory is required (for InstallShield's temporary files).

20 MB minimum on the drive that contains the Program Files directory is required (for the uninstall files).

Windows Software Requirements

Your system must meet the following software requirements to run SGM:

- System software—Windows 2000 Professional or Windows XP Professional.
- Web browser software—Netscape Navigator version 7.1 or later, Microsoft Internet Explorer version 6.0 (SP1) or later, or Mozilla version 1.6 or later (including Firefox 1.0) browser software is required to access SGM's online help and to download the SGM client software using the Web interface.

Before you install SGM on a Windows system, you should know the following information:

- Name of the host on which the SGM server is installed.
- SGM Naming Server port number. The default is 44742.

If you want to integrate SGM with CiscoWorks, you should also know the following information:

- Name of the host on which CiscoWorks is installed.
- CiscoWorks Web Server port number. The default is 1741.

Cisco IOS Software Requirements

To run SGM, or to be manageable by SGM, ITPs must run one of the following Cisco IOS software releases:

- 12.2(4)MB9
- 12.2(4)MB9a
- 12.2(4)MB10
- 12.2(4)MB11
- 12.2(4)MB12
- 12.2(4)MB13
- 12.2(18)SW (Cisco 7301 series routers only)
- 12.2(19)SW
- 12.2(20)SW
- 12.2(21)SW
- 12.2(21)SW1
- 12.2(23)SW

- 12.2(23)SW1
- 12.2(25)SW1
- 12.2(25)SW2
- 12.2(25)SW3
- 12.2(25)SW4
- 12.2(25)SW4a
- 12.2(25)SW5
- If you are using SGM to deploy GTT files and route table files to ITPs, or if you are using SGM to generate GTT accounting statistics, the ITPs must run Cisco IOS software release 12.2(4)MB13 or 12.2(18)SW or later.
- If you are using multiple instance XUA, the ITPs must run Cisco IOS software release 12.2(19)SW or later.
- If you are using cross-instance GTT, the ITPs must run Cisco IOS software release 12.2(20)SW or later.
- If you are using encoding scheme GTT, the ITPs must run Cisco IOS software release 12.2(25)SW1 or later.
- If you are using DSMR or MLR address table configuration, the ITPs must run Cisco IOS software release 12.2(25)SW3 or later.

To see the latest information about the versions of IOS with which SGM is compatible, use one of the following procedures:

- Enter the **sgm iosinfo** command.
- Select **System ITP IOS README** from the SGM Server Home Page.

ITP Requirements

When you configure the ITPs, keep the following SGM considerations in mind:

- You must configure the ITPs to use SNMP community names. SGM requires that the names be at least read-only (RO), but read-write (RW) names also work.
- You must enable the ITPs to use both CS7 traps and SNMP traps. (The SGM trap receiver supports SNMP traps for both version v1 and v2c, but not version v3.)

You can also enable the ITPs to use ENVMON traps, to enable SGM to handle and display environmental events, but this is not required.

- The host IP address used for traps must be the SGM server's IP address.

Also, for full access to SGM commands and functions, set the SNMP trap port number to a value greater than 1024. By default, SGM listens for traps from trap multiplexing devices and NMS applications on port 44750, so that is a good port number to choose. The SNMP trap port number must be the same on all ITPs in your network.

- To minimize lost traps, set the length of the message queue for each trap host to at least 100. The more links handled by the host, the higher you should set the queue length. For example, if you have a fully loaded 7507 handling a large number of links, you might set the queue length to 500.
- To enable SGM to log more than one line of Syslog, set the logging history size to 500.

To implement these requirements on an ITP, enter the following IOS commands on the ITP:

```
snmp-server community public RO
snmp-server enable traps cs7
snmp-server enable traps snmp
snmp-server enable traps envmon
snmp-server host sgm-ip-address public [port-number]
snmp-server queue-length 100
logging history size 500
```

where:

- *public* is the SNMP community name the ITP is to use.
- *sgm-ip-address* is the IP address of the SGM server.
- *port-number* is the SNMP trap port number of the ITPs and of the SGM server, either **162** (the default) or **44750**.

For more information about these commands, see the Cisco IOS Release 12.2 *Configuration Fundamentals Command Reference*.

**Note**

If, in addition to SGM, you are using other network management products to receive traps from ITPs, those ITPs might require additional IOS commands to enable them to use additional traps.

MIB Reference

You can obtain the latest versions of the SGM MIBs from one of the following locations:

- The Zip file *mibs.zip*, located at the top of the SGM CD Image
- Download from the Cisco Website:
<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

For more information about SGM MIBs, see the “SGM MIB Reference” section in the *Cisco Signaling Gateway Manager User Guide*.