



Sun StorEdge™ Enterprise Storage Manager 1.0 Topology Reporter Installation Guide

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Preface

This document describes the installation requirements, considerations, and procedures for the Sun StorEdge™ Enterprise Storage Manager 1.0 Topology Reporter. The intended audience for this document includes Sun support engineers and storage system administrators.

How This Book Is Organized

[Chapter 1](#) describes the requirements, considerations, and preparation for the installation.

[Chapter 2](#) describes the installation steps.

[Chapter 3](#) describes the post-installation and configuration procedures.

[Chapter 4](#) describes installation troubleshooting tips.

[Appendix A](#) describes quick installation steps.

Using UNIX Commands

This document might not contain information on basic UNIX® commands and procedures.

See one or more of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- AnswerBook2™ online documentation for the Solaris™ operating environment
- Other software documentation that you received with your system

Typographic Conventions

Typeface	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% su Password:
<i>AaBbCc123</i>	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this. To delete a file, type <code>rm filename</code> .
[]	In syntax, brackets indicate that an argument is optional.	<code>scmadm [-d sec] [-r n[:n],[n]...] [-z]</code>
{ arg arg }	In syntax, braces and pipes indicate that one of the arguments must be specified.	<code>sndradm -R b {p s}</code>
\	At the end of a command line, the backslash (\) indicates that the command continues on the next line.	<code>atm90 /dev/md/rdisk/d5 \ /dev/md/rdisk/d1 atm89 \ /dev/md/rdisk/d5 /bitmaps/map2 \ ip sync</code>

Shell Prompts

Shell	Prompt
C shell	<i>machine-name%</i>
C shell superuser	<i>machine-name#</i>
Bourne shell and Korn shell	\$
Bourne shell and Korn shell superuser	#

Related Documentation

Application	Title	Part Number
Man pages	sstr sstr_ctrl	Not applicable
Release	<i>Sun StorEdge Enterprise Storage Manager 1.0 Topology Reporter Release Notes</i>	816-4292
	<i>Sun StorEdge Enterprise Storage Manager 1.0 Configuration Service Release Notes</i>	816-4296
Installation	<i>Sun StorEdge Enterprise Storage Manager 1.0 Configuration Service Installation Guide</i>	816-4294
	<i>Sun StorEdge Network FC Switch8 and Switch-16 Installation and Configuration Guide, Sun StorEdge SAN 3.0 Release</i>	816-0830
	<i>Sun StorEdge SAN 4.0 Release Installation Guide</i>	816-4469
System administration	<i>Sun StorEdge Enterprise Storage Manager 1.0 Topology Reporter Administration and Operations Guide</i>	816-4293
	<i>Sun StorEdge Enterprise Storage Manager 1.0 Configuration Service Administrator's Guide</i>	816-4295
	<i>Service Location Protocol Administration Guide</i>	806-1412

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Installation Requirements and Preparation

This chapter describes installation requirements and preparation procedures for the Sun StorEdge Enterprise Storage Manager 1.0 Topology Reporter.

The topics described in this chapter include the following:

- [“Summary of All Installation and Post-Installation Steps” on page 2](#)
- [“Supported Software, Patches, and Hardware” on page 3](#)
- [“Preparing for Installation” on page 7](#)
 - [“Before You Install The Software” on page 8](#)
 - [“Preparing the Management Station” on page 9](#)
 - [“Preparing the Agent Station” on page 11](#)

Note – The topology reporter installation package names and installed directory path names include the term `SUNWnsm`. This term indicates the topology reporter product.

Quick Installation Steps

See [Appendix A](#) for quick installation steps for experienced administrators and installers.

Summary of All Installation and Post-Installation Steps

TABLE 1-1 All Installation and Post-installation Steps

Pre-Installation Step	See This Section or Chapter
1. Choose the machines in your SAN or DAS environment where you will install the software.	“Supported Software, Patches, and Hardware” on page 3 “Preparing for Installation” on page 7
2. Prepare the management and agent stations for installation.	“Preparing the Management Station” on page 9 “Preparing the Agent Station” on page 11
Installation Steps	See This Section or Chapter
3. Install the software: <ul style="list-style-type: none">• On a single machine acting as a management and agent station• On individual machines acting as a management or agent station	“Before You Install The Software” on page 8 “Installing the Software” on page 15
Post-Installation Step	See This Section or Chapter
1. Configure the software.	“Configuring the Topology Reporter Software” on page 29
2. Test the installation.	“Starting and Stopping The Software” on page 37 “Logging In Through a Web Browser” on page 38
3. Check the log files for messages related to the installation.	“Log Files to Check After Installation” on page 44

Supported Software, Patches, and Hardware

- [TABLE 1-2](#) shows the supported software.
- [TABLE 1-3](#) shows the patches required for the topology reporter software.
- [TABLE 1-4](#) shows the supported hardware.

Note – The SUNWsan software, related software, and updates are available from <http://www.sun.com/storage/san>.

Note – Patches are available at <http://sunsolve.sun.com/>

TABLE 1-2 Supported Software

Operating Environment	Solaris 8 10/01 (also known as Update 6) with the latest patch cluster
Supporting Software (installed with the topology reporter software)	<p>iPlanet™ Messaging Queue for Java™, version 2, Service Pack 1 (includes patch number 111858-01)</p> <p>Apache 1.3.22 HTTP server software</p> <p>Tomcat 4.0.1 Java Servlet and JavaServer software</p> <p>PostgreSQL version 7.1.3 software</p>
Required Software for the Switch Firmware and Management Application	<p>Sun StorEdge SAN 3.0 Release for the following switch firmware and management application software only:</p> <ul style="list-style-type: none"> • SUNWsmgr SANSurfer Switch Manager™ software
SAN Software, driver, and other packages:	<p>Sun StorEdge SAN 4.0 Release</p> <p>Includes the following supported driver packages:</p> <ul style="list-style-type: none"> • SUNWsan Sun StorEdge Network Foundation • SUNWcfpl fp cfgadm plug-in library of libcfgadm • SUNWcfplx fp cfgadm plug-in library of libcfgadm (64-bit) • SUNWfcsm Fibre Channel driver switch management software • SUNWfcsmx Fibre Channel driver switch management software (64-bit)

TABLE 1-2 Supported Software (Continued)

SAN Software, driver, and other packages:	<p>Other supported packages include:</p> <ul style="list-style-type: none"> • SUNWfchba Fibre Channel host bus adapter library • SUNWfchbx Fibre Channel host bus adapter library (64-bit) • SUNWfccl Common Fibre Channel host bus adapter library • SUNWfcclr Common host bus adapter library (root) • SUNWfcclx Common host bus adapter library (64-bit)
Web Browser Software	<p>Netscape Navigator version 4.79 Microsoft Internet Explorer version 5.0</p>

TABLE 1-3 Required Patches

iPlanet Message Queue for Java, version 2	<p>Service Pack 1 (includes patch number 111858-01)</p>
<p>Patches and minimum revision levels required for all Sun StorEdge T3 storage array configurations with one of x6727A, x6748A, and x6799A host bus adapters</p>	<p>111095-10 fctl, fp, fcp, usoc driver patch</p> <p>111096-04 fcip driver patch</p> <p>111097-09 qlc driver patch</p> <p>111412-09 Sun StorEdge Traffic Manager patch</p> <p>111413-08 luxadm patch</p> <p>111846-04 cfgadm fp plug-in library patch</p> <p>111847-03 Sun StorEdge SAN Foundation kit patch (the kit includes the SUNWsan, SUNWcfpl, and SUNWcfplx packages)</p>

TABLE 1-4 Supported Hardware

Hardware	A CD-ROM drive connected to the host server where the topology reporter software is to be installed.
Host Machines	<p>The software is supported on host machines using the Solaris operating environment. Hosts include but are not limited to:</p> <ul style="list-style-type: none">• Sun Enterprise™ server models 220R, 250, 420R, 450• Sun Enterprise server models 3500, 4500, 5500, 6500• Sun Fire™ server models 280R, 3800, 4800, 4810, and 6800 <p>Management stations include the above list and the following workstations:</p> <ul style="list-style-type: none">• Sun Ultra workstation models 5, 10, 60, and 80
Switches	Sun StorEdge Network FC Switch8 and Switch-16 Brocade Communications Systems SAN switches
Disk and Memory Space	<p><u>Management station installation and operation:</u></p> <ul style="list-style-type: none">• 640 Mbytes of disk space• 256 Mbytes system memory (512 Mbytes preferred) <p><u>Agent station installation and operation:</u></p> <ul style="list-style-type: none">• 71 Mbytes of disk space• 256 Mbytes system memory (512 Mbytes preferred) <p><u>If the management and agent station is a single machine:</u></p> <ul style="list-style-type: none">• 711 Mbytes of disk space• 256 Mbytes system memory (512 Mbytes preferred)
Supported Attached Storage	<p>Sun StorEdge T3 arrays, minimum firmware release 1.17 Sun StorEdge T3+ arrays, minimum firmware release 2.0</p> <p>Sun StorEdge 9900 Series system arrays (includes the Sun StorEdge 9910 and Sun StorEdge 9960 system arrays)</p>

Preparing for Installation

Note – See also [“iPlanet Message Queue for Java \(iMQ\)”](#) on page 17.

You can install this software on each machine in your storage area network (SAN) or direct-attached storage (DAS) environment. Each machine is considered a station and can have a different role:

- Management station; see [“Preparing the Management Station”](#) on page 9
- Agent station; see [“Preparing the Agent Station”](#) on page 11.

After reading this section and performing these steps, continue the installation as described in [Chapter 2](#).

Before You Install The Software

Note – The network, switch, and host bus adapter software packages and updates are available from <http://www.sun.com/storage/san>.

Note – Patches are available at <http://sunsolve.sun.com/>

Consideration	Description
Required software packages and patches. The topology reporter software requires that you have the correct network, switch, and host bus adapter driver packages and patches installed on the agent station.	The topology reporter software supports the Sun StorEdge SAN 3.0 Release version of the SANSurfer Switch Manager™ (SUNWsmgr) switch firmware and management application software only. The topology reporter software requires all other Sun StorEdge SAN 4.0 Release software packages. See <i>the Sun StorEdge SAN 4.0 Release Installation Guide</i> , TABLE 1-2 , and TABLE 1-3 .
Can I install the software as superuser? Can I telnet into a management station to install the software?	On the management station, log in as <code>root</code> through the Common Desktop Environment (CDE) Login Manager to install the software on the management station. <ul style="list-style-type: none">• Do not use the <code>su</code>, <code>telnet</code>, or <code>rlogin</code> commands from another machine.• Do not log in from a text console terminal. If you do install the software using the <code>su</code> , <code>telnet</code> , or <code>rlogin</code> commands, you will need to perform the procedure described in “If The Topology Page Displays An Error” on page 49 to display your SAN topology graphically.
Can I install the software to any location or directory?	On the agent station, you can use the <code>su</code> , <code>telnet</code> , or <code>rlogin</code> commands to install the software. No. Install the software packages to their default installation locations.

Preparing the Management Station

Note – Only one machine per service location protocol (SLP) scope can be a management station. See [“Topology Reporter SLP Scope Setting Configuration Rules” on page 31](#) for more information.

The management station is the machine where you install the packages that enable you to use the Web-browser user interface (UI) and command-line interface to view information about and administer your SAN fabric or DAS devices. You can also install the agent software on this machine and use it as a management station *and* agent station.

See the [disk and memory space](#) requirements in [TABLE 1-4](#).

To prepare the management station, edit the `/etc/system` file and add the kernel memory values specified in [“To Prepare the Management Station” on page 10](#).

Converting Hexadecimal and Decimal Numbers

If an existing value in the `/etc/system` file is a decimal number, you can use the `bc(1)` command to convert hexadecimal and decimal values. For example, to display the decimal value of hexadecimal value `0x2000000` (which is decimal `33554432`), type the following bold text at a terminal command prompt:

```
# bc
ibase=16
2000000
33554432
quit
#
```

To convert decimal to hexadecimal, use the `obase=16` option instead. See the `bc(1)` man page for more information.

▼ To Prepare the Management Station

Note – If you or an application have previously edited this file and specified memory values, keep the higher of the memory values. For example, if the topology reporter values shown in this section are higher, use those values.

1. **Log in as superuser.**
2. **Modify the `/etc/system` file using a text editor.**

Add the following text to the end of the file.

```
set shmsys:shminfo_shmmax=0x2000000
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=256
set shmsys:shminfo_shmseg=256
set semsys:seminfo_semmap=256
set semsys:seminfo_semmni=512
set semsys:seminfo_semmsl=32
set semsys:seminfo_semmns=512
```

3. **Save and exit the file.**
4. **Perform a reconfiguration reboot:**

Note – If you are using this machine as an agent station also, perform the procedures in [“To Prepare an Agent Station” on page 11](#) before rebooting.

```
# reboot -- -r
```

5. **When the system returns, log in as root to install the software.**
See [“Before You Install The Software” on page 8](#).

Preparing the Agent Station

The agent station is one or more machines in your SAN where the topology reporter software collects information about your SAN devices, such as host machines, host bus adapters, switches, and storage devices. You then use the Web-browser UI or CLI to view this information. This information collection process is known as *discovery*.

- You must install the agent station portion of the software on each host connected to a SAN or fabric. If you install the software on some hosts but not all, you will only partially discover information.
- If a host is part of multiple fabrics, then all fabrics that it is part of must have the agent station portion of the software installed for full discovery.

See the [disk and memory space](#) requirements in [TABLE 1-4](#).

▼ To Prepare an Agent Station

1. **Log in as superuser.**
2. **Ensure that the correct software packages are installed on your machine for your host bus adapter cards, switches, and environment.**
See [TABLE 1-2](#) and [TABLE 1-3](#). Also see the *Sun StorEdge SAN 4.0 Release Installation Guide*.
3. **Ensure that the following patches are installed.**

Use the `patchadd(1M)` command to install patch packages.

Note – Patches are available at <http://sunsolve.sun.com/>

Patch number	Description
111847-01	SUNWsan - part of the SAN Foundation Kit
111412-09	
111095-10	fctl, fp, fcp, usoc driver patch
111096-04	fcip driver patch
111097-09	qlc driver patch
111846-04	cfgadm fp plug-in library patch
111858-01	iPlanet Message Queue for Java, version 2 - Service Pack 1 (includes patch number 111858-01)

4. After installing patches, perform a reconfiguration reboot:

```
# reboot -- -r
```

5. When the system returns, log in as root to install the software.

See [“Before You Install The Software”](#) on page 8.

Installing the Software

This chapter describes the following topics:

- [“Installation Steps Summary”](#) on page 14
- [“Installing the Software”](#) on page 15
- [“The install and uninstall Script Options”](#) on page 24

Note – To remove the software, see [“Removing and Reinstalling the Topology Reporter Software”](#) on page 39.

Installation Steps Summary

[TABLE 2-1](#) shows the installation steps for this chapter.

TABLE 2-1 Installation Steps

Installation Step	See This Section or Chapter
1. Choose the machines in your environment where you will install the software.	“Preparing for Installation” on page 7 <ul style="list-style-type: none">• Supported software information in TABLE 1-2• Patch information in TABLE 1-3• Supported hardware and disk space requirements in TABLE 1-4
2. Install the software as root, logged in through CDE Login Manager: <ul style="list-style-type: none">• On a single machine acting as a management and agent station• On individual machines acting as a management or agent station	“Installing the Software” on page 15 “The install and uninstall Script Options” on page 24
3. Configure the software.	Chapter 3

Installing the Software

Note – Install the software packages to their default installation locations. Before you install the software, you must prepare each station type. See [“Preparing for Installation” on page 7](#).

Install the software as follows:

- On one machine that acts as a management station
- On one or more machines that act as an agent station
- On one machine that acts as a management station and agent station at the same time

You can also install the software interactively or by using the `install` script options. See:

- [“Installing the Software on a Machine That Acts as a Management Station and Agent Station” on page 19](#)
- [“To Install the Software on a Management Station” on page 20](#)
- [“To Install the Software on an Agent Station” on page 22](#)
- [“The install and uninstall Script Options” on page 24](#)

See the following sections for a description of management and agent stations and for information about the iMQ software:

- [“Preparing for Installation” on page 7](#)
- [“iPlanet Message Queue for Java \(iMQ\)” on page 17](#)

Install the Software as Root

To install the software on the management station, log in as `root` through the Common Desktop Environment (CDE) Login Manager.

- Do not use the `su`, `telnet`, or `rlogin` commands from another machine.
- Do not log in from a text console terminal.

To install the software on an agent station, you can use the `su`, `telnet`, or `rlogin` commands.

Configuring the Software After Installation

After installation, configure the software. You can choose to configure it at any time after installation but you must configure it before you try to use the software. See [“Configuring the Topology Reporter Software” on page 29](#).

iPlanet Message Queue for Java (iMQ)

One of the software packages that the installation process checks for and attempts to install is the iPlanet Messaging Queue for Java (iMQ) version 2 software, including Service Pack 1 and its included patch 11858-01. The installation prompts you as follows.

Messages Displayed When the Correct iMQ Version is Installed

If your machine has the iMQ 2.0 packages with Service Pack 1 installed, the following message is displayed:

```
Correct version of iMQ Packages found on this host.  
SUNWjqapi 2.0  
SUNWjqent 2.0  
SUNWjqrtr 2.0  
SUNWjqrun 2.0  
Skipping installation of the above list of packages.
```

Messages Displayed When an Older iMQ Version is Installed

If your machine has an older version of the iMQ packages installed (for example, release 1.1), the following message is displayed:

```
Older version of iMQ found on this host:  
SUNWjqapi 1.1  
SUNWjqent 1.1  
SUNWjqrtr 1.1  
SUNWjqrun 1.1  
  
Overwrite the older version with IMQ version 2.0 [y,n,?]
```

- If you type **y**, the older packages are removed and the correct versions are installed.
- If you type **n**, the installation process exits.

Messages Displayed When a Newer iMQ Version is Installed

If your machine has a version of iMQ newer than the package the install script is trying to install, the following message is displayed:

```
Newer version of iMQ (SUNWjqapi 3.0) found on host.  
SSTR requires iMQ version 2.0 with patch 111858-01.  
Exiting, unsuccessful.
```

The installation exits.

Messages Displayed When iMQ v2.0 is Installed but the Patch is Older

If your machine has iMQ version 2.0 installed but with an older patch revision, the following message is displayed:

```
Correct version of iMQ Packages found on this host.  
SUNWjqapi 2.0  
SUNWjqgent 2.0  
SUNWjqqrtr 2.0  
SUNWjqrun 2.0  
Skipping installation of the above list of packages.  
  
Older IMQ patches found on this host:  
111858-00  
  
Overwrite the older iMQ patch with 111858-01 [y,n,?]
```

- If you type **y**, the older patch is removed and patch 111858-01 is installed.
- If you type **n**, the installation process exits.

Installing the Software on a Machine That Acts as a Management Station and Agent Station

To install the software on a single machine that acts as a management station and agent station, perform the steps in [“To Install the Software on a Management Station” on page 20](#) and type 3 in [Step 6](#).

▼ To Install the Software on a Management Station

Note – If you are installing the software on a machine that acts as a management station and agent station at the same time, type 3 in [Step 6](#).

1. **Log into your machine as root through the CDE Login Manager.**
See “[Install the Software as Root](#)” on page 16.
2. **Insert the CD into the CD-ROM drive connected to your machine.**
3. **Start the Volume Manager daemon `vold(1M)` (if needed).**

```
# /etc/init.d/volmgt start
```

Note – You only need to start the Volume Manager daemon once. Do not start the daemon again.

4. **Install the topology reporter software.**

```
# cd /cdrom/cdrom0
# ./install
```

The `install` script displays the following message:

```
***ATTENTION***
Sun StorEdge(TM) Topology Reporter requires a properly configured
installation of Sun StorEdge Network Foundation (software/drivers)
Packages and Patches.

Proceed with installation [y,n,?]
```

5. Type one of the following:

- **N** to exit if you need to install packages and patches as listed in [“Preparing for Installation” on page 7](#).
- **Y** to continue the installation.

If you type **Y**, the script displays the following message:

```
Select the type of station:
1) Management
2) Agent
3) Both
Pick one of the above:
```

6. Type 1 to install the management station packages only.

Note – Only one machine per SLP scope can be a management station. See [“Topology Reporter SLP Scope Setting Configuration Rules” on page 31](#) for more information.

The script lists the packages to install.

The installation process attempts to install the iPlanet Messaging Queue for Java version 2 software, including Service Pack 1 and its included patch 11858-01. See [“iPlanet Message Queue for Java \(iMQ\)” on page 17](#).

Once the correct packages including iMQ 2.0 with patches are found or installed, the process lists the topology reporter and related packages to install. The following message is displayed:

```
Add packages to host [y,n,?]
```

7. Type Y to install the software.

The following messages are displayed:

```
Please wait installing packages
Exiting, successful.
```

8. Go to [Chapter 3](#) to configure the software and complete the installation.

See [“Post-Installation Steps Summary” on page 28](#).

▼ To Install the Software on an Agent Station

Note – If you are installing the software on one machine that acts as a management station and an agent station at the same time, see [“Installing the Software on a Machine That Acts as a Management Station and Agent Station”](#) on page 19.

1. **Log into your machine as superuser.**
2. **Insert the CD into the CD-ROM drive connected to your machine.**
3. **Start the Volume Manager daemon `vold(1M)` (if needed).**

```
# /etc/init.d/volmgt start
```

Note – You only need to start the Volume Manager daemon once. Do not start the daemon again.

4. **Install the topology reporter software.**

```
# cd /cdrom/cdrom0
# ./install
```

The `install` script displays the following message:

```
***ATTENTION***
Sun StorEdge(TM) Topology Reporter requires a properly configured
installation of Sun StorEdge Network Foundation (software/drivers)
Packages and Patches.

Proceed with installation [y,n,?]
```

5. Type one of the following:

- **N** to exit if you need to install packages and patches as listed in [“Preparing for Installation” on page 7](#).
- **Y** to continue the installation.

If you type **Y**, the script displays the following message:

```
Select the type of station:
1) Management
2) Agent
3) Both
Pick one of the above:
```

6. Type 2 to install the agent station packages only.

Note – You must install the agent station portion of the software on each agent host in a fabric. If you install the software on some agent hosts but not all, you will only partially discover information in your environment.

The script lists the packages to install. The following message is displayed:

```
Add packages to host [y,n,?]
```

7. Type Y to install the software.

The following messages are displayed:

```
Please wait installing packages
Exiting, successful.
```

8. Go to [Chapter 3](#) to configure the software and complete the installation.

See [“Post-Installation Steps Summary” on page 28](#).

The install and uninstall Script Options

The `install` and `uninstall` scripts include options that are useful when you want to install or remove the software noninteractively. When you use the scripts with the `-s` option, you do not need to respond to prompts or messages.

- The `install` script file located on the product CD has the options shown in [TABLE 2-2](#).
- The `uninstall` script file located on the product CD and in the `/var/opt/SUNWnsm/` directory has the options shown in [TABLE 2-3](#)

The syntax for `install` and `uninstall` follows.

```
install [-ambos] [-h]
```

TABLE 2-2 `install` Script File Options

Option	Description
<code>-a</code>	Install the agent station software packages only.
<code>-m</code>	Install the management station software packages only.
<code>-b</code>	Install the agent and management station packages.
<code>-o</code>	Remove and replace any existing iPlanet Messaging Queue for Java (iMQ) packages found on the machine.
<code>-s</code>	Install or uninstall the software in silent mode. The software installs or uninstalls without displaying messages or prompts. If you do not specify the <code>-s</code> option, the script prompts you with messages as shown in “To Install the Software on a Management Station” on page 20
<code>-h</code>	Show a list of options for the <code>install</code> script.

Example Installation

Install the management and agent station software on one machine in silent mode where you want to overwrite any existing iMQ software packages:

1. **Log into your machine as root through the CDE Login Manager.**
See [“Install the Software as Root”](#) on page 16.
2. **Insert the CD into the CD-ROM drive connected to your machine.**
3. **Start the Volume Manager daemon `vold(1M)` (if needed).**

```
# /etc/init.d/volmgt start
```

Note – You only need to start the Volume Manager daemon once. Do not start the daemon again.

4. **Install the topology reporter software.**

```
# cd /cdrom/cdrom0  
# ./install -sbo
```

5. **Go to [Chapter 3](#) to complete the installation.**
See [“Post-Installation Steps Summary”](#) on page 28.
6. **When you finish the steps in [Chapter 3](#), eject the CD.**

```
# cd /  
# eject cdrom
```

uninstall [-sfh]

TABLE 2-3 uninstall Script File Options

Option	Description
-s	Uninstall the software in silent mode. The software installs or uninstalls without displaying messages or prompts. If you do not specify the -s option, the script prompts you with messages as shown in “To Install the Software on a Management Station” on page 20
-f	Force the removal of any iMQ packages found on the machine.
-h	Show a list of options for the uninstall script.

Example Removal

Note – See also [“Removing and Reinstalling the Topology Reporter Software” on page 39](#).

Uninstall the management station software on one machine in silent mode where you want to force the removal of any existing iMQ software packages:

- 1. Log into your machine as root through the CDE Login Manager.**
See [“Install the Software as Root” on page 16](#).
- 2. Stop all topology reporter processes and daemons.**

```
# /etc/init.d/sstrd stop
```

- 3. Remove the topology reporter software.**

```
# /var/opt/SUNWnsm/uninstall -sf
```


Configuring the Software and Other Post-Installation Procedures

Note – Perform these procedures as the superuser (root).

After you successfully install the topology reporter software, you must configure it to help ensure that the topology reporter operates correctly.

This chapter describes the following topics:

- [“Post-Installation Steps Summary” on page 28](#)
- [“Configuring the Topology Reporter Software” on page 29](#)
- [“Adding the sstr Command PATH and Man Page MANPATH to Your Shell Environment” on page 35](#)
- [“Starting and Stopping The Software” on page 37](#)
- [“Logging In Through a Web Browser” on page 38](#)
- [“Removing and Reinstalling the Topology Reporter Software” on page 39](#)
- [“Sending Event Information from the Storage Automated Diagnostic Environment” on page 42](#)

Post-Installation Steps Summary

TABLE 3-1 Post-Installation Steps

Post-Installation Step	See This Section or Chapter
1. Configure the software on the management station and each agent station.	“Configuring the Topology Reporter Software” on page 29 <ul style="list-style-type: none">• “Default Ports for Installation” on page 30• “If You Configure the Software More Than Once” on page 30• “Where Configuration Information is Stored” on page 30• “Topology Reporter SLP Scope Setting Configuration Rules” on page 31
2. Test the installation.	“Starting and Stopping The Software” on page 37 “Logging In Through a Web Browser” on page 38

Configuring the Topology Reporter Software

Use the `/opt/SUNWnsm/bin/sstr_ctl` command to configure the topology reporter software on your management station and each agent station. The command detects the station type.

The `sstr_ctl` command displays a series of prompts to set your configuration. In most cases, you can accept the default answers. The examples in [CODE EXAMPLE 3-1](#), [CODE EXAMPLE 3-2](#), and [CODE EXAMPLE 3-3](#) show the user responses in **bold** text.

This section describes the following topics:

- [“Default Ports for Installation” on page 30](#)
- [“If You Configure the Software More Than Once” on page 30](#)
- [“Where Configuration Information is Stored” on page 30](#)
- [“Topology Reporter SLP Scope Setting Configuration Rules” on page 31](#)
- [“To Configure the Software” on page 33](#)

See the `sstr_ctl` man page and the *Sun StorEdge Enterprise Storage Manager 1.0 Topology Reporter Administration and Operations Guide* for more information about the `sstr_ctl` command.

Default Ports for Installation

The default ports for the topology reporter software are:

Port Number	Description
8180	Non- Secure Socket Layer (SSL) port. For example: <code>http://hostname.domain:8180/nsm/</code>
8543	SSL port. For example: <code>https://hostname.domain:8543/nsm/</code>
1024	Apache HTTP server port
5437	Postgres SQL database port

If You Configure the Software More Than Once

If you install and configure the topology reporter software and then want to reconfigure it later, you must stop the software. If you do not stop the software and it is running while you attempt to configure it, the software detects that ports are in use.

When you run the `sstr_ctl -c` command, the software allows you to choose the next available port number. For example, it will allow you to choose port 8280 but not port 8180.

- **To stop the topology reporter software, type the following on the management station and each agent station:**

```
# /etc/init.d/sstrd stop
```

Where Configuration Information is Stored

When you successfully complete the procedures in this section, the software writes this configuration information to the `/opt/SUNWnsm/etc/sstr.properties` file.

Caution – Do not manually edit this file. Use the `sstr_ctl -c` command only.



Topology Reporter SLP Scope Setting Configuration Rules

Note – See the *Service Location Protocol Administration Guide* for more information about SLP and scope settings.

The topology reporter software uses the service location protocol (SLP) framework as part of the communications between the management and agents stations. When you first configure the software on the management and agent stations, the `sstr_ctl -c` command prompts you to use the SLP scope setting of `nsmscope`. `nsmscope` is the default SLP scope setting for the topology reporter software.

In the topology reporter software, an SLP scope is defined as a grouping of machines using the same applications and network services. This setting is specified in the `net.slp.useScopes=` field in the `/etc/inet/slp.conf` file when you configure the software.

- **Make sure that you configure the same scope setting for all agent stations connected to the same fabric.** (Fabric is defined here as interconnected switches providing physical connections between all fabric members [hosts, host bus adapters, other switches, and storage devices]. A SAN is defined here as consisting of multiple fabrics.)
- **Also make sure the management station in this fabric has the same scope setting as each agent station.** The same setting ensures that the agent stations report information to the management station in the fabric.

The management station and agent stations are considered to be in the same SLP scope when each machine has the same scope setting. Only one machine per scope can be a management station.

You can install multiple instances of the topology reporter software on the same local area network (LAN) using a unique management station with related agent stations. (That is, you can have multiple scopes on the same LAN.) Each instance must use unique scope settings. For example:

- Use a scope setting of `nsmscope` for one management station and its related agent stations connected to LAN1
- Use a scope setting of `nsmscope2` for a different management station and its related agent stations connected to LAN1

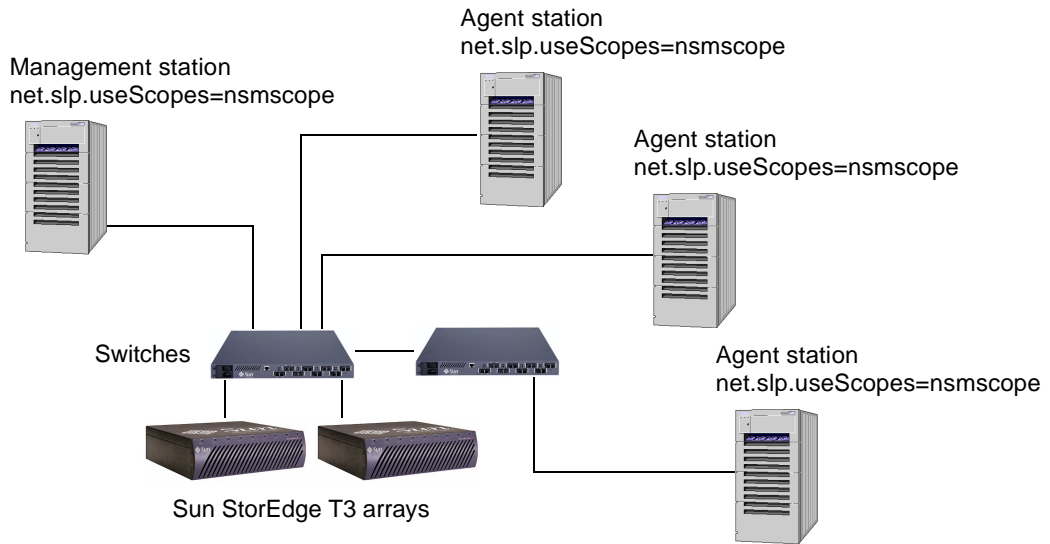


FIGURE 3-1 Scope Settings in a Fabric

▼ To Configure the Software

1. Log into each machine (management and agent stations) as superuser.
2. Configure the topology reporter software.

```
# /opt/SUNWnsm/bin/sstr_ctl -c
```

3. Respond to the prompts shown in [CODE EXAMPLE 3-1](#), [CODE EXAMPLE 3-2](#), or [CODE EXAMPLE 3-3](#) with your system information.
4. See the following sections:
 - “Topology Reporter SLP Scope Setting Configuration Rules” on page 31
 - “Starting and Stopping The Software” on page 37
 - “Logging In Through a Web Browser” on page 38.

CODE EXAMPLE 3-1 Configuration Script Example Responses, Management Station

```
Run PostgreSQL server on port 5437 [y,n,?] y
Run Tomcat non-SSL server on port 8180 [y,n,?] y
Run Tomcat SSL server on port 8543 [y,n,?] y
Do you want to use the SLP scope nsmscope [y,n,?] y
Configuration successful.
```

CODE EXAMPLE 3-2 Configuration Script Example Responses, Agent Station

```
Run Apache server on port 1024 [y,n,?] y
Do you want to use the Apache email address drew@hostname.domain [y,n,?] n
Please enter the Apache server email address for notification: root@hostname.domain
Do you want to use the SLP scope nsmscope [y,n,?] y
Configuration successful.
```

CODE EXAMPLE 3-3 Configuration Script Example Responses, Management and Agent Station on One Machine

```
Run PostgreSQL server on port 5437 [y,n,?] y
Run Tomcat non-SSL server on port 8180 [y,n,?] y
Run Tomcat SSL server on port 8543 [y,n,?] y
Run Apache server on port 1024 [y,n,?] y
Do you want to use the Apache email address drew@hostname.domain [y,n,?] y
Do you want to use the SLP scope nsmscope [y,n,?] y
Configuration successful.
```

Adding the sstr Command PATH and Man Page MANPATH to Your Shell Environment

This section describes how to add the topology reporter command and man page paths to your environment.

▼ To Add the Paths to Your Bourne or Korn Shell

1. **Add `/opt/SUNWnsm/bin` to the `PATH` statement in your `.profile` file.**

This path enables you to access the topology commands `sstr` and `sstr_ctl`. For example, edit your `.profile` file in a text editor and add the command path:

```
PATH=$PATH:/opt/SUNWnsm/bin
export PATH
```

where `$PATH` indicates all other paths in your file.

2. **Add `/opt/SUNWnsm/man` to your `MANPATH` statement in your `.profile` file.**

This path enables you to read the topology reporter-related man pages `sstr` and `sstr_ctl`.

```
MANPATH=$MANPATH:/opt/SUNWnsm/man
export MANPATH
```

where `$MANPATH` indicates the default man page path of `/usr/share/man` and other man page locations you might have. See the `man(1M)` man page for more information about the `man` command.

3. **Save this file and exit.**

4. **Source the file:**

```
# . ./profile
```

▼ To Add the Paths to Your C Shell

1. **Add /opt/SUNWnsm/bin to your path statement in your .cshrc file.**

This path enables you to access the topology reporter command `sstr`. For example, edit your `.cshrc` file in a text editor and add the command path:

```
set path = ($path /opt/SUNWnsm/bin)
```

where `$path` indicates all other paths in your file.

2. **Save this file and exit.**

3. **Add /opt/SUNWnsm/man to your MANPATH statement in your .login file.**

This path enables you to read the topology reporter-related man pages. For example, edit your `.login` file in a text editor and add the command path:

```
setenv MANPATH "$MANPATH:/opt/SUNWnsm/bin"
```

where `$MANPATH` indicates the default man page path of `/usr/share/man` and other man page locations you might have. See the `man(1M)` man page for more information about the `man` command and the directories it searches.

4. **Save this file and exit.**

5. **Source the files:**

```
# source .cshrc  
# source .login
```

Starting and Stopping The Software

Ensure that you start the software on the management station and each agent station.

- **To start the topology reporter software, open a terminal window and type:**

```
# /etc/init.d/sstrd start
```

The software displays messages showing each software process starting.

- **To stop the topology reporter software, open a terminal window and type:**

```
# /etc/init.d/sstrd stop
```

The software displays messages showing each software process stopping.

Logging In Through a Web Browser

If you have successfully installed and started the topology reporter software, log into the topology reporter software in a web browser.

1. **Open Netscape Navigator, version 4.79.**
2. **Type one of the following URLs in the URL text field:**
 - For a non-SSL HTTP server:

```
http://mgmt-station-hostname.domain:port/nsm/
```

where *mgmt-station-hostname.domain* is the management station host name and *port* is the port number you configured (typically 8180).

Note – If you are concerned about password security, use the SSL HTTP URL.

- For an SSL HTTP server:

```
https://mgmt-station-hostname.domain:port/nsm/
```

where *mgmt-station-hostname.domain* is the management station host name and *port* is the port number you configured (typically 8543).

The Login page is displayed.

3. **Log in as follows:**

```
User Name: admin  
Password: none; leave blank
```

4. **Click the Log In button.**

Note – As soon as you add a user with admin mode privileges, the default admin user is deleted. See the *Sun StorEdge Enterprise Storage Management Suite 1.0 Topology Reporter Software Administration and Operations Guide* for more information about users and user roles.

Removing and Reinstalling the Topology Reporter Software

Perform the following interactive procedures on each machine where you plan to remove and reinstall the software. You can also perform these procedures using the `uninstall` and `install` script files. See also “[The install and uninstall Script Options](#)” on page 24.

▼ To Remove the Software

1. **Log into your machine as root through the CDE Login Manager.**
See “[Install the Software as Root](#)” on page 16.
2. **Stop all topology reporter processes and daemons:**

```
# /etc/init.d/sstrd stop
```

3. **Remove the software packages.**

```
# /var/opt/SUNWnsm/uninstall
```

The `uninstall` script displays the following message:

```
***ATTENTION***
Sun StorEdge(TM) Topology Reporter uninstall DOES NOT remove
Sun StorEdge Network Foundation (software/drivers)
Packages and Patches from your system.

Proceed with uninstall? [y,n,?]
```

4. Type one of the following:

- Type **N** to stop the removal process.
- Type **Y** to continue with the removal.

The script displays the following message:

```
Select the type of station:
1) Management
2) Agent
3) Both
Pick one of the above:
```

5. Type one of the following to remove the related software packages:

- Type **1** to remove the management station packages only.
- Type **2** to remove the agent station packages only.
- Type **3** to remove both the management and agent station software packages on installed on the same machine.

If you type **1** or **3**, the script asks if you want to remove the iMQ software:

```
Remove IMQ found on this host [y,n,?]
```

6. Type one of the following:

- Type **Y** to remove the iMQ software.
- Type **N** to continue without removing the iMQ software.

When you type **Y**, the script lists the rest of the packages to remove and displays the following message:

```
Remove the above packages [y,n,?]
```

7. Type Y to remove the remaining software packages.

After the removal is finished, the following message is displayed:

```
Exiting, successful.
```

▼ To Reinstall the Software

1. See the installation procedures in [“Installing the Software” on page 15](#).
2. See the post-installation procedures in this chapter.

Sending Event Information from the Storage Automated Diagnostic Environment

If it is installed, you can configure the Storage Automated Diagnostic Environment version 2.0 software to send health monitor event information to the topology reporter software. This software includes a software provider named NSM for this purpose. See the *Storage Automated Diagnostic Environment User's Guide* for more information about this software tool.

▼ To Send Event Monitor Information to the Topology Reporter Software

1. **Start and log into the Storage Automated Diagnostic Environment Web-browser user interface (UI).**
2. **Click the Maintenance link in the Storage Automated Diagnostic Environment main window.**
3. **Click the Providers link on the Maintenance menu.**
4. **Click the NSM link in the Notification Provider Maintenance window.**
5. **Click the Active button.**
6. **Enter the following information in the fields:**

IP Address	<code>http://hostname.domain:8180/et/servlet/et</code> where <i>hostname.domain</i> is the machine you designated as the management station during installation. You can also use the machine's IP address.
-------------------	--

Timeout (sec)	90
----------------------	----

7. **Select XML as the Transmit Format.**
8. **Click Update.**

Troubleshooting Tips

This section describes general tips to help avoid and troubleshoot any problems that might occur when installing the topology reporter software. The following topics are described:

- [“Log Files to Check After Installation” on page 44](#)
- [“Checking for Running Software Components” on page 45](#)
- [“Setting Switch Credentials” on page 47](#)
- [“If The Topology Page Displays An Error” on page 49](#)

Log Files to Check After Installation

Check the following files, which help you to troubleshoot installation problems:

- `/var/sadm/install/logs/SUNWnsm.log`
This log contains error or informational messages.
- `/var/adm/messages`
This log contains general system error or informational messages.
- `/var/opt/SUNWnsm/pgsql/nsmdb.log`
This log contains warnings and error messages from the topology reporter database.
- `/var/opt/SUNWnsm/tomcat/eventtranslator.log`
This log contains messages from software about events that have occurred.
- `/opt/SUNWnsm/utils/tomcat/logs/catalina.out`
This log contains messages from the software about any Java servlets used in the application and any errors associated with the event translator SLP registration.
- `/var/opt/SUNWnsm/cre/cre_log`
This log contains messages from the Container Runtime Environment. By default, logging to this file is turned off.

Note – Over time, the `/var/opt/SUNWnsm/cre/cre_log` (if enabled) and `/opt/SUNWnsm/utils/tomcat/logs/catalina.out` files can become very large. Make sure that you check these files occasionally so that they do not consume more disk space than desired.

Checking for Running Software Components

Perform the following steps to ensure that the required software application processes are running.

▼ To Check for Running Components

1. Check for running components.

```
# /opt/SUNWnsm/bin/sstr_ctl --status
```

The following messages are displayed (if the machine is both station types, all messages display):

■ If the machine is a management station:

```
Status of Sun StorEdge(TM) Topology Reporter Components

Core Components:

PostgreSQL for SSTR.....running.
The CRE for SSTR.....running.
Tomcat for SSTR.....running.

Supporting Applications:

SLP.....running.
iPlanet iMQ.....running.
```

■ If the machine is an agent station:

```
Status of Sun StorEdge(TM) Topology Reporter Components
Core Components:

Apache for SSTR.....running.
SLP.....running.
```

2. If the status messages show that any component is `...not running`, try the following:

```
# /etc/init.d/sstrd stop
# /etc/init.d/sstrd start
# /opt/SUNWnsm/bin/sstr_ctl --status
```

3. Check the log files if a component is not running.

See [“Log Files to Check After Installation”](#) on page 44.

4. Fix any errors shown in the log files.

5. If you need to manually start software components:

Note – Although you can manually start the topology reporter software components, it is best to shut down and restart your system to start them in an orderly fashion.

- On a management station, type:

```
# /etc/init.d/slpd start
# /etc/init.d/jmq start
# /opt/SUNWnsm/sbin/sstr.postgresql start
# /opt/SUNWnsm/sbin/sstr.tomcat start
# /opt/SUNWnsm/sbin/sstr.cre start
```

- On an agent station, type:

```
# /etc/init.d/slpd start
# /opt/SUNWnsm/sbin/sstr.apache start
```

- On a machine that is a management station and an agent station, type

```
# /etc/init.d/slpd start
# /etc/init.d/jmq start
# /opt/SUNWnsm/sbin/sstr.postgresql start
# /opt/SUNWnsm/sbin/sstr.apache start
# /opt/SUNWnsm/sbin/sstr.tomcat start
# /opt/SUNWnsm/sbin/sstr.cre start
```

6. If these steps fail, shut down and restart your system using `shutdown(1M)`.

Setting Switch Credentials

Note – See the *Sun StorEdge Enterprise Storage Management Suite 1.0 Topology Reporter Software Administration and Operations Guide* for information about the Web-browser user interface and command-line interface.

The discovery agent of the topology reporter software contacts the hardware switch for its status and identification. If the switch requires a user name and password to access the devices and you have not entered this information through the browser user interface or command-line interface, you might see error messages related to XML parsing or other exceptions.

To fix this, you need to enter the switch information into the topology reporter software.

Finding Out the Switch IP Address, User Name, and Password

The typical default login information for a switch is:

```
Username: admin
Password: password
```

To find out the IP address, contact your system administrator or click the switch graphic on the Topology page. The user name and password must match the settings you entered for the switch when you used the switch's management tool.

▼ To Add Switch Credentials

Note – These steps make the topology reporter software aware of switch user names and passwords and do not change existing switch settings.

1. **Click the Administration tab in the topology reporter UI.**
2. **Click the Out-of-band Credentials link under the Administration tab.**
The Out-of-band Credentials page is displayed.
3. **Click the Add button.**
4. **Type the required information in the related text field:**
 - Address - IP address of the switch
 - User Name - The user's login name for the switch. Typically this field is `admin`.
 - Password - The default is a blank password if you choose not to use one.
 - Verify Password - If you use a password, type it again.
5. **Click Save.**
A confirmation page is displayed.

If The Topology Page Displays An Error

If the Web browser displays an error on the Topology page such as following message, set the display as described in this section.

```
Topology images are not available
```

▼ To Set the Display

1. **From the machine where you are trying to display the topology graphics, type the following:**

```
# /usr/openwin/bin/xhost + mgmt-station-hostname:0.0
```

Where *mgmt-station-hostname* is the host name of the management station machine. This step enables the management station to access your display.

2. **Log into the management station machine as the `root` user.**

Note – Use the Common Desktop Environment (CDE) to log in as `root` on the management station. Do not use the `su`, `telnet`, or `rlogin` commands from the machine where you are trying to display the topology graphics or log in from a text terminal.

3. **If the topology reporter software is running, stop it:**

```
# /etc/init.d/sstrd stop
```

4. **Edit the `/opt/SUNWnsm/sbin/sstr.tomcat` file and update the `DISPLAY` variable to the host name where you executed the `xhost` command in [Step 1](#).**

Change:

```
# Set display
DISPLAY=localhost:0.0
export DISPLAY
```

to:

```
# Set display
DISPLAY=UI-hostname:0.0
export DISPLAY
```

Where *UI-hostname* is the host name of the machine where you wish to display the topology graphics.

5. Start the topology reporter software:

```
# /etc/init.d/sstrd start
```

Once the topology reporter software has started, you can reset the *xhost* settings on your machine and the `DISPLAY` setting on the management station. Use the `sstr_ctl -s status` command to check the software.

Quick Installation Steps

This appendix is intended for experienced system and storage administrators.

See these related chapters for more detailed information.

- [Chapter 1, “Installation Requirements and Preparation” on page 1](#)
- [Chapter 2, “Installing the Software” on page 13](#)
- [Chapter 3, “Configuring the Software and Other Post-Installation Procedures” on page 27](#)

Note – See the *Sun StorEdge Enterprise Storage Manager 1.0 Topology Reporter Release Notes* for late-breaking information.

Pre-installation Steps

Step	Comments/See This Section
1. Choose the machines in your SAN or DAS environment where you will install the software.	“Supported Software, Patches, and Hardware” on page 3 “Preparing for Installation” on page 7
2. Check the available disk and memory space.	<u>Management station installation and operation:</u> <ul style="list-style-type: none">• 640 Mbytes of disk space• 256 Mbytes system memory (512 Mbytes preferred) <u>Agent station installation and operation:</u> <ul style="list-style-type: none">• 71 Mbytes of disk space• 256 Mbytes system memory (512 Mbytes preferred) <u>If the management and agent station is a single machine:</u> <ul style="list-style-type: none">• 711 Mbytes of disk space• 256 Mbytes system memory (512 Mbytes preferred)
3. Prepare the management station for installation. <ul style="list-style-type: none">• Edit the <code>/etc/system</code> file and add the kernel memory values.• Perform a reconfiguration reboot using the <code>reboot -- -r</code> command.	<p>Add the following text to the end of the file.</p> <pre>set shmsys:shminfo_shmmax=0x2000000 set shmsys:shminfo_shmmin=1 set shmsys:shminfo_shmmni=256 set shmsys:shminfo_shmseg=256 set semsys:seminfo_semmap=256 set semsys:seminfo_semni=512 set semsys:seminfo_semmsl=32 set semsys:seminfo_semmns=512</pre> <p>If you or an application have previously edited this file and specified memory values, keep the higher of the memory values. For example, if the topology reporter values shown are higher, use those values.</p> <p>“Preparing the Management Station” on page 9</p>

Step	Comments/See This Section
<p>4. Prepare the agent station for installation.</p> <ul style="list-style-type: none">• Ensure that the correct patches and software packages are installed on your machine for your host bus adapter cards, switches, and environment.• After installing patches, perform a reconfiguration reboot using the <code>reboot -- -r</code> command.	<p>See TABLE 1-2 and TABLE 1-3. Also see the <i>Sun StorEdge SAN 4.0 Release Installation Guide</i>.</p> <p>“Preparing the Agent Station” on page 11</p>

Installation Steps

Step	Comments/See This Section
<p>1. Log in as root through CDE Login Manager:</p> <ul style="list-style-type: none">• On a single machine acting as a management and agent station• On individual machines acting as a management or agent station	<p>On the management station, log in as <code>root</code> through the Common Desktop Environment (CDE) Login Manager to install the software on the management station.</p> <ul style="list-style-type: none">• Do not use the <code>su</code>, <code>telnet</code>, or <code>rlogin</code> commands from another machine.• Do not log in from a text console terminal. <p>If you do install the software using the <code>su</code>, <code>telnet</code>, or <code>rlogin</code> commands, you will need to perform the procedure described in “If The Topology Page Displays An Error” on page 49 to display your SAN topology graphically.</p> <p>On the agent station, you can use the <code>su</code>, <code>telnet</code>, or <code>rlogin</code> commands to install the software.</p> <p>“Installing the Software” on page 15 “The install and uninstall Script Options” on page 24</p>
<p>2. Insert the product CD in the CD-ROM drive connected to your system.</p>	<p>Start the Volume Manager daemon <code>vold(1M)</code> (if needed) and change to the product directory as follows:</p> <pre># /etc/init.d/volmgt start # cd /cdrom/cdrom0</pre>
<p>3. Install the software on a management station.</p> <ul style="list-style-type: none">• # <code>./install</code>• Type <code>Y</code> and <code>1</code> to install the management station software.	<p>“To Install the Software on a Management Station” on page 20 “Installing the Software on a Machine That Acts as a Management Station and Agent Station” on page 19 “The install and uninstall Script Options” on page 24</p>

Step	Comments/See This Section
4. Install the software on an agent station. <ul style="list-style-type: none"><li data-bbox="174 232 337 255">• # ./install<li data-bbox="174 262 711 291">• Type Y and 2 to install the agent station software.	<p data-bbox="753 196 1305 309">You must install the agent station portion of the software on each host connected to a SAN or fabric. If you install the software on some hosts but not all, you will only partially discover information.</p> <p data-bbox="753 315 1305 395">If a host is part of multiple fabrics, then all fabrics that it is part of must have the agent station portion of the software installed for full discovery.</p> <p data-bbox="753 402 1253 460">“To Install the Software on an Agent Station” on page 22</p> <p data-bbox="753 466 1305 524">“Installing the Software on a Machine That Acts as a Management Station and Agent Station” on page 19</p> <p data-bbox="753 531 1305 552">“The install and uninstall Script Options” on page 24</p>

Post-Installation Steps

Step	Comments/See This Section
1. Log into each machine as superuser. <ul style="list-style-type: none">• Management station• Agent stations	“Default Ports for Installation” on page 30 “If You Configure the Software More Than Once” on page 30 “Where Configuration Information is Stored” on page 30
2. Configure the software. <ul style="list-style-type: none">• <code># /opt/SUNWnsm/bin/sstr_ctl -c</code>	Follow the prompts as shown in CODE EXAMPLE 3-1 , CODE EXAMPLE 3-2 , or CODE EXAMPLE 3-3 . “Topology Reporter SLP Scope Setting Configuration Rules” on page 31 “To Configure the Software” on page 33
3. Add the command paths to your environment.	“Adding the sstr Command PATH and Man Page MANPATH to Your Shell Environment” on page 35
4. Start the software. <ul style="list-style-type: none">• <code># /etc/init.d/sstrd</code>	“Starting and Stopping The Software” on page 37
5. Log in through a web browser. <ul style="list-style-type: none">• non-SSL Web server: <code>http://mgmt-station-hostname.domain:port/nsm/</code>• SSL Web server: <code>https://mgmt-station-hostname.domain:port/nsm/</code>	Non-SSL: where <i>mgmt-station-hostname.domain</i> is the management station host name and <i>port</i> is the port number you configured (typically 8180). SSL: where <i>mgmt-station-hostname.domain</i> is the management station host name and <i>port</i> is the port number you configured (typically 8543). “Logging In Through a Web Browser” on page 38

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