Sun StorEdge™ 3000 Family 2.0 Software Installation Guide

Adobe PostScript™

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Preface

This guide explains how to install Sun StorEdge™ Configuration Service, Sun StorEdge Diagnostic Reporter, and the command-line interface (CLI).

Sun StorEdge Configuration Service enables you to monitor and manage your Sun StorEdge 3000 family product through a graphical user interface (GUI). For information about using Sun StorEdge Configuration Service, refer to the *Sun StorEdge 3000 Family Configuration Service User's Guide*.

Sun StorEdge Diagnostic Reporter is a companion utility of Sun StorEdge Configuration Service that reports your storage system events to specified email addresses. For information about using Sun StorEdge Diagnostic Reporter, refer to the *Sun StorEdge 3000 Family Diagnostic Reporter User's Guide*.

The CLI enables you to perform many of the same operations as Sun StorEdge Configuration Service or the firmware application. For information about using the CLI, refer to the *Sun StorEdge 3000 Family CLI User's Guide*.

Unless otherwise specified, the Sun StorEdge 3120 SCSI array, Sun StorEdge 3310 SCSI array, Sun StorEdge 3320 SCSI array, Sun StorEdge 3510 FC array, and Sun StorEdge 3511 SATA array are referred to as the *array* or *arrays*.

This guide is written for experienced system administrators who are familiar with Sun hardware and software products.

How This Book Is Organized

This book covers the following topics:

Chapter 1 covers information to be aware of before installing Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, or the command-line interface (CLI).

Chapter 2 provides system requirements and installation procedures for Sun StorEdge Configuration Service agents and consoles, Diagnostic Reporter, and the CLI on a Solaris™ host.

Chapter 3 provides system requirements and installation procedures for Sun StorEdge Configuration Service agents and consoles, Diagnostic Reporter, and the CLI on a Windows 2000 and Windows 2003 host.

Chapter 4 provides system requirements and installation procedures for Sun StorEdge Configuration Service agents and consoles on a Linux host.

Chapter 5 provides system requirements and installation procedures for Sun StorEdge Configuration Service agents and consoles on an HP-UX host.

Chapter 6 provides system requirements and installation procedures for Sun StorEdge Configuration Service agents and consoles on an IBM AIX host.

Chapter 7 provides system requirements and installation procedures for Sun StorEdge Diagnostic Reporter.

Chapter 8 provides system requirements and installation procedures for the CLI.

Using UNIX Commands

This document might not contain information on basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- Solaris™ operating system documentation, which is at

  http://docs.sun.com

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#

Typographic Conventions

Typeface[1]	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with on-screen computer output	`% `**`su`** `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type `rm` *filename*.

1 The settings on your browser might differ from these settings.

Related Documentation

The following table contains a list of related software documentation. For a complete list of all related documentation, refer to the *Sun StorEdge 3000 Family Installation, Operation, and Service Manual* for your array.

Title	Part Number
Sun StorEdge 3120 SCSI Array Release Notes	816-7955
Sun StorEdge 3310 SCSI Array Release Notes	816-7292
Sun StorEdge 3320 SCSI Array Release Notes	817-7660
Sun StorEdge 3510 FC Array and Sun StorEdge 3511 SATA Array Release Notes	817-6597
Sun StorEdge 3000 Family 2.0 Software Installation Guide	817-3764
Sun StorEdge 3000 Family RAID Firmware 4.1x User's Guide	817-3711
Sun StorEdge 3000 Family Configuration Service 2.0 User's Guide	817-3337
Sun StorEdge 3000 Family Diagnostic Reporter 2.0 User's Guide	817-3338
Sun StorEdge 3000 Family CLI 2.0 User's Guide	817-4951

Accessing Sun Documentation

All Sun StorEdge 3000 family documentation is available online in both PDF and HTML format at the following location:

http://www.sun.com/products-n-solutions/hardware/docs/
Network_Storage_Solutions/Workgroup/

The following locations are specific for the SCSI, FC, and SATA arrays:

http://docs.sun.com/app/docs/coll/3120SCSIarray

http://docs.sun.com/app/docs/coll/3310SCSIarray

http://docs.sun.com/app/docs/coll/3320SCSIarray

http://docs.sun.com/app/docs/coll/3510FCarray

http://docs.sun.com/app/docs/coll/3511FCarray

You can view, print, or purchase a broad selection of Sun documentation at:

http://www.sun.com/documentation

Contacting Sun Technical Support

For late-breaking news and troubleshooting tips, review the release notes for your array, available at the locations shown in "Accessing Sun Documentation" on page xiv.

If you have technical questions about this product that are not answered in the documentation, go to:

http://www.sun.com/service/contacting

To initiate or check on a USA-only service request, contact Sun support at:

800-USA4SUN

To obtain international technical support, contact the sales office of each country at:

http://www.sun.com/service/contacting/sales.html

508 Accessibility Features

The Sun StorEdge documentation is available in 508-compliant HTML files that can be used with assistive technology programs for visually impaired personnel. These files are provided on the Documentation CD for your product as well as on the websites identified in the previous "Accessing Sun Documentation" section. Additionally, the software and firmware applications provide keyboard navigation and shortcuts, which are documented in the user's guides.

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. You can submit your comments by going to:

http://www.sun.com/hwdocs/feedback

Please include the title and part number of your document with your feedback: *Sun StorEdge 3000 Family 2.0 Software Installation Guide*, part number 817-3764-13.

Before You Begin

This chapter covers important information you need to be aware of before you install Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI. Topics covered in this chapter include:

Release Notes

Be sure to read the release notes for your array to determine whether the operating systems covered in this guide are supported by your Sun StorEdge family product and for other supported software information.

Superuser Privileges

You must be superuser (administrator) to install Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI and to run the Sun StorEdge Configuration Service console.

Operating System Information

This section covers information about the operating system (OS).

- For the Sun StorEdge 3310 SCSI array, Sun StorEdge 3320 SCSI array, Sun StorEdge 3510 FC array, and Sun StorEdge 3511 SATA array, before you install Sun StorEdge Configuration Service:

  - Install OS updates. To use Sun StorEdge Configuration Service on a Solaris host, you need to install the most current Sun recommended OS patches and Java™ runtime environment software patches. For a list of Sun recommended patches, refer to the release notes for your array.

  - Make sure that the host that the Sun StorEdge Configuration Service agent is installed on is connected to a channel with a primary ID assigned. Refer to the *Sun StorEdge 3000 Family Installation, Operation, and Service Manual* for your array for controller defaults and initial configuration information.

  - Make sure that the host is connected to the storage and the host recognizes the storage.

- For the Sun StorEdge 3310 SCSI array and the Sun StorEdge 3320 SCSI array, before you install Sun StorEdge Configuration Service on a Solaris host, make sure the OS can recognize multiple logical unit numbers (LUNs) under the same ID. You might need to modify `/kernel/drv/sd.conf` for additional host LUN assignments. For information on how to modify this file, refer to the *Sun StorEdge 3000 Family Installation, Operation, and Service Manual* for your SCSI array. If you make any changes to the `sd.conf` file, you need to reboot the workstation for the modifications to take effect.

- If your OS contains an enterprise management console, you can configure agents to send trapped events to the console using the Simple Network Management Protocol (SNMP) service. The SNMP service is included with the OS and is installed after installing the TCP/IP protocol stack. If you want the hosts on your network to send SNMP traps to the enterprise management console, refer to the "Email and SNMP" appendix in the *Sun StorEdge 3000 Family Configuration Service User's Guide.*

Upgrading Software – Agent and Console Version Compatibility

Because the communication protocol changes from version to version, you must install *both* the agent and console when upgrading. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Installing the Software on a Solaris Host

The software installation package for a Solaris host includes all the software components for Sun StorEdge 3000 family arrays. This chapter provides procedures for installing Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter and the CLI on a Solaris host. Topics covered in this chapter include:

Before Installing

Before installing the programs, take the following steps:

- Be sure to read the release notes for your array.
- Install OS updates. To use Sun StorEdge Configuration Service on a Solaris host, you need to install the most current Sun recommended OS patches and Java runtime environment software patches for the Solaris 8 and Solaris 9 OS. For a list of Sun recommended patches, refer to the release notes for your array.

System Requirements

This section lists the system requirements for the Solaris host.

- Netscape Navigator™ web browser – You require the web browser to view online help. Versions earlier than 4.0 are not supported.

- TCP/IP-compliant network interface – Each console must have a TCP/IP-compliant network interface (such as an Ethernet or Token Ring network card, or a serial line with a modem). Each agent must have a TCP/IP-compliant network interface and driver set (included with the operating system).

- Color monitor – The console is best viewed with a monitor resolution of 1024 x 768 pixels with 256 colors.

- OS, memory, and disk space – TABLE 2-1 lists the console system requirements for the Solaris OS.

TABLE 2-1   System Requirements for the Solaris OS

Solaris OS Version	Memory	Disk Space
Solaris 2.6 with Sun recommended patches. Solaris 8, Solaris 9, and Solaris 10 with Sun recommended patches on SPARC platforms. Solaris 9 x86 Platform Edition (9 08/03) with Sun recommended patches. (For a list of Sun recommended patches, refer to the release notes for your array.)	256 Mbyte required 512 Mbyte recommended	100 Mbyte minimum 200 Mbyte recommended

Installing Software

The software installation package, `SUNWsscs`, includes the following components:

- Sun StorEdge Configuration Service agent
- Sun StorEdge Configuration Service console
- Sun StorEdge Diagnostic Reporter agent (daemon)
- Sun StorEdge Diagnostic Reporter Config Tool (UI)
- Command-Line Interface (CLI)

Note – Before installing the software, be sure to read the release notes for your array.

Note – You must be superuser to install the package and to run the Sun StorEdge Configuration Service console.

Upgrading Software – Agent and Console Version Compatibility

Because the communication protocol changes from version to version, you must install the `SUNWsscs` package on all systems that manage the storage when upgrading. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Installation Packages

Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI are included in one installation package, `SUNWsscs`, that is contained on the Sun StorEdge 3000 Family Professional Storage Manager CD. If the CD is not available, you can download the software from the Sun Download Center web site.

Sun StorEdge Configuration Service offers language support for French, Japanese, Simplified Chinese and Traditional Chinese. TABLE 2-2 specifies which files are required for each language.

Note – Sun StorEdge Configuration Service offers Korean language support for documentation only. The software user interface is in English.

Note – Each language requires that the English installation package be installed *first*.

TABLE 2-2 Installation Packages for Solaris OS Language Support

English	French	Japanese	Simplified Chinese	Traditional Chinese
SUNWsscs	SUNWfsscs	SUNWjsscs	SUNWcsscs	SUNWhsscs

If you are installing only the English version of the package, follow only the instructions for installing the English package. If you are adding language support, you must install the English version of the package *first*.

If you are upgrading, you must install the SUNWsscs package on all systems that manage the storage. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Note – Make sure that Java runtime environment software is installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Configuration Service on a Solaris 2.6 host is 1.3.1. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Configuration Service on a Solaris 8 or 9 host is 1.2.

▼ To Download the Updated Software From the Web Site

If the Sun StorEdge 3000 Family Professional Storage Manager CD is not available, you can download the software from the Sun Download Center web site.

1. **If you are upgrading, be sure you uninstall earlier versions of Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI, including the agents.**

   Individual software packages have been replaced by one package, SUNWsscs, starting with version 2.0. The individual packages must be removed before you can install SUNWsscs. For details on uninstalling, see "Uninstalling the Software" on page 16.

2. **Go to:**

   http://www.sun.com/software/download/

3. **Under System Administration → Storage Management, click the Sun StorEdge 3000 Family Storage Products - Related Software link, and click the Download button.**

   You are taken to a Sun Download Center page.

4. **If not previously registered, register.**

   a. **Click the Register Now link at the bottom of the left column.**

   b. **On the registration page, enter applicable data in the required fields and click Register.**

5. **Log in.**

   a. **Type your Username and Password in the left column, and click Login.**

   b. **On the Terms of Use page, read the license agreement, click Yes next to Accept, and click the Continue button.**

6. **On the software download page, click the link for your array and operating system.**

7. **In the dialog box that is displayed, specify a destination directory and save the file.**

8. **Change to the directory that the file was downloaded to and unzip the file.**

9. **Type:**

   ```
   cd filename/solaris/$ARCH
   ```

   where *filename* is the name of the file that was downloaded and *$ARCH* is either sparc or i386, depending on the Solaris OS platform.

10. **Go to and Step 3 in "To Install the Software From the CD" on page 10.**

▼ To Install the Software From the CD

1. **If you are upgrading, be sure you uninstall earlier versions of Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI, including the agents.**

   Individual software packages have been replaced by one package, SUNWsscs, starting with version 2.0. The individual packages must be removed before you can install SUNWsscs. For details on uninstalling, see "Uninstalling the Software" on page 16.

2. **Insert the Sun StorEdge 3000 Family Professional Storage Manager CD and type:**

   ```
   # cd /cdrom/cdrom0/product/solaris/$ARCH
   ```

   where *$ARCH* is either sparc or i386, depending on the Solaris OS platform.

3. **To install the English package, type:**

   ```
   # pkgadd -d . SUNWsscs
   ```

   - (Optional) To add language support, type:

   ```
   # pkgadd -d . SUNWxsscs
   ```

   where *x* is f, j, c or h, depending on what language you are installing. See TABLE 2-2 for package names.

4. **Provide appropriate responses to each of the installation prompts.**

   a. **If asked if you want to restore the agent configuration, type y. (If you type n, you will need to re-enable the managing servers.)**

   ```
   The previous configuration was saved. Do you want to restore the
   configuration [y,n,?,q]: y
   ```

   b. **To continue with the installation, type y and press Return.**

   ```
   Do you want to continue with the installation [y,n,?] y
   ```

After the package is installed, the following message is displayed, indicating it was installed successfully.

```
Installation of <SUNWsscs> was successful.
```

The Sun StorEdge Configuration Service components are installed in the following directories:

- `/opt/SUNWsscs/ssagent`
- `/opt/SUNWsscs/sscsconsole`

The Sun StorEdge Diagnostic Reporter components are installed in the following directories:

- `/opt/SUNWsscs/ssdiagreporterd`
- `/opt/SUNWsscs/ssdiagreporterui`

The CLI is installed in `/opt/SUNWsscs/sbin/sccli`.

5. **If you are using Sun StorEdge Configuration Service and Diagnostic Reporter to manage and monitor the storage, the following additional steps are required.**

   a. **You must set passwords for all Sun StorEdge Configuration Service users.**

   See "Users and Passwords" on page 14 for more information.

Note – User passwords are deleted when Sun StorEdge Configuration Service is uninstalled. You must reenter the ssmon, ssadmin, and ssconfig passwords as described in "Users and Passwords" on page 14.

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   b. **Before starting the Sun StorEdge Configuration Service Console, you must run the following command to specify the web browser to access online help.**

```
/opt/SUNWsscs/sscsconsole/config_sscon
```

   c. **The Sun StorEdge Configuration Service agent and the Sun StorEdge Diagnostic Reporter agent (daemon) have been installed but are not configured to start at boot time by default. To enable the Sun StorEdge Configuration Service agent to start automatically when the system boots, and to start it now, type:.**

```
/etc/init.d/ssagent enable start
```

To enable the Sun StorEdge Diagnostic Reporter to start automatically when the system boots, and to start it now, type:

```
/etc/init.d/ssdgrptd enable start
```

6. **For Sun StorEdge 3310 SCSI and Sun StorEdge 3320 SCSI arrays, edit** `/kernel/drv/sd.conf` **if LUNs other than LUN 0 are mapped from the array to the host and an onboard HBA for Sun hosts or third-party HBAs is used for connecting the device.**

   Add lines for LUNs as appropriate for your configuration. LUNs can be numbered from 0-31. Generally, do not add more LUN definitions than you actually plan to have, since doing so increases the time needed to scan each SCSI bus. For information on modifying the `sd.conf` file, refer to the *Sun StorEdge 3000 Family Installation, Operation, and Service Manual* for your SCSI array.

7. **If the** `sd.conf` **file has been edited, perform a reconfiguration reboot.**

   If the `sd.conf` file has not been edited, you do not have to perform a reconfiguration reboot and the agent starts automatically.

▼ To Install a Japanese Version of the Man Page

The CLI for the Solaris host offers a Japanese version of the man page. To install it, insert the Sun StorEdge 3000 Family Professional Storage Manager CD and type:

```
# pkgadd -d /cdrom/cdrom0/product/solaris SUNWjsccl
```

Manually Stopping and Starting Sun StorEdge Configuration Service and Sun StorEdge Diagnostic Reporter

During installation, you were provided with steps to start the Sun StorEdge Configuration Service agent and the Sun StorEdge Diagnostic Reporter agent automatically when the system boots. You can also start and stop the agents manually.

Note – You must be superuser to start and stop the agent.

▼ To Stop or Start the Sun StorEdge Configuration Service Agent

The agent can be stopped and started manually.

1. **To stop the agent, type:**

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

2. **To start the agent, type:**

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

   If you use start without first using stop, the script restarts any agents that have stopped. If all the agents have stopped (as with a stop option), the script reconfigures the runtime environment before restarting the agents.

3. **To determine if the agent is running, type:**

```
# ps -e | grep ss
```

   Both ssmon and ssserver are displayed in the output. If you have enabled SNMP trap generation, you also see the name sstrapd.

4. **If the storage system is not being displayed after initial boot, stop the agent, and at the command prompt, run:**

```
# format
```

5. **Label the desired disks, and then restart the agent.**

▼ To Stop or Start the Sun StorEdge Diagnostic Reporter Agent

Type:

```
# /etc/init.d/ssdgrptd stop
# /etc/init.d/ssdgrptd start
```

Users and Passwords

The following sections explain how to create users and passwords. for Sun StorEdge Configuration Service.

Administrative (User) Security Levels and Guidelines

If you are running Sun StorEdge Configuration Service on a Solaris host, *administrator security levels are automatically created during the installation process*. You only need to set passwords and assign users according to the desired permission levels.

Administrative functions require access logins and passwords to prevent the possibility of one administrator reallocating or removing storage resources belonging to other clients and hosts without authorization.

You assign separate passwords for the three levels of security for the program. You do this by setting up three users on the agents that have storage devices that are managed by the program. These three users are automatically added during the installation of the agent.

The security levels must have these exact names:

- ssmon

  Represents the monitoring level of the software.

- ssadmin

  Represents the administration level of the software and provides access to the Rebuild, Parity Check, and Schedule Parity Check functions, as well as monitoring.

- ssconfig

  Represents the configuration level of the software and gives the installer direct access to the configuration functions and all other related aspects of the program.

These login names are required for the three security levels. After installation, you must assign a password to each security name.

Note – User passwords are deleted when Sun StorEdge Configuration Service is uninstalled. You must reenter the ssmon, ssadmin, and ssconfig passwords.

The ssmon, ssadmin, and ssconfig names are logins that correspond only to security levels within the program. For UNIX operating environments, the default shell for these accounts is assigned to /bin/false to prevent the user IDs from being used for interactive logins.

You can set up Sun StorEdge Configuration Service so that monitoring does not require users to type the ssmon password. To do so, select the Auto Discovery option when the servers are added to the Managed Servers list at the console. You can set up these three logins and passwords locally on each host. (The accounts can have different passwords on each host, if desired.)

Once you have set up these three logins on the agents to be managed, the system administrator typically provides user access to the program by assigning employees appropriate passwords, which are based on the level of security required to complete tasks. For example, everyone who has administration privileges on a particular host is assigned the same password that was established for the user ssadmin.

Note – To add servers to the Managed Servers list, refer to the *Sun StorEdge 3000 Family Configuration Service User's Guide*.

▼ To Create Passwords and Permissions

Create a password for each of the new users by typing:

```
# passwd user-name
```

You will be prompted to re-enter the password before receiving confirmation.

Administrators might also want to change group permissions, which are defined in the svrlist.dat file located in the /opt/SUNWsscs/sscsconsole directory during installation.

The console is a Java technology-based utility, and as such, cannot provide facilities to control permissions or ownership of files that Sun StorEdge Configuration Service creates. The svrlist.dat file is easily readable by various forms of ASCII text processors. It contains the encrypted password for the user ssmon and can be decrypted.

Note – Do not change the permissions and group ownership of svrlist.dat after adding all agents that are being monitored.

Uninstalling the Software

Individual software packages have been replaced by one package, SUNWsscs, starting with version 2.0. The individual packages must be removed before you can install SUNWsscs. See "To Uninstall Earlier Versions of Sun StorEdge Configuration Service and Sun StorEdge Diagnostic Reporter" on page 16 and "To Uninstall Earlier Versions of the CLI" on page 17 for more information.

To uninstall version 2.0 of the software, see "To Uninstall Version 2.0 of the Software" on page 17.

If you want to uninstall the Japanese version of the man page, see "To Uninstall Version 2.0 of the Software" on page 17.

Note that some files are not removed because they are created after the installation and are still valid for the upgrade environment

▼ To Uninstall Earlier Versions of Sun StorEdge Configuration Service and Sun StorEdge Diagnostic Reporter

Use the pkgrm command followed by the package you want to uninstall.

Note – If you added French, Japanese, or Simplified Chinese language support, you must uninstall those packages *before* uninstalling the English package.

```
# pkgrm package-name
```

where *package-name* is the package you are uninstalling. See TABLE 2-3 for a list of Sun StorEdge Configuration Service and Sun StorEdge Diagnostic Reporter 1.5 package names.

TABLE 2-3 Sun StorEdge Configuration Service and Sun StorEdge Diagnostic Reporter 1.5 Installation Packages

	English	French	Japanese	Simplified Chinese
Sun StorEdge Configuration Service				
Agent	SUNWscsd	SUNWfscsd	SUNWjscsd	SUNWcscsd
Console	SUNWscsu	SUNWfscsu	SUNWjscsu	SUNWcscsu
Sun StorEdge Diagnostic Reporter				
Agent	SUNWscsa	SUNWfscs	SUNWjscs	SUNWcscs
Config Tool (UI)	SUNWscui	SUNWfscui	SUNWjscui	SUNWcscui

▼ To Uninstall Earlier Versions of the CLI

Use the pkgrm command to uninstall the CLI.

```
# pkgrm SUNWsccli
```

▼ To Uninstall Version 2.0 of the Software

Use the pkgrm command to uninstall Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI.

```
# pkgrm SUNWsscs
```

▼ To Uninstall the Japanese Version of the Man Page

If you installed the Japanese version of the man page, use the pkgrm command to uninstall it.

```
# pkgrm SUNWjsccl
```

Restoring a Configuration

If you reinstall Sun StorEdge Configuration Service, during the installation procedure you are asked whether you want to restore the configuration. If you select to have the configurations restored, the information is restored from the following files:

- `/var/opt/SUNWsscs/sscsagt.cfg.tar` – Sun StorEdge Configuration Service agent

- `/var/opt/SUNWsscs/sscscon.cfg.tar` – Sun StorEdge Configuration Service console

Note – If you are removing Sun StorEdge Configuration Service permanently, you might want to manually remove these files; however, if you later reinstall the program, you will not be able to restore the agent and console configurations.

Troubleshooting

When installing Sun StorEdge Configuration Service, running `java -version` might return a pre-1.2.2 software version even if the machine has Java runtime environment 1.2.2, 1.3, or 1.4 installed. If this happens, verify that there is a link from the Java runtime environment software to the latest version.

Check the `/usr` directory to confirm there is a link to the latest version of the Java runtime environment by typing:

```
# cd /usr
ls | grep java
```

If the link is not to the latest version listed, type:

```
rm java
ln -s /usr/xxx /usr/java
```

where *xxx* is the latest version of the Java runtime environment software.

Installing the Software on a Microsoft Windows Host

This chapter provides procedures for installing Sun StorEdge Configuration Service consoles and agents on a Windows 2000 and Windows 2003 host. Topics covered in this chapter are as follows:

- "System Requirements" on page 21
- "Installing Software" on page 22
- "Users and Passwords" on page 28
- "Uninstalling the Software" on page 30

System Requirements

This section lists the system requirements for a Microsoft Windows host.

- Netscape Navigator or Microsoft Internet Explorer web browsers – You require a web browser to view online help. Versions earlier than 4.0 are not supported.

- TCP/IP-compliant network interface for the console – Each console must have a TCP/IP-compliant network interface (such as an Ethernet or Token Ring network card, or a serial line with a modem). Each agent must have a TCP/IP-compliant network card interface and driver set (included with the operating system).

- Color monitor – The console is best viewed with a monitor resolution of 1024 x 768 pixels with 256 colors.

- OS, memory, and disk space – TABLE 3-1 lists the console system requirements for a Microsoft Windows host. TABLE 3-2 lists the agent system requirements for a Microsoft Windows host.

TABLE 3-1   Console System Requirements for Microsoft Windows OS

Microsoft Windows OS Version	Memory	Disk Space
Windows 2000 (Service Pack 3)	256 Mbyte minimum	40 Mbyte minimum
Windows 2003	512 Mbyte recommended	400 Mbyte recommended

TABLE 3-2   Agent System Requirements for Microsoft Windows OS

Microsoft Windows OS Version	Memory	Disk Space
Windows 2000 (Service Pack 3) Windows 2003	128 Mbyte minimum, 512 Mbyte or more recommended. Requirement is determined by other large application programs, such as databases.	20 Mbyte minimum 400 Mbyte recommended

TABLE 3-3   Diagnostic Reporter Requirements for Microsoft Windows OS

Microsoft Windows OS Version	Memory	Disk Space
Windows 2000	256 Mbyte minimum	40 Mbyte minimum
Windows 2003	512 Mbyte recommended	400 Mbyte recommended

TABLE 3-4   CLI Requirements for Microsoft Windows OS

OS Version	Disk Space
Windows 2000 Windows 2003	3 Mbyte minimum

Installing Software

Sun StorEdge Configuration Service includes the following components:

- Sun StorEdge Configuration Service Agent
- Sun StorEdge Configuration Service Console
- Sun StorEdge Diagnostic Reporter (optional utility)
- Sun StorEdge Command-Line Interface (CLI)

> **Note –** Before installing Sun StorEdge Configuration Service, be sure to read the release notes for your array.

Upgrading Software – Agent and Console Version Compatibility

Because the communication protocol changes from version to version, you must install *both* the agent and console when upgrading. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Installation Packages

Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI are included in one installer program. The installation package, setup.exe, is contained on the Sun StorEdge 3000 Family Professional Storage Manager CD. See "To Download the Updated Software From the Web Site" on page 23 for steps on how to download the software from the Sun Download Center web site.

▼ To Download the Updated Software From the Web Site

If the Sun StorEdge 3000 Family Professional Storage Manager CD is not available, you can download the software from the Sun Download Center web site.

1. **Go to:**

   http://www.sun.com/software/download/

2. **Under System Administration → Storage Management, click the Sun StorEdge 3000 Family Storage Products - Related Software link, and click the Download button.**

   You are taken to a Sun Download Center page.

3. **If not previously registered, register.**

   a. **Click the Register Now link at the bottom of the left column.**

   b. **On the registration page, enter applicable data in the required fields and click Register.**

4. **Log in.**

   a. **Type your Username and Password in the left column, and click Login.**

   b. **On the Terms of Use page, read the license agreement, click Yes next to Accept, and click the Continue button.**

5. **On the software download page, click the link for your array and operating system.**

6. **In the dialog box that is displayed, specify a destination directory and save the file.**

7. **Change to the directory to which the file was downloaded and unzip the file.**

8. **Go to** *filename*\windows, **where** *filename* **is the name of the file that was downloaded.**

9. **Continue with the appropriate installation procedure as described below.**

Installing the Software From the CD

You need to install the agent on every Windows 2000 or Windows 2003 host whose storage you want Sun StorEdge Configuration Service to manage. Install the console on the computer or workstation you plan to use for managing and maintaining the system storage.

If you are upgrading, you must install *both* the agent and console. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Note – You must have administrator privileges to install Sun StorEdge Configuration Service and run the console.

Note – Make sure that Java runtime environment software is installed on the computer or workstation on which you are installing the console. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Configuration Service is 1.2.

To install the Sun StorEdge Configuration Service Agent and Console, see "To Install the Sun StorEdge Configuration Service Agent and Console" on page 25. To install the Sun StorEdge Diagnostic Reporter, see "To Install the Sun StorEdge Diagnostic Reporter" on page 26. To install the Sun StorEdge CLI, see "To Install the Sun StorEdge CLI" on page 27.

▼ To Install the Sun StorEdge Configuration Service Agent and Console

1. **To make sure the software installation utility functions optimally, close all open applications.**

2. **If you are upgrading, be sure you uninstall earlier versions of Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and the CLI, including the agents.**

3. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download the Updated Software From the Web Site" on page 23, and then go to Step 5.**

4. **If you are installing the software from the CD, insert the Sun StorEdge 3000 Family Professional Storage Manager CD and change to the** `\product\windows` **directory.**

5. **Double-click** `setup.exe` **and from the InstallShield Wizard window, click Next.**

6. **Select a software component to install,** `Sun StorEdge Configuration Service Agent` **or** `Sun StorEdge Configuration Service Console`**.**

7. **Click Next.**

8. **From the Copyright Notice window, click Yes.**

9. **From the Choose Destination Location window, install to the default folder and click Next.**

   The agent is installed in `C:\Program Files\Sun\ssagent`. The console is installed in `C:\Program Files\Sun\sscs`.

   To install to a different folder, click Browse, select another folder, and click Next.

10. **If you are installing the Sun StorEdge Configuration Service Console, from the Start Copying Files window, select Next.**

11. **From the InstallShield Wizard Complete window, click Finish.**

12. **From the Select Component window, select another component to install or close the window.**

    After the installation is complete, the agent starts automatically.

▼ To Install the Sun StorEdge Diagnostic Reporter

Note – You must install the Sun StorEdge Configuration Service agent before installing the Sun StorEdge Diagnostic Reporter agent and Config Tool.

1. **To make sure the software installation utility functions optimally, close all open applications.**

2. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download the Updated Software From the Web Site" on page 23, and then go to Step 4.**

3. **If you are installing the software from the CD, insert the Sun StorEdge 3000 Family Professional Storage Manager CD and change to the** \product\windows **directory.**

4. **Double-click** setup.exe **and from the InstallShield Wizard window, click Next.**

5. **Select** Sun StorEdge Diagnostic Reporter**.**

6. **Click Next.**

7. **From the Copyright Notice window, click Yes.**

8. **From the Choose Destination Location window, install to the default folder,** C:\Program Files\Sun\ssdgrpt**, and click Next.**

   To install to a different folder, click Browse, select another folder, and click Next.

9. **When the next window is displayed, click Full Installation and click Next.**
   - Full Installation – Installs all three software components (Service, Config Tool, and Mail Receiver Tool)
   - Service Installation – Installs only the background Service software; note that the Service function can be configured remotely from the Config Tool
   - UI Installation – Installs only the Config and Mail Receiver Tools (not the Service)

   Note – If you are not the administrator or you did not install Java runtime environment software, error messages that the Sun StorEdge Diagnostic Reporter Service is not running or is failing are displayed and you are unable to complete installation.

10. **From the InstallShield Wizard Complete window, click Finish.**

11. **From the Select Component window, select another component to install or close the window.**

▼ To Install the Sun StorEdge CLI

1. **To make sure the software installation utility functions optimally, close all open applications.**

2. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download the Updated Software From the Web Site" on page 23, and then continue with Step 4.**

3. **If you are installing the software from the CD, insert the Sun StorEdge 3000 Family Professional Storage Manager CD and change to the** `\product\windows` **directory.**

4. **Double-click** `setup.exe` **and from the InstallShield Wizard window, click Next.**

5. **Select** `Sun StorEdge Command Line Interface`**.**

6. **Click Next.**

7. **From the Copyright Notice window, click Yes.**

8. **From the Choose Destination Location window, install to the default folder,** `C:\Program Files\Sun\sccli`**, and click Next.**

   To install to a different folder, click Browse, select another folder, and click Next.

9. **From the Select Program Folder window, click Next.**

10. **From the InstallShield Wizard Complete window, click Finish.**

11. **From the Select Component window, select another component to install or close the window.**

▼ To Stop or Start the Sun StorEdge Configuration Service Agent

1. **On a Windows 2000 host, choose Start → Programs → Administrative Tools → Computer Management.**

   On a Windows 2003 host, choose Start → Administrative Tools → Computer Management.

   Alternatively, you can right-click My Computer and select Manage.

2. **Click Services & Applications.**

3. **Right-click the service (SUNWscsd Monitor, SUNWscsd Server, SUNWscsd Startup) you want to start or stop.**

▼ To Stop or Start the Sun StorEdge Diagnostic Reporter

1. **On a Windows 2000 host, choose Start → Programs → Administrative Tools → Computer Management.**

   On a Windows 2003 host, choose Start → Administrative Tools → Computer Management.

   Alternatively, you can right-click My Computer and select Manage.

2. **Click Services & Applications.**

3. **Select the Sun StorEdge Diagnostic Reporter Server, and right-click the service you want to start or stop.**

Users and Passwords

The following sections explain how to create users and passwords.

Administrative (User) Security Levels and Guidelines

Administrative functions require access logins and passwords to prevent the possibility of one administrator reallocating or removing storage resources belonging to other clients and hosts without authorization.

You assign separate passwords for the three levels of security. You do this by setting up three users on the agents that have storage devices that are managed by the program.

The security levels must have these exact names:

- `ssmon`

  Represents the monitoring level of the software.

- `ssadmin`

  Represents the administration level of the software and provides access to the Rebuild, Parity Check, and Schedule Parity Check functions, as well as monitoring.

- ssconfig

  Represents the configuration level of the software and gives the installer direct access to the configuration functions and all other related aspects of the program.

These names are required for the three security levels. After installation, you must assign a password to each security name.

The ssmon, ssadmin, and ssconfig names are logins that correspond only to security levels within the program.

You can set up Sun StorEdge Configuration Service so that monitoring does not require users to enter the ssmon password. To do so, select the Auto Discovery option when the hosts are added to the Managed Servers list at the console. You can set up these three logins and passwords locally on each host. (The accounts can have different passwords on each host.)

Once you have set up these three logins on the agents to be managed, the system administrator then typically provides user access to the program by assigning employees appropriate passwords, which are based on the level of security required to complete tasks. For example, everyone who has administration privileges on a particular host would be assigned the same password that was established for the user ssadmin.

Note – To add servers to the Managed Servers list, refer to the *Sun StorEdge 3000 Family Configuration Service User's Guide*.

Global Passwords

If you have a large network and do not want to set up logins individually, and it is acceptable to have the same passwords on multiple hosts, you can establish the three logins on a domain server under Microsoft Windows. As a result, all other servers within the Microsoft Windows domain can access the three logins along with their respective passwords.

▼ To Create Windows 2000 or Windows 2003 Users

1. **On a Windows 2000 host, choose Start → Settings → Control Panel → Administrative Tools → Computer Management → System Tools → Local Users and Groups.**

   On a Windows 2003 host, choose Start → Administrative Tools → Computer Management → Local Users and Groups.

2. **Right-click the Users folder and choose New User to add the three users (**`ssmon`**,** `ssconfig`**, and** `ssadmin`**).**

3. **Add one of the users under User name. If desired, enter a description under Description.**

4. **Enter a password and, if desired, select User Cannot Change Password and Password Never Expires.**

Uninstalling the Software

Use the Windows Add/Remove Programs utility to remove Sun StorEdge Configuration Service, Sun StorEdge Diagnostic Reporter, and Sun StorEdge Command-Line Interface from a Microsoft Windows console.

▼ To Uninstall the Sun StorEdge Configuration Service

1. **Choose Start → Settings → Control Panel → Add/Remove Programs.**

   For Windows 2003, choose Start → Control Panel → Add/Remove Programs.

2. **Choose** `Sun StorEdge Configuration Service Agent` **and choose Change /Remove.**

   Respond appropriately to the prompts.

3. **Choose** `Sun StorEdge Configuration Service Console` **and select Change/Remove.**

   Respond appropriately to the prompts.

▼ To Uninstall the Sun StorEdge Diagnostic Reporter

Use the Windows Add/Remove Programs utility to remove Sun StorEdge Diagnostic Reporter.

1. **On a Windows 2000 host, choose Start → Settings → Control Panel → Add/Remove Programs.**

   On a Windows 2003 host, choose Start → Control Panel → Add/Remove Programs.

2. **Select** `Sun StorEdge Diagnostic Reporter` **and select Change/Remove.**

   Respond appropriately to the prompts.

▼ To Uninstall the Sun StorEdge CLI

Use the Microsoft Windows Add/Remove Programs utility to remove the CLI.

1. **For Windows 2000, choose Start → Settings → Control Panel → Add/Remove Programs.**

   For Windows 2003, choose Start → Control Panel → Add/Remove Programs.

2. **Select** `Sun StorEdge 3000 Family CLI` **and select Change/Remove.**

   Respond appropriately to the prompts.

Installing Sun StorEdge Configuration Service on a Linux Host

This chapter provides procedures for installing Sun StorEdge Configuration Service consoles and agents on a Sun Linux or Red Hat Linux host. Topics covered in this chapter are as follows:

- "System Requirements" on page 33
- "Installing Software" on page 34
- "Users and Passwords" on page 39
- "Uninstalling Sun StorEdge Configuration Service" on page 41

System Requirements

This section lists the system requirements for the Linux host.

- Netscape Navigator web browser – You require the web browser to view online help. Versions earlier than 4.0 are not supported.

- TCP/IP-compliant network interface – Each console must have a TCP/IP-compliant network interface (such as an Ethernet or Token Ring network card, or a serial line with a modem). Each agent must have a TCP/IP-compliant network interface and driver set (included with the operating system).

- Color monitor – The console is best viewed with a monitor resolution of 1024 x 768 pixels with 256 colors.

- OS, memory, and disk space – TABLE 4-1 lists the console system requirements for the Linux OS. TABLE 4-2 lists the agent system requirements for the Linux OS.

TABLE 4-1   Console System Requirements for Linux OS

Linux OS Version	Memory	Disk Space
Sun Linux 5.0 on a Sun™ LX50 server (SCSI only) Red Hat Advanced Server 2.1	256 Mbyte minimum 512 Mbyte recommended	40 Mbyte minimum 100 Mbyte recommended

TABLE 4-2   Agent System Requirements for Linux OS

Linux OS Version	Memory	Disk Space
Sun Linux 5.0 on a Sun LX50 server (SCSI only) Red Hat Advanced Server 2.1	128 Mbyte minimum 512 Mbyte recommended	20 Mbyte minimum 100 Mbyte recommended

Installing Software

Sun StorEdge Configuration Service software includes the following components:

- Sun StorEdge Configuration Service agent
- Sun StorEdge Configuration Service console
- Sun StorEdge Diagnostic Reporter (optional utility)
- Command-Line Interface (CLI)

For installation information for Sun StorEdge Diagnostic Reporter, see "Installing Sun StorEdge Diagnostic Reporter" on page 63. For installation information for the CLI, see "Installing and Accessing the Command-Line Interface" on page 71.

Note – Before installing Sun StorEdge Configuration Service, be sure to read the release notes for your array.

Note – You must be superuser to install Sun StorEdge Configuration Service and run the console.

Upgrading Software – Agent and Console Version Compatibility

Because the communication protocol changes from version to version, you must install *both* the agent and console when upgrading. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Installation Packages

The installation packages are contained on the Sun StorEdge 3000 Family Professional Storage Manager CD, and include the following files:

- `SUNWscsd.rpm` – Sun StorEdge Configuration Service agent
- `SUNWscsu.rpm` – Sun StorEdge Configuration Service console

See "To Download the Updated Software From the Web Site" on page 36 for steps on how to download the software from the Sun Download Center web site.

Install the agent on each host that is part of Sun StorEdge Configuration Service. Install the console on the computer or workstation you plan to use for managing and maintaining the storage system.

The console can be installed on the host or on any client system. The agent must be installed on the host to which the storage is attached.

Complete the following steps to install the agent, console, or both. You must install at least one agent and one console for the program to run.

If you are upgrading, you must install *both* the agent and console. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Note – Make sure that Java runtime environment software is installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service. The earliest release of the Java runtime environment software that is compatible with Sun StorEdge Configuration Service is 1.2.

▼ To Download the Updated Software From the Web Site

If the Sun StorEdge 3000 Family Professional Storage Manager CD is not available, you can download the software from the Sun Download Center web site.

1. **Go to:**

   http://www.sun.com/software/download/

2. **Under System Administration → Storage Management, click the Sun StorEdge 3000 Family Storage Products - Related Software link, and click the Download button.**

   You are taken to a Sun Download Center page.

3. **If not previously registered, register.**

   a. **Click the Register Now link at the bottom of the left column.**

   b. **On the registration page, enter applicable data in the required fields and click Register.**

4. **Log in.**

   a. **Type your Username and Password in the left column, and click Login.**

   b. **On the Terms of Use page, read the license agreement, click Yes next to Accept, and click the Continue button.**

5. **On the software download page, click the link for your array and operating system.**

6. **In the dialog box that is displayed, specify a destination directory and save the file.**

7. **Change to the directory that the file was downloaded to and unzip the file.**

8. **Type:**

   ```
   cd filename/linux
   ```

   where *filename* is the name of the file that was downloaded.

9. **Go to and Step 4 in "To Install the Agent and Console From the CD" on page 37.**

▼ To Install the Agent and Console From the CD

1. **If Java runtime environment software is not installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service, install it now.**

   To check the Java runtime environment software version, type:

   ```
   # java -version
   ```

2. **Mount the CD on your file system if it is not already mounted.**

   ```
   # cd mount /dev/cdrom /mnt/cdrom
   ```

3. **Insert the Sun StorEdge 3000 Family Professional Storage Manager CD and type:**

   ```
   # cd /mnt/cdrom/product/linux
   ```

4. **Install the packages in one of the following ways:**

   - To install only the agent, type:

   ```
   # rpm -ivh SUNWscsd.rpm
   ```

   - To install only the console, type:

   ```
   # rpm -ivh SUNWscsu.rpm
   ```

5. **To access online help, install Netscape Navigator on the system on which you are installing the console.**

   Versions earlier than 4.0 are not supported. If Netscape Navigator is not detected, you are asked to specify the path.

   a. **Change to** `/opt/SUNWsscs/sscsconsole` **and type:**

   ```
   ./config_sscon
   ```

   b. **Type the absolute path to the web browser.**

After the agent is installed, the following message is displayed, indicating the components were installed successfully and have started:

```
# rpm -ivh SUNWscsd.rpm Preparing...
######################################### [100%] 1:SUNWscsd
######################################### [100%] add user ssmon
add user ssadmin add user ssconfig Configuring and starting Sun
StorEdge(tm) Configuration Service daemons[ OK ]
Starting Sun StorEdge(tm) Configuration Service agent daemon[ OK ]
Starting Sun StorEdge(tm) Configuration Service agent monitor
daemon[ OK ]
```

After the console is installed, the following message is displayed, indicating the components were installed successfully and have started:

```
# rpm -ivh SUNWscsu.rpm Preparing...
######################################### [100%] 1:SUNWscsu
######################################### [100%]
Installation completed successfully!
```

The agent and console are installed in /opt/SUNWsscs/sscsconsole.

▼ To Stop or Start the Agent

You can stop and start the agent manually by using the run commands script in /etc/init.d/ssagent.

1. **To stop the agent, type:**

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

2. **To start the agent, type:**

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

or

```
# service ssagent start
```

Note – You must be superuser to start the agent.

If you use start without first using stop, the script restarts any agents that have stopped. If all the agents have stopped (as with a stop option), the script reconfigures the runtime environment before restarting the agents.

3. **To determine if the agent is running, type:**

```
# ps -e | grep ss
```

or

```
# service ssagent status
```

Both ssmon and ssserver are displayed in the output. If you have enabled SNMP trap generation, you also see the name sstrapd.

Users and Passwords

The following sections explain how to create users and passwords.

Administrative (User) Security Levels and Guidelines

If you are running the program on a Linux host, *administrator security levels are automatically created during the installation process*. You only need to set passwords and assign users according to the desired permission level.

Administrative functions require access logins and passwords to prevent the possibility of one administrator reallocating or removing storage resources belonging to other clients and hosts without authorization.

You assign separate passwords for the three levels of security for the program. You do this by setting up three users on the agents that have storage devices that are managed by the program. These three users are automatically added during the installation of the agent.

The security levels must have these exact names:

- `ssmon`

  Represents the monitoring level of the software.

- `ssadmin`

  Represents the administration level of the software and provides access to the Rebuild, Parity Check, and Schedule Parity Check functions, as well as monitoring.

- `ssconfig`

  Represents the configuration level of the software and gives the installer direct access to the configuration functions and all other related aspects of the program.

These names are required for the three security levels. After installation, you must assign a password to each security name.

Note – User passwords are deleted when Sun StorEdge Configuration Service is uninstalled. If you had a previous configuration, you have to reenter the `ssmon`, `ssadmin`, and `ssconfig` passwords.

The `ssmon`, `ssadmin`, and `ssconfig` names are logins that correspond only to security levels within the program. For UNIX operating environments, the default shell for these accounts is assigned to `/bin/false` to prevent the user IDs from being used for interactive logins.

You can set up Sun StorEdge Configuration Service so that monitoring does not require users to type the `ssmon` password. To do so, select the Auto Discovery option when the hosts are added to the Managed Servers list at the console. You can set up these three logins and passwords locally on each host. (The accounts can have different passwords on each host, if desired.)

Once you have set up these three logins on the agents to be managed, the system administrator typically provides user access to the program by assigning employees appropriate passwords, which are based on the level of security required to complete tasks. For example, everyone who has administration privileges on a particular host is assigned the same password that was established for the user `ssadmin`.

Note – To add servers to the Managed Servers list, refer to the *Sun StorEdge 3000 Family Configuration Service User's Guide*.

▼ To Create Passwords and Permissions

Create a password for each of the new users by typing:

```
# passwd user-name
```

You will be prompted to re-enter the password before receiving confirmation.

Administrators might also want to change group permissions, which are defined in the `svrlist.dat` file located in the `/opt/SUNWsscs/sscsconsole` directory during installation.

The console is a Java technology-based utility, and as such, cannot provide facilities to control permissions or ownership of files that Sun StorEdge Configuration Service creates. The `svrlist.dat` file is easily readable by various forms of ASCII text processors. It contains the encrypted password for the user `ssmon` and can be decrypted.

Note – Do not change the permissions and group ownership of `svrlist.dat` after adding all agents that are being monitored.

Uninstalling Sun StorEdge Configuration Service

You must uninstall earlier versions of Sun StorEdge Configuration Service when upgrading the console or agent. Note that some files are not removed because they are created after the installation and are still valid for the upgrade environment.

▼ To Uninstall Sun StorEdge Configuration Service

Use the rpm -e command followed by the package you want to uninstall , SUNWscsd (agent) or SUNWscsu (console).

```
# rpm -e SUNWscsd
# rpm -e SUNWscsu
```

Installing Sun StorEdge Configuration Service on an HP-UX Host

This chapter provides procedures for installing Sun StorEdge Configuration Service consoles and agents on an HP-UX host. Topics covered in this chapter are as follows:

- "System Requirements" on page 43
- "Installing Software" on page 44
- "Users and Passwords" on page 50
- "Uninstalling Sun StorEdge Configuration Service" on page 52

System Requirements

This section lists the system requirements for the HP-UX host.

- Netscape Navigator web browser – You require the web browser to view online help. Versions earlier than 4.6 are not supported.

- TCP/IP compliant network interface – Each console must have a TCP/IP-compliant network interface (such as an Ethernet or Token Ring network card, or a serial line with a modem). Each agent must have a TCP/IP capable network card interface and driver set (included with the operating system).

- Color monitor – The console is best viewed with a monitor resolution of 1024 x 768 pixels with 256 colors.

- OS, memory, and disk space – TABLE 5-1 lists the console system requirements for the HP-UX OS. TABLE 5-2 lists the agent system requirements for the HP-UX OS.

TABLE 5-1   Console System Requirements for HP-UX OS

HP-UX OS Version	Memory	Disk Space
11.0 and 11i	256 Mbyte minimum 512 Mbyte recommended	40 Mbyte minimum 100 Mbyte recommended

TABLE 5-2   Agent System Requirements for HP-UX OS

HP-UX OS Version	Memory	Disk Space
11.0 and 11i	128 Mbyte minimum 512 Mbyte recommended	10 Mbyte minimum 100 Mbyte recommended

Installing Software

Sun StorEdge Configuration Service software includes the following components:

- Sun StorEdge Configuration Service agent
- Sun StorEdge Configuration Service console
- Sun StorEdge Diagnostic Reporter (optional utility)
- Command-Line Interface (CLI)

For installation information on Sun StorEdge Diagnostic Reporter, see "Installing Sun StorEdge Diagnostic Reporter" on page 63. For installation information on the CLI, see "Installing and Accessing the Command-Line Interface" on page 71.

Note – Before installing Sun StorEdge Configuration Service, be sure to read the release notes for your array.

Note – You must be superuser to install Sun StorEdge Configuration Service and run the console.

Upgrading Software – Agent and Console Version Compatibility

Because the communication protocol changes from version to version, you must install *both* the agent and console when upgrading. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Installation Packages

The installation packages are contained on the Sun StorEdge 3000 Family Professional Storage Manager CD, and include the following files:

- `SUNWscsd.depot` – Sun StorEdge Configuration Service agent
- `SUNWscsu.depot` – Sun StorEdge Configuration Service console

See "To Download and Install the Updated Software From the Web Site" on page 46 for steps on how to download the software from the Sun Download Center web site.

Install the agent on each host that is part of Sun StorEdge Configuration Service. Install the console on the computer or workstation you plan to use for managing and maintaining the storage system.

The console can be installed on the host or on any client system. The agent must be installed on the host to which the storage is attached.

Complete the following steps to install the agent, console, or both. You must install at least one agent and one console for the program to run.

If you are upgrading, you must install *both* the agent and console. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Note – Make sure that Java runtime environment software is installed on the remote login host. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Configuration Service is 1.2. If you are not using a remote login host environment, it must be installed on the HP-UX machine on which you are installing Sun StorEdge Configuration Service.

▼ To Download and Install the Updated Software From the Web Site

If the Sun StorEdge 3000 Family Professional Storage Manager CD is not available, you can download the software from the Sun Download Center web site.

1. **Go to:**

   http://www.sun.com/software/download/

2. **Under System Administration → Storage Management, click the Sun StorEdge 3000 Family Storage Products - Related Software link, and click the Download button.**

   You are taken to a Sun Download Center page.

3. **If not previously registered, register.**

   a. **Click the Register Now link at the bottom of the left column.**

   b. **On the registration page, enter applicable data in the required fields and click Register.**

4. **Log in.**

   a. **Type your Username and Password in the left column, and click Login.**

   b. **On the Terms of Use page, read the license agreement, click Yes next to Accept, and click the Continue button.**

5. **On the software download page, click the link for your array and operating system.**

6. **In the dialog box that is displayed, specify a destination directory and save the file.**

7. **Change to the directory that the file was downloaded to and unzip the file.**

8. **Type:**

   ```
   cd filename /hpux
   ```

   where *filename* is the name of the file that was downloaded.

9. **To install the agent, type:**

   ```
   # swinstall -s SUNWscsd.depot
   ```

10. **To install the console, type:**

```
# swinstall -s SUNWscsu.depot
```

The agent is installed in `/opt/SUNWsscs/ssagent`. The console is installed in `/opt/SUNWsscs/sscsconsole`.

▼ To Install the Agent and Console From the CD

1. **If Java runtime environment software is not installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service, install it now.**

   To check the Java runtime environment software version, type:

```
# java -version
```

2. **Make sure that a mounting point has been created for the CD.**

3. **Insert the Sun StorEdge 3000 Family Professional Storage Manager CD.**

4. **Determine the device entry for the CD:**

```
# ioscan -fnC disk
```

   Note the device entry, for example:

```
/dev/dsk/c2t5d0
```

5. **Mount the CD on your file system if it is not already mounted:**

```
# mount -r device entry  mounting point
```

6. **To install the agent, type:**

```
# swinstall -s /cdrom/product/hpux/SUNWscsd.depot
```

7. **To install the console, type:**

```
# swinstall -s /cdrom/product/hpux/SUNWscsu.depot
```

The agent is installed in `/opt/SUNWsscs/ssagent`. The console is installed in `/opt/SUNWsscs/sscsconsole`.

▼ To Display the Console

You cannot start the console until you set the display to show the console.

1. **Specify a name for the remote login host and press Return.**

If you are not using a remote login host environment, specify the name of the HP-UX machine:

```
# xterm -display ipaddress of remote login host:0.0 -title name of remote login
host or HP-UX machine
```

A terminal window is displayed with the name of the remote login host or HP-UX machine you specified in the previous step. This is the terminal window from which you start Sun StorEdge Configuration Service, as described in the *Sun StorEdge 3000 Family Configuration Service User's Guide*.

2. **Specify the default web browser.**

To access online help, Netscape Navigator must be installed on the system on which you are installing the console. Netscape Navigator is usually installed in either `/opt/netscape/netscape` or `/usr/bin/netscape`.

Note – You can configure the web browser path name at any time; however, if you do not specify a path name at some point, you cannot access online help.

▼ To Stop or Start the Agent

The agent can be stopped and started manually.

1. **To stop the agent, type:**

```
# /sbin/init.d/ssagent stop
```

2. **To start the agent, type:**

```
# /sbin/init.d/ssagent start
```

Note – You must be superuser to start the agent.

If you use start without first using stop, the script restarts any agents that have stopped. If all the agents have stopped (as with a stop option), the script reconfigures the runtime environment before restarting the agents.

3. **To determine if the agent is running, type:**

```
# ps -e | grep ss
```

Both ssmon and ssserver are displayed in the output. If you have enabled SNMP trap generation, you also see the name sstrapd.

Users and Passwords

The following sections explain how to create users and passwords.

Administrative (User) Security Levels and Guidelines

If you are running the program on an HP-UX host, *administrator security levels are automatically created during the installation process*. You only need to set passwords and assign users according to the desired permission level.

Administrative functions require access logins and passwords to prevent the possibility of one administrator reallocating or removing storage resources belonging to other clients and hosts without authorization.

You assign separate passwords for the three levels of security for the program. You do this by setting up three users on the agents that have storage devices that are managed by the program. These three users are automatically added during the installation of the agent.

The security levels must have these exact names:

- `ssmon`

  Represents the monitoring level of the software.

- `ssadmin`

  Represents the administration level of the software and provides access to the Rebuild, Parity Check, and Schedule Parity Check functions, as well as monitoring.

- `ssconfig`

  Represents the configuration level of the software and gives the installer direct access to the configuration functions and all other related aspects of the program.

These names are required for the three security levels. After installation, you must assign a password to each security name.

Note – User passwords are deleted when Sun StorEdge Configuration Service is uninstalled. If you had a previous configuration, you have to reenter the `ssmon`, `ssadmin`, and `ssconfig` passwords

---

The ssmon, ssadmin, and ssconfig names are logins that correspond only to security levels within the program. For UNIX operating environments, the default shell for these accounts is assigned to /bin/false to prevent the user IDs from being used for interactive logins.

You can set up Sun StorEdge Configuration Service so that monitoring does not require users to type the ssmon password. To do so, select the Auto Discovery option when the hosts are added to the Managed Servers list at the console. You can set up these three logins and passwords locally on each host. (The accounts can have different passwords on each host, if desired.)

Once you have set up these three logins on the agents to be managed, the system administrator typically provides user access to the program by assigning employees appropriate passwords, which are based on the level of security required to complete tasks. For example, everyone who has administration privileges on a particular host is assigned the same password that was established for the user ssadmin.

Note – To add servers to the Managed Servers list, refer to the *Sun StorEdge 3000 Family Configuration Service User's Guid*e.

▼ To Create Passwords and Permissions

Create a password for each of the new users by typing:

```
# passwd user-name
```

You will be prompted to re-enter the password before receiving confirmation.

Administrators might also want to change group permissions, which are defined in the svrlist.dat file located in the /opt/SUNWsscs/sscsconsole directory during installation.

The console is a Java technology-based utility, and as such, cannot provide facilities to control permissions or ownership of files that Sun StorEdge Configuration Service creates. The svrlist.dat file is easily readable by various forms of ASCII text processors. It contains the encrypted password for the user ssmon and can be decrypted.

Note – Do not change the permissions and group ownership of svrlist.dat after adding all agents that are being monitored.

Uninstalling Sun StorEdge Configuration Service

You must uninstall earlier versions of Sun StorEdge Configuration Service when upgrading the console or agent. Note that some files are not removed because they are created after the installation and are still valid for the upgrade environment.

▼ To Uninstall Sun StorEdge Configuration Service

Use the `swremove` command followed by the package you want to uninstall, `SUNWscsd` (agent) or `SUNWscsu` (console).

```
# swremove SUNWscsd
# swremove SUNWscsu
```

Installing Sun StorEdge Configuration Service on an IBM AIX Host

This chapter provides procedures for installing Sun StorEdge Configuration Service consoles and agents on an IBM AIX host. Topics covered in this chapter are as follows:

- "System Requirements" on page 53
- "Installing Software" on page 54
- "Users and Passwords" on page 59
- "Uninstalling Sun StorEdge Configuration Service" on page 62

System Requirements

This section lists the system requirements for the IBM AIX host.

- Netscape Navigator web browser – You require the web browser to view online help. Versions earlier than 4.08 are not supported.

- TCP/IP-compliant network interface – Each console must have a TCP/IP-compliant network interface (such as an Ethernet or Token Ring network card, or a serial line with a modem). Each agent must have a TCP/IP-compliant network interface and driver set (included with the operating system).

- Color monitor – The console is best viewed with a monitor resolution of 1024 x 768 pixels with 256 colors.

- OS, memory, and disk space – TABLE 6-1 lists the console system requirements for the IBM AIX OS. TABLE 6-2 lists the agent system requirements for the IBM AIX OS.

TABLE 6-1   Console System Requirements for IBM AIX OS

IBM AIX OS Version	Memory	Disk Space
5.1L and 5.2L	256 Mbyte minimum 512 Mbyte recommended	40 Mbyte minimum 100 Mbyte recommended

TABLE 6-2   Agent System Requirements for IBM AIX OS

IBM AIX OS Version	Memory	Disk Space
5.1L and 5.2L	128 Mbyte minimum 512 Mbyte recommended	20 Mbyte minimum 100 Mbyte recommended

Installing Software

Sun StorEdge Configuration Service software includes the following components:

- Sun StorEdge Configuration Service agent
- Sun StorEdge Configuration Service console
- Sun StorEdge Diagnostic Reporter (optional utility)
- Command-Line Interface (CLI)

For installation information on Sun StorEdge Diagnostic Reporter, see "Installing Sun StorEdge Diagnostic Reporter" on page 63. For installation information on the CLI, see "Installing and Accessing the Command-Line Interface" on page 71.

Note – Before installing Sun StorEdge Configuration Service, be sure to read the release notes for your array.

Note – You must be superuser to install Sun StorEdge Configuration Service and run the console.

Upgrading Software – Agent and Console Version Compatibility

Because the communication protocol changes from version to version, you must install *both* the agent and console when upgrading. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Installation Packages

The installation packages are contained on the Sun StorEdge 3000 Family Professional Storage Manager CD, and include the following files:

- `SUNWscsd.bff` – Sun StorEdge Configuration Service agent
- `SUNWscsu.bff` – Sun StorEdge Configuration Service console

See "To Download and Install the Updated Software From the Web Site" on page 56 for steps on how to download the software from the Sun Download Center web site.

Install the agent on each host that is part of Sun StorEdge Configuration Service. Install the console on the computer or workstation you plan to use for managing and maintaining the storage system.

The console can be installed on the host or on any client system. The agent must be installed on the host to which the storage is attached.

Complete the following steps to install the agent, console, or both. You must install at least one agent and one console for the program to run.

If you are upgrading, you must install *both* the agent and console. If different versions of the agent and console co-exist, Sun StorEdge Configuration Service is not able to discover previously configured arrays.

Note – Make sure that Java runtime environment software is installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Configuration Service is 1.3.

▼ To Download and Install the Updated Software From the Web Site

If the Sun StorEdge 3000 Family Professional Storage Manager CD is not available, you can download the software from the Sun Download Center web site.

1. **Go to:**

   http://www.sun.com/software/download/

2. **Under System Administration → Storage Management, click the Sun StorEdge 3000 Family Storage Products - Related Software link, and click the Download button.**

   You are taken to a Sun Download Center page.

3. **If not previously registered, register.**

   a. **Click the Register Now link at the bottom of the left column.**

   b. **On the registration page, enter applicable data in the required fields and click Register.**

4. **Log in.**

   a. **Type your Username and Password in the left column, and click Login.**

   b. **On the Terms of Use page, read the license agreement, click Yes next to Accept, and click the Continue button.**

5. **On the software download page, click the link for your array and operating system.**

6. **In the dialog box that is displayed, specify a destination directory and save the file.**

7. **Change to the directory that the file was downloaded to and unzip the file.**

8. **Type:**

```
cd filename /aix
```

   where *filename* is the name of the file that was downloaded.

9. **To install the agent, type:**

```
# swinstall -s SUNWscsd.bff
```

10. **To install the console, type:**

```
# swinstall -s SUNWscsu.bff
```

After the agent or console is installed successfully, "SUCCESS" is displayed in the Result column of the Installation Summary.

11. **Specify a path to the default web browser.**

To access Sun StorEdge Configuration Service online help, Netscape Navigator must be installed on the system on which you are installing the console. Versions earlier than 4.08 are not supported. If a web browser is not detected, you are asked to specify the path to the web browser.

Netscape Navigator is usually installed in `/usr/bin/netscape`.

Note – You can configure the web browser path name at any time; however, if you do not specify a path name at some point, you cannot access online help.

The agent is installed in `/usr/SUNWsscs/ssagent`. The console is installed in `/usr/SUNWsscs/sscsconsole`.

▼ To Install the Agent and Console From the CD

1. **If Java runtime environment software is not installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service, install it now.**

To check the Java runtime environment software version, type:

```
# java -version
```

2. **Insert the Sun StorEdge Professional Storage Manager CD and type:**

```
# mount -v cdrfs -o ro CD-ROM-drive
```

3. **To install the agent, type:**

```
# installp -a -d /cdrom/product/aix/SUNWscsd.bff
```

4. **To install the console, type:**

```
# installp -a -d /cdrom/product/aix/SUNWscsu.bff
```

After the agent or console is installed successfully, "SUCCESS" is displayed in the Result column of the Installation Summary.

5. **Specify a path to the default web browser.**

To access Sun StorEdge Configuration Service online help, Netscape Navigator must be installed on the system on which you are installing the console. Versions earlier than 4.08 are not supported. If a web browser is not detected, you are asked to specify the path to the web browser.

Netscape Navigator is usually installed in `/usr/bin/netscape`.

Note – You can configure the web browser path name at any time; however, if you do not specify a path name at some point, you cannot access online help.

The agent is installed in `/usr/SUNWsscs/ssagent`. The console is installed in `/usr/SUNWsscs/sscsconsole`.

▼ To Stop or Start the Agent

The agent can be stopped or started manually.

1. **To stop the agent, type:**

```
# /etc/ssagent.rc stop
```

2. **To start the agent, type:**

```
# /etc/ssagent.rc start
```

Note – You must be superuser to start the agent.

If you use `start` without first using `stop`, the script restarts any agents that have stopped. If all the agents have stopped (as with a `stop` option) the script reconfigures the runtime environment before restarting the daemons.

3. **To determine if the agent is running, type:**

```
# ps -e | grep ss
```

Both `ssmon` and `ssserver` are displayed in the output. If you have enabled SNMP trap generation, you also see the name `sstrapd`.

Users and Passwords

The following sections explain how to create users and passwords.

Administrative (User) Security Levels and Guidelines

If you are running the program on an IBM AIX host, *administrator security levels are automatically created during the installation process*. You only need to set passwords and assign users according to the desired permission level.

Administrative functions require access logins and passwords to prevent the possibility of one administrator reallocating or removing storage resources belonging to other clients and hosts without authorization.

You assign separate passwords for the three levels of security for the program. You do this by setting up three users on the agents that have storage devices that are managed by the program. These three users are automatically added during the installation of the agent.

The security levels must have these exact names:

■ `ssmon`

Represents the monitoring level of the software.

■ `ssadmin`

Represents the administration level of the software and provides access to the Rebuild, Parity Check, and Schedule Parity Check functions, as well as monitoring.

■ `ssconfig`

Represents the configuration level of the software and gives the installer direct access to the configuration functions and all other related aspects of the program.

These names are required for the three security levels. After installation, you must assign a password to each security name.

Note – User passwords are deleted when Sun StorEdge Configuration Service is uninstalled. If you had a previous configuration, you have to reenter the ssmon, ssadmin, and ssconfig passwords

---

The ssmon, ssadmin, and ssconfig names are logins that correspond only to security levels within the program. For UNIX operating environments, the default shell for these accounts is assigned to /bin/false to prevent the user IDs from being used for interactive logins.

You can set up Sun StorEdge Configuration Service so that monitoring does not require users to type the ssmon password. To do so, select the Auto Discovery option when the hosts are added to the Managed Servers list at the console. You can set up these three logins and passwords locally on each host. (The accounts can have different passwords on each host, if desired.)

Once you have set up these three logins on the agents to be managed, the system administrator typically provides user access to the program by assigning employees appropriate passwords, which are based on the level of security required to complete tasks. For example, everyone who has administration privileges on a particular host is assigned the same password that was established for the user ssadmin.

Note – To add servers to the Managed Servers list, refer to the *Sun StorEdge 3000 Family Configuration Service User's Guide*.

▼ To Create Passwords and Permissions

Create a password for each of the new users by typing:

```
# passwd user-name
```

You will be prompted to re-enter the password before receiving confirmation.

Administrators might also want to change group permissions, which are defined in the svrlist.dat file located in the /usr/SUNWsscs/sscsconsole directory during installation.

The console is a Java technology-based utility, and as such, cannot provide facilities to control permissions or ownership of files that Sun StorEdge Configuration Service creates. The svrlist.dat file is easily readable by various forms of ASCII text processors. It contains the encrypted password for the user ssmon and can be decrypted.

Note – Do not change the permissions and group ownership of svrlist.dat after adding all agents that are being monitored.

Uninstalling Sun StorEdge Configuration Service

You must uninstall earlier versions of Sun StorEdge Configuration Service when upgrading the console or agent. Note that some files are not removed because they are created after the installation and are still valid for the upgrade environment.

▼ To Uninstall Sun StorEdge Configuration Service

Use the installp -u command followed by the package you want to uninstall,. SUNWscsd (agent) or SUNWscsu (console).

```
# installp -u SUNWscsd
# installp -u SUNWscsu
```

Installing Sun StorEdge Diagnostic Reporter

This chapter provides steps on installing Sun StorEdge Diagnostic Reporter on a Linux, HP-UX, and IBM AIX host. (For steps on installing Sun StorEdge Diagnostic Reporter on a Solaris host, see "Installing the Software on a Solaris Host" on page 5. For steps on installing Sun StorEdge Diagnostic Reporter on a Microsoft Windows host, see "To Install the Sun StorEdge Diagnostic Reporter" on page 26) Topics covered in this chapter include:

System Requirements

TABLE 7-1 lists the system requirements for Linux, HP-UX, and IBM AIX.

TABLE 7-1 Linux, HP-UX, and IBM AIX System Requirements for Sun StorEdge Diagnostic Reporter

OS Version	Memory	Disk Space
Sun Linux 5.0 on a Sun™ LX50 server (SCSI only) Red Hat Advanced Server 2.1	256 Mbyte minimum 512 recommended	40 Mbyte minimum 100 Mbyte recommended
HP-UX 11.0 and 11i	256 Mbyte minimum 512 recommended	40 Mbyte minimum 100 Mbyte recommended
IBM AIX 4.3.3 and 5.1L	256 Mbyte minimum 512 Mbyte recommended	40 Mbyte minimum 100 Mbyte recommended

Installing Software

This section lists the installation packages and provides steps for installing Sun StorEdge Diagnostic Reporter.

Note – Before installing Sun StorEdge Diagnostic Reporter, be sure to read the release notes for your array.

Note – You must be superuser or administrator to install Sun StorEdge Diagnostic Reporter.

Installation Packages

Installation packages are contained on the Sun StorEdge 3000 Family Professional Storage Manager CD. TABLE 7-2 specifies which files are required for which OS.

TABLE 7-2 Sun StorEdge Diagnostic Reporter Installation Packages

	Linux OS	HP-UX OS	IBM AIX OS
Agent	SUNWscsa.rpm	SUNWscsa.depot	SUNWscsa.bff
Config Tool (UI)	SUNWscui.rpm	SUNWscui.depot	SUNWscui.bff

If the CD is not available, you can download the software from the Sun Download Center web site.

▼ To Install Diagnostic Reporter on a Linux Host

> **Note –** You must install the Sun StorEdge Configuration Service agent before installing the Sun StorEdge Diagnostic Reporter agent and Config Tool.

> **Note –** Make sure that Java runtime environment software is installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Configuration Service is 1.2.

1. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download the Updated Software From the Web Site" on page 36, and then go to Step 3.**

2. **If you are installing the software from the CD, insert the Sun StorEdge 3000 Family Professional Storage Manager CD, and type:**

```
# cd /cdrom/cdrom0/product/linux
```

3. **To install the agent, type:**

```
# rpm -ivh SUNWscsa.rpm
```

4. **To install the Config Tool (UI), type:**

```
# rpm -ivh SUNWscui.rpm
```

5. **When the installation procedure is complete, the agent starts automatically.**

   The agent is installed in /opt/SUNWsscs/ssdiagreporterd. The Config Tool is installed in /opt/SUNWsscs/ssdiagreporterui.

▼ To Install Diagnostic Reporter on an HP-UX Host

> **Note –** You must install the Sun StorEdge Configuration Service agent before installing the Sun StorEdge Diagnostic Reporter agent and Config Tool.

> **Note –** Make sure that Java runtime environment software is installed on the remote login host. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Diagnostic Reporter is 1.2. If you are not using a remote login host environment, it must be installed on the HP-UX machine on which you are installing Sun StorEdge Diagnostic Reporter.

1. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download and Install the Updated Software From the Web Site" on page 46, and then go to Step 6.**

2. **If you are instaling the software from the CD, make sure that a mounting point has been created for the CD.**

3. **Insert the Sun StorEdge 3000 Family Professional Storage Manager CD.**

4. **Determine the device entry for the CD:**

```
# ioscan -fnC disk
```

   Note the device entry, for example:

```
/dev/dsk/c2t5d0
```

5. Mount the CD on your file system if it is not already mounted.

```
# mount -r device-entry  mounting-point
```

6. If you installed the software from the web site, to install the agent type::

```
# swinstall -s SUNWscsa.depot
```

If you installed the software from the CD, to install the agent, type:

```
# swinstall -s /cdrom/product/hpux/SUNWscsa.depot
```

7. If you installed the software from the web site, to install the Config Tool (UI) type::

```
# swinstall -s SUNWscui.depot
```

If you installed the software from the CD, to install the Config Tool (UI), type:

```
# swinstall -s /cdrom/product/hpux/SUNWscui.depot
```

The agent is installed in /opt/SUNWsscs/ssdiagreporterd. The Config Tool is installed in /opt/SUNWsscs/ssdiagreporterui.

▼ To Install Diagnostic Reporter on an IBM AIX Host

Note – Make sure that Java runtime environment software is installed on the computer or workstation on which you are installing Sun StorEdge Configuration Service. The earliest release of Java runtime environment software that is compatible with Sun StorEdge Configuration Service is 1.3.

1. **If Java runtime environment software is not installed on the computer or workstation on which you are installing Sun StorEdge Diagnostic Reporter, install it now.**

   To check the Java runtime environment software version, type:

   ```
   # java -version
   ```

2. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download and Install the Updated Software From the Web Site" on page 56, and then go to Step 4.**

3. **If you are installingthe software from the web site, insert the Sun StorEdge Professional Storage Manager CD and type:**

   ```
   # mount -v cdrfs -o ro CD-drive
   ```

4. **If you installed the software from the web site, to install the agent, type:**

   ```
   # installp -a -d SUNWscsd.bff
   ```

   If you installed the software from the CD, to install the agent, type:

   ```
   # installp -a -d /cdrom/product/aix/SUNWscsd.bff
   ```

5. **If you installed the software from the web site, to install the Config Tool (UI), type:**

   ```
   # installp -a -d SUNWscui.bff
   ```

   If you installed the software from the CD, to install the Config Tool (UI), type:

   ```
   # installp -a -d /cdrom/product/aix/SUNWscui.bff
   ```

   After the agent or console is installed successfully, "SUCCESS" is displayed in the Result column of the Installation Summary.

   The agent is installed in /usr/SUNWsscs/ssdiagreporterd. The Config Tool is installed in /usr/SUNWsscs/ssdiagreporterui.

Manually Stopping and Starting Sun StorEdge Diagnostic Reporter

This section explains how to manually stop and start Sun StorEdge Diagnostic Reporter.

Note – You must be superuser to start and stop the agents (daemons).

▼ To Stop and Start Sun StorEdge Diagnostic Reporter on a Linux Host

Type:

```
# /etc/init.d/ssdgrptd stop
# /etc/init.d/ssdgrptd start
```

▼ To Stop and Start Sun StorEdge Diagnostic Reporter on an HP-UX Host

Type:

```
# /sbin/init.d/ssdgrptd stop
# /sbin/init.d/ssdgrptd start
```

▼ To Stop and Start Sun StorEdge Diagnostic Reporter on an IBM AIX Host

Type:

```
# /usr/sbin/ssdgrptd stop
# /usr/sbin/ssdgrptd start
```

Uninstalling Sun StorEdge Diagnostic Reporter

This section explains how to uninstall Sun StorEdge Diagnostic Reporter.

▼ To Uninstall Sun StorEdge Diagnostic Reporter on a Linux Host

Use the `rpm -e` command followed by the package you want to uninstall, `SUNWscsa` (agent) or `SUNWscui` (Config Tool).

```
# rpm -e SUNWscsa
# rpm -e SUNWscui
```

▼ To Uninstall Sun StorEdge Diagnostic Reporter on an HP-UX Host

Use the `swremove` command followed by the package you want to uninstall, `SUNWscsa` (agent) or `SUNWscui` (Config Tool).

```
# swremove SUNWscsa
# swremove SUNWscui
```

▼ To Uninstall Sun StorEdge Diagnostic Reporter on an IBM AIX Host

Use the `installp -u` command followed by the package you want to uninstall, `SUNWscsa` (agent) or `SUNWscui` (Config Tool).

```
# installp -u SUNWscsa
# installp -u SUNWscui
```

Installing and Accessing the Command-Line Interface

This chapter explains how to install the command-line interface (CLI) on Linux, HP-UX, and IBM AIX. For steps on installing the CLI on a Solaris host, see "Installing the Software on a Solaris Host" on page 5. For steps on installing the CLI on a Windows host, see "To Install the Sun StorEdge CLI" on page 27.

The CLI enables you to perform many of the same operations you perform by choosing menu options from the firmware application or Sun StorEdge Configuration Service. CLI commands have the advantage of being scriptable, which is especially useful in large data center environments with many arrays that need to be configured similarly. Topics covered in this chapter include:

- "Before You Begin Installing the CLI" on page 71
- "System Requirements" on page 72
- "Installing Software" on page 72
- "Uninstalling the CLI" on page 75

Before You Begin Installing the CLI

- Be sure to read the release notes for your array.
- Make sure that a logical drive is mapped to the primary controller.

System Requirements

TABLE 8-1 lists the system requirements for Linux, HP-UX, and IBM AIX.

TABLE 8-1 System Requirements for CLI

OS Version	Disk Space
Sun Linux 5.0 on a Sun LX50 server (SCSI only) Red Hat Advanced Server 2.1	3 Mbyte minimum
HP-UX 11.0 and 11i	3 Mbyte minimum
IBM AIX 4.3.3 and 5.1L	4 Mbyte minimum

Installing Software

This section lists the installation package and provides steps for installing the CLI on each of the supported platforms.

Note – You must be superuser (administrator) to install the CLI.

Installation Packages

The CLI installation package is contained on the Sun StorEdge 3000 Family Professional Storage Manager CD, and includes the files listed in TABLE 8-2. The package must be installed on a host that is attached to the array.

TABLE 8-2 Installation Packages for the Command-Line Interface

Linux OS	HP-UX OS	IBM AIX OS
SUNWsccli-linux.rpm	SUNWsccli-hp-ux.depot	SUNWsccli-aix.bff

If the CD is not available, you can download the software from the Sun Download Center web site.

▼ To Install the CLI on a Linux Host

1. **Mount the CD drive on your file system if it is not already mounted.**

   ```
   # mount /dev/cdrom /mnt/cdrom
   ```

2. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download the Updated Software From the Web Site" on page 36, and then go to Step 4.**

3. **If you are installing the software from the CD, insert the Sun StorEdge 3000 Family Professional Storage Manager CD, and type:**

   ```
   # cd /mnt/cdrom/product/linux
   ```

4. **Type:**

   ```
   # rpm -ivh SUNWsccli.rpm
   ```

   To access the CLI, log in as root **on the host on which you installed the CLI (and that is attached to the array), and type:**

   ```
   # sccli (with options and subcommands)
   ```

   For a list of options and subcommands, see the man page.

   The CLI is installed in /opt/SUNWsscs/sbin/sccli.

▼ To Install the CLI on an HP-UX Host

1. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download and Install the Updated Software From the Web Site" on page 46, and then go to Step 5.**

1. **Make sure that a mounting point has been created for the CD.**

2. **Insert the Sun StorEdge 3000 Family Professional Storage Manager CD.**

3. **Determine the device entry for the CD:**

```
# ioscan -fnC disk
```

Note the device entry, for example:

```
/dev/dsk/c2t5d0
```

4. **Mount the CD on your file system if it is not already mounted.**

```
# mount -r device-entry  mounting-point
```

5. **If you installed the software from the web site, type:**

```
# swinstall -s SUNWsccli-hpux.depot
```

If you installed the software from the CD, type:

```
# swinstall -s /cdrom/product/hpux/SUNWsccli-hpux.depot
```

The CLI is installed in /opt/SUNWsscs/sbin/sccli.

▼ To Install the CLI on an IBM AIX Host

1. **If you are installing the software from the web site, follow Step 1 through Step 8 in "To Download and Install the Updated Software From the Web Site" on page 56, and then go to Step 3.**

2. **If you are installingthe software from the CD, insert the Sun StorEdge Professional Storage Manager CD, and type:**

```
# mount -v cdrfs -o ro CD-drive
```

3. **If you installed the software from the web site, type:**

```
# installp -a -d SUNWsccli-aix.bff
```

If you installed the software from the CD, type

```
# installp -a -d /cdrom/product/aix/SUNWsccli-aix.bff
```

After the CLI is installed successfully, "SUCCESS" is displayed in the Result column of the Installation Summary.

The CLI is installed in `/usr/SUNWsscs/sbin/sccli`.

Uninstalling the CLI

This section explains how to uninstall the CLI. For steps on how to uninstall the CLI or the Japanese version of the man page on a Solaris host, see "To Uninstall Earlier Versions of the CLI" on page 17.

▼ To Uninstall the CLI on a Linux Host

Use the `rpm -e` command to uninstall the CLI.

```
# rpm -e SUNWsccli
```

▼ To Uninstall the CLI on an HP-UX Host

Use the `swremove` command to uninstall the CLI.

```
# swremove SUNWsccli
```

▼ To Uninstall the CLI on an IBM AIX Host

Use the `installp -u` command to uninstall the CLI.

```
# installp -u SUNWsccli
```

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