

# Sun StorEdge™ Configuration Service 1.0 Installation Guide

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#### **Preface**

The Sun StorEdge Configuration Service 1.0 Installation Guide provides instructions for installing and uninstalling the Sun StorEdge<sup>TM</sup> Configuration Service software.

#### Before You Read This Book

For the latest information about the Sun StorEdge Configuration Service software, see the *Sun StorEdge Configuration Service 1.0 Release Notes*.

## How This Book Is Organized

This document contains the following topics:

- "Sun StorEdge Configuration Service Software Requirements" on page 1
- "Preparing for Installation" on page 2
- "Installing the Software" on page 7
- "Configuring the Software" on page 12
- "Starting the Software" on page 17
- "Uninstalling the Software" on page 20

For subtopics, see each of the sections above, or the Table of Contents.

## **Using UNIX Commands**

This document may not contain information on basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

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

## **Typographic Conventions**

Typeface	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your.login file. Use ls -a to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% <b>su</b> Password:
AaBbCc123	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type rm filename.

## **Shell Prompts**

Shell	Prompt
C shell	machine_name%
C shell superuser	machine_name#
Bourne shell and Korn shell	\$
Bourne shell and Korn shell superuser	#

#### **Related Documentation**

Application	Title	Part Number
Administration	Sun StorEdge Configuration Service 1.0 Administrator's Guide	816-4295-10
Release Notes	Sun StorEdge Configuration Service 1.0 Release Notes	816-4296-10
User's Guide	Storage Automated Diagnostic Environment User's Guide	816-3142-10
Administration	Sun StorEdge T3+ Array Administrator's Manual, Version 2.1 Controller Firmware	816-4769-10
Installation and Configuration	Sun StorEdge T3+ Array Installation and Configuration Manual: Version 2.1 Controller Firmware	816-4770-10

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### Sun StorEdge Configuration Service 1.0 Installation Guide

This document contains the following topics:

- "Sun StorEdge Configuration Service Software Requirements" on page 1
- "Preparing for Installation" on page 2
- "Installing the Software" on page 7
- "Configuring the Software" on page 12
- "Starting the Software" on page 17
- "Uninstalling the Software" on page 20

## Sun StorEdge Configuration Service Software Requirements

The Sun StorEdge™ Configuration Service software requires the following:

- Solaris 8 update 4 (or later), or Solaris 9 GA (or later) operating environment with the End User Package Cluster
- 100 to 200 Mbytes of memory, depending upon the number of Sun StorEdge T3 arrays being managed
- Netscape Navigator, version 4.76 or later, or Internet Explorer, version 6 or later
- Sun StorEdge<sup>TM</sup> T3 arrays with 1.16a or higher firmware and Sun StorEdge T3+ arrays with 2.00 or higher firmware

## **Preparing for Installation**

It is important to verify the integrity of certain packages which may already exist on your system. If these packages don't exist on your system, the install script will install the correct ones for you.

- "Verifying Selected Packages Already on Your System" on page 2
- "Installing Required Solaris Packages" on page 5
- "Required Sun StorEdge T3/T3+ Array Firmware" on page 6

## Verifying Selected Packages Already on Your System

This procedure insure existing software on your system remains unaffected by installing this software and that Sun StorEdge Configuration Service performs with maximum reliability.

#### ▼ To Identify and Verify Pre-Installed Packages

1. Use the pkginfo -l command to check the package version and date.

```
% ksh
$ pkginfo -l package-name*
```

■ For the Solaris 8 operating environment, check the packages listed in TABLE 1.

TABLE 1 Pre-Installed Solaris 8 Packages Requiring Verification

Package Name	Version
SUNWj3rt	1.3.1,REV=2001.11.13.18.27
SUNWj3dev	1.3.1,REV=2001.11.13.18.27
SUNWadmj	11.8,REV=2002.03.05.08.40
SUNWjsnmp	1.0,REV=2002.03.05.09.47

TABLE 1 Pre-Installed Solaris 8 Packages Requiring Verification

Package Name	Version
SUNWwbapi	2.5,REV=2002.03.05.09.47
SUNWwbcor	2.5,REV=2002.03.05.09.47
SUNWwbcou	2.5,REV=2002.03.05.09.47

■ For Solaris 9 operating environment, check the packages listed in TABLE 2.

 TABLE 2
 Pre-Installed Solaris 9 Packages Requiring Verification

Package Name	Version
SUNWj3rt	1.4.0,REV=2002.03.04.22.20
SUNWj3dev	1.4.0,REV=2002.03.04.22.20
SUNWadmj	11.8,REV=2002.03.05.08.40
SUNWjsnmp	1.0,REV=2002.03.05.09.47
SUNWwbapi	2.5,REV=2002.03.05.09.47
SUNWwbcor	2.5,REV=2002.03.05.09.47
SUNWwbcou	2.5,REV=2002.03.05.09.47

2. Determine if the package version and date on your system match or exceed those listed in TABLE 1 or TABLE 2; if so, proceed with Step 3.

Be sure to match the latest package (that is, with the highest .x package name extension, with the packages listed in TABLE 1 or TABLE 2.

```
$ pkginfo -l SUNWj3rt*
  PKGINST: SUNWj3rt
     NAME: JDK 1.3 run time environment
 CATEGORY: system
     ARCH: sparc
  VERSION: 1.3.0, REV=2000.08.26.01.16
  BASEDIR: /usr
   VENDOR: Sun Microsystems, Inc.
     DESC: Java virtual machine and core class libraries
   PSTAMP: hotvmm30150502
 INSTDATE: Mar 01 2002 17:53
  HOTLINE: Please contact your local service provider
   STATUS: completely installed
    FILES:
             173 installed pathnames
                4 shared pathnames
               25 directories
               50 executables
            77825 blocks used (approx)
  PKGINST: SUNWj3rt.2
     NAME: JDK 1.3 run time environment
 CATEGORY: system
     ARCH: sparc
  VERSION: 1.3.1, REV=2001.11.13.18.27
```

For example, you would use SUNWj3rt.2 for comparing the version with TABLE 1 or TABLE 2.

3. Verify package integrity by typing the following for each package you identified in Step 2 of "To Identify and Verify Pre-Installed Packages" on page 2.

```
# pkgchk package-name*
```

4. If any of the packages in Step 3 do not pass the packaging checks, reinstall the packages.

```
# pkgrm package-name
# pkgadd package-name
```

#### **Installing Required Solaris Packages**

The patches listed in TABLE 3 are not installed with the Solaris Operating Environment but are required by the Sun StorEdge Configuration Service Software.

**TABLE 3** Required Packages

Package	Package Name
SUNWctpls	Portable layout services for Complex Text Layout
SUNWmfrun	Motif RunTime Kit
SUNWlibC	Sun Workshop Compilers Bundled libC
SUNWlibCx	Sun WorkShop Bundled 64-bit libC
SUNWzlib	The Zip compression library
SUNWzlibx	The Zip compression library (64-bit)

#### ▼ To Install Solaris Packages Required by the Sun StorEdge Configuration Service Software

1. Check if package is already present.

```
# pkginfo SUNWlibC SUNWlibCx SUNWctpls SUNWmfrun
```

If using the Secure Shell (SESH), you must also check for the SUNWzlib package.

```
# pkginfo SUNWzlib SUNWzlibx
```

- 2. Install packages with the pkgadd command.
  - a. From the Solaris Software 1of2 CD install the following packages:

```
# pkgadd -d /cdrom/cdrom0/s0/Solaris_*/Product/SUNWlibC SUNWlibCx SUNWctpls \
SUNWmfrun
```

#### b. From the Solaris Software 2of2 CD install the following packages

If using the Secure Shell (SESH), you must install the SUNWzlib package.

# pkgadd -d /cdrom/cdrom0/s0/Solaris\_\*/Product/SUNWzlib SUNWzlibx

3. Follow the installation instructions in the README file contained in each package.

#### Required Sun StorEdge T3/T3+ Array Firmware

The Sun StorEdge Configuration Service software requires that the Sun StorEdge T3 arrays have the appropriate firmware. See sunsolve.sun.com to search for and download the latest Sun StorEdge T3 firmware indicated in TABLE 4. Follow the instructions provided in the patch README to insure proper installation.

TABLE 4 Sun StorEdge T3 Array Firmware Patches

Device	Minimum Firmware Level	Patch
Sun StorEdge T3 Arrays	1.16	109115
Sun StorEdge T3+ Arrays	2.0	112276

## **Installing the Software**

Installing the software consists of performing the following procedure:

■ "To Mount the CD-ROM and Run the Installation Script" on page 7

In this section, you will also find the following topics:

- "Sample Installation Session" on page 8
- "Options for the install Script" on page 11

## ▼ To Mount the CD-ROM and Run the Installation Script

A sample installation script session is provided in "Sample Installation Session" on page 8.

- 1. Place the Sun StorEdge Configuration Service CD-ROM in the CD-ROM drive.
- 2. Check to see if the Solaris Volume Manager daemon (vold) is running by typing:

```
# ps -elf | grep vold
```

#### 3. Mount the CD-ROM as follows:

- If the Solaris Volume Manager daemon (vold) is running, and the CD-ROM drive is available at the /cdrom/cdrom0 mount point, proceed to Step 4.
- If vold is *not* running, create the following mount point and mount the CD-ROM drive by typing:

```
# mkdir -p /cdrom/cdrom0
# mount -F hsfs -o ro /dev/dsk/cxtxdxsx/cdrom/cdrom0
```

The cxtxdxsx portion of the path is the device node of the CD-ROM (for example, c0t6d0s0), and /cdrom is the mount point.

4. Run the install script.

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

#### Sample Installation Session

CODE EXAMPLE 1 contains a sample installation session in which all the default values were accepted.

CODE EXAMPLE 1 Sample install Script Output in the Solaris 8 Operating Environment

```
# ./install
Installation Starting
Sun StorEdge(tm) Configuration Service
Installation Program
Copyright(c) 2002 Sun Microsystems Inc. All Rights Reserved.
Installing package <SUNWdm> ...
Copyright 1999-2002 Sun Microsystems, Inc. All rights reserved.
Installation of <SUNWdm> was successful.
Installing package <SUNWj3rt> ...
Copyright 2001 Sun Microsystems, Inc. All rights reserved.
Copyright 2001 Sun Microsystems, Inc. Tous droits réservés.
Installation of <SUNWj3rt.2> was successful.
Installing package <SUNWj3dev> ...
Copyright 2001 Sun Microsystems, Inc. All rights reserved.
Copyright 2001 Sun Microsystems, Inc. Tous droits réservés.
Installation of <SUNWj3dev.2> was successful.
Installing package <SUNWj3man> ...
Copyright 2001 Sun Microsystems, Inc. All rights reserved.
Copyright 2001 Sun Microsystems, Inc. Tous droits réservés.
Installation of <SUNWj3man.2> was successful.
Installing package <SUNWadmj> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Use is subject to license terms.
261 blocks
Installation of <SUNWadmj.2> was successful.
Installing package <SUNWjsnmp> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
```

#### CODE EXAMPLE 1 Sample install Script Output in the Solaris 8 Operating Environment (Continued)

```
Use is subject to license terms.
467 blocks
Installation of <SUNWjsnmp> was successful.
Installing package <SUNWwbapi> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Use is subject to license terms.
2548 blocks
Installation of <SUNWwbapi.2> was successful.
Installing package <SUNWwbpro> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Use is subject to license terms.
4399 blocks
Installation of <SUNWwbpro> was successful.
Installing package <SUNWwbcor> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Use is subject to license terms.
10 blocks
Installation of <SUNWwbcor.2> was successful.
Installing package <SUNWwbcou> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Use is subject to license terms.
31333 blocks
Installation of <SUNWwbcou.2> was successful.
Installing package <SUNWgrw> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Emulate WBEM Services first time initialization...
Reassigning WBEM default port ...
Updating the paths to the SNIA mof files ...
Registering the SNIA mof file ...
Installation of <SUNWgrw> was successful.
Installing package <SUNWgrr> ...
Copyright 1999-2002 Sun Microsystems, Inc. All rights reserved.
```

#### CODE EXAMPLE 1 Sample install Script Output in the Solaris 8 Operating Environment (Continued)

```
Installation of <SUNWgrr> was successful.
Installing package <SUNWgre> ...
Copyright 1999-2002 Sun Microsystems, Inc. All rights reserved.
Installation of <SUNWgre> was successful.
Installing package <SMCossh3> ...
Installation of <SMCossh3> was successful.
Installing package < SMCprngd> ...
Installation of <SMCprnqd> was successful.
Installing package <SMCossl> ...
Installation of <SMCossl> was successful.
Generating public/private rsa key pair.
/opt/SUNWdm/etc/ssh/ssh_host_rsa_key already exists.
Overwrite (y/n)? y
Your identification has been saved in
/opt/SUNWdm/etc/ssh/ssh_host_rsa_key.
Your public key has been saved in
/opt/SUNWdm/etc/ssh/ssh_host_rsa_key.pub.
The key fingerprint is:
3f root@v4u-60g
Installing package <SUNWgrwt3> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Updating the paths to the StorEdge jar files...
Compiling the StorEdgeT3 mof file...
Installation of <SUNWgrwt3> was successful.
Installing package <SUNWgret3> ...
Copyright 1999-2001 Sun Microsystems, Inc. All rights reserved.
Installation of <SUNWgret3> was successful.
Installing package <SUNWgrui> ...
Copyright 2002 Sun Microsystems, Inc. All rights reserved.
Installation of <SUNWgrui> was successful.
Installation Completed
```

#### Options for the install Script

The install script has the options summarized in TABLE 6.

TABLE 5 install script options

Option	Description
-3	install Sun StorEdge T3 array agent layer (SUNWgrwt3)
-a	install all (default)
-A	install base agent layer (SUNWgrw)
-b	install base (SUNWdm)
-с	install core (SUNWgre, SUNWgrr)
-h	help
-i	interactive install
-j	install prerequisite Java Developer's Kit
-n	non-interactive install (default)
-X	install Java extensions
-S	install StorEdge Secure Shell (if installed)
-t	install Sun StorEdge T3 array logic layer (SUNWgret3)
-u	install UI layer (SUNWgrui)
-v	set verbose reporting (off by default)
-W	install WBEM services

## Configuring the Software

To set up the Sun StorEdge Configuration Service software, you must run the config script. You also need to make sure the Sun StorEdge T3 arrays have the required HTML files.

This section contains the following topics:

- "To Run the Configuration Script" on page 12
  - "Sample Configuration Session Output" on page 13
- "Updating Sun StorEdge T3 Array HTML Files" on page 16

#### **▼** To Run the Configuration Script

You must run the config script to make various Sun StorEdge Configuration Service features available.

1. Type the following to run the config script:

```
# cd /opt/SUNWdm/gre/bin
# ./config
```

**Note** – Make note of the HTTP and HTTPS port number if you changed the default value while running the config script.

## 2. If prompted, reconfigure Solaris WBEM Services default values by over-riding the script default.

```
Your previous selections for access to Solaris WBEM Services were

cim username: root
cim host: host.domain.Sun.COM

Would you like to reconfigure those values at this time ? (Default:
n) [y,n,?,q] y

Enter the hostname where the CIMOM is located (Current:
forechek.Central.Sun.COM, Default: host.domain.Sun.COM) [?,q]

Do you want to change your selection - host.domain.Sun.COM ?
(Default: n) [y,n,?,q]

Enter the CIM Username for accessing the CIMOM (Current: root,
Default: root) [?,q]

Do you want to change your selection - root ? (Default: n)
[y,n,?,q]
Please enter password for root:
Please confirm password for root:
```

**Note** – You must provide a password.

#### 3. When prompted, answer any other questions.

#### Sample Configuration Session Output

CODE EXAMPLE 2 lists a sample configuration session.

#### **CODE EXAMPLE 2** Sample Configuration Session

#### # ./config

Would you like to configure the Sun StorEdge(tm) Configuration Service Console access to Solaris WBEM Services at this time ? (Default: y) [y,n,?,q]

Your previous selections for access to Solaris WBEM Services were

#### **CODE EXAMPLE 2** Sample Configuration Session (Continued)

cim username: root cim host: computer.domain.Sun.COM Would you like to reconfigure those values at this time ? (Default: n) [y,n,?,q] yEnter the hostname where the CIMOM is located (Current: forechek.Central.Sun.COM, Default: computer.domain.Sun.COM) [?,q] Do you want to change your selection - computer.domain.Sun.COM ? (Default: n) [y,n,?,q]Enter the CIM Username for accessing the CIMOM (Current: root, Default: root) [?,q] Do you want to change your selection - root ? (Default: n) [y,n,?,q]Please enter password for root: Please confirm password for root: Would you like to configure the Sun StorEdge(tm) Configuration Service Console access to the Sun StorEdge(tm) Automated Diagnostic Environment (SADE) at this time ? (Default: y) [y,n,?,q] Your previous selections for access to Sun StorEdge(tm) Automated Diagnostic Environment were SADE URL: http://msp0.central.sun.com:7654 Would you like to reconfigure those values at this time ? (Default: n) [y,n,?,q]Would you like to configure the Sun StorEdge(tm) Configuration Service Console access to the Sun StorEdge(tm) 9900 Series Software at this time ? (Default: y) [y,n,?,q] Your previous selections for access to Sun StorEdge(tm) 9900 Series Console were S9900 URL: http://localhost:8081 Would you like to reconfigure those values at this time ? (Default:

#### **CODE EXAMPLE 2** Sample Configuration Session (Continued)

Shell Proxy were

n) [y,n,?,q]Would you like to configure the login names of storage administration users for the Sun StorEdge(tm) Configuration Service at this time ? (Default: y) [y,n,?,q] Your previous selections for designated storage administration users were users: root, joeuser Would you like to reconfigure those values at this time ? (Default: n) [y,n,?,q]Would you like to configure the Sun StorEdge(tm) Configuration Service Console Web Server at this time ? (Default: y) [y,n,?,q] Your previous selections for configuration of the Configuration Service Web Server were hostname: localhost http port: 8080 https port: 9443 keystore file: ./keystore Would you like to reconfigure those values at this time ? (Default: n) [y,n,?,q]Would you like to configure the Sun StorEdge(tm) Configuration Service Console CLI Server at this time ? (Default: y) [y,n,?,q] Your previous selections for configuration of the CLI Service Telnet Daemon were telnet port: 8023 Would you like to reconfigure those values at this time ? (Default: n) [y,n,?,q]Your previous selections for configuration of the CLI Service Secure

#### **CODE EXAMPLE 2** Sample Configuration Session (Continued)

```
ssh proxy port: 8514
Would you like to reconfigure those values at this time ? (Default:
n) [y,n,?,q]
Would you like to configure the Sun StorEdge(tm) Configuration
Service Console SNMP Connector at this time ? (Default: y)
[y,n,?,q]
Configuration of the various components of the Sun StorEdge(tm)
Configuration Service has been done. Would you like to start the
Configuration Service at this time ? (Default: y) [y,n,?,q]
config: INFO: service is already running: Pseudo-Random Number
Generator
config: INFO: service is already running: Secure Shell
/etc/init.d/secs.wbem: INFO: Sun StorEdge(tm) Configuration
Service - WBEM Services stopping
/etc/init.d/secs.wbem: INFO: Sun StorEdge(tm) Configuration
Service - WBEM Services starting
config: INFO: service has been started: WBEM Services
/etc/init.d/secs: INFO: Sun StorEdge(tm) Configuration Service -
config: INFO: service has been started: Configuration Service
```

#### **▼** Updating Sun StorEdge T3 Array HTML Files

The Sun StorEdge Configuration Service requires each Sun StorEdge T3 array have the required HTML files. Running the update\_html\_files script easily updates any arrays needing HTML files.

**Note** – To use the update\_html\_files script, you must have the IP addresses of all Sun StorEdge T3 arrays you intend to update.

#### • Type the following:

```
# /opt/SUNWdm/gre/bin
# ./update_html_files
```

### Starting the Software

If you did not instruct the config script to start the Configuration Service (see CODE EXAMPLE 2 on page 13), you will need to manually start the daemons. Otherwise, you can just start the Sun StorEdge Configuration Service software in a browser.

- "To Manually Start the Sun StorEdge Configuration Service Daemons" on page 17
- "To Acess the Sun StorEdge Configuration Service Software in a Browser" on page 17
- "To Start a Command-Line Interface (CLI) Session" on page 18

#### ▼ To Manually Start the Sun StorEdge Configuration Service Daemons

Type the following commands:

```
# /etc/init.d/prngd start # only on Solaris 8
# /etc/init.d/sshd start
# /etc/init.d/secs.wbem start # only on Solaris 8
# /etc/init.d/secs start
```

#### ▼ To Acess the Sun StorEdge Configuration Service Software in a Browser

**Note** – If you did not use the default value, you will need the HTTP or HTTPS port number you defined during the configuration process. (See CODE EXAMPLE 2 on page 13.)

#### 1. Open a web browser.

See "Sun StorEdge Configuration Service Software Requirements" on page 1 for browser version requirements.

- 2. If you are using Netscape Communicator, set the browser cache setting to Always (recommended), or Once Per Session, but not to Never.
- 3. Type one of the following URLs in the URL text field:

■ For a non-secure web server, type a URL with the following format in a browser:

http://nodename.domain:port-number

An example with the default port number is:

http://happy.eng:8080

• For a secure web server, type a URL with the following format in a browser:

https://nodename.domain:port-number

An example with the default port number is:

https://happy.eng:9443

- 4. At the Login page, enter the User Name and Password provided by your system administrator.
- 5. Click the Log In button to log in.

See the *Sun StorEdge Configuration Service 1.0 Administrator's Guide* for additional information on using the software.

#### ▼ To Start a Command-Line Interface (CLI) Session

You can start a CLI session by using telnet or the Secure Shell. See the *Sun StorEdge Configuration Service 1.0 Administrator's Guide* for additional information on using the CLI.

- Use telnet.
  - a. Telnet to the host with the specified CLI port.

The default port is 8023.

\$ telnet hostname.domain port-number

The login name can be root or any user name registered with the Sun StorEdge Configuration Service by way of the config script. For more information about the config script, see the "To Run the Configuration Script" on page 12.

b. To run device specific commands, navigate to /devices/array/sun/t3.

SeSh [1] cd devices/array/sun/t3

#### • Use the Secure Shell.

One way to access the command-line interface is by way of the Secure Shell client (ssh) available on Solaris 8 and 9. Depending upon how your SSH environment is configured, you may need to see the ssh.1m man page for additional information on starting a session.

a. To initiate a Secure Shell client session on a host, enter the following:

# ssh -c 3des hostname

This logs you into the Configuration Service command line interface (CLI).

b. To run device specific commands, navigate to /devices/array/sun/t3.

SeSh [1] cd devices/array/sun/t3

## Uninstalling the Software

To stop and uninstall the Configuration Service software, perform the following procedure:

- "To Stop the Sun StorEdge Configuration Service Daemons" on page 20
- "To Run the uninstall Script" on page 20
- "Options for the uninstall Script" on page 21

#### ▼ To Stop the Sun StorEdge Configuration Service Daemons

• Stop the daemons with the following commands:

```
# /etc/init.d/secs stop
# /etc/init.d/secs.wbem stop # only on Solaris 8
# /etc/init.d/sshd stop
# /etc/init.d/prngd stop # only on Solaris 8
```

#### ▼ To Run the uninstall Script

• Run the uninstall script.

```
# cd /cdrom/cdrom0
# ./uninstall -f
```

#### Options for the uninstall Script

The uninstall script has the options summarized in TABLE 6.

TABLE 6 uninstall script options

Option	Description
-f	force uninstall
-3	uninstall Sun StorEdge T3 array agent layer (SUNWgrwt3)
-a	uninstall all (default)
-A	uninstall base agent layer (SUNWgrw)
-b	uninstall base (SUNWdm)
-с	uninstall core (SUNWgre, SUNWgrr)
-h	help
-i	interactive uninstall
-j	uninstall prerequisite Java Developer's Kit
-n	non-interactive uninstall (default)
-X	uninstall Java extensions
-S	uninstall StorEdge Secure Shell (if installed)
-t	uninstall Sun StorEdge T3 array logic layer (SUNWgret3)
-u	uninstall UI layer (SUNWgrui)
- <b>V</b>	set verbose reporting (off by default)
-W	uninstall WBEM services