



Sun StorEdge™ Enterprise Storage Manager 2.0 Release Notes

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Introduction

The Sun StorEdge™ Enterprise Storage Manager 2.0 software is an open, standards-based, and scalable end-to-end storage network management tool. The software consists of two components:

- SAN Manager: View and manage your SAN or DAS environment
- Capacity Reporter: View capacity usage summaries on the hardware and software storage elements in your network

You can install the SAN Manager component alone or install both components. The installation script guides you through the installation of the components and their stations.

This document describes important, late-breaking information about the software, including locale installation instructions.

Note – The Sun StorEdge Enterprise Storage Manager 2.0 Release Notes will be updated and posted to the web as necessary. To ensure that you have the latest version, go to:

<http://docs.sun.com/db/prod/software.storage>

System Preparation

Your network storage environment must have the required software, hardware, disk space, and memory to install the Sun StorEdge Enterprise Storage Manager software. The installation procedure terminates if it detects that your environment does not meet the minimum installation requirement.

This section describes the following topics:

- [“Required Software” on page 2](#)
- [“Required and Supported Hardware” on page 4](#)
- [“Required Disk Space and Memory” on page 5](#)
- [“Installing the Software” on page 5](#)
- [“Checking the Sun Web Console” on page 9](#)
- [“Using the Web Browser” on page 12](#)
- [“Checking Enterprise Storage Manager” on page 14](#)
- [“Related Documentation” on page 14](#)
- [“Service Contact Information” on page 16](#)

Required Software

The following table lists the supported and required software for the installation.

Required Operating Environment Version	<p>For installations that include <i>only</i> the SAN Manager component of the Sun StorEdge Enterprise Storage Manager:</p> <p>Management Station:</p> <ul style="list-style-type: none">• Solaris™ 9, Update 1 or• Solaris 8, update 6 <p>Note that the Solaris 8, update 6 operating environment requires the latest patch cluster, including patches for the Java™ 2 SDK v1.4, which is available at the following URL: http://sunsolve.sun.com</p> <p>To download the patch cluster:</p> <ol style="list-style-type: none">1. Click Patches under the SunSolve title on the left side of the page.2. Click Patch Finder under the Patches title on the left side of the page.3. Click4. J2SE Solaris 8 (49.8M) in the Recommended Solaris Patch Clusters and J2SE Clusters list box in the center of the page.5. Click the radio button for the Readme file.6. Choose Download HTTP or Download FTP as the method to download the patch cluster.7. Click Go to download the patch cluster.8. Refer to the Readme file for information about installing the patches. <p>Agent Stations:</p> <p>Solaris8, update 6</p>
	<p>For installations that <i>also</i> include the Capacity Reporter component of the Sun StorEdge Enterprise Storage Manager:</p> <p>Management Station: Solaris 9</p> <p>Agent Stations: Solaris 8, update 6</p>
Required SAN software on each agent station	<p>Sun StorEdge SAN Foundation version 4.3 software.</p> <p>Though your system may already include the Sun StorEdge SAN Foundation version 4.3 software, the Sun StorEdge Management Software CD includes SUNWsan and related software, which is also available from http://www.sun.com/storage/san/.</p> <p>Before you install the Sun StorEdge SAN Foundation version 4.3 software, check the web site to make sure you have the most recent version of the software. Patches are available at the following URL:</p> <p>http://sunsolve.sun.com/</p>

Minimum Web Browser Version*	Netscape Navigator™ version 4.78, 4.79 (English only), or 7.0† Microsoft Internet Explorer version 5.5 Mozilla™ 1.1 Mozilla 1.2.1 (for localized versions of the software)
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Required Database Software	<p><i>If you plan to use the Capacity Reporter component of the Sun StorEdge Enterprise Storage Manager software:</i></p> <ul style="list-style-type: none"> • Oracle 9i Release 2 (9.2.0.2) Standard Edition Database Server software installed on any platform • Oracle 9i Release 2 (9.2.0.2) Standard Edition Client software installed on the Sun StorEdge Enterprise Storage Manager management station <p>Start the Oracle database software before you install the Sun StorEdge Enterprise Storage Manager software.</p>
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* Enable your browser to accept cookies.

† Netscape Navigator version 7.0 provides improved results.

Required and Supported Hardware

TABLE 1 lists the supported and required hardware.

TABLE 1 Supported and Required Hardware

CD-ROM	A CD-ROM drive connected to the host machine where you plan to install the software.
Host Machines	<p>Host machines that have the Solaris operating environment, such as:</p> <ul style="list-style-type: none"> • Sun Enterprise™ server models 220R, 250, 420R, 450 • Sun Enterprise server models 3500, 4500, 5500, 6500 • Sun Fire™ server models 280R, 3800, 4800, 4810, and 6800 <p>For the SAN Manager component, management stations include the previous list and the following workstations:</p> <ul style="list-style-type: none"> • Sun Ultra workstation models 60 and 80
Supported and Discoverable Attached Storage	<p>Sun StorEdge 6120 and 6320 arrays</p> <p>Sun StorEdge T3 arrays, minimum firmware release 1.17</p> <p>Sun StorEdge T3+ arrays, minimum firmware release 2.0</p> <p>Sun StorEdge 3510FC Series arrays</p> <p>Sun StorEdge 3900 and 6900 Series storage subsystems*</p> <p>Sun StorEdge 9900 Series systems: Sun StorEdge 9910, 9960, 9970, and 9980 arrays</p>
Supported Switches	<p>Sun StorEdge Network FC Switch: 1 Gbps, 8 and 16-port SAN switches</p> <p>Sun StorEdge Network FC Switch: 2 Gbps, 8, 16, and 64-port SAN switches</p> <p>Brocade Communications Systems: 1 Gbps, 8 and 16-port SAN switches</p> <p>Brocade Communications Systems: 2 Gbps, 8, 16, and 64-port SAN switches</p> <p>McDATA Corporation: 2 Gbps, 16, 32, and 64-port SAN switches</p> <p>For the SAN Manager component: INRANGE FC 8 or 16- port Edge Switches</p>

*SNMP discovery of StorEdge 3900 Series and 6900 Series arrays require Service Processor 2.3.1 Upgrade on the arrays. Arrays with a service processor image prior to the 2.3.1 release are discovered incorrectly as a Solaris host. Refer to the README and the 3900/6900 Array Administration Guide for instructions on how to upgrade the array.

Required Disk Space and Memory

TABLE 2 lists the space requirements for the Sun StorEdge Enterprise Storage Manager installation. As the number of storage elements and the number of scan increases, more space must be allocated.

TABLE 2 Required Space and Memory for Installation and Operation

	SAN Manager and Capacity Reporter		SAN Manager	
	Disk Space	System Memory	Disk Space	System Memory
Management Station	800 MB	512 MB	640 MB	512 MB
Agent Station	115 MB	256 MB	71 MB	256 MB
Management and Agent Station on Same System	1.25 GB	512 MB	1 GB	512 MB
Host System of Oracle Database Server*	1.5 GB	512 MB		
Host System of Management Station for Reports Directory	1 GB			
Host System of Management Station for Scan Repository	1 GB			

* The size allocated for tablespaces and data files supports one database schema and one installation of the management station. For more schemas and more installations in Untrusted mode, allocate more space the additional tablespaces and data files.

Installing the Software

The *Sun StorEdge Management Software 2.0 Getting Started Guide* describes the software on the Sun StorEdge Management Software Kit compact disc. Use the guide to select the applications you want to install and then use the *Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide* for instructions in preparing for and installing the components of the Sun StorEdge Enterprise Storage Manager software. On the product CD, the *Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide* is located in `/docs/en/ESM2.0_Installation_Guide.pdf`.

Both components of the Sun StorEdge Enterprise Storage Manager software require the Java 2 Software Development Kit, version, j2sdk1.4.1_03 or later. If the system does not have a proper version, the installation procedure installs the j2sdk1.4.1_03 version in the /opt/SMICC_Java directory.

Installing the Software Over an Existing Installation

Use the `esmpatch` script in the `/cdrom/cdrom0/` directory to check, add, and remove Sun StorEdge Enterprise Storage Manager software patches on an existing ESM 2.0 installation.

Syntax:

```
esmpatch [-a,--add ][-c,--check ][-a,--remove ][? | -h,--help]
```

Option	Description
None	Display a list of options and usage for the script
-a, --add	Add patches
-c, --check	Check the status of the patches
-r, --remove	Remove the patches
?	Display a list of options and usage for the script
-h, --help	

Installing the Localized Software

The Sun StorEdge Enterprise Storage Manager software supports the following locales:

- English (C)
- French (fr)
- Japanese (ja)
- Simplified Chinese (zh)

Note – The software does not support Traditional Chinese.

The *Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide* describes the English software preparation, installation, and configuration procedures. The following section describes how to install localized software.

1. The documentation is available in English, French, Japanese, Korean, Simplified Chinese, and Traditional Chinese. These documents are available on the installation medium in the following locations:

Language	Location	Installation Guide Part Numbers	Release Notes Part Numbers
English	/Docs/en/*.pdf	817-3152-10	817-3154-11
French	/Docs/fr/*.pdf	817-4152-10	817-4157-10
Japanese	/Docs/ja/*.pdf	817-4153-10	817-4158-10
Korean	/Docs/ko/*.pdf	817-4154-10	817-4159-10
Simplified Chinese	/Docs/zh/*.pdf	817-4155-10	817-4160-10
Traditional Chinese	/Docs/zh_tw/*.pdf	817-4156-10	817-4161-10

2. Read the preparation and installation information as described in the *Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide*, and the related information in the *Sun StorEdge Management Software 2.0 Getting Started Guide* and these release notes.
3. During the installation, type **y** when the software prompts you with the following message:

Do you want to install the components that localize the product for languages other than English (no): **y**

The installation procedure installs all the localized packages for French, Japanese and Simplified Chinese. You can not use the installation script to install localized packages for only one or two locales.
4. Configure the software as described in the *StorEdge Enterprise Storage Manager 2.0 Software Installation Guide*.

5. Evaluate the installation as described in the *StorEdge Enterprise Storage Manager 2.0 Software Installation Guide*. The `esmcheck` script in the `/opt/SUNWstm/bin` directory checks that the following localized packages have been installed on the management station for each application. (Localized packages are not installed on the agent station)

- For Capacity Reporter:

SUNWcesm-container	Simplified Chinese locale package
SUNWfesm-container	French locale package
SUNWjesm-container	Japanese locale package
SUNWcesm-ui-common	Simplified Chinese locale package
SUNWfesm-ui-common	French locale package
SUNWjesm-ui-common	Japanese locale package

- For SAN Manager:

SUNWcstui	Simplified Chinese locale package
SUNWfstui	French locale package
SUNWjstui	Japanese locale package

5. Start the software as described in the *StorEdge Enterprise Storage Manager 2.0 Software Installation Guide*.

Uninstalling the Localized Software

Uninstall the software as described in the *StorEdge Enterprise Storage Manager 2.0 Software Installation Guide*. The `esmuninstall` script uninstalls all the localized packages as well as the English software. You cannot uninstall the localized packages without removing the English software.

Installing and Uninstalling Storage Automated Diagnostic Environment 2.3 Software

The Storage Automated Diagnostic Environment 2.3 software and documentation on the product CD support the English locale only.

To install the software, run the `setup` script. (Refer to the *Sun StorEdge Management Software 2.0 Getting Started Guide* for information about the `setup` script.) The script installs the `SUNWstade` package. You can also use the `pkgadd` command to install the software.

To uninstall the software, type:

```
pkgrm SUNWstade
```

The software documentation is available at `/SUNWstade/Docs/en/*.pdf`.

Known Issues

The installation process displays information about patches required for Solaris 8 and then pauses. Although it appears the installation procedure has stopped, it is continuing to install the software. A future release will display a message to confirm that the installation is continuing. (BugID 4915896)

Checking the Sun Web Console

The installation procedure verifies that the Sun Web Console software is installed. If the software is not present, the installation procedure installs it. At any time, you can verify that the Sun Web Console software is running, using the following command:

```
/usr/sbin/smcwebserver status
```

When you uninstall the Sun StorEdge Enterprise Storage Manager software, the Sun Web Console software is not removed because other applications might rely on it. To remove the Sun Web Console software:

1. Remove the localization packages. Type:

```
pkgrm SUNWcmcon SUNWfmcon SUNWjmcon
```

The localization packages include:

SUNWcmcon	Simplified Chinese locale package
SUNWfmcon	French locale package
SUNWjmcon	Japanese locale package

2. Remove the English software. Type:

```
/usr/lib/webconsole/setup -uf
```

Note – In Chapter 4 of the *Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide*, the section named “Removing the Sun Web Console Software” specifies an incorrect command for this operation. (BugID 4938218) These release notes contain the correct command.

To use either component of the Sun StorEdge Enterprise Storage Manager software, log into the Sun Web Console, according to the instructions in the *Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide*.

Known Issues

The Sun Web Console software does not start at installation.

If the following error message is displayed during installation, the system was configured to set all default user shells at a high level of security, preventing the Sun Web Console from setting up completely.

```
Starting Sun(TM) Web Console Version 2.0...
Startup failed: cannot assume user identity "noaccess".
Check to make sure "noaccess" has a valid login shell.
```

To allow the setup to complete, change to root access and edit the password file using the following procedure:

1. **Open the password file, using the following command:**

```
vi /etc/passwd
```


2. Locate the following line:

```
noaccess:x:60002:60002: No Access User:/:usr/bin/true
```

3. Replace “/usr/bin/true” with “/usr/bin/sh” as shown in the following:

```
noaccess:x:60002:60002: No Access User:/:usr/bin/sh
```

4. Save and close the file.

5. Start the Sun Web Console, using the following command:

```
/usr/sbin/smcwebserver start
```

You are unable to log on to the Sun Web Console.

The following error message indicates you must change the privileges on the consolelogin.conf file:

```
Authentication Failed Reenter your username and password
```

To change the privileges, use the following procedure:

1. Stop the Sun Web Console software:

```
/usr/sbin/smcwebserver stop
```

2. Change to the webconsole directory:

```
cd /etc/opt/webconsole
```

3. Change the privilege

```
chmod 644 consolelogin.conf
```

4. Restart the Sun Web Console software

```
/usr/sbin/smcwebserver start
```

The Sun Web Console's inactivity timer expires before you log on.

If you attempt to log in and see message that the Sun Web Console has expired, click on the browser's Back button and log in again.

You can change the duration of the inactivity timer. For example, use the following command to set the timer to one hour:

```
/usr/sbin/smreg add -p -c session.timeout.value=60
```

The Sun Web Console software does not allow you to select one of the components.

The Sun Web Console window lists the SAN Manager or Capacity Reporter component but you are unable to select it. Even though the `smcwebserver status` command reports that the Sun Web Console software is running, underlying connections have been interrupted. (BugID 4916000) To restore the connections, stop and start the Sun Web Console software, using the following command:

```
/usr/sbin/smcwebserver restart
```

The No Role option on the Sun Web Console Login screen has server locale dependency.

If you install the localization software on your system, and you start the Sun Web Console in a non-English locale and use the English web browser to log in to the Sun Web Console, the "No role" option in the Role Name drop-down menu on the Sun Web Console Login screen appears corrupted. (Bug 4934742)

Before you log in to the Sun Web Console, start the Sun Web Console from the English locale. Type:

```
/usr/bin/env LC_ALL=C /usr/sadm/bin/smcwebserver restart
```

Using the Web Browser

Known Issues

Brocade Communications Software Requires Java Plug-In

The Brocade Communications Systems WebTools software requires your web browser to have the correct Java™ plug-in software. If you launch the WebTools software as a supporting application from either the SAN Manager component or the Capacity Reporter component and the web browser displays a blank page or issues an error message, see the Brocade Communications System switch documentation.

Change Popup Blocking To Allow Wizard Support

Popup window blockers such as those available in Netscape or as third-party software might also block the wizard windows. To allow popups, use the following procedure for Netscape 7.02 or later:

1. **From the Edit menu, select Preferences.**
2. **In the Preferences dialog box, select Privacy & Security → Popup Window Controls.**
3. **Either select Allow Popups to disable the blocking software or add your domain to the Allowed Sites list, for example, mydomain:6789**
4. **Click OK.**

Set Cache Settings

You can set your browser to cache data, forms, and passwords. For the proper operation of the Capacity Reporter component of the Sun StorEdge Enterprise Storage Manager, do not cache forms or data because caching prevents updated data from being displayed. For example, in Netscape, use the following procedure to prevent automatic caching of forms, data, and passwords:

1. **From the Edit menu, select Preferences.**
2. **In the Preferences dialog box, select Privacy & Security and then Forms.**
3. **Clear the checkbox for the Forms Manager.**
4. **Return to the Privacy & Security page and select Passwords**
5. **Clear the Remember Password checkbox.**
6. **Click OK.**

Log Out To End The Session

To end your session, log out of Sun Web Console. Do not rely on the browser's Close button to end your session.

Online Help's Search Function Is Not Available In Some Local Kits

In all browsers, the online Help's Search function is not available for the Chinese and Japanese installations.

Language Selection for Simplified Chinese Version of Netscape Navigator

To view both the SAN Manager and Capacity Reporter software with Simplified Chinese characters, from the Netscape Navigator tool bar, select

Edit -> Preferences -> Navigator -> Languages

Then select **zh-cn**.

Checking Enterprise Storage Manager

The software supplies various commands to check on and control its processes. Change to root access to use these commands.

At any time, you can check the software's processes using the following command:

```
/opt/SUNWstm/bin/esmcheck
```

To start the software's processes, use the following command:

```
/opt/SUNWstm/bin/esmcontrol start
```

To stop the software's processes, use the following command:

```
/opt/SUNWstm/bin/esmcontrol stop
```

To stop and start the processes, use the following command:

```
/opt/SUNWstm/bin/esmcontrol restart
```

Related Documentation

TABLE 3 lists all the documents for this product and for related products. You can view, print, or purchase a broad selection of Sun documentation, including localized versions, at:

<http://www.sun.com/documentation>

TABLE 3 Related Documents for Sun StorEdge Enterprise Storage Manager

Type of Document	Title	Part Numbers
Man pages	esminstall(1M) esmuninstall(1M) esmconfig(1M) esmcontrol(1M) esmcheck(1M)*	Not applicable
Release and product information	<i>Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide</i>	817-4798
	<i>Sun StorEdge Management Software 2.0 Getting Started Guide</i>	817-2943
	<i>Sun StorEdge SAN Foundation Software 4.3 Release Notes</i>	817-3673
Installation and configuration	<i>Sun StorEdge Network FC Switch8 and Switch-16 Installation and Configuration Guide, Sun StorEdge SAN 3.0 Release</i>	816-0830
	<i>Sun StorEdge SAN Foundation 4.3 Software Installation Guide</i>	817-3671
	<i>Sun StorEdge SAN Foundation 4.3 Software Configuration Guide</i>	817-3672
User and diagnostic	<i>Sun Management Center 3.5 User's Guide</i>	816-2716

* To use these man pages, set the MANPATH environment variable to /opt/SUNWstm/man

Documentation Errata

1. Sun StorEdge Enterprise Storage Manager 2.0 Software Installation Guide

In Chapter 3, “To Install the Software in a Single System That Acts as a Management Station and Agent Station”, include the following as the first step of the procedure:

Make sure that each agent host includes the Sun StorEdge SAN Foundation version 4.3 software or the JNI HBA software.

See TABLE 2-1 for information about required SAN software or “Using JNI Host Bus Adapters” on page 12 for information about JNI HBA software. If your agent hosts do not include the required software, the installation procedure does not complete.

2. esminstall, esmuninstall, escheck, and esmcontrol script man pages

The man pages incorrectly list the path for the esm.log as

`/var/sadm/install/log/esm.log`.

The correct path is `/var/sadm/install/logs/esm.log`

3. esmconfig script man page

The esmconfig script man page lists the path for the esm.log as

`/var/sadm/install/log/esm.log product log`

The correct path is `/var/sadm/install/logs/esm.log`.

4. Capacity Reporter Online Help

If you click Introducing Capacity Reporter->Web Browser User Interface->UI Control and Indicators, the table lists the SAN Manager and Save and Close buttons. Neither button exists in the user interface.

Service Contact Information

If you need help installing or using this product, call 1-800-USA-4SUN, or go to:

<http://www.sun.com/service/contacting/index.html>

Sun StorEdge Enterprise Storage Manager SAN Manager Notes

This section describes the following topics:

- [“Features In This Release” on page 17](#)
- [“After Installing the Sun Manager Component” on page 17](#)
- [“Known Issues” on page 18](#)
- [“Bugs” on page 20](#)

Features In This Release

The SAN Manager component of the Sun StorEdge Enterprise Storage Manager software enables you to:

- Discover existing and new storage elements in your SAN
- View storage elements in a graphical view of your environment
- View fabrics and zones
- Track events, such as alarms. You can be notified by email, by mobile device email, and by SNMP traps when alarms occur.
- Configure user email notification and network host notification
- Run diagnostic tests on storage elements
- Launch supporting applications to help manage other devices in the SAN.

The current patch provides multilingual support and fixes problems with internationalization.

After Installing the Sun Manager Component

This section describes some tasks you must complete before using the SAN Manager software:

[“Install Supporting Applications” on page 18](#)

[“Setting Up and Configuring Switches” on page 18](#)

Install Supporting Applications

The SAN Manager component can start another application without requiring you to log out of the SAN Manager component of the Sun StorEdge Enterprise Storage Manager software. Before you can launch one of these supporting applications, you must first install it and then configure it, assigning it to a device.

Setting Up and Configuring Switches

Check <http://sunsolve.sun.com> to make sure you have the latest patches.

Install the McData Switch Supporting Software

The McData switch has optional software that allows the SAN Manager component to collect information about the switch. To see the full topology view of the switch, install this optional software on the switch. If it is not installed, the switch is displayed but its information is limited.

Reboot a Sun or Qlogic FC Network Switch After Changing Ports

The Qlogic switch updates its information when it is rebooted. If you move a connector to a different switch port after the switch is rebooted, the new connector type information is not in the SAN Manager database and is not updated on the SAN Elements page or in the command-line output. To update the connector type, reboot the switch.

Known Issues

This section includes the following known issue:

- [“Unsupported Java SDK Prevents Switch Information” on page 18](#)

Unsupported Java SDK Prevents Switch Information

The Sun StorEdge Enterprise Storage Manager software relies on Version 1.4.1_03 or later of the Java 2 SDK. If your system uses an unsupported version, switches are not reported properly in the SAN Elements tables or on the Topology page. You might also have a JVM failure. If your system has more than one version installed, use the JAVA_HOME environment variable to ensure the proper version is in effect. For a JVM failure, change to root and then run the following script:

```
/opt/SUNWstm/bin/esmcontrol start
```


Unresolved Identification Prevent Launch of Support Applications

When you set up a supporting application, the Edit Supporting Application wizard lists various identification tokens for the storage element such as \${ID}, \${IP}, and \${WWN} from which you can choose. When you launch the supporting application, the storage element resolves the token with its specific information. For example, if you specify the {IP} token and the storage element has an IP address, the application launches. However, the Sun StorEdge Enterprise Storage Manager is unable to anticipate which tokens are appropriate for a particular storage element. If you specify a token and the information is not available, the token remains unresolved and the application cannot start.

Unsupported Applications Are Listed As Supported

The Edit Supporting Application wizard provides a list of supporting applications, such as SANSurfer and SANbox Manager. This list also includes McData EFC Manager. Although you can choose this application and complete the wizard, the SAN Manager component cannot launch this application successfully.

English-Only Notifications for Notification Services

English-only notifications will be sent and received for E-mail, pager and SNMP notification services.

Updating Your Shell Environment to Display Japanese Man Pages

The software's man pages are available only in English and Japanese (The Japanese man pages support ja locale only). To use the `man` command to display the man pages in Japanese, you must use the ja locale environment and update your MANPATH variable with one of the following procedures:

For the Bourne or Korn Shell

1. Use an editor to update your `.profile` file MANPATH statement to include `/opt/SUNWstm/man/` and export your MANPATH:

```
MANPATH="$MANPATH:/opt/SUNWstm/man/"  
export MANPATH
```
2. Save the file and exit the editor.

3. Reload your `.profile` file for your shell session:

```
# . ~/.profile
```

For the C Shell

1. Use an editor to add `/opt/SUNWstm/man/` to your `MANPATH` statement in your `.login` file:

```
setenv MANPATH "$MANPATH:/opt/SUNWstm/man/"
```

2. Save the file and exit the editor.
3. Reload your `.login` file for your shell session:

```
# source .login
```

Bugs

If your system has both components of the Sun StorEdge Enterprise Storage Manager software installed, you can start the Capacity Reporter component from the SAN Manager component. Select a storage element and then launch the Capacity Reporter component to see information about it.

- When you select a HiCommand 99xx series array and then start the Capacity Reporter component, the array is identified by a different name in Capacity Reporter than is used in the SAN Manager component. (BugID 4908231)
- When you see a message that reports a database error, the error usually indicates that the storage element has not been identified in the Capacity Reporter's database. Discover, manage, and scan the storage element before you launch the Capacity Reporter component. (BugID 4921325)
- If you log in to different language browsers and use the same user name, you may see corrupted characters on some Web UI pages, such as the Test Result pages. Create and use different login user names for different languages. (BugID 4923172)
- If the management station runs with one locale and the client browser runs with another locale, the Alarm/Asset pages may display corrupted contents in some fields. Use the following command to start the Sun Web Console from the English locale:

```
/usr/bin/env LC_ALL=C /usr/sadm/bin/smcwebserver restart
```

(BugID 4929637)
- Tab labels on some pages display breaking line errors in Simplified Chinese or Japanese words so that the words display in vertical orientation. (BugID 4920578)
- Some diagnostic test pages under the SAN Elements tab display only in English. (BugID 4897928).

- When you click the sort link "Sub Element Type" in the Physical/Logical pages, you may encounter an ESM application error message or the Logical Subreports and Physical Subreports tables do not display on the Element Details page. To recover the page if you do click the sort link, navigate to another page and return to the original page. (BugID 4936025)
- When you click the sort link "Element Type" in the All Events table (under the Administration tab, Events page), no data displays in the last page or pages of the All Events table. To recover the page if you do click the sort link, click the browser's Back button twice and navigate to the original page.(BugID 4938414)
- If you use the Internet Explorer browser to view the All Events table (under the Administration Tab, Events page) and then use the arrow or "Go" buttons to view another page of the All Events table, you may not be able to click and use the links and tabs in the UI. The same may occur if you click sort links in the table header bar. To recover the page if you do click the links or buttons, click the browser's Back button twice and navigate to the original page. Note that you will not experience these limitations with the Netscape Navigator browser. (BugID 4938385)
- If you use the Internet Explorer browser to view diagnostic test pages and click the Refresh button, you may not be able to click links, tabs, and buttons on the web page. Click the browser's Back button so that the links, tabs, and buttons are usable. (BugID 4946967)

Sun StorEdge Enterprise Storage Manager Capacity Reporter Notes

This section describes the following topics:

- [“Features In This Release” on page 22](#)
- [“Known Issues” on page 23](#)
- [“Bugs” on page 26](#)

Features In This Release

The Capacity Reporter component provides features so that you can:

- Scan, capture, and report capacity utilization information on Sun StorEdge arrays and systems
- Scan, capture, and report capacity utilization information on Sun Solaris OE-base file systems
- Set capacity utilization thresholds and be alerted when these thresholds are exceeded.
- Discover existing and new storage elements in your Enterprise
- Track events, such as alarms. You can be notified by email, mobile device email, and by SNMP traps when alarms occur or you can specify a script to run when the event occurs.
- Manage event alarm reports
- Manage element reporting
- Launch supporting applications to help manage other devices in the Enterprise.

This release requires the following patches:

- 116251-01
- 116252-01
- 116253-01
- 116254-01

The patches provide multilingual support and fixes problems with internationalization in addition to fixing the following bugs, reported in the previous release:

- Pages with tables, which have selection checkboxes in a column now display the rows properly and can now sort the column.(Bug 4919115)
- The software can now support having more than one wizard or popup open at a time. (BugID 4921349)

- The software can now scan storage arrays that use the following JNI HBA device configurations:(Bug ID 4922680)
 - JNI FCE-6460 fcode 3.8.9 driver 5.2.1 JNIsnia 2.0.b.020909-11
 - JNI FCE-6460 fcode 3.9 driver 5.3.0.1 JNIsnia 2.0.b.030717-16
 - JNI FCI-1063 fcode unknown driver 2.6.13 JNIsnia 2.0.b.020523-13

Known Issues

This section includes the following known issues:

- [“Installing and Uninstalling Capacity Reporter” on page 23](#)
- [“Discovering a Storage Element” on page 24](#)
- [“Scanning and Managing Storage Elements” on page 25](#)

Installing and Uninstalling Capacity Reporter

- After an installation, discover and manage the host system of the management station before other systems. The Capacity Reporter software can then monitor the Reports directory.
- Before you uninstall the kit, make sure that the ORACLE_HOME environment variable is defined and specifies a valid Oracle client.
- When you install a new kit, you must uninstall and delete the previous kit. If a previous installation is not uninstalled completely, the current installation procedure detects it and stops.
- When you uninstall the software, it uses the same mode to uninstall as was used when the software was installed. Therefore, because the Trusted mode creates the database schema, role, tablespaces, and user, the uninstallation process removes these attributes. In effect, in Trusted mode, there is no difference between the esmuninstall command and the esmuninstall command with its full option. If you do not know in which mode the software was installed, look at the answerfile in /tmp/esm.answer or the installation log file in /var/sadm/install/log/esm.log.
- During installation, you provide an encryption password. If you need to change the password after installation, use the following script:
/opt/SUNWstm/support/dpfconfig
- The --silent option (-s) is intended to write all output to the log file instead of to the screen. However, when installing the software in Trusted mode with the silent option, the portion of the installation in which the Sun Web Console registers the application is displayed on the screen and is not recorded in the log file. (4919525) If it is necessary to have a complete record of the installation, use the answerfile option and disable the screen output, using the following command:

```
esminstall -A <answerfile_path> > /dev/null
```

For example:

```
esminstall -A /tmp/esm.answer > /dev/null
```

- During the uninstallation process for an agent station, scans for any managed storage element that use the agent station are disabled. As a result, scheduled scans for these storage elements are not performed. To determine if a scan has been disabled, go to the Details page for the storage element and click on the "More Actions" drop down list. If "Enable Scan" appears, the scan is disabled. Select the "Enable Scan" action to restart scheduled scans. At any time, users can select the "Run Element Scan" action for the managed storage element from the Summary page, but this results in a scan failure until the agent station is re-installed. To be informed about any storage elements affected by an agent station uninstallation, change the trace.level in the `/opt/SUNWstm/etc/MT_logging.properties` file from SEVERE to INFO. During the ARPS uninstallation, the names of any managed storage element that depend on it are logged to the `/opt/SUNWstm/etc/MT_logging.properties` file.
- When you uninstall software that was installed in Untrusted mode, you will not be able to re-install the software until the Database Administrator removes the persistent data. If you attempt to re-install, you will see an error message when the installation procedure attempts to create the Metadata Schema when one already exists.
- The `/usr/sbin/passmgmt` file might remain after you uninstall the software. Check for this file and, if it remains, delete it manually.
- When you configure supporting applications, you must provide a fully-qualified host name or an IP address. The software does not prevent you from entering incorrect or incomplete identification for the system where the application resides.
- English-only notifications will be sent and received for E-mail, pager and SNMP notification services.

Discovering a Storage Element

- A 3900 series array presents itself as multiple elements:
 - Using in-band protocols, the array looks like a set of independent T3 arrays.
 - Using SNMP, the array looks like a 3900 series array.
- Therefore, when you discover a 3900 array, the discovery finds the 3900 array and then reports on the individual T3 arrays to enable management and proper scanning.

- The Sun StorEdge 6960 array cannot report accurate information about its array volumes because it has multiple virtualization engines and all of the array volumes might not be visible through each the virtualization engines. (Bug ID: 4925593) To get an accurate information and a list of the array volumes, use the following procedure:
1. **Find the virtualization engine's WWN. Use TELNET to connect to the array and then issue this command to its management software:**
`showvemap -n <virtualization_engine> -l`
 Select a UID from the Virtualization Engine Summary section. Then issue the `luxadm -e host` and `luxadm -e dump_map` commands on the access host and find the NodeWWN that corresponds to the UID.
 2. **Use the Manual Registration wizard to discover and scan the array and include the WWNs of the secondary virtualization engine.**
 3. **Scan a virtualization engine in each of the array's pairs of virtualization engines**

Scans of the T3 and 6120 arrays, which are set up in partner-pair configurations, might show some array volumes with a blank capacity. This happens when the array is scanned through only one of its controllers. During discovery, the primary controller is discovered but the secondary one is not. Use the Manual Registration wizard to scan the secondary controller, providing the controller's NodeWWN.

For example, with a T3 pair, TELNET to the array and issue the `port list` command to show the PortWWN of the master and secondary controllers for the array. Use the Solaris `luxadm` commands to get the NodeWWN and then use the Manual Registratino wizard to register the secondary controller. (Bug ID: 4924217)

Scanning and Managing Storage Elements

To manage the capacity of a storage element, you must discover the storage element, then manage it, and then scan it.

- For scheduled scans, the results can take up to five minutes to be reported and then up to another five minutes to generate alarms. This is because both operations are handled by a job that runs every five minutes. Depending on when the scan starts, you might have to wait up to 10 minutes.
- A host is managed as a remote host or as a resident host, depending on whether the agent software is installed on the host. After a host has been managed, the difference is indicated by the presence or absence of the Scan Configuration section on the host's Details page. If the page includes a Scan Configuration section, the host was scanned as a remote host and does not have the agent software installed.
- During discovery scans, blank rows appear sometimes in the Current Jobs page. This is caused by the software's delay between getting a count of rows from the database and getting the actual row data. In the meantime, jobs continue to

complete between the two queries. Constructing the table of jobs is affected by the time delay and the rapid reloading of the page. Wait a few minutes for the database responses to catch up with the display of the table and the blank rows are removed. (Bug ID: 4921080)

- If you schedule a large number of elements to be scanned frequently, for example, every 15 minutes, the Historical Jobs page can grow to thousands of jobs. (Bug ID 4929387) The Capacity Reporter software deletes jobs that are older than seven days every week, but some sites might not find that sufficient. To delete these older jobs at any time, you can run the software job manually, using the following procedure:

1. On the Capacity Reporter management station, open a terminal window.

2. Issue the following command:

```
/opt/SUNWstm/support/submitJob  
com.sun.netstorage.mgmt.service.servicetierjobs.cruftjob.Cruft  
JobOldByDays=#I<days>
```

where *days* is the number of days. Any jobs older than this number of days are deleted.

- The software fails when it attempts to save historical data on a volume group in a cluster. The error is reported in the log file and no historical data is available for charting the volume group. A cluster scan is not distinguished from a host scan so the Job name "Host Scan" is used for a cluster scan as well as a host scan.

Bugs

This section includes the following bugs:

[“Installation” on page 27](#)

[“General Issues” on page 28](#)

[“Discovery, Management, and Scan” on page 28](#)

[“Policies, Alarms, and Thresholds” on page 29](#)

[“Supporting Applications” on page 29](#)

[“SAN, Fabrics, and Zones” on page 30](#)

[“Clusters” on page 30](#)

[“Oracle Database” on page 30](#)

[“Localized Software” on page 30](#)

Installation

- When performing an agent installation, you might encounter the following error message:

```
Job failed to complete
reg_target Failure
WARNING: Unable to register the ARP with the Management
Station at this time. Please manually register the ARP when
convenient using the following commands:
```

```
/opt/SUNWstm/bin/reg_arp "management station host":4567
"Agent host" 1141
```

```
/opt/SUNWstm/bin/reg_target "management station host""4567
"Agent host" host solaris "Agent Host"
```

If you see this error, perform the following to verify whether the agent installation actually occurred successfully:

1. Log into Capacity Reporter.
2. From the Storage Elements tab, access the Host Summary report.
3. Locate the host for which you installed the agent software, and ensure that its state is Managed.
4. If the host is managed, click on its name link to access its detailed report and choose **Actions ->Run Element Scan**.
5. From the Jobs tab, ensure that the scan completed successfully.

If the host is managed and its scan completed successfully, then disregard the error message. The agent installation was successful.

If the host is *not* managed, perform the following:

- **If you are using NIS as the primary method for name resolution**, check to see if the management station is up and running. If the management station is down, restart the management station.
- **If you are using DNS along with NIS as your method for name resolution**, access the following file on the management station system:
`/etc/nsswitch.conf`
Scroll down to the `hosts:` line and ensure that DNS is listed before NIS. For example:
`hosts: files dns nis`
If DNS is not listed before NIS, rearrange the order appropriately and save the file. (Bug ID 4924227)

- The `esmcheck` command is not fully implemented. (Bug ID: 4923328) The workaround is to use the `ps|grep` commands to monitor the processes; you must specify the log file locations to monitor the files. The `esmconfig` command is not fully implemented (Bug ID: 4923331) The workaround is to edit the configuration files.

General Issues

- When you select a page, wait for the page to load completely, according to the browser indicator. Otherwise, if you click on another page or attempt an operation on that page before it loads completely, you create an error condition. Click on the Reload button to load the page again.
- In Netscape 7.x, the online Help's Search function does not highlight words. In all browsers, the online Help's Previous and Next buttons do not gray out when they are disabled.
- The agent station has a log file for troubleshooting purposes. When this file is enabled, it can increase in size until the agent software is no longer able to operate. The file and location is `/var/opt/SUNWstm/agent/log/agent_log`. If you enable this file, check this location routinely and delete the file. When you complete your investigation, disable this log file.
- The All Fabric Summary page, <specific> Fabric Summary page, and <specific> Zone Summary page do not show the correct column headings. (BugID 4917497)

Discovery, Management, and Scan

- The installation procedure advises you to allocate a minimum of 1 GB of disk space for the Scan Repository. You might fill this space if you scan a large number of storage elements or scan frequently. If you notice that schedule scans are not being performed or the log file contains synchronization errors, the space is filled and the repository data is at risk of being corrupted. To restore the scans, reclaim disk space and restart the Sun StorEdge Enterprise Storage Manager software. If the scans do not begin, contact Sun Service for help in running a recovery script.
- The Sun StorEdge 3510 array cannot be discovered automatically. Use the Manual Registration wizard to set up the device. (BugID 4920547)
- Do not attempt to manage two Sun StorEdge 6320 arrays at the same time, because only will become managed. Manage each one separately. (BugID 4921836)

Report and Detail Pages

- If the Jobs page is blank and you receive an out-of-memory error, increase JVM's system memory to 256 MB, using the following command: (BugID 4920600)

```
/usr/sbin/smreg add -p java.options="-server -XX:+BackgroundCompilation -Xmx256m"
```

Stop and start the Sun Web Console software, using the following commands. Do not use the restart command.

```
/usr/sbin/smcwebserver stop  
/usr/sbin/smcwebserver start
```

- With Internet Explorer, a table of several thousand rows can freeze the application and you must close the browser to recover. (BugID 4921158)
- On the Current Jobs page, the table might display blank rows intermittently. This occurs when you update the page repeatedly but the query to the database to get the current jobs did not complete in time. Wait a few minutes before updating the page. (BugID 4921080)

Policies, Alarms, and Thresholds

- The e-mail notification of capacity alarms displays the capacity in bytes instead of the conventional gigabytes. To estimate of the number of gigabytes, move the decimal point nine places to the left. To convert bytes to gigabytes accurately, divide by 1024.
- E-mail notification runs as one of the software's jobs so, depending on when the message is sent, it can take up to ten minutes to arrive. The same message is recorded in the file, /var/opt/SUNWStm/trace/esmMT_trace.log.
- On the Policies page, you can sort the entries in the Policy Name column. However, the default policies are always placed at end of the column, after the other policies. (BugID 4910368)
- When creating and editing policies, the wizard allows you to click on the Next button before it completes the current operation. Because the current operation includes a database query, the Next button causes a second query to be sent. Wait for the operation to complete before you click the Next button. (BugID 4910439)

Supporting Applications

- To launch the Sun StorEdge 3910 and 6910 management applications, you enter the management application in the Unmanaged to Managed wizard. For the StorEdge 6910 array, the wizard provides a default option, but for the StorEdge 3910 array, you must select the host on which its configuration services are installed.
- You can select a host or an array and launch the SAN Manager component to see information about it. However, when you select a HiCommand 99xx series array and then start the SAN Manager component, the array is identified by a different name in SAN Manager because it retrieves the array's identification from different location than is used in Capacity Reporter. (BugID 4908231)

SAN, Fabrics, and Zones

- If you remove the primary switch in the fabric, a new scan reports a new fabric that includes the remaining storage elements. However, the scan also reports the old fabric, with no storage elements. (BugID 4918202)

Clusters

- Before you install agent software on a Sun or VERITAS cluster member, either enable or remove the cluster software on the host. The agent installation will fail if cluster software is installed and clustering is disabled. (BugID 4924069)
- Each cluster member in a managed cluster is also managed, and it is not possible to unmanage one of them. If a cluster member, a host, is removed from the cluster or from the network, the cluster continues to report that host as a member of the cluster. (BugID 4908365) To remove a cluster member, you must remove the cluster and then create a new cluster, containing only the members you want. However, when you remove a cluster, the history of the cluster is not kept.
- For VERITAS Volume Manager volumes, the Volume Summary report is not reporting capacity for QFS file systems. (BugID 4919914)

Oracle Database

- The Oracle database must be started and running at the time when Sun StorEdge Enterprise Storage Manager is started. This means that the Oracle database must be running already when Sun StorEdge Enterprise Storage Manager is installed and, if the Oracle database resides on the same system as the management station, it must be started before Sun StorEdge Enterprise Storage Manager is started whenever the system is rebooted. If the Oracle database is not running first, the Sun StorEdge Enterprise Storage Manager software cannot process new data even though new scans are occurring. This condition is indicated only by noticing that displayed data is not changing even though scans are successful. To recover, stop the Sun StorEdge Enterprise Storage Manager software and then restart it. (BugID 4911112)

Localized Software

- The Comparison and Historical Charts (from the Storage Elements tab, Host Summary page) provide English labels only. (BugID 4916994)
- If you type non-ASCII characters in device display name or host name input fields in the Discovery Manual Registration and New Policy wizards, the link to the host details page under the Storage Element tab may fail. Because the software supports ASCII device names only, do not use non-ASCII characters. (BugID 4925416)

- If you type non-ASCII characters for the device display name or host name input fields in the Discovery Manual Registration and New Policy wizards, the target display name may be corrupted in the Host Scan of the Job History. Because the software supports ASCII device names only, do not use non-ASCII characters. (BugID 4942251)
- If you use a non-English locale that does not match the encoding of your browser, the Start Time and End Time on the Details Page from the Jobs tab may be corrupted. When you start the management host from the English locale, the time stamp displays in United States format. (BugID 4922880)

