Sun StorEdge™ 6920 System Release Notes

Release 3.0

Sun Microsystems, Inc.
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Sun StorEdge 6920 System Release Notes, Release 3.0

This document contains important information about the Sun StorEdge™ 6920 system that was not available at the time the product documentation was published. Read this document so that you are aware of issues or requirements that can impact the installation and operation of the Sun StorEdge 6920 system.

The Release Notes consist of the following sections:

Installation and Configuration Notes

This section contains important information related to the installation and configuration of the Sun StorEdge 6920 system. You must understand this information before installing and configuring the Sun StorEdge 6920 system.

This section contains information on the following topics:

Storage Automated Diagnostic Environment Alarms

Alarms are no longer automatically deleted from the Alarms page of the Storage Automated Diagnostic Environment menu. You must manually delete any alarm that you want to remove from the Alarms page. If you do not remove alarms that are no longer current, additional minor alarms for the same component are not displayed in the Alarms page. When the Sun Storage Automated Diagnostic Environment Enterprise Edition is working with a Sun Storage Automated Diagnostic Environment System Edition, such as the diagnostic and monitoring software on the Sun StorEdge 6920 system, alarms initiating in the system edition and passed to the enterprise edition must be manually deleted from both editions in order to allow additional alarms of lower severity for the same component in the enterprise edition.

Sun StorEdge Data Snapshot and Backup Software Products Interoperability

Although many applications can continue to function while "copy" and "backup" operations take place, the amount of data and the time it takes to copy the information, in many cases, exceeds what the application can cache during its "freeze" state. To solve this problem Sun has worked with Computer Associates International, Inc. and VERITAS Software Corp. to develop the capability for the Sun

StorEdge 6920 system to work in conjunction with these companies software backup products. This allows the Sun StorEdge 6920 system to efficiently perform backup operations with high reliability.

The Sun StorEdge Data Snapshot software now works with the integration scripts of both Computer Associates BrightStor ARCserve Backup Agent for Oracle and VERITAS NetBackup Software products to enable the workflow associated with copying and backing up Oracle Corp. data set volumes. Although the Oracle 9i Database software provides the fundamental capabilities to enable and simplify the process, it must interoperate with Sun StorEdge Data Snapshot software in conjunction with either the VERITAS or Computer Associates backup products to provide complete data integrity.

Backup Process Overview

The integrated scripts from both VERITAS or Computer Associate have the same workflow as follows:

1. **Log in to the Oracle database.**
2. **Identify the table spaces and data files to be backed up.**
3. **Determine the Oracle file system information including the identifying mount points and device entry points.**
4. **Quiesce the Oracle database to prepare for the hot backup.**

   This includes putting table spaces in the backup mode and offline.
5. **Perform a snapshot by starting volume snapshot per mount point and mapping the snapshot per volume name.**
6. **Bring the Oracle database back online by bringing table spaces online and out of the backup mode.**
7. **Archive the current log and all other logs.**
8. **Mount the volume onto the mount server.**
9. **Copy the database file list to a new mount server.**
10. **Backup the snapshot image.**

    This includes discovering the snapshot images and volumes, backing up the snapshot images and volumes, and backing up the database file list.
11. **Remove the snapshot images and volumes.**

The integrated scripts provide a working solution for a typical customer environment with the system requirements listed as follows. These scripts can be utilized as is or be customized to tailor specific needs in your environment.

Sun StorEdge Data Snapshot and Backup Software Products System Requirements

Business Application

- Oracle 9i Database, version 9.2.0.1.0

Server Platform Software

- Sun Solaris™ 9
- Sun StorEdge SAN Foundation software
- Sun StorEdge Automated Diagnostic Environment software, Enterprise Edition
- Sun StorEdge Traffic Manager
- Sun StorEdge Remote Configuration Command Line Interface (CLI)
- Korn Shell environment for Solaris 9
- Perl Expect Package
- Qlogic Host Bus Adapter (HBA)
- Latest patch of StorEdge SAN Release from `http://www.sun.com`

Storage Details

- Sun StorEdge 6920 system, version 3.0
- SSCS client v2.1.2
- SMI-S Provider version 01.2004.08.49

Data Host Software and Required Patches

A fault-tolerant configuration requires that multipathing software be installed on each data host that communicates with the Sun StorEdge 6920 system. For Solaris Operating System (Solaris OS) data hosts, this software is part of the Sun StorEdge SAN Foundation software. For other than Solaris data hosts, this software is the Sun StorEdge Traffic Manager software.

If the Sun StorEdge 6920 Data Host Installation Software CD is not shipped with your system, contact your Sun sales representative.

TABLE 1 lists the source for the multipathing software as well as required operating system patches.

Note – If you have chosen to install data host multipathing software, you must install it before you install the patches.

TABLE 1 Data Host Software and Required Patches

Data Host Platform	Software (Minimum Version)	Minimum OS Patch Level	OS Patch Level Notes
Sun Solaris 10 OS	Bundled with the OS	Bundled with the OS	Bundled with the OS
Sun Solaris 9 OS	Sun StorEdge SAN Foundation software version 4.4.3‡	• Solaris 9 113046-01 or • Solaris 9 113049-01	Required if you have volumes that are greater than 1 TB (available for Solaris 9 OS only)
Sun Solaris 8 4/01 OS	Sun StorEdge SAN Foundation software version 4.4.3	Solaris 8 112396-02, 108987-13, 110380-04, 110934-16, 108982-09, 108984-08, 109529-06	
Microsoft Windows 2000 Server and Advanced Server*	Sun StorEdge Traffic Manager software version 4.6 for Windows 2000	Microsoft Windows 2000 Service Pack, SP 4	Available from Microsoft
Microsoft Windows 2003 Web, Standard, and Enterprise Edition*	Sun StorEdge Traffic Manager software version 4.6 for Windows 2003	N/A	
IBM AIX 5.1 and 5.2 (32- and 64-bit)	Sun StorEdge Traffic Manager software version 4.5 for AIX	Maintenance Level 5	Available from IBM

TABLE 1 Data Host Software and Required Patches *(Continued)*

Data Host Platform	Software (Minimum Version)	Minimum OS Patch Level	OS Patch Level Notes
HP-UX v11.00 and v11.i	Sun StorEdge Traffic Manager software version 4.5 for HP-UX	Patch set, September 2003	Available from Hewlett-Packard
Red Hat Enterprise Linux AS v3.0 (with megaton multipathing)		Kernel 2.4.9-e.3	Available from Red Hat Linux
Red Hat Linux ES/WS v3.0 (with mdadm multipathing)		Version 2.4.9-e.12	Available from Red Hat Linux
SUSE Linux Enterprise Server 8 (with mdadm multipathing)†			
Novell Netware 6.5 (with native multipathing)		Service Pack 3 Service Pack 4a	Available from Novell
VMware 2.5.1			

* Sun StorEdge Traffic Manager software version 6.0 installed on Microsoft Windows 2000 Server and Windows 2003 Server does not support booting from the SAN.

† SUSE Linux Enterprise Server 9 is supported, but is not recommended due to a SUSE issue with mdadm multipathing

‡ To ensure that the baseline Sun StorEdge SAN Foundation software is version 4.4.3, download and install the latest patches from the following web site:
`http://sunsolve.sun.com/`

Downloading the VERITAS Volume Manager ASL

VERITAS Volume Manager 3.5 and 4.0 provide support for the Sun StorEdge 6920 system in the form of Array Support Library (ASL) software packages. ASL software packages must be installed on the same data host system as the Volume Manager 3.5 or 4.0 software so that the ASL software can recognize the arrays in the Sun StorEdge 6920 system.

Download the ASL software packages and accompanying `ReadMe` file from the Sun Download Center using the following procedure.

▼ To Download the VERITAS Volume Manager ASL

1. **Log in as superuser on the Sun server that you are connecting to the Sun StorEdge 6920 system.**

2. **Go to the All Products listing:**

   `http://www.sun.com/software/download/allproducts.html`

3. **Under the V heading, click VERITAS Volume Manager Array Support Library (ASL).**
4. **Click the link that is appropriate for your platform.**
5. **Click Download to go to the Sun Download Center.**

   The page identifies the product you selected as VERITAS Volume Manager Array Support Library (ASL) for your platform and language.

6. **If you haven't previously registered, do so now.**
   a. **Click the Register Now link at the bottom of the left column.**
   b. **On the registration page, complete the required fields and click Register.**
7. **Log in.**
   a. **Type your user name and password in the left column, and click Login.**
   b. **On the Terms of Use page, read the license agreement, click Yes to accept, and click Continue.**
8. **Download the `README.1st` and the ZIP file which contains ASL package for the Sun StorEdge 6920 system.**
9. **Use the unzip command to unzip the file.**
10. **Refer to `README.1st` to determine the support matrix and the further installation instructions.**

Supported Array and Drive Firmware Levels

The minimum supported array firmware revision level is 3.2. This is installed in the arrays of a new Sun StorEdge 6920 system, release 3.0.

TABLE 2 Drive Firmware Revision Levels and Patches

Vendor	Model	Minimum Patch Level
Seagate	ST336752FC (36 GB)	113672-01
	ST373453FC (73 GB)	113673-04
	ST373307FC (73 GB)	114708-05
	ST3146807FC (146 GB)	114709-05
	ST336753FC (36 GB)	116748-06
	ST373207FC (73 GB)	118998-01
	ST3146707FC (146 GB)	118999-01
Fujitsu	MAP3735FC (73 GB)	116514-07
	MAP3147FC (146 GB)	116815-05
	MAS3367FC (36 GB)	116816-02
	MAS3735FC (73 GB)	116817-02
	MAT3073FC (73 GB)	—
	MAT3147FC (146 GB)	—
Hitachi	DK32EJ72FC (73 GB)	—
	DK32EJ14FC (146 GB)	—

Supported Software and Hardware

The software and hardware components described in the following sections have been tested and qualified to work with the Sun StorEdge 6920 system:

- "Supported Web Browsers" on page 9
- "Additional Supported Data Host Software" on page 10
- "Supported Fibre Channel Switches and HBAs" on page 11
- "Supported Languages" on page 11

Supported Web Browsers

The Sun StorEdge 6920 system supports the web browsers listed in TABLE 3.

TABLE 3 Sun Java Web Console 2.2 Supported Browsers

Client OS	Supported Browser
Microsoft Windows 98, Windows XP, Windows 2000, Windows Server 2003	Microsoft Internet Explorer: 5.5 and above Mozilla 1.4 and above Netscape Navigator 6.2 and above FireFox 1.0 and above
Sun Solaris 8, 9, 10 for Sun Sparc and x86 platforms	Mozilla 1.4 and above Netscape Navigator 6.2 and above FireFox 1.0 and above
Apple Mac OS X	Mozilla 1.4 and above FireFox 1.0 and above
Red Hat Enterprise Linux Application Server 2.1, 3.0	Mozilla 1.4 and above
SuSE Linux Enterprise Server 8.0	Mozilla 1.4 and above
Hewlett Packard HP/UX 11	Mozilla 1.4 and above
IBM AIX 5.2	Mozilla 1.4 and above

Additional Supported Data Host Software

The software listed in TABLE 4 is compatible for use on data hosts with data paths or network connections to the Sun StorEdge 6920 system.

TABLE 4 Supported Sun Data Host Software

Software	Minimum Version
Sun StorEdge Enterprise Storage Manager	3.0, 2.1 with Patch 117367-01
Sun StorEdge Availability Suite	3.2
Sun StorEdge Enterprise Backup Software	7.1
Solstice DiskSuite	4.2.1
Solaris Volume Manager software (embedded in the Solaris 9 Operating System)	N/A
Sun StorEdge QFS	4.0
Sun StorEdge SAM-FS	4.0
Sun™ Cluster software	3.0, update 3

The third-party software listed in TABLE 5 is compatible for use on data hosts with data paths or network connections to the Sun StorEdge 6920 system.

TABLE 5 Supported Third-Party Software

Software	Version
VERITAS NetBackup Server	5.0
VERITAS NetBackup Enterprise Server	5.0
VERITAS Volume Manager with Dynamic Multipathing (DMP) for Solaris	3.5 and 4.0
VERITAS File System (VxFS) for Solaris	3.5 and 4.0
VERITAS Volume Replicator for Solaris	3.5
VERITAS Cluster Server (VCS)	3.5 and 4.0
Legato NetWorker®	7.1

Supported Fibre Channel Switches and HBAs

The Sun StorEdge 6920 system supports all of the Fibre Channel (FC) switches and data host bus adapters (HBAs) supported by SAN Foundation software version 4.4 (and later) with one exception. The Sun StorEdge 6920 system does not support third-party JNI HBAs (P/N SG-(X)PCI2FC-JF2 and SG-(X)PCI21C-JF2) with SAN Foundation software version 4.2.

For a list of supported FC switches and HBAs, see the *Sun StorEdge SAN Foundation Software Release Notes*.

Supported Languages

The Sun StorEdge 6920 management software and Storage Automated Diagnostic Environment application support the languages/locales listed in TABLE 6.

TABLE 6 Supported Languages and Locales

Language	Locale
English	en
French	fr
Japanese	ja
Korean	ko
Simplified Chinese	zh
Traditional Chinese	zh_TW

Note –

- Man pages are available only in English and Japanese, but `sscs-6920.1m` is not translated in this release.
- The Online Help is not translated in this release, the English version of Online Help will be displayed on the localized GUIs.
- Localization of E-mail notification is not supported in this release.

System Usage Limits

TABLE 7 lists maximum values for elements of the Sun StorEdge 6920 system.

TABLE 7 Sun StorEdge 6920 System Limits

System Attribute	Maximum
Volumes per system	1024 volumes
Virtual disks per tray	2 virtual disks
Volumes per virtual disk	32 volumes
Mirrored volumes	128 (256 mirrored components)
Components in a mirror	4 including the primary volume
Legacy volumes	128
Snapshots per volume	8 snapshots
Expand snapshot reserve space	Up to 31 times
Pre-defined profiles	15
Initiators* that can communicate with the system	256 initiators
Initiators per DSP port	126
Data host HBA ports that can communicate with one system port	126 data host HBA ports
Volumes that can be mapped to a single data host HBA port World Wide Name (WWN)	256 volumes
Storage domains	14 storage domains (1 system defined; 13 available for user definition)
Storage pools	64 storage pools
Storage profiles	15 system-defined storage profiles; no limit for user-defined profiles

* The term initiator means the "initiator instance" as seen by the Sun StorEdge 6920 system. If a data host-side HBA port sees N ports, the system sees N initiators. The 256-initiator limit translates to a maximum of 128 dual-path data hosts, where each data host HBA port can see one port of the system.

Remote Data Replication

Remote Replication is not supported in this release. However, it is not disabled in either the GUI or the CLI. Do not attempt to configure Remote Replication Services in any way. Configuring Remote Replication will lead to unpredictable system behavior, which might include catastrophic failure.

Release Documentation

TABLE 8 and TABLE 9 list the documents that are related to the Sun StorEdge 6920 system. For any document number with *nn* as a version suffix, use the most current version available.

You can search for this documentation online at

- `http://www.sun.com/documentation`
- `http://docs.sun.com`

TABLE 8 Sun StorEdge 6920 System Documentation

Subject	Title	Part Number
Unpacking instructions attached to the shipping container	*Unpacking Guide*	816-6385-*nn*
CLI quick reference	*Sun StorEdge 6920 System* `sscs`*(1M) CLI Quick Reference Card*	817-5228-*nn*
System planning information	*Sun StorEdge 6920 System Site Preparation Guide*	819-0118-*nn*
System regulatory and safety information	*Sun StorEdge 6920 System Regulatory and Safety Compliance Manual*	819-0119-*nn*
Initial setup and quick start	*Sun StorEdge 6920 System Getting Started Guide* *Sun StorEdge 6920 System Hardware Quick Setup*	819-0117-*nn* 817-5226-*nn*

System overview information, as well as information on system configuration, maintenance, and basic troubleshooting, is covered in the online help included with the software. In addition, the `sscs` (1M) man page provides information about the commands used to manage storage using the command-line interface (CLI).

TABLE 9 Sun StorEdge 6920 Related Documentation

Product	Title	Part Number
Best practices	*Best Practices for Sun StorEdge 6920 System (Version 3.0.0)*	819-0122-*nn*
Sun Storage Automated Diagnostic Environment Enterprise Edition	*Sun Storage Automated Diagnostic Environment Enterprise Edition Release Notes Version 2.4*	819-0432-*nn*
SAN Foundation software	*Sun StorEdge SAN Foundation 4.4 Configuration Guide*	817-3672-*nn*
Oracle Storage Compatibility Program	*Sun StorEdge Data Snapshot Software With Oracle Databases Usage Guide*	819-3326-*nn*
	Sun StorEdge Data Mirroring Software With Oracle Databases Usage Guide	819-3327-*nn*
	Sun StorEdge Data Replication Software With Oracle Databases Usage Guide (available on August 19, 2005)	819-3328-*nn*
Traffic Manager software	*Sun StorEdge Traffic Manager 4.4 Software Release Notes for HP-UX, IBM AIX, Microsoft Windows 2000 and 2003, and Red Hat Enterprise Linux*	817-6275-*nn*
	Sun StorEdge Traffic Manager 4.4 Software User's Guide for IBM AIX, HP-UX, Microsoft Windows 2000 and 2003, and Red Hat Enterprise Linux	817-6270-*nn*
	Sun StorEdge Traffic Manager 4.4 Software Installation Guide for Red Hat Enterprise Linux	817-6271-*nn*
	Sun StorEdge Traffic Manager 4.4 Software Installation Guide for Microsoft Windows 2000 and 2003	817-6272-*nn*
	Sun StorEdge Traffic Manager 4.4 Software Installation Guide for IBM AIX	817-6273-*nn*
	Sun StorEdge Traffic Manager 4.4 Software Installation Guide for HP-UX 11.0 and 11i	817-6274-*nn*
Sun StorEdge network Fibre Channel switch-8 and switch-16	*Sun StorEdge Network 2 Gb FC Switch-8 and Switch-16 FRU Installation*	817-0064-*nn*
	Sun StorEdge Network 2 Gb FC Switch-8 and Switch-16 Release Notes	817-0770-*nn*
	Sun StorEdge Network 2 Gb FC Switch-64 Release Notes	817-0977-*nn*
Sun StorEdge Brocade switch documentation	*Sun StorEdge Network 2 Gb Brocade SilkWorm 3200, 3800, and 12000 Switch 3.1/4.1 Firmware Guide to Documentation*	817-0062-*nn*
Sun StorEdge McData switch documentation	*Sun StorEdge Network 2 Gb McDATA Intrepid 6064 Director Guide to Documentation, Including Firmware 5.01.00*	817-0063-*nn*

TABLE 9 Sun StorEdge 6920 Related Documentation *(Continued)*

Product	Title	Part Number
Expansion cabinet	*Sun StorEdge Expansion Cabinet Installation and Service Manual*	805-3067-*nn*
Storage Service Processor	*Sun Fire V210 and V240 Server Administration Guide*	816-4826-*nn*
Solaris Operating System	*Solaris Handbook for Sun Peripherals*	816-4468-*nn*

Known Issue

The following sections provide information about known issues with this product release.

Data Services Platform Fan Replacement

The fan in the Data Services Platform (DSP) is a field-replaceable unit (FRU). When removing the fan, observe the following caution.

Caution – The fan has unprotected blades that might still be spinning when the fan is removed. Be sure that the fan blades have stopped moving completely before removing the fan from the cabinet.

Bugs

The following sections provide information about bugs filed against this product release:

If a recommended workaround is available for a bug, it follows the bug description.

Configuration Management Software

This section describes known issues and bugs related to the configuration management software graphical user interface (GUI).

Controller Errors Might Cause Data Corruption and Data Loss

Bug 6254606 - A controller error might cause corruption or loss of data rather than resulting in a controller failover.

Workaround – Install the latest software patches available from `http://sunsolve.sun.com`. The latest release at the time of this publication is 3.0.0.30. Contact your Sun Service Representative for more information.

Mirror Components Might Become Corrupted During a Rolling Upgrade

Bug 6288820 - If a rolling upgrade fails, the data on mirror components might be corrupted.

Workaround – Install the latest software patches available from `http://sunsolve.sun.com`. The latest release at the time of this publication is 3.0.0.30. Contact your Sun Service Representative for more information.

A System Area Wipe on T3 and T4 Systems Might Corrupt User Data

Bug 6293611 – The raw disk scrubber feature might destroy data.

Workaround – Install the latest software patches available from `http://sunsolve.sun.com`. The latest release at the time of this publication is 3.0.0.30. Contact your Sun Service Representative for more information.

Cannot Boot Solaris From SAN-attached Sun StorEdge 6920 Systems

Bug 6306398 – Hosts might not boot successfully if a Sun Storedge 6920 system serves as a boot disk. The boot command might hang or the system might display an error message.

Workaround – Install the latest software patches available from `http://sunsolve.sun.com`. The latest release at the time of this publication is 3.0.0.30. Contact your Sun Service Representative for more information.

The SSRR Will Not Work After Upgrading With the Restore CD

Bug 6283958 – The Sun StorEdge Remote Response service (SSRR) will not work after using the Restore CD to upgrade the Sun StorEdge 6920 system because the `SUNWrsssp` and `SUNWspop` packages are not installed by the CD.

Workaround – Manually install the `SUNWrsssp` and `SUNWspop` packages, and then run the `/var/remote.support/scripts/update_rss_console` script to set up the SSRR information.

A Sun StorEdge 6910 System Is Displayed As An Initiator Instead of a Target On the Sun StorEdge 6920 Management Interface

Bug 6273332 – When you attach a Sun StorEdge 6910 system to the same zone as a Sun StorEdge 6920 system, the 6920 sees the 6910 as an initiator instead of a target.

Workaround – None. This configuration is not valid.

The DSP Slot Count is Incorrect After a Component Remove and Replacement

Bug 6234925 – After removing and replacing a Data Services Platform (DSP) board FRU, the View Rack Components screen of the Sun Java Web Console shows an incorrect DSP slot count. The Device Details screen shows a correct DSP slot count.

Workaround – Do not look at the View Rack Components screen for the DSP FRUs. Look for the correct number of installed DSP FRUs on the Inventory Report screen.

The `sscs` *Command and the Sun Java Web Console Do Not Show the Correct Target Numbers for the External Storage Devices*

Bug 6229522 –

- When a Sun StorEdge T3+ array is connected to a Sun StorEdge 6920 system as an external storage device, the `sscs` command returns a 0 (zero) as the target number of the external storage device.
- The configuration services window of the Sun Java Web Console (Administration → Physical → External Storage), the target number shows up as 0 "zero" for all external Sun StorEdge T3+ arrays.

Workaround – Be aware that the Sun StorEdge T3+ array is in a point to point mode. by default and as such it will always be seen as target 0.

Sometimes the System Will Temporarily Hang When Creating a New Mirrored Volume

Bug 6256116 – Occasionally, the system may "hang" when you create a new mirrored volume and simultaneously map it to initiators, using the New Volume Wizard.

Workaround – Ensure you limit the number of virtual disks in pools from which you will create mirrored volumes to 32.

Creating a Virtual Disk With an Invalid Array Name Produces the Wrong Error Message

Bug 6215190 – Creating a virtual disk with an invalid array name results in the following message:

```
Default, couldn't find space.
```

Workaround – Be aware of this condition. If you receive this error message, check to see that you have not supplied an invalid array name or tray ID.

Adding New Components to a Mirror Fails Intermittently With Small Volume Sizes

Bug 6258661 – Occasionally, you may get an error when adding small volumes (approximately 50 MB or less) as mirror components to a mirror.

Workaround – Repeating the operation will usually bring success.

An Error Occurs and the Isolation Policy Changes to Optional When Updating Resilver Priority

Bug 6272009 – If you change the isolation policy for a mirror from Optional to Required after the mirror has resilvered, the browser interface may not indicate your changes have taken affect. This known error in the interface display may also occur if you change the resilver priority (high, medium, low) after the mirror has resilvered.

Workaround – None at this time.

Expanding a Volume Doesn't Expand its Snap Reserve

Bug 6278305 – Occasionally when you expand the volume snapshot reserve space, it does not automatically expand.

Workaround – If you expand a volume and its snapshot reserve space does not automatically expand, delete the snapshot reserve space and reallocate it.

Delivering CIM Indications Through the Firewall

Bug 6262246 – When developing Common Information Model (CIM) client applications that will make use of CIM Indications, care must be taken when setting up the indication listener. The simplest form of the CIM client library call to create a listener does not include a parameter for the TCP/IP port number to use. Submitting an indication subscription request to the Sun StorEdge 6920, that uses a port number assigned by the CIM client library, will not return an error but the CIM client will not receive any of the subscribed events. The Sun StorEdge 6920 incudes a network firewall device that filters connection requests from the CIMOM in the array to external CIM clients. The firewall has a number of ports open for other applications but none dedicated for use for CIM indications.

This problem my also appear in software applications that make use of a CIM client to manage the Sun StorEdge 6920 system.

Workaround – A CIM client application must make use of one of the firewall's existing open port numbers. Make sure that the port you select is open on the "Administration Port Filtering" page of the "Sun StorEdge 6920 Configuration Service" application of the Java Web Console. Both the Pegasus and wbemservices client libraries allow a specific port number to be used when setting up a CIM indication listener. The open port numbers include 22 (ssl), 25 (smtp), 427 (slp), 443 (patchpro) and 8443 (esm). More ports than this are listed on the port filtering page but not all are suitable for use as CIM indication destination ports.

After a Processor Reset, A Premature Detection of Disks Results In False LOG_CRIT Messages

Bug 6225669 – In the event that a processor on an SRC card were to inadvertently crash (for instance due to a software panic of some sort), when the processor reboots there is a possibility that it will report events similar to the following messages.

```
02/03/2005 16:35:25 LOG_CRIT     (VCM: 5-0)  FAILED Setup connection
from 4/1 to 3/1, OSH 60003ba2-7ca6b000-4034919c-0006d196  [0xff], state:
0 status: CANT_CREATE_
02/03/2005 16:35:25 LOG_CRIT     (VCM: 5-0)  VCM: Remote 3/1 Connection
failed -2 to WWN = 60:00:3B:A2:7C:A6:B0:00:40:34:91:9C:00:06:D1:96
02/03/2005 16:35:25 LOG_INFO     (VCM: 5-0)  Scheduled to redistribute 4
ALUs in 120 sec.
02/03/2005 16:35:25 LOG_CRIT     (VCM: 5-0)  vcm_iscsi_t1_to_alu_cb:
iSCSI setup error state 0, status 19, ALU wwn
60:00:3B:A2:7C:A6:B0:00:40:34:8F:D1:00:0A:8C:A2
02/03/2005 16:35:25 LOG_CRIT     (VCM: 5-0)  vcm_iscsi_t1_to_alu_cb:
iSCSI setup error state 0, status 19, ALU wwn
60:00:3B:A2:7C:A6:B0:00:40:34:90:4F:00:07:62:35
02/03/2005 16:35:25 LOG_CRIT     (VCM: 5-0)  vcm_iscsi_t1_to_alu_cb:
iSCSI setup error state 0, status 19, ALU wwn
60:00:3B:A2:7C:A6:B0:00:40:34:90:F8:00:05:F4:50
```

Generally speaking, these events are benign as long as the Sun StorEdge 6920 system has fully recovered to its normal high-availability (fully redundant) state, no further action is required.

Workaround – Ignore the error messages.

The GUI Might Not List the Correct Status of Storage Pools With the Same Name

Bug 4993083 – The GUI might not show storage pools with the same name in two storage domains correctly.

Workaround – If two or more storage pools with the same name appear in different domains, only one will be listed in the storage pool summary page. If you filter the storage pool summary by domain, you will be able to see the individual storage pools.

When creating storage pools, assign names that are unique across the whole system.

The GUI Allows the Configuration to Change to RAID 5 for Two Disk Drives

Bug 5010540 – The Management GUI allows a RAID 5 storage profile to be created that has a fixed number of disks set to two, whereas RAID 5 requires three disks at a minimum.

Workaround – Do not create a RAID 5 profile that specifies less that 3 drives.

Administration, General Settings Page: Changing IP Address Causes Browser Session to Terminate

Bug 4987947 – Changing the IP address of the Sun StorEdge 6920 system on the Administrator page causes the browser session to terminate without notification. The new IP address is saved on the Storage Service Processor. This problem does not occur when you change other network settings such as the domain name server (DNS) IP address or gateway address.

Workaround – Log in to the system again using the new IP address.

Volume Summary Page: Stripe Virtualization Strategy Might Fail With Unclear Error Message

Bug 4941750 – Creating a volume using the stripe virtualization strategy might fail if the remaining space in the storage pool does not contain stripe partitions that are large enough to be a multiple of the requested volume size. For example, if the storage pool contains three virtual disks, two with 36 gigabytes remaining and one with 18 gigabytes remaining, a request to create a 90-gigabyte volume will fail, because equal-sized stripe elements cannot be allocated. In this case, the largest volume size that can be requested is 72 gigabytes.

Workaround – If you receive the following error when creating a volume using striping, either request a smaller volume size or use the maximum capacity option:

```
The volume size specified is too large for the devices specified
```

Configuration and Diagnostic Operations Cannot Run Simultaneously

Bug 4953295 – You cannot run diagnostic and configuration operations from the GUI or CLI simultaneously. For example, you cannot replace a hardware field-replaceable unit (FRU) using the Storage Automated Diagnostic Environment interface while performing a configuration operation using the Sun StorEdge 6920 Configuration Service application.

Workaround – Allow all configuration operations invoked from the Sun StorEdge 6920 Configuration Service application or CLI to finish before using the Storage Automated Diagnostic Environment application. Allow all upgrade or maintenance operations invoked in the Storage Automated Diagnostic Environment application to finish before using the Sun StorEdge 6920 Configuration Service application or CLI.

Network Domain Name Cannot Be Changed in GUI

Bug 5046043 – The Sun StorEdge 6920 Configuration Service application does not allow you to change the name of the network domain.

Workaround – Use the CLI `sscs` command to change the network domain name. For example, the following command changes the network domain name to NEWNAME.

```
sscs modify -d on NS1 EAST net
```

Whenever you change the network parameters, you must log back in to the system.

Add Storage to Pool Wizard: Displays Invalid Trays

Bug 5049258 – The Add Storage To Pool wizard can erroneously display invalid trays for selection when you attempt to add storage to a pool.

Workaround – After you add storage to a pool, wait at least one minute before attempting to add more storage to a pool (including the same storage pool).

If the Add Storage To Pool wizard shows a list of trays that contains two entries for each tray, cancel the operation and wait another minute. This should clear the invalid trays from the display.

Changing Passwords Works Intermittently

Bug 5061119 – If you type a password into the New Password and Password Confirmation fields and then click Set Password, the change might not occur, in spite of the following message:

```
The password has been successfully changed.
```

If this happens, and you type the user name and "old" password, the login is accepted.

Workaround – If the password update was not accepted initially, change the password again.

Virtual Disks Are Not Reinitialized When Reassigned to a New Storage Pool

Bug 5069434 – The system software does not prevent you from adding a virtual disk created for one storage pool to another storage pool that has a different storage profile. Because the original attributes of a virtual disk cannot be changed, the result is a virtual disk residing in a storage pool with attributes that do not match the attributes of the storage pool.

Workaround – Although you cannot reassign a virtual disk from one storage pool to another pool with a different storage profile, you can delete the virtual disk and create a new one. First delete the volumes, and then delete the virtual disk. Create a new virtual disk in the storage pool with the desired storage profile.

Storage Automated Diagnostic Environment

This section describes known issues and bugs related to the Storage Automated Diagnostic Environment application.

Note – When you replace a standby switch fabric card (SFC), an actionable event could occur, even though the card correctly returns to standby mode when the reload is complete.

Alarm Management Interaction Between Enterprise and System Editions of Storage Automated Diagnostic Environment

Bug 6264718 – The logical connection between the System Edition and Enterprise Edition is a polling model by the Enterprise Edition. Each edition is a separate entity and requires independent management by the user. Alarm management is not propagated by either edition to the other.

Workaround – Once the condition that generated an alarm is corrected, manually delete the alarm on the alarms page of both the System edition of the Storage Automated Diagnostic Environment (SUNWstads) that resides in the rack, as well as the Enterprise Edition (if monitoring the rack as a device from a separate monitoring station).

This should also be done on the alarms page of the Enterprise edition in order to ensure that the separate packages are displaying the correct information.

The Performance Data Screen Will Not Load In the Storage Automated Diagnostic Environment

Bug 6214849 – If you access the Storage Automated Diagnostic Environment → Inventory → Performance Data screen with a graphical layout at the same time as another user, it will not load.

Workaround – Try to load the graphical layout again after waiting a moment.

Benign LOG_CRIT iSCSI Messages Are Logged Inadvertently By the Storage Automated Diagnostic Environment

Bug 6245542 – This issue is very similar to that of Bug 6225669. The LOG_CRIT messages shown below can be generated any time there are failover events on the Sun StorEdge 6920 system. For example, if a cable is pulled, a card is shutdown, a processor crashes due to a latent software bug, or even the act of performing a PatchPro upgrade can result in these error messages.

```
03/23/2005 13:19:23 LOG_CRIT   (CONFIG: 0-0)  iSCSI Target Lun 9999 on (tgt VSE
not created/1/4 to 3/4 - CANT CREATE TO VSE) not created
03/23/2005 13:19:23 LOG_CRIT   (VCM: 5-0)  FAILED Setup connection from 1/4 to
3/4, OSH 60003ba4-d345b000-42374ab6-000c7fb8  [0xff], state: 0 status:
CANT_CREATE_
03/23/2005 13:19:23 LOG_CRIT   (VCM: 5-0)  VCM: Remote 3/4 Connection failed -
2 to WWN = 60:00:3B:A4:D3:45:B0:00:42:37:4A:B6:00:0C:7F:B8
03/23/2005 13:19:23 LOG_CRIT   (CONFIG: 0-0)  iSCSI Target Lun 9999 on (tgt VSE
not created/2/3 to 3/4 - CANT CREATE TO VSE) not created
03/23/2005 13:19:23 LOG_INFO   (VCM: 5-0)  VCM Backup Resync Scheduled in 60
seconds, gen 11870
```

Workaround – Ignore the error messages.

A DSP Fan Status Change From Off to On is Not Reported Correctly

Bug 6242277 – After a Data Services Platform (DSP) fan tray replacement, the Storage Automated Diagnostic Environment monitoring software might not report the state change of the fan tray properly due to the fan tray "ON" status change being listed as a sub-event of the fan tray removal and replacement.

Workaround – After a fan tray replacement, verify that the fan is working properly by clicking on the Inventory page of the Storage Automated Diagnostic Environment. Then select DSP, check for a Fan status of "ON". If the fan status is displayed as ON, the associated alarm can be deleted from the "Alarms" tab.

Local Notification Information Page: Do Not Select All or Informational

Bug 4995950 – When setting up remote email notification on the Administration → Notification → Local Email → Local Notification Information page of the Storage Automated Diagnostic Environment application, do not select All or Informational. These selections cause notification to be sent for all events, including those that do not indicate a fault.

Workaround – For fault-specific information only, select Warning, Error, and Down when setting up fault notification.

Service Advisor New Array Configuration Procedure Is Incorrect

Bug 5050631 – A step is missing from the "Configure new arrays" procedure under Service → Service Advisor → X-Options → Adding Storage Arrays. An error occurs if you do not release the reservation before you perform step 6, substep c of "Select and apply any patches as required."

Workaround – Release the reservation of the cabinet before you select and apply patches for the new array.

Internationalization

This section describes known issues and bugs related to internationalization and language translation.

Configuration Management Software

Some Buttons, Box Options, and Job Description are Not Displayed Correctly by the Localization GUI

Bug 6239357 – Some buttons, box options, and job description are displayed in one language if the GUI is initially launched or the action is initially taken in that language.

Workaround – None at this time.

Non-Internationalized Messages Might Show On the Job Details Page

Bug 6237308 – After deleting a pool, virtual disk, or volume, some English messages might show on the job details page in the localized GUI.

Workaround – None at this time.

Version Information Page Information Is Not Internationalized

Bug 6265004 – Some of the strings on the version page are not internationalized. The version page is displayed in English.

Workaround – None at this time.

An Internal System Error Displays When a Description Contains French Characters

Bug 6272992 – When trying to save French Characters into the Description field on Administration → General Setup page, internal system error message is displayed.

Workaround – Do not enter French characters into the text field.

An English Date/Time Stamp Shows On Some Localized GUI Pages

Bug 6265012 – An English date/time stamp shows on multiple localized GUI pages.

Workaround – None at this time.

Messages Are Not Translated On the Rescan Devices Page

Bug 6262710 – The “Rescan Devices” button and the content of Rescan Devices Page messages are not translated.

Workaround – None at this time.

Storage Automated Diagnostic Environment

No Warning Message Indicates That The Patch Database Proxy Login Name field Does Not Support Non-ASCII Characters

Bug 6270508 – The Patch Database Proxy Login Name field does not support non-ASCII characters.

Workaround – Enter only ASCII characters into the text field.

The Text Field On Administration → Notification → Setup Page Does Not Support Non-ASCII Characters

Bug 6273563 – Multi-byte characters saved on the Notification Setup page are displayed as "??".

Workaround – Enter only ASCII characters in the text field.

Inconsistent Korean Translation for the String “array” Between StorADE and 6920 Configuration Service

Bug 6275667 – The Korean translation for the string “array” between StorADE and the Sun StorEdge 6920 Configuration Service is not consistent. The translation for the Sun StorEdge 6920 Configuration Service is correct.

Workaround – None at this time.

Japanese Translation Errors Exist In the "Priority" Menu On the Add Email Notification Page

Bug 6282673 – The top two options "Critical and above" and "Major and above" in the "Priority" menu on the "Add Mail Notification" page are translated as "All" in the Japanese locale.

English menu options:	**Japanese Translation:**
Critical and above	All
Major and above	All
All	All

Workaround – They should be list as appears below.

English menu options:	**Japanese Translation:**
Critical and above	Critical and above
Major and above	Major and above
All	All

Other Known Issues

This section describes other known issues and bugs found in the system.

An I/O Error Message Results During An Array Controller Failover

Bug 6258029 – If one array controller of a partner pair goes offline due to a hardware failure, software fault, or during a rolling firmware upgrade, an I/O error message can result.

Workaround – Contact your Sun service representative.

Adding a Component To a Local Mirror That Has a Split Fails

Bug 6287283 – If a Local Mirror (LM) has a split component, it may not be possible to add new component to the mirror.

Workaround – To add a new component to a local mirror with a split component, either rejoin or break the split component before adding the new component.

Creating a Snapshot With SSCS Commands On Striped Volumes Fails on Rare Occasions

Bug 6283914 – On rare occasions, using SSCS commands to create a snapshot of multiple striped volumes results in the following error message:

```
Unexpected internal system error. Retry the operation and then
contact your Sun service representative if the error persists.
```

Workaround – Retry the operation with a new name for the snapshot volume.

Adding a Volume That Has Been Extended To a Local Mirror Results In That Volume Not Assigned To a Pool

Bug 6280226 – If a volume is extended and then added to a local mirror, the storage pool designation for the volume is set to "null."

Workaround – Do not extend a volume until after it has been incorporated into the local mirror.

Using the `config_solution` *Script To Run the* `setgid` *Command Fails*

Bug 6283274 – The -I switch is not allowed with the `setgid` command. This will appear while running the `t4_rnid_cfg` script during a migration from and upgrade from 2.0.x to 3.0.

Workaround –

1. **Access the `/usr/local/bin/t4_rnid_cfg` file.**
2. **Change the first three lines from:**

```
#!/usr/bin/perl -I/usr/local/lib/perl5 --  # -*-Perl-*-
#
# t4_rnid_cfg.pl -- script to configure T4 RNID parameters
```

to:

```
#!/opt/SUNWstade/bin/perl -U use lib "/usr/local/lib/perl5";
```

The `config_solution` script can now be run.

The `fsck` *Command Can Take a Long Time To Complete A File System Build on Sun StorEdge 6920 System LUNs*

Bug 5026163 – Using the `samfsck` command to check a QFS file system can take a long time for a file system build on Sun StorEdge 6920 system LUNs.

Workaround – Be aware that, depending on the configuration and I/O load on the system, a file system build can take up to 45 minutes to complete on a 200 Gbyte file system.

Volume Namespace Is Global—Domains Imply Isolation of Namespaces

Bug 5095383 – The Namespace for volumes is global within a rack. Separate domains do not provide separate volume names.

Workaround – Be aware that separate storage domains do not provide separate volume name spaces and that all volume names must be globally unique across the system.

Data is Not Available After a Resnap When Using Microsoft Windows OS Snapshot

Bug 6246981 – When using Windows as your operating system, you may not be able to view updated snapshot data after performing a resnap operation.

Workaround – If this occurs, remove and then re-add the drive letter.

Login Attempt Can Hang

Bug 5057792 – When an attempt is made to log into the GUI or CLI using the "storage" account, the login will hang if the Data Services Platform (DSP) is not responding. Correcting this condition requires that the DSP be power-cycled. This requires logging in to the GUI or CLI. When logging in as "storage," the GUI and CLI do not return control to you until some basic DSP configuration data has been loaded.

Workaround – Use the "admin" account to log into the GUI or CLI. You will not encounter a hang-up and will be able to issue the request to power-cycle the DSP.

Profile Descriptions are Not Included in Search Results

Bug 6233593 – When using the web GUI search functionality profile descriptions are not included in the data which is searched. Search will find terms in volume descriptions, but not profile descriptions.Search is case insensitive.

Workaround – None at this time.

The Rollback Completion Reporting of the Primary Volume Details Are Not Updated Correctly

Bug 6268169 – As a snapshot rollback job progresses, the percentage complete may remain at 0%.

Workaround – If this occurs, you can reload the XML page for the snapshot's parent volume to update the rollback progress. Note that the rollback does progress, even when the percentage complete is not properly updating. In order to accurately monitor the progress of the rollback operation you should either monitor the "Volume Details" page of the snapshot or monitor the job which was created to track the rollback and can be accessed via the "Jobs" tab.

An Incorrect Storage Pool Usage Capacity is Shown After Deleting a Mirror

Bug 6276199 –When you delete a mirror, the Storage Pool Summary page may not update with the current information. This happens when the logs of a mirror are spread across more than one storage pool.

Workaround – From the External Storage tab in the browser interface, click Rescan Devices to reload the most current virtual disk information and recalculate storage pool usage. This should resolve the cache inconsistencies. Alternatively, you can delete unused virtual disks and then import them via the External Storage tab in the browser interface.

Barber Poll Animation Doesn't Work When Using a Wizard

Bug 6265292 – When using a Microsoft Internet Explorer 6 wizard, clicking the "Finish" button on the Wizard Summary page might not display the animation (rotation) of the "barber pole" to indicate progress. The wizard/application appears to be frozen.

Workaround – Let the wizard run to completion (even though it looks like nothing is happening) at which time it will automatically close the window.

No Confirmation Message Appears to Indicate A LOM Shutdown

Bug 6219697 – A lights out management (LOM) Shutdown or partial shutdown doesn't provide a prompt for a confirmation before shutting down the components or the entire system. When either of these buttons are selected the system automatically starts the shutdown.

Workaround – Be aware that on the Administration → General Setup page, when clicking System Shutdown or System Partial Shutdown, a shutdown of the system is immediately initiated even though a confirmation message is not displayed.

The DSP Provides No Notification When the Sun StorEdge 6130 Array Is Not Set To the AVT Mode

Bug 6254707 – Configuring the Sun StorEdge 6130 arrays with the Auto Volume Transfer (AVT) of the Data Services Platform (DSP) set to Off results in an access error message on the host.

```
Illegal request due to current lun ownership
```

Unfortunately, there is no event log entry sent to the Storage Automated Diagnostic Environment that indicates the exact nature of the problem (as happens with the Sun StorEdge 6130 arrays).

Workaround – Be sure to configure the Sun StorEdge 6130 arrays with the Auto Volume Transfer (AVT) set to On.

Metadata Might Remain on Previously Configured Volumes

When you create a data host–visible volume on a virtual disk that previously contained files created by another data host operating system, some file system metadata remains on the volume. The metadata is recognized by `fsck` or another data host–based utility because the Data Services Platform (DSP) does not reinitialize a volume before the volume is created.

Workaround – You can resolve this problem in either of the following ways:

- Before deleting a data host–visible volume that has file system metadata, use a data host–based utility to reinitialize the volume, removing any metadata that might be seen by other operating systems.
- After creating a data host–visible volume, immediately initialize it using a data host–based utility before using any other utility that might recognize old metadata.

Booting/Rebooting: Errors Occur During Boot for Direct-Attached Storage Data Hosts

Bug 4969489 – When direct-attached storage data hosts are connected to the Sun StorEdge 6920 system and devices are connected in autotopology mode, a problem might occur during initial booting.

Workaround – Edit the `jfca.conf` file in `/kernel/drv` on the data host using the following values:

```
Loop FcLoopEnabled = 1;
FcFabricEnabled = 0;
Fabric FcLoopEnabled = 0;
FcFabricEnabled = 1;
```

Known Documentation Issues

The following topics describe known issues in areas of the documentation:

- "sscs CLI Man Page Corrections" on page 37
- "Updating Your Shell Environment to Display Japanese Man Pages" on page 38
- "Bug" on page 38

`sscs` CLI Man Page Corrections

This section describes corrections for the `sscs` man page. Substitute the following changes for these commands.

`create profile`

Under the description of the -v command option, "-v,--virt-strategy striped | concat" should read "-v,--virt-strategy stripe | concat".

`list initiator`

Under Response Format in the Examples section, "Description: <initiator-name>" should read "Description: <initiator-description>".

`modify volume`

Under the description of the -S, --sdomain option, "Specify the storage domain volume operands" should read "Specify the storage domain".

`Expand Snapshot Reserve Space for a volume`

The example should be changed from:

```
sscs -C 8 -L high -S MyDomain volume MyVolume
```

to read:

```
sscs snapshot -C 8 -L high -S MyDomain volume MyVolume
```

Updating Your Shell Environment to Display Japanese Man Pages

The `sscs` man page in the data host software is available in English and Japanese. (The Japanese man page supports the `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:

- To update the `MANPATH` variable using the Bourne or Korn shell:

1. Use an editor to update your `.profile` file `MANPATH` statement to include `/opt/se6x20/cli/man` and export your `MANPATH`:

   ```
   MANPATH="$MANPATH:/opt/se6x20/cli/man"
   ```

   ```
   export MANPATH
   ```

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

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

- To update the `MANPATH` statement using the C shell:

1. Use an editor to add `/opt/se6x20/cli/man` to the `MANPATH` statement in your `.login` file:

   ```
   setenv MANPATH "$MANPATH:/opt/se6x20/cli/man"
   ```

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

   ```
   # source .login
   ```

Bug

Clarification for the Default Configuration Options section of the Sun StorEdge 6920 System Getting Started Guide

Bug 6242746 – The Default storage profile does not include a dedicated hot-spare. A dedicated hot-spare is a spare disk within an array that is used for failover when a particular virtual disk fails. To reconfigure an array to include a dedicated hot-spare, use the New Storage Profile wizard to create a new profile and enable the dedicated hot spare attribute.

Workaround – You can also reconfigure the number of array spares within an array. An array hot-spare is a spare disk that is used for failover when any of the virtual disks in an array fail. To reconfigure the number of array hot-spares, go to Sun

StorEdge 6920 Configuration Service → Physical Storage→ Arrays, and click the name of the array you want to modify. The Array Details page displays the array attributes, and includes the fields you can modify. You can specify from 0 to 8 array hot-spares within an array. You can also modify an array using the `sccs` modify array command.

Service Contact Information

Contact Sun Customer Service if you need additional information about the Sun StorEdge 6920 system or any other Sun products:

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