



# Sun StorEdge™ 6320 System 1.2 Release Notes

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Release 1.2.1

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# Sun StorEdge 6320 System 1.2 Release Notes

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The Sun StorEdge™ 6320 systems are complete, preconfigured storage solutions.

These release notes provide the latest information about the Sun StorEdge™ 6320 system. The information could affect the installation and operation of the system. Be sure to read this document before you begin the system installation or read other array documentation.

This document applies to both Release 1.2 and Release 1.2.1. The Release Notes consists of the following sections:

- “Release 1.2.1 Features” on page 2
- “Release 1.2 Features” on page 3
- “System Requirements” on page 6
- “Required Software Packages and Patches” on page 6
- “Known Issues and Bugs” on page 14
- “Release Documentation” on page 22
- “Sun StorEdge 6320 System Terminology” on page 24
- “Service Contact Information” on page 24

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# Release 1.2.1 Features

Release 1.2.1 adds the following features:

- “Localized Help” on page 2
- “Adding Arrays to the System” on page 2
- “Adding Arrays to the System” on page 2

## Localized Help

Release 1.2.1 adds localized online help for the Sun StorEdge Configuration Service software to manage the Sun StorEdge 6320 system.

## Adding Arrays to the System

Release 1.2.1 enables the adding of 6120 arrays to an existing Sun StorEdge 6320 system without having to edit the `syslog.conf` file.

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# Release 1.2 Features

Release 1.2 adds the following features:

- “Array Hot Spares” on page 3
- “Disk Scrubber” on page 3
- “Backend Fault Isolation Task (BEFIT)” on page 5
- “Other Changes” on page 6

## Array Hot Spares

The *array hot spare* feature enables you to designate disks as hot standbys to substitute for failed drives. You can configure hot spares to either be global for the array or dedicated to a specific pool.

## Disk Scrubber

The *disk scrubber* feature constantly reviews the volumes for consistency. As a result, you will see the disk LEDs flash regardless of I/O. Disk scrubber is enabled by default.



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**Caution** – Sun does not recommend disabling the disk scrubber. Disabling the disk scrubber may lead to latent disk block errors which could cause multiple disk failures and loss of data.

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## Media Errors

The disk scrubber finds certain media errors on a read for all RAID levels. For RAID0 volumes it reports this to the syslog. For RAID1 and RAID5 volumes, the errors will be fixed.

This condition will be indicated by a syslog entry as shown in the example below:

- Media Error on u1d02:

```
u1d02 Sense Key = 0x3, Asc = 0x11, Ascq = 0x0
Jan 09 09:08:42 array00 ISR1[1]: W: u1d02 Sense Data
Description Unrecovered Read Error
```

- RAID1: Messages from the disk scrubber task:

```
Jan 09 09:08:42 array00 SX11[1]: N: ulctr fixing data on verify  
scb=441069c
```

- RAID5: Messages from the disk scrubber task:

```
Jan 09 09:24:13 array00 SX11[1]: N: ulctr fixing parity on  
verify scb=433bde0
```

- Messages sent after the fix:

```
Jan 09 09:08:42 array00 ISR1[1]: N: uld02 Sense Key =0x1, Asc =  
0xc, Ascq = 0x1
```

```
Jan 09 09:08:42 array00 ISR1[1]: N: uld02 Sense Data  
Description = Write Error - Recovered With Auto Reallocation
```

## Data and Parity Errors

If the disk scrubber feature finds any inconsistencies in the data and it's computed parity, it sends messages to the array syslog file.

These inconsistencies are also fixed as seen in the example messages below:

Examples of new syslog messages from running the disk scrubber:

- No mismatch output:

```
Sep 22 18:02:25 psc0[1]: N: Vol verify (m1) started
```

```
Sep 22 18:02:28 psc0[1]: N: Vol verify (m1) ended
```

- RAID5: Computed parity and read parity mismatch

```
Sep 22 18:06:17 psc0[1]: N: Vol verify (m1) started
```

```
Sep 22 18:06:18 WXFT[1]: E: ulctr: vol (m1), Slice  
Name:(m1slice) vol verify detected
```

```
data parity mismatch on Stripe: 7, Lun:0
```

```
Sep 22 18:06:18 WXFT[1]: N: ulctr Parity on stripe 7 is fixed  
in vol (m1)
```

```
Sep 22 18:06:20 psc0[1]: N: Vol verify (m1) ended
```

- RAID1:Data and mirror copy mismatch

```
Sep 22 18:06:17 psc0[1]: N: Vol verify (m1) started
```

```
Sep 22 18:06:18 WXFT[1]: E: ulctr: vol (m1), Slice  
Name:(m1slice) vol verify detected data and mirror mismatch on  
block: 31, Lun:0
```

```
Sep 22 18:12:46 WXFT[1]: N: ulctr Mirror block 31 is fixed in  
vol (m1)
```

```
Sep 22 18:12:56 psc0[1]: N: Vol verify (m1) ended
```

For information on managing this feature, refer to Sun StorEdge 6320 System 1.2 Reference and Service Manual.

## Backend Fault Isolation Task (BEFIT)

The BEFIT feature, also known as online loop diagnostic mode, maintains the availability of backend drives at all times by detecting, isolating, and correcting faulty FRUs (Field Replaceable Units).

BEFIT is enabled by default during system boot and automatically completes diagnostics on the system. If a faulty FRU is detected during system boot, it is isolated and corrective action is applied. Corrective action may include bypassing the faulty FRU. After the system is booted, BEFIT checks system health every five seconds.

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**Note** – If BEFIT fails to detect and correct a problem, the system can reset itself to ensure that customer data is safe from corruption.

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When a fault is detected, BEFIT halts I/O and executes diagnostics. When BEFIT is completed, host I/O is resumed. If a faulty FRU is disabled, diagnostic LEDs on the FRU are lit. BEFIT messages are also sent to the array `syslog` file. View the `syslog` file from the Storage Automated Diagnostics Environment software.

## Other Changes

Release 1.2 also adds:

- Management software upgrades, including a graphical array overview, a storage object tree menu, and improved navigation.
- Support for four node clusters.
- Array and drive performance improvements detailed in the *Sun StorEdge 6120 Array Release Notes*.
- Documentation changes.
  - Improved installation procedures.
  - Added tasks using the web interface to the *Sun StorEdge 6320 System 1.2 Reference and Service Manual*.
  - Verified online help and Man Pages.

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## System Requirements

For information about the Sun StorEdge 6320 hardware and software platform installation requirements, refer to the *Sun StorEdge 6320 System Installation Guide*.

For information on the required software packages and patches to update to this release, refer to the next section.

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## Required Software Packages and Patches

This section documents the software packages and patches for management and data host software that are required for this release.

The tasks *must* be completed in the following order:

- 1. Install management software packages, if needed.**
- 2. Install data host patches, if needed.**
- 3. Run vol verify before installing patches.**
- 4. Install management software patches.**



# Management Software Packages

The Sun StorEdge 6320 system is shipped with the Sun StorEdge 6000 Family Host software installed on the Storage Service Processor. You can use one of the following software packages to manage the system:

- Sun StorEdge 6000 Family Host Installation Software

This package includes the Configuration Service software, Storage Automated Diagnostic Environment software and the Remote Configuration CLI (sscs). You can install the Remote Configuration CLI (sscs) on a remote host. Refer to the *Sun StorEdge 6000 Family Host Installation Software Guide* for additional information.

- VERITAS Array Support Library

This is applied if you require VERITAS Volume Manager support with the array.

## ▼ To Install the Management Software Package

1. **Go to:**

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

2. **In the Browse By Category window, click the Search tab.**

3. **In the Search window, enter 6000.**

4. **Click the Sun StorEdge 6000 Family Host software link.**

5. **Follow the instructions on the site to download the software package.**

6. **Run the installation procedure described in the *Sun StorEdge 6000 Family Host Installation Software Guide*.**

# Data Host Software Patches

TABLE 1 lists the minimum level of the software patches required on the data host.

**Note** – If the data host needs a software package, install it before you install the patches.

**TABLE 1** Data Host Software Patches

Platform	Patch Number/Source	Patch Description
Solaris 9 operating system, first release or later and Solaris 8 04/01 or later	<a href="http://www.sunsolve.sun.com">http://www.sunsolve.sun.com</a>  112392-04 or later 113698-02 <a href="http://www.sunsolve.sun.com">http://www.sunsolve.sun.com</a>	Sun StorEdge SAN Foundation 4.2 or higher software: For patch and product information, refer to the <i>Sun StorEdge SAN Foundation 4.x Installation Guide</i> at <a href="http://www.sun.com/storage/san">http://www.sun.com/storage/san</a>  VERITAS VxVM 3.5 general patch* VERITAS VxVM 3.5 supplemental general patch <sup>1</sup> <ul style="list-style-type: none"> <li>• VERITAS VxVM patches must be installed in the order listed.</li> <li>• If you install a later version of patch of 112392, such as the -05 revision, the supplemental patch (113698-02) is not required.</li> </ul>
Microsoft Windows NT operating systems	Microsoft  <a href="http://www.sunsolve.sun.com">http://www.sunsolve.sun.com</a>	Microsoft Windows NT Service Pack, SP 6A  Sun StorEdge Traffic Manager 3.x NT
Microsoft Windows 2000 Server and Advanced Server	Microsoft  <a href="http://www.sunsolve.sun.com">http://www.sunsolve.sun.com</a>	Microsoft Windows 2000 Service Pack, SP 3  Sun StorEdge Traffic Manager 3.x Windows 2000
IBM AIX 4.3.3	IBM  <a href="http://www.sunsolve.sun.com">http://www.sunsolve.sun.com</a>	ML 10  Sun StorEdge Traffic Manager 3.x AIX
IBM AIX 5.1 32 and 64 bit	IBM  <a href="http://www.sunsolve.sun.com">http://www.sunsolve.sun.com</a>	ML 03  Sun StorEdge Traffic Manager 3.x AIX

TABLE 1 Data Host Software Patches (Continued)

Platform	Patch Number/Source	Patch Description
HP-UX 11.00 and 11.i	Available from Hewlett-Packard <a href="http://www.sunsolve.sun.com">http://www.sunsolve.sun.com</a>	Patch set, September 2002 Sun StorEdge Traffic Manager 3.x HP-UX
Red Hat Linux 7.2 (single-path support only)	Red Hat Linux	Version 2.4.7-10

\* Required only for systems running VERITAS Volume Manager with the array.

## ▼ To Install the Data Host Software Patches

1. **Determine the required data host software patches from the list in TABLE 1.**
2. **Go to** <http://www.sunsolve.sun.com>.
3. **Navigate to PatchPro** → Network Storage Products.
4. **Download the required patches.**
5. **Use the `patchadd(1M)` command to install the host software patches.**  
Refer to the README files for more patch information.

## Before Upgrading Array Firmware

Before beginning the 3.1.x array firmware upgrade procedure, you must first scrub the disk drives using the `Storage Automated Diagnostic Environment` program. If the disk scrub identifies any problems, you must fix those issues found before upgrading. Once your disk drives are clean, you can install 3.1.x firmware which enables the disk scrubbing feature by default, automatically ensuring the integrity of your data. See “Disk Scrubber” on page 3 for more information about this new feature.

Refer to the `Storage Automated Diagnostic Environment` online help for more information about `vol verify`.

If desired, run a backup before beginning the procedure.

1. **In the `Storage Automated Diagnostic Environment` program, go to `Manage->Utilities->Continuous Volume Verify`.**
2. **Select the `Activate vol verify Subsystem` checkbox.**

3. **Select the Run with Fix option. The systems displays a warning that the fix option could change parity so a backup may be desired.**
4. **Configure the software so that Volume Verify runs on each array for 1 day.**
5. **For the day of the week, select the hour during which time Volume Verify will run.**
6. **Select the execution rate: fast = very high performance impact; medium = high performance impact, or slow = low performance impact.**
7. **Click Save Options.**
8. **Click the Start Volume Verify link at the top of the screen.**

The vol verify operation can take up to several hours to run, depending on system activity and the verification rate selected.

## Management Software Patches

The following lists the management software patches needed to meet the baseline requirements for Release 1.2.

### Release 1.2.1

115179-04 – Firmware Patch 3.1.2

114591-19 – Storage Automated Diagnostic Environment  
Support Patch (Storage Service Processor Only)

115589-04 – Sun StorEdge 6320 Storage Service Processor revision change

116656-01 – L10N Patch for Control Software for Storage Service Processor

116655-01 – L10N Patch for Control Software on external host

### Release 1.2

114960-04 – Management Software: Configuration Services for SE6320

114961-01 – Needed by any Solaris machine running the standalone SSCS package

112945-19 – WBEM needed by 114960-04

115179-03 – Firmware Patch 3.1\*

113193-03 – PatchPro Patch

114591-18 – Storage Automated Diagnostic Environment  
SUNWstads Support Patch (Storage Service Processor Only)

114596-03 – SSRR MIRE 28 OPIE Patch

115589-03 – Sun StorEDGE 6320 Service Processor Patch

115704-01 – (SUNWstads patch from baseline 1.0.4)

113273-04 – SSH (security patch for ssh utilities)

\*Use the Storage Automated Diagnostic Environment software installed on the Service Processor to automatically determine and install the baseline patches.

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**Note** – Install any needed management software packages and data host patches before you install the baseline patches.

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## ▼ To Install the Management Software Patches

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**Note** – Before beginning the array firmware upgrade procedures, see “Before Upgrading Array Firmware” on page 9.

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**Note** – Before installing Sun StorEdge Configuration Services software from CD on systems running Solaris 8, review Bug 4970813, “Software Installation Problem on Solaris 8 Hosts.” on page 17.

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### 1. Reboot the Storage Service Processor.

The system is disabled when the Storage Automated Diagnostic Environment software attempts to use PatchPro to retrieve upgrades. Therefore, you must reboot the Service Processor before downloading the patches.

### 2. Log in to the Storage Automated Diagnostic Environment software on the Storage Services Processor.

For example, enter:

```
https://[host_name]:7443  
Login: storage  
Password: !storage
```

3. **Select Monitor** → Monitor Devices to view devices that can be monitored.
4. **Check for alerts on monitored devices by clicking on the storage arrays (for example, sp0-array0).**
5. **If the arrays are displaying alerts, fix the errors and verify that the arrays are healthy before proceeding any further.**

Refer to the *Sun StorEdge 6320 System 1.2 Reference and Service Manual* for array troubleshooting information.

6. **If you need to change the PatchPro source from PatchPro Server to CDROM, select Manage** → Revision Setup → Change PatchPro Source to CD → Update Options.
7. **Create a new system inventory snapshot:**
  - a. **Select Manage** → Service → Inventory Maintenance **and click Generate New Inventory. This generates an up-to-date system inventory list.**
  - b. **Click Save New Inventory.**

**8. Determine and apply the required patches:**

- a. **Click Manage** -> Service -> Revision Maintenance.

- b. **Click Create New Patch Report.**

Wait until the Step 2 Select Patches screen link becomes active (about one minute) before proceeding.

You can tell the status by reviewing the Patch Report Status.

- c. **Click Select Patches when it becomes active.**

The system displays the available patches for each device (arrays and the Storage Service Processor).

- d. **Select the devices that you want to update and click Apply Selected or click Apply All Devices to update patches in all devices.**

The Patch Installation Report generates a log of the changes that are applied.

- e. **Click Show Log.**

The Show Log displays the progress in installing patches one device at a time. When all the patches for one device are installed, the log clears and the patches for the next device start logging. (For example, after all the Storage Service Processor patches are installed, the log clears and starts showing the installation of the Array patch.) The log displays a completion message when the session has finished.

- f. **Repeat Step 7 and Step 8 a to Step 8c to rerun the Patch Status Report.**

**g. If the Patch Status Report still lists patches to update, repeat Step 8d, Step 8e, and Step 8f.**

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**Note** – The additional updates may be needed, depending on your system's current baseline installation. Verify that the Storage Service Processor is powered on before repeating the steps. If needed, the first pass will install a required patch and subsequent passes will install all the other patches necessary to meet the new baseline requirements.

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**9. Click Move to History to save the installation report.**

For more information about Storage Automated Diagnostic Environment software, refer to *Storage Automated Diagnostic Environment 2.2 User's Guide*.

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# Known Issues and Bugs

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

- “Known Issues” on page 14
- “Bugs” on page 17

## Known Issues

This section includes known issues about this product that are not associated with a Sun bug ID number. This section contains the following topics:

- “Set Timezone Errors and u1 Controllers” on page 14
- “Secure Shell” on page 15
- “Authenticated Proxy Server” on page 15
- “Updating Storage Automated Diagnostic Environment Software Drops the Connection” on page 16
- “Managing Sun StorEdge 6320 System” on page 16
- “Netscape Version 4.79” on page 16
- “Older Browser Versions” on page 16

### *Set Timezone Errors and u1 Controllers*

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**Note** – This applies to authorized service personnel only when using diagnostic commands.

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There is an intermittent issue with u1 controllers becoming disabled in the storage arrays within the system racks.

The issue does not cause any data loss or corruption. The secondary controller takes over and the data can still be accessed, but trained personnel must perform a procedure to re-enable the master controller.



The error occurs intermittently after a sequence of commands, including using the management software to set the timezone. Typically, these commands are issued only during initial system configuration, system reconfiguration, or new operating system installation. The error appears to be more common in systems with a higher number of arrays such as racks with 5 2x2 arrays.

The error results in the following sequence of events:

1. A master controller fails over to the alternate master controller.

The array's architecture acts as designed to handle failures and prevent loss of data. The secondary controller takes over the LUNs and allows the host to continue accessing the data. There is no data corruption or loss: the original controller does not acknowledge the data transfer from the host until its cache is mirrored on the remote controller.

2. The master controller goes into a disabled state.

### **Recovery Procedure**

Trained service personnel can re-enable the master controller to bring it back online and restore array redundancy with the following steps:

1. Use the management software to bring the failed controller back online.
2. Reset the timezone.

Since the time zone function fails only intermittently, it is likely to work the second time.

Normal operations should resume.

### ***Secure Shell***

Secure shell (SSH) through a Sun StorEdge Remote Response/Point-to-Point Protocol interface is supported. LAN SSH connections, however, are not allowed.

### ***Authenticated Proxy Server***

You cannot use an authenticated proxy server, which requires a proxy user name and password, to connect to the Internet and access the Sun external patch distribution server.

## *6320 Service Processor Accessory Tray Cabling*

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**Caution** – To reduce the risk of fire, use only a No. 26 AWG or larger UL Listed or CSA Certified Telecommunication Line Cord.

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### *Updating Storage Automated Diagnostic Environment Software Drops the Connection*

After Storage Automated Diagnostic Environment software patch is installed, the application restarts automatically, which enables the changes to take effect. You cannot access the Storage Automated Diagnostic Environment software for a brief period. When the restart completes, you must refresh the display to reestablish the connection.

### *Managing Sun StorEdge 6320 System*

The Sun StorEdge 6320 systems can be managed through either a web interface or a command line interface. You can load the CLI client from the Sun StorEdge Configuration Service host CD-ROM or download the CLI Client from the Sun web site. You install the CLI client on a supported host system on the customer LAN.

### *Netscape Version 4.79*

If you double click the top bar of the Netscape™ Version 4.79. or resize the window, there can be a loss of context on the screen. If this happens, bring up the window menu and select Reload.

### *Older Browser Versions*

If you are managing the Sun StorEdge 6320 system using an older generation (HTTP 1.0-based) Web browser such as Netscape 4.x or earlier, you could experience time-out conditions from the browser when configuring large Sun StorEdge 6320 systems. In large configurations, older browsers need more time to calculate capacities and can time out before those calculations are complete. In this case, you might need to reload the browser page to continue working with the system.

If time outs become an issue, update your browser to a version that supports HTTP 1.1 (Netscape 6 or higher).

## *Updating FRU Versions*

After adding a FRU, you must make sure that the FRU version is supported and matches other components. Update the system with the latest patches to update the FRU to the correct version. Use the Storage Automated Diagnostic Environment software installed on the Service Processor to automatically determine and install the baseline patches. See “Management Software Patches” on page 10.

## Bugs

This section contains a list of bugs for this release:

- “General Bugs” on page 17
- “Localized Help Bugs” on page 20
- “Documentation Bugs” on page 20

## General Bugs

### *Software Installation Problem on Solaris 8 Hosts.*

**Bug 4970813** - Installing Sun StorEdge Configuration Services software from CD hangs hosts running Solaris 8.

**Workaround** - After installing the Configuration Services Software from the Host CD on any Solaris 8 machine, you must manually execute the following commands as root:

```
# cd /etc
# rm -f rc0.d/K95init.se6000 rc1.d/K95init.se6000
rc2.d/S95init.se6000 rcS.d/K95init.se6000
# ln init.d/init.se6000 rc0.d/K95init.se6000
# ln init.d/init.se6000 rc1.d/K95init.se6000
# ln init.d/init.se6000 rc2.d/S95init.se6000
# ln init.d/init.se6000 rcS.d/K95init.se6000
```

### *Failed Batteries and Rebooting*

**Bug 4965310** - When a battery fails, the system goes into write through mode. There is a bug which prevents the system from going into write through mode after a reboot on a system with a failed battery. The system does go into write through mode when a battery fails. If that system is then rebooted, it comes back up in write

behind mode. Trained service personnel can manually place the system back into write-through mode using the `sys cache` command in the array command line as documented in the Sun StorEdge 6020 and 6120 Array System manual

**Workaround** - Replace batteries as soon as they fail to avoid this issue. There are two batteries in the system. Only one is required to backup the cache in the event of a power failure.

### *The Storage Automated Diagnostic Environment Inventory List is Not Updated*

**Bug 4910696** - The Inventory List is not updated after using the Storage Automated Diagnostic Environment software to install the latest releases patches as documented in "Required Software Packages and Patches" on page 6. After performing the Revision maintenance step, if you select "Create a new patch list", the former array patch is listed.

**Workaround** - After running a patch upgrade operation on the Storage Automated Diagnostic Environment software system edition, run a new system inventory snapshot:

1. **Select** Manage → Service → Inventory Maintenance **and click** Generate New Inventory.

This generates an up-to-date system inventory list.

2. **Click** Save New Inventory.

### *Loopcard Boot Message*

**Bug 4845755** - While booting the system, in a master and alternate master loopcard environment, you might see the following message:

```
"Unable to obtain mid-plane serial number"
```

**Workaround** - Ignore this message.

## *“Unfixable Error” Message Displays During Boot*

**Bug 4939758** - During booting an “unfixable error” message is displayed, as shown in the following example:

```
Initializing loop 2 to accept SCSI commands...
Mounting root volume...
Checking local file system...
Unfixable error: 0x2120 in block 0x2510 file id=0x13 path=
/Oct14.OLD
Verify volume fails on uld1, error code = 0X2120
The File System in uld1 is BAD
```

**Workaround** - You can ignore this message.

## *Fatal Timeout Error*

**Bug 4948762** - During a LUN failover, if a fatal timeout occurs and the buffer commands fail, the host commands will either fail or timeout.

```
12:14:11 ISR1[4]: N: u4ctr ISP2200[1] Fatal timeout on target 14.7
```

You need to reboot the array after you enable `mpxio` mode.

**Workaround** - Enable Sun StorEdge Traffic Manager support in the management software.

## *Long CLI Commands are Not Working*

**Bug 4942689** - A CLI command string longer than 256 characters is not accepted.

**Workaround** - Enter command options in separate steps to reduce the CLI command size to less than 256 characters.

## *Adding a Volume Takes Too Long*

**Bug 4905278** - Adding a volume can take longer when volume initialization is taking place.

## Localized Help Bugs

### *Localized Help PDF Unavailable*

**Bug 4863940** - In the localized versions of the Sun StorEdge Configuration Service software, the link "Help in Adobe Acrobat PDF Format" to the file help.pdf is unavailable.

### *Localized Help Search Facility*

**Bug 4842713** - The localized online help search function does not work correctly. The search fails when a keyword is non-ASCII. If the keyword is in English, the search results are displayed in English, and the corresponding contents are localized.

### *Localized Help Index*

**Bug 4866283** - The localized online help index does not work properly. For example, in Japanese and the Simplified Chinese environment, unnecessary English characters are displayed on the Index tab.

## Documentation Bugs

### *Array Temperature Monitoring*

**Bug 4920151** - In the *Sun StorEdge 6020 and 6120 Arrays Reference and Service Manual*, the temperature monitoring description in the Array Temperature Monitoring has section has changed.

■ It reads:

If the temperature in the array reaches 65 degrees Centigrade, a warning message will be logged indicating this condition. If the internal array temperature reaches 75 degrees Centigrade, the system will consider this a critical over temperature condition. At this temperature, a log message will be generated and a graceful shutdown procedure will be initiated.

The actual conditions are:

**TABLE 2** 6020 and 6120 Array Temperature Warnings

Component	Warn Message Temp (°C)	Shutdown Temp (°C)
Controller	55	60
Disk drive	63	68
PCU-1	55	60

**TABLE 2** 6020 and 6120 Array Temperature Warnings

<b>Component</b>	<b>Warn Message Temp (°C)</b>	<b>Shutdown Temp (°C)</b>
PCU-2	60	65
PCU-3	55	60
LPC	58	65

- It reads:

In the case of disk drives, if an individual disk drive reaches a temperature within 10 degrees Centigrade of the drive manufacture's preset over temperature threshold specification, the system will begin generating log messages referencing the disk drive experiencing the problem.

The actual condition is 5 degrees Centigrade.

**Workaround** - None required.

### *To Set the Cache Block Size*

**Bug 4924529** - The blocksize descriptions as listed in the *Sun StorEdge 6020 and 6120 Arrays Reference and Service Manual*, page 18 and 19 are incorrect.

- The first and second paragraphs on page 18 should read as:

The *data block size* is the amount of data written to each drive when striping data across drives. (The block size is also known as the *stripe unit size*.) The block size can be changed only when no volumes are defined. The block size can be configured as 4 Kbytes, 8 Kbytes, 16 Kbytes, 32 Kbytes, or 64 Kbytes. The default block size is 16 Kbytes.

A cache segment is the amount of data being read into cache. A cache segment is 1/8 of a data block. Therefore, cache segments can be 0.5 Kbytes, 1 Kbytes, 2 Kbytes, 4 Kbytes, or 8 Kbytes. Because the default block size is 16 Kbytes, the default cache segment size is 2 Kbytes.

For Steps 2 and 3b:

#### **2. Use the management software to display the blocksize.**

Divide the blocksize by eight to determine the cache segment size.

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# Release Documentation

TABLE 3 lists the documentation for the 6320 and related products. Documents that cite the suffix *nn*, imply that you should use the most current version. This documentation is available online at:

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

**TABLE 3** Sun StorEdge 6320 System and Related Documentation

Application	Title	Part Number
Site preparation	<i>Sun StorEdge 6320 System 1.2 Site Prep Guide</i>	816-7877- <i>nn</i>
Safety requirements	<i>Sun StorEdge 6320 System 1.2 Regulatory and Compliance Guide</i>	816-7876- <i>nn</i>
6320 installation procedures	<i>Sun StorEdge 6320 System 1.2 Installation Guide</i>	816-7878- <i>nn</i>
Overview, service, reference, and CLI administration	<i>Sun StorEdge 6320 System 1.2 Reference and Service Manual</i>	816-7879- <i>nn</i>
Management and configuration help	<i>Sun StorEdge Configuration Service online help</i>	n/a
	<i>Sun StorEdge SCS (1M) man page</i>	n/a
6120 release information	<i>Sun StorEdge 6120 Array Release Notes</i>	817-0201-16
6120 site preparation	<i>Sun StorEdge 6120 Array Site Preparation Guide</i>	817-0960- <i>nn</i>
6120 safety requirements	<i>Sun StorEdge 6120 Array Regulatory and Safety Compliance Manual</i>	817-0961- <i>nn</i>
6120 array installation	<i>Sun StorEdge 6120 Array Installation Guide</i>	817-0199- <i>nn</i>
6120 overview, service, reference, and CLI administration	<i>Sun StorEdge 6020 and 6120 Arrays System Manual</i>	817-0200- <i>nn</i>



**TABLE 3** Sun StorEdge 6320 System and Related Documentation (*Continued*)

<b>Application</b>	<b>Title</b>	<b>Part Number</b>
Storage Automated Diagnostic Environment software troubleshooting and diagnostics	<i>Storage Automated Diagnostic Environment 2.2 User's Guide</i>	817-0822- <i>nn</i>
	<i>Storage Automated Diagnostic Environment 2.2 Release Notes</i>	817-0823- <i>nn</i>
SAN Foundation	<i>Sun StorEdge SAN Foundation 4.2 Release Notes</i>	817-1246- <i>nn</i>
	<i>Sun StorEdge SAN Foundation 4.2 Installation Guide</i>	817-1244- <i>nn</i>
Multipathing support	<i>Sun StorEdge Traffic Manager Software Release Notes</i>	817-0385- <i>nn</i>
Cabinet information	<i>Sun StorEdge Expansion Cabinet Installation and Service Manual</i>	805-3067- <i>nn</i>

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# Sun StorEdge 6320 System Terminology

The Storage Networking Industry Association (SNIA) is developing a standard set of terminology. When it has been adopted by all storage manufacturers, this terminology standard will make it easier for customers to understand terms used by different vendors.

Sun Microsystems is adopting the SNIA terms now. The Sun StorEdge 6320 system is the first storage product to use the new SNIA terminology list.

TABLE 4 shows a comparison (mapping) of the terms used by the Sun StorEdge 6120 arrays to the SNIA terms used by the Sun StorEdge 6320 system.

**TABLE 4** Sun StorEdge 6320 Terminology

Sun StorEdge 6120 Array CLI Terminology <sup>1</sup>	Sun StorEdge 6320 Terminology
Volume	Storage pool
Slice	Volume
LUN	Volume
Administrative domain	Storage array
Partner Group	HA configuration
Array	Tray
Enclosure	Tray
Expansion unit	Expansion unit

<sup>1</sup>—This is the Tenet-based CLI terminology used on the Sun StorEdge 6120 arrays.

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## Service Contact Information

If you need help installing or using this product, go to:

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