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Sun StorEdge™ 6120 Array 1.3 Release Notes

Release 1.3

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Sun StorEdge 6120 Array 1.3 Release Notes

These release notes provide the latest information about the Sun StorEdge™ 6120 array. The information could affect the installation and operation of the array. Be sure to read this document before you begin the array installation or read other array documentation.

This document applies to Release 1.3 and consists of the following sections:

Release 1.3 Features

Release 1.3 adds the following features:

This section provides a brief description of these features. For additional information, see the product documentation.

Online Disk Firmware Download

The Online Disk Firmware Download feature allows you to continue to access data on the affected volume during the disk firmware download process. Volumes can remain online while performing the procedure. The overall process is faster, less cumbersome, and requires minimal user intervention.

Increased Disk Fault Tolerance

The Increased Disk Fault Tolerance feature is designed to increase the availability of customer data even when one or more drives have disk failures, ranging from simple media errors to an entire disabled drive. This feature reduces the time for which the system is in a degraded state, during which it could be exposed to a double disk failure.

Latent Fault Detection for Hotspares

The Latent Fault Detection feature allows the array to proactively detect and fix any media errors on disk drives that are not currently part of any active RAID sets. Essentially, this is an enhancement to the disk scrubber where, after the volume disks are scrubbed, remaining unused drives are also scrubbed for media errors.

Enhanced Backend Fault Isolation Task (BEFIT)

BEFIT monitors the system for Loop Initialization Protocol (LIP) storms and transients faults, and can automatically failover I/O to the alternate drive path while running the tests required to isolate the transient fault condition down to the defective FRU.

System Requirements

Sun StorEdge 6120 array hardware and software platform requirements, and other supported software, are detailed in the *Sun StorEdge 6120 Array Installation Guide*. For information on the required software packages and patches for management and data host software, refer to the next section.

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.

These tasks must be completed in the following order:

1. **Install management host software packages, if needed.**

2. **Install data host patches, if needed.**

3. **Install management host software patches.**

Management Host Software Packages

You can manage the Sun StorEdge 6120 array with one of the following software packages, installed on a host with an Ethernet connection to the array.

- Software packages for Solaris hosts
  - Sun StorEdge 6000 Family Host Installation Software

    This package can be used on a Solaris host and includes the Configuration Service software, the Storage Automated Diagnostic Environment (Device Edition) software, and the remote configuration CLI (`sscs`).

    Refer to the *Sun StorEdge 6000 Family Host Installation Software Guide* for additional information.

- Software packages for hosts other than Solaris
  - Sun StorEdge Traffic Manager software
  - Remote CLI client (thin-scripting client)

- VERITAS array support library

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

▼ To Install the Sun StorEdge 6000 Family Host Installation Software

1. **Go to:**

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

2. **On the Downloads A-Z tab, click StorEdge 6000 Family Host Installation Software 2.3.**

   This links you to downloads for all platforms.

3. **Click Download.**

4. **Provide the user name and password to log in.**

   The license agreement is displayed.

5. **Click Accept to accept the license agreement, and then click Continue.**

6. **To download files, click the file names that are appropriate for your operating system.**

7. **Run the installation script (**`install.sh`**) as described in the** *Sun StorEdge 6000 Family Host Installation Software Guide.*

Software Patches

TABLE 1 lists the minimum required level software patches that are necessary for the array.

TABLE 1   Software Patches

Platform	Patch Number/Source	Patch Description
Solaris 9 operating system, first release or later Solaris 8 04/01 or later	`http://www.sunsolve.sun.com`	Sun StorEdge SAN Foundation 4.2 or later software: For patch and product information, refer to the *Sun StorEdge SAN Foundation 4.n Installation Guide* at `http://www.sun.com/storage/san`
	112392-05 or later `http://www.sunsolve.sun.com`	VERITAS VxVM 3.5 general patch[*]
Microsoft Windows NT operating systems	Microsoft	Microsoft Windows NT Service Pack, SP 6A
	`http://www.sunsolve.sun.com`	Sun StorEdge Traffic Manager 3.0 NT

TABLE 1 Software Patches *(Continued)*

Platform	Patch Number/Source	Patch Description
Microsoft Windows 2000 Server and Advanced Server	Microsoft	Microsoft Windows 2000 Service Pack, SP 3
	`http://www.sunsolve.sun.com`	Sun StorEdge Traffic Manager 3.*n* Windows 2000
IBM AIX 4.3.3	IBM	ML 10
	`http://www.sunsolve.sun.com`	Sun StorEdge Traffic Manager 3.*n* AIX
IBM AIX 5.1 32 and 64 bit	IBM	ML 03
	`http://www.sunsolve.sun.com`	Sun StorEdge Traffic Manager 3.*n* AIX
HP-UX 11.00 and 11.i	Hewlett-Packard	Patch set, September 2002
	`http://www.sunsolve.sun.com`	Sun StorEdge Traffic Manager 3.*n* 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 Patchfinder.**

4. **Download the required patches.**

5. **Use the** `patchadd`**(1M) command in a CLI session to install the data host software patches.**

   Refer to the README files for more patch information.

Management Host Software Patches

The following lists the management software patches needed to meet the baseline requirements for Releases 1.3.

115589-11 – Storage Service Processor software

113193-06 – PatchPro patch

116931-18 – Array firmware 3.2.2

114591-21 – Storage Automated Diagnostic Environment software

113673-04 – Seagate (ST373453F) 72 GB 0449

116748-04 – Seagate (ST336753F) 36 GB 0449

▼ To Install the Management Host Patches

1. **Determine the required management software patches.**

2. **Go to** `http://www.sunsolve.sun.com`**.**

3. **Click the Patchfinder link.**

4. **Download the required patches.**

5. **Use the** `patchadd`**(1M) command in a CLI session to install the management software patches.**

   Refer to the README files for more patch information.

Upgrading and Downgrading the Controller Firmware

If an OFFLINE firmware upgrade or downgrade is being performed, the following commands must be issued prior to starting the upgrade or downgrade:

1. **Disable** `disk_scrubber` **using the following command:**

```
:/:<1> sys disk_scrubber off
```

2. **Disable** `ondg` **using the following command:**

```
:/:<2> sys ondg off
```

3. **Use the** `proc list` **command to verify that there are no background processes running on the array.**

   Note that all running background processes must be completed first, before the downgrade can be performed.

```
:/:<3> proc list
```

Known Issues and Bugs

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

- "Known Issues" on page 8
- "Bugs" on page 9

Known Issues

This section includes known issues and guidelines about this product that are not categorized by a Sun bug ID number. This section contains the following topics:

- "Changing the Segment Size of an Existing Pool That Is in Use Causes Loss of Data" on page 8
- "Managing Sun StorEdge 6120 Arrays" on page 8
- "Netscape Version 4.79" on page 9
- "Older Browser Versions" on page 9
- "Array Health Status" on page 9

Changing the Segment Size of an Existing Pool That Is in Use Causes Loss of Data

Changing the segment size of an existing pool that is in use removes the existing pool from the volume, and the data is lost. Therefore, you should not change the segment size of a pool that is in use.

Managing Sun StorEdge 6120 Arrays

You can manage Sun StorEdge 6120 arrays through the management host that runs the Sun StorEdge Configuration Service software. This facility, once installed and configured, enables you to administer arrays using either a browser-based graphical user interface (GUI) for Solaris or a native-host thin-scripting command-line interface (CLI) client for supported operating systems. Unlike the Sun StorEdge 6320 system management interface, this software must be loaded on a host that has an Ethernet connection to the arrays being managed.

Caution – Because the Sun StorEdge Configuration Service software retains the array state and configuration service, do not use the array Telnet interface while an array is being managed by the Sun StorEdge Configuration Service software.

If you add an array under Sun StorEdge Configuration Service management that had been managed previously with the Telnet interface, you must record and delete all existing LUN access control settings, such as initiator groups and LUN masking settings. After you have done so, you can register the array in the Sun StorEdge Configuration Service tool, reconfigure the storage pools and initiator groups, and set permissions.

Wherever possible, use the `sscs` CLI or the GUI. However, some features may require that trained personnel access the array using the array command line available through a serial connection.

Netscape Version 4.79

If you double-click the top bar of the Netscape™ Version 4.79 window 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 try to create large configurations on Sun StorEdge 6120 arrays using an older generation (HTTP 1.0-based) Web browser such as Netscape 4.x or earlier, you could experience timeout conditions from the browser. 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 timeouts become an issue, update your browser to a version that supports HTTP 1.1 (Netscape 6 or higher).

Array Health Status

When you use the Sun StorEdge Configuration Service software to change network settings, the window incorrectly displays the array health status as "Error." If you change array network configurations, you must coordinate the new array network settings with physical network connections. Update the array settings in the Sun StorEdge Configuration Service software, apply the settings, and then change the physical network connection to the correct gateway subnet.

Updating FRU Versions

After adding a field-replaceable unit (FRU), you must verify that the FRU version is supported and matches other components. (In the array CLI, enter the `ver` command to display the current version of controller firmware on an array. Enter the `lpc version` command to display the firmware version of the interconnect card.) Update any FRUs you add with the latest patches. See "Management Host Software Patches" on page 6.

Bugs

This section contains a list of bugs for this release:

- "General Bugs" on page 10
- "Localized Help Bugs" on page 11

General Bugs

CLI Command `fru list` *Returns Hardware Revision Level*

Bug 4942013 - The CLI command `fru list` returns the hardware revision level instead of the software revision level of the interconnect card (loop card) in the Revision output field.

Workaround - To determine the software revision level of the interconnect card (loop card), enter the `lpc version` command.

BEFIT Task Failure

Bug 4902352 - When Loop 1 is in split mode, the controller must be able to access the disk drive that belongs to the other controller domain. If the mirrored path to that disk drive fails, the disk access will fail.

Workaround - Trained service personnel can use the `sys loop1_split off` diagnostic command to heal the loop. Refer to the *Sun StorEdge 6020 and 6120 Arrays System Manual*.

Loopcard Boot Message

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

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

Workaround - Ignore this message. It has no bearing on the operation of your system.

"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 u1d1, error code = 0X2120
The File System in u1d1 is BAD
```

Workaround - Ignore this message.

LED Command

Bug 4801209 - The `led` diagnostics command, which issues commands to array controller LEDs, works only for the first array in an array high-availability (HA) configuration. For example, the following command correctly turns off the amber, blue, and green LEDs on the first array's controller:

```
led -e 1 -f controller -l busy
```

However, using the same command for the second array does not change the second array's controllers LEDs in an HA configuration:

```
led -e 2 -f controller -l busy
```

Adding a Volume Takes Too Long

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

Enable Command

Bug 4845863 - If the `enable` array command fails to enable a drive in an array Telnet CLI session, an error message is not displayed on the console; however, an error message is recorded in the array `syslog` file.

Workaround - If you are using the `enable` command to enable a drive, check the `syslog` file to make sure the command executed correctly.

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.

Release Documentation

TABLE 2 lists the documentation for the Sun StorEdge 6120 array and related products. The suffix *nn* in a part number indicates that you should use the most current version. This documentation is available online at:

- `http://www.sun.com/products-n-solutions/hardware/docs/ Network_Storage_Solutions/Midrange/6120/index.html`

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

TABLE 2 Sun StorEdge 6120 Array and Related Documentation

Application	Title	Part Number
Site preparation	*Sun StorEdge 6120 Array Site Preparation Guide*	817-0960-*nn*
Safety requirements	*Sun StorEdge 6120 Array Regulatory and Safety Compliance Manual*	817-0961-*nn*
Array install procedures	*Sun StorEdge 6120 Array Installation Guide*	817-0199-*nn*
Management software installation	*Sun StorEdge 6000 Family Host Installation Software Guide*	817-1739-*nn*
Overview, service, reference, and CLI administration	*Sun StorEdge 6020 and 6120 Arrays System Manual*	817-0200-*nn*
Management and configuration help (on Solaris host)	*Sun StorEdge Configuration Service online help*	n/a
	Sun StorEdge SSCS (1M) man page	n/a

TABLE 2   Sun StorEdge 6120 Array and Related Documentation *(Continued)*

Application	Title	Part Number
Troubleshooting and diagnostics	*Storage Automated Diagnostic Environment 2.n User's Guide, Device Edition*	817-0822-*nn*
	Storage Automated Diagnostic Environment 2.n Release Notes, Device Edition	817-0823-*nn*
SAN Foundation	*Sun StorEdge SAN Foundation 4.n Release Notes*	817-1246-*nn*
	Sun StorEdge SAN Foundation 4.n Installation Guide	817-1244-*nn*
Multipathing support	*Sun StorEdge Traffic Manager Software Release Notes*	817-0385-*nn*
Cabinet information	*Sun StorEdge Expansion Cabinet Installation and Service Manual*	805-3067-*nn*
Sun Rack information	*Sun Rack Installation Guide*	816-6386-*nn*

Sun StorEdge 6120 Array 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 first storage product to use the new SNIA terminology is the Sun StorEdge 6000 family product line.

TABLE 3 shows array Telnet terms and the corresponding terms used in the Sun StorEdge Configuration Service software.

TABLE 3   Sun StorEdge 6120 Array Terminology

Sun StorEdge 6120 Array CLI Terminology	Sun StorEdge Configuration Service Terminology
Volume	Storage pool
Slice	Volume
LUN	Volume

TABLE 3   Sun StorEdge 6120 Array Terminology *(Continued)*

Sun StorEdge 6120 Array CLI Terminology	Sun StorEdge Configuration Service Terminology
Administrative domain	Storage array
Partner group	High-availability (HA) configuration
Array	Tray
Enclosure	Tray
Expansion unit	Expansion unit

Service Contact Information

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

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