



Sun StorEdge™ 3900 and 6900 Series 2.0 Release Notes

Storage Service Processor Version 2.3.1

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Sun StorEdge 3900 and 6900 Series 2.0 Release Notes

The Sun StorEdge™ 3900 and 6900 series storage systems are complete preconfigured storage solutions. The Sun StorEdge 3900 and 6900 series systems support direct-attach storage (DAS) and storage area network (SAN) environments.

This document is organized as follows:

- “Features In This Release” on page 1
- “Product Changes” on page 2
- “System Requirements” on page 5
- “Known Issues and Bugs” on page 8
- “Resolved Issues and Bugs” on page 11
- “Release Documentation” on page 12
- “Service Contact Information” on page 13

Features In This Release

This release of the Sun StorEdge 3900 and 6900 Series includes an update to the software image on the Storage Service Processor to version 2.3.1.

The Sun StorEdge 3910 and 3960 systems target the midrange high performance market. The Sun StorEdge 6910 and 6960 systems target the midrange storage consolidation market.

Features of Sun StorEdge 3900 and 6900 series systems include:

- Modular storage elements that can be incrementally expanded in a predefined footprint.

- Sun tested, preconfigured storage system optimized for the Solaris™ operating environment
- Supports single or clustered Sun Enterprise™ and Sun Fire™ servers
- Dynamically scales to more than 29 Tbytes in a single system
- Logical unit number (LUN) segmenting or carving for storage consolidation.
- LUN security access (masking) for the storage consolidation models.
- Fibre Channel interface
- A high degree of data availability in a unit that reduces cost of ownership
- Enterprise Storage Manager monitoring and support

Product Changes

The software revision in this release of the product include:

- Updates to the configuration utilities and bug fixes to the 2.1.1 Storage Service Processor software. See the *Sun StorEdge 3900 and 6900 Series 2.0 Reference and Service Manual* for details.
- Support for Sun StorEdge T3+ array RAID configurations with no hot spare (8+1).
- `showall(1M)` command that displays configuration of all components on the system with a single command.
- Two Gbit (compatible) switch support.
- Sun StorEdge network Fibre Channel Switch-8 and Switch-16 one Gbit now support two Gbit compatible firmware. This firmware level is required to connect the front-end switches to the Sun StorEdge SAN Foundation release of 4.1 or greater.
- Storage Automated Diagnostic Environment (SUNWstads) 2.2 support. (SUNWstade 2.0 has been replaced with SUNWstads 2.2.)
- Enables monitoring and support of the Sun StorEdge 3900 and 6900 series through host-based Enterprise Storage Manager (ESM) 1.0.

TABLE 1 summarizes Sun StorEdge 3900 and 6900 series features supported with each release of the Storage Service Processor software release. Each version of the Storage Service Processor software is available on CD. Upgrade CDs are also available to

upgrade a Sun StorEdge 3900 or 6900 series from one software version to the next. For example, you can upgrade your system from version 2.0.2 to version 2.0.3, from 2.0.3 to version 2.1.1, and version 2.1.1 to version 2.3.1.

TABLE 1 Features Supported by Storage Service Processor Versions

Features	Version 2.0.2 (Feb. 02, 2002)	Version 2.0.3 (May 07, 2002)	Version 2.1.1 (June 18, 2002)	Version 2.3.1 (March 18, 2003)
Multi-node cluster support for Sun StorEdge 3900 and 6900 series			✓	✓
Multiple host support for Sun StorEdge 6900 series			✓	✓
Sun StorEdge T3+ array LUN slicing and masking support (Sun StorEdge 3900 series only)			✓	✓
36-Gbyte and 72-Gbyte disk drive capacities	✓	✓	✓	✓
Increased disk drive capacity (181-Gbyte drives)		✓	✓	✓
Sun StorEdge T3+ array firmware version 2.0.1	✓			
Sun StorEdge T3+ array firmware version 2.1 (fabric support)		✓	✓	✓
Sun StorEdge T3+ array RAID configuration with no hot spare				✓
Switch firmware version 3.04.62 (FC-switch FLASH 30462)	✓	✓	✓	✓
Sun StorEdge network Fibre Channel Switch-8 and Switch-16 (1-Gbit) switch firmware version 40238 (2-Gbit/FC-SW compatible)				✓
Sun StorEdge network 2 Gbit Fibre Channel switch-16 support on front-end switches on the 3900 series only with switch firmware revisions v1.3.60 or v1.5.07.				✓
Virtualization engine firmware version 8.014	✓			

TABLE 1 Features Supported by Storage Service Processor Versions (*Continued*)

Features	Version 2.0.2 (Feb. 02, 2002)	Version 2.0.3 (May 07, 2002)	Version 2.1.1 (June 18, 2002)	Version 2.3.1 (March 18, 2003)
Virtualization engine firmware version 8.017 supporting: <ul style="list-style-type: none"> • Improved performance (8K–12K) • Failback without halting I/Os 		✓	✓	
Virtualization engine firmware 8.019 supporting: <ul style="list-style-type: none"> • Improved SVE check condition handling for Window 2000 reboot. • Corrected MH10<STATUS return value • Corrected SCSI reservation issue 				✓
Sun StorEdge SM Remote Response ready		✓	✓	✓
Improved security for Sun StorEdge Remote Response		✓	✓	✓
Sun StorEdge SAN 3.2 support		✓	✓	✓
Sun StorEdge SAN 4.0 support			✓	✓
Sun StorEdge SAN 4.1 support				✓
Sun StorEdge SAN 4.2 support				✓
Sun Cluster 3.0 support		✓	✓	✓
Switchless configurations			✓	✓
Internationalization support in all SUNWsecfg command line interface commands				✓
Storage Automated Diagnostic Environment 2.0 (SUNWstade)	✓	✓	✓	
Storage Automated Diagnostic Environment 2.2 (SUNWstads)				✓

TABLE 1 Features Supported by Storage Service Processor Versions (*Continued*)

Features	Version 2.0.2 (Feb. 02, 2002)	Version 2.0.3 (May 07, 2002)	Version 2.1.1 (June 18, 2002)	Version 2.3.1 (March 18, 2003)
Solaris 8 operating environment host support (update 07/01; or update 10/01; or update 7, 02/02 required)	✓	✓	✓	✓
Solaris 9 operating environment host support			✓	✓
Multiplatform support for Windows 2000, NT, HP, IBM, and LINUX			✓	✓

System Requirements

This section includes information on how to perform a full image install or an upgrade of the Storage Service Processor.

▼ To Install the Full 2.3.1 Version

- Use the instructions printed on the CD insert, part number 818-0582-10.

Full Install of Version 2.3.1

In order to perform a Full Image installation, you must have a fully operational Storage Service Processor (Netra™ X1 or SunFire V100 system) in the Sun StorEdge 3900 or 6900 series system. It is necessary to be connected via the console of the Storage Service Processor and logged in as the root user. Be sure that the user `cmdadm` is not logged into the Storage Service Processor being install because this causes the upgrade to fail.

If you connect to the console of the Storage Service Processor to perform the install, all reboots and messages can be seen during the installation.

Note – You must read the complete `SP_Image_CD_README.txt` file before performing a full install of the Storage Service Processor.

The restoration of an entire Storage Service Processor version will result in a single flat file system residing on a single partition. The Solaris JumpStart™ software mount point is the intended partition for staging the installation of the Storage Service Processor Image.

- On a Netra X1 Storage Service Processor the device where Solaris JumpStart software is mounted is `/dev/dsk/c0t0d0s7`.
- On a SunFire V100 Storage Service Processor the device where Solaris JumpStart software is mounted is `/dev/dsk/c0t2d0s7`.

General information about the full image install includes:

- It is necessary for the Storage Service Processor to be completely configured and must complete a reboot for the functionality of the new image to take effect. If the install process is terminated prior to the reboot, you must initiate the process again from the beginning.
- One purpose of the Storage Service Processor Full Image CD is to provide the ability to change the version of the Storage Service Processor to any other desired version with minimum time.
- It is essential that the CD be accessible on the Storage Service Processor LAN if the Storage Service Processor you are working with does not have a CD ROM drive (Netra X1). Refer to the CD insert for installation information.
- In a case where an upgrade is desirable but an upgrade CD is not available, the Storage Service Processor Full Image CD can accommodate the upgrade. This method however does not take into account any previous configuration information.
- If necessary, make a backup copy of the following files from the Storage Service Processor before performing the install:
 - `/etc/shadow`
 - `/etc/passwd`
 - `/etc/inet/hosts`
 - `/etc/ethers`
 - `/etc/nsswitch.conf`
 - `/etc/groups`

The following notes apply to all full version installs:

- The installation will not affect the present operating level of the Storage Service Processor until it is rebooted.
- The installation will be done on Partition 7 in the Solaris JumpStart software file system. This will also be the “interim” boot partition.

- The steps to affect the revision levels of the individual components in the solution system to match the revision of the Storage Service Processor Image will have to be done manually and according to those component's upgrade/downgrade instructions.
- Any custom modification must be inserted manually following installation.

▼ To Install the 2.3.1 Upgrade

- Use the instructions printed on the CD insert, part number 818-0584-10.

Upgrading to Version 2.3.1

In order to perform this upgrade, it is necessary to be connected via the console of the Storage Service Processor and logged in as the root user. Be sure that the user `cmdadm` is not logged into the Storage Service Processor being upgraded because this causes the upgrade to fail.

Note – You must read the complete `README_Upgrade.txt` file before performing an upgrade of the Storage Service Processor.

For information on what has changed in the 2.3.1 build, refer to the `/cdrom/cdrom0/jass-0.3/Files/export/README.txt` file on the CD. The upgrade assumes the Storage Service Processor has the 2.1.1, 2.1.2, 2.1.3, or 2.1.4 Storage Service Processor version installed. To verify this, log on to the Storage Service Processor and type:

```
msp0# cat /etc/motd
```

The response should indicate that the revision of the Storage Service Processor version is 2.1.1, 2.1.2, 2.1.3, or 2.1.4. If any other response is displayed, do not perform this upgrade.

Other notes about the upgrade process are:

- Once the upgrade is performed the upgrade information will reside in the `/export/README.txt` file.
- It is necessary for the Storage Service Processor to complete a reboot for the new functionality to take effect. If the upgrade process is terminated prior to the reboot the system must be restored to the previous version and the upgrade restarted.

- You must be logged into the Storage Service Processor as root through the console port to perform this installation. You must also verify that no one is logged in as the `cmdadm` user as this causes the upgrade to fail.
- During the upgrade, a log file named `/var/tmp/2.3.1-upgrade.log` is created.
- The upgrade script makes a backup copy of `/etc/shadow`, `/etc/passwd`, `/etc/inet/hosts`, `/etc/ethers`, `/etc/nsswitch.conf`, and `/etc/groups`. A backup for each of these files is saved in the original directory and is named `filename.2.3.1.upgrade.bak` where *filename* is the original name of the file, including extension if applicable. These backup files may be used to restore site-specific configuration information.
- Do not leave the upgrade script unattended because it requires constant user interaction.

Known Issues and Bugs

This section contains the known issues and bugs associated with the Sun StorEdge 3900 and 6900 series 2.0 release.

Known Issues

There are no known issues with the Sun StorEdge 3900 and 6900 series 2.0 release.

Bugs

The following is a list of the priority 1, 2, and 3 bugs associated with Sun StorEdge 3900 and 6900 series 2.0 systems. The BugID number is followed by the priority and severity of the bugs in parentheses.

- **Bug 4827927 (P1/S3):** Upgrading existing system from 8.017 Evaluation #1 to versions 8.018 or 8.019 on their existing production system. After upgrade, the virtualization engine `sliczones` disappear, causing loss of data access.
Workaround: Use the workaround procedure given in the bug 4658578.
- **Bug 4810681 (P1/S3):** The Sun StorEdge T3+ array disk download firmware version A538 is showing failures.

Workaround: Suspend Storage Automated Diagnostic Environment monitoring of the Sun StorEdge T3+ array that is being upgraded. After the firmware upgrade is complete have Storage Automated Diagnostic Environment restart the monitoring.

- **Bug 4671617 (P2/S2):** The virtualization engine daemon cannot be restarted because of a residual status (semaphore with ID 0) that is left behind after a termination sequence. This occurs when using the `sdshutdown(1)` command to initiate the termination sequence. The following is an example of the message that displays on the service processor when this occurs:

```
host# Error initializing semaphore for error logging
      semget: File exists
The semaphore already exists and/or the SLIC daemon 'slicd' is
already running
```

Workaround: Remove the shared memory semaphores using the `cmd ipcrm` as defined in the *Sun StorEdge 3900 and 6900 Series 2.0 Troubleshooting Guide* in Chapter 9, “Restarting the slicd Daemon.”

- **Bug 4674107 (P2/S2):** Creation of 16 disk pools per virtualization engine pair fails.

Workaround: Limit the number of disk pool pairs to 15 per virtualization engine pair.

- **Bug 4818820 (P2/S2):** The Sun StorEdge Traffic Manager software (`mpxio`) `autofailback` does not work correctly.

Workaround: Run the `luxadm failover` manually.

- **Bug 4699810 (P2/S2):** In Hewlett-Packard HP-UX 11.0, the driver using the volume set addressing method cannot see beyond LUN 7.

Workaround: Use the HP-UX volume manager to slice the VLUN 0-7 into multiple volumes to achieve the same result.

- **Bug 4756368 (P2/S2):** When using the Sun StorEdge network 2 Gbit Fibre Channel switches, the new VLUNs in a Sun StorEdge 6900 series are not seen by the hosts.

Workaround: A link reset through `luxadm -e forcelpip` recovers or upgrades the Sun StorEdge network 2-Gbit Fibre Channel switch to a firmware of `v1.5.0` or greater.

- **Bugs 4666764 (P2/S3), 4633323 (P3/S3), and 4666199 (P3/S3):** Upgrading virtualization engine firmware using the `sdnld` command can result in the firmware download not completing successfully.

Workaround: Use the instructions in the *Sun StorEdge 3900 and 6900 Series 2.0 Reference and Service Manual* to upgrade the firmware of the virtualization engine.

- **Bug 4785757 (P2/S3):** The Sun StorEdge T3+ array LUN permissions/world wide number groups disappear after the array is issued a `reset -y` command.

Workaround: To recover from this problem disable the master controller from a `telnet(1)` session, allow the failover to occur, then reenables the controller. This causes the permissions and the group to reappear. A reset is required to fail the Sun StorEdge T3+ array back. You must also reset the host for it to fully recover its proper data paths.

- **Bug 4648206 (P2/S5):** The FP port cannot be shut down.

Workaround: Disable the VERITAS Dynamic Multi-Pathing (VxDMP) volume manager.

- **Bug 4698596 P3/S3):** The virtualization engine error is halted when the number of initiators exceed 32.

Workaround: Do not allow more than 32 initiators to log onto the virtualization engine.

- **Bug 4696353 (P3/S4):** The `slicd(1M)` command spawns defunct processes.

Workaround: Stop and restart `slicd` using the `/etc/rc2.d/S98slicd` command.

- **Bug 4821351 (P3/S4):** The monitor devices function of the Storage Automated Diagnostic Environment does not list the Sun StorEdge 3900 and 6900 series devices after the `config_solution(1M)` command has been executed.

Workaround: After running the `config_solution` command, run the `ras_install(1M)` command, and then rerun the `config_solution` command again.

Security Notes

- The Sun factory does not set a root password on the Sun StorEdge 3900 and 6900 series.
- You can log in as root only at the console port of the Storage Service Processor. A generic service login has been provided with this version of the software to accommodate logging in through a `telnet(1)` session. The new login is: `cmdadm`, instead of `root`. The password for the `cmdadm` login is `sun1`. Do not alter this password or remote access will be affected. If necessary, you can `su(1M)` to `root` once you have logged on to the Storage Service Processor.
- On the Sun StorEdge 6900 series systems, the virtualization engine can cause a device naming problem when you are using earlier versions of VERITAS VxVM. Because of this, the only supported versions of VERITAS are VxVM version 3.2 (with patch level 1, which includes patches 111909-04 or greater) and VxVM 3.5 (with patch 112392-04 or greater).

Resolved Issues and Bugs

This section provides updates on issues and bugs documented in previous release notes that have been resolved.

Refer to the release documentation associated with the Storage Automated Diagnostic Environment and the Solaris operating environment for a list of other resolved issues and bugs.

The following is a list of the priority 2 and 3 bugs that have been resolved since the Sun StorEdge 3900 and 6900 series 1.1 release. The BugID number is followed by the priority and severity of the bugs in parentheses.

- **Bug 4727658 (P2/S2):** The `restoret3config(1M)` command may fail to restore LUN mapping and masking with `ALL` option.
- **Bug 4728952 (P2/S2):** The virtualization engine utilities can hang if Ethernet goes offline.
- **Bug 4758500 (P2/S3):** The `restoret3config(1M)` command fails to restore permissions for `lun10` and above.
- **Bug 4790115 (P3/S2):** The `showvemap(1M)` is garbled when the same host bus adapter (HBA) is in the zone database for both virtualization engines.
- **Bug 4691480 (P3/S3):** Using the Storage Automated Diagnostic Environment, some configuration utility sections do not work for the Sun StorEdge 3900SL, 6910SL and 6960SL series switchless models.
- **Bug 4697033 (P3/S3):** In the Storage Automated Diagnostic Environment, if you use the `createvln -z` command to create multiple VLUNs that specify zones, the command executes without adding the VLUNs to the zone; that is, the `-z` option is ignored.
- **Bug 4692285 (P3/S3):** The site had failure of `setupswitch(1M)` command on switch `sw2a`, which had name server zones in it.
- **Bug 4725571 (P3/S3):** The `startslid(1M)` command can fail if one virtualization engines is in a halted state.
- **Bug 4770426 (P3/S3):** The `restoreswitch(1M)` command overwrote the `swnn.map` file when switch had out of date flash.
- **Bug 4773566 (P3/S3):** The `runsecfg(1M)` (add VLUNs) command to `vezone` is not passing all the user selected zones.
- **Bug 4676641 (P3/S3) and 4699058 (P4/S3):** The Storage Automated Diagnostic Environment Revision Checking feature can report incorrect information when it is used to check Sun StorEdge T3+ array firmware levels.

- **Bug 4666611 (P3/S4):** If you are using a browser such as Netscape in a Sun Ray™ environment to display the SAN topology, an error is displayed and the topology fails to build.
- **Bug 4763526 (P3/S4):** The `restorevemap(1M)` command should check for box type.
- **Bug 4688312 (P3/S4):** The `modifyt3params(1M)` command with no parameters specified leaves lock files.
- **Bug 4671151 (P3/S4):** In the Storage Automated Diagnostic Environment, version 2.0.6.010, the Monitor-->Devices section reports the incorrect number of host bus adapters (HBAs) per virtual engine.
- **Bug 4669397 (P3/S5):** If you use the Storage Automated Diagnostic Environment Command `config_solution` on a Sun StorEdge 6900 series system that is not fully populated with Sun StorEdge T3+ arrays, a warning message is displayed that the system cannot ping an array IP address.
- **Bug 4763353 (P3/S5):** The `enablet3slicing(1M)` command fails when used on firmware level of 2.01.00.

Release Documentation

The documentation for Sun StorEdge 3900 and 6900 series systems is provided online. There are also online `man(1)` pages for all configuration utilities.

To retrieve all the documentation:

1. **Open a browser window.**
2. **Type the following URL:**

`http://docs.sun.com`

3. **Type 3900 or 6900 in the search string field and click on the box next to the “Search book titles only” option.**

You can also search for the documents by part number, using the following list.

Part Number	Title
816-5252-11	<i>Sun StorEdge 3900 and 6900 Series 2.0 Installation Guide</i>
816-5253-11	<i>Sun StorEdge 3900 and 6900 Series 2.0 Reference and Service Manual</i>
816-5256-11	<i>Sun StorEdge 3900 and 6900 Series 2.0 Site Prep Guide</i>

Part Number	Title
816-5257-11	<i>Sun StorEdge 3900 and 6900 Series 2.0 Regulatory and Compliance Guide</i>
816-6757-12	<i>Sun StorEdge 3900 and 6900 Series 2.0 Start Here</i>
818-0582-10	<i>Network Storage Service Processor Full Image CD Version 2.3.1</i>
818-0584-10	<i>Network Storage Service Processor Image Upgrade 2.3.1</i>
817-0194-10	<i>Storage Automated Diagnostic Environment 2.2 System Edition Release Notes</i>
817-0823-10	<i>Storage Automated Diagnostic Environment 2.2 Device Edition Release Notes</i>
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817-0822-10	<i>Storage Automated Diagnostic Environment 2.2 User's Guide</i>

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Service Contact Information

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