Sun Storage Common Array Manager

Software Release Notes, Release 6.8.1

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Sun Storage Common Array Manager Software Release Notes

Use this document for instructions about how to download Oracle's Sun Storage Common Array Manager software and learn about new features, related documentation, system requirements, notable bug fixes, and known issues for the 6.8.1 product release.

For installation, configuration, and other instructions, see "Documentation" on page 5.

These Release Notes include the following sections:

- "About the Software" on page 2
- "How to Get the Software" on page 2
- "What You Get with the Software" on page 3
- "What's New in This Release" on page 4
- "Documentation" on page 5
- "System Requirements" on page 6
- "Firmware" on page 10
- "Supported Expansion Modules" on page 12
- "Notable Fixes" on page 15
- "Known Issues" on page 17
- "Contacting Support" on page 31

About the Software

Sun Storage Common Array Manager software provides an easy-to-use interface from which you can configure, manage, and monitor storage arrays.

The software includes a distributed architecture enabling you to designate local and remote domains through which you can configure and manage your storage environment for optimal efficiency and productivity.

Sun Storage Common Array Manager includes the following:

- Browser interface
- Local command line interface
- Remote command line interface

The command line interfaces (CLIs) perform the same control and monitoring functions as the browser interface. If you are unfamiliar with the CLI, it will be easier to manage the array using the browser interface.

How to Get the Software

1. **Go to My Oracle Support:**

   https://support.oracle.com

2. **Click Sign In and enter your existing account information, or register as a new user.**
3. **At the top of the page, click the Patches & Updates tab.**
4. **Under the Patch Search section: Click the Search tab, and then click the Product or Family (Advanced Search) link.**
5. **Check Include all products in a family.**
6. **In the Product field, start typing Sun Storage Common Array Manager (CAM), and select it when it appears.**
7. **In the Release field, expand Sun Storage Common Array Manager (CAM), check the release and patches you want to download, and then click Close.**
8. **Click Search.**

   Available patches for the release you selected are displayed.

9. **Select a patch for your operating system.**
10. **Click ReadMe for a patch description and installation instructions.**
11. **Click Download for a single patch, or Add to Plan to download a group of patches.**

What to do next...

See "Documentation" on page 5 to find information about installation, configuration, and more.

See "Patches" on page 8 for information about the latest software updates.

Visit https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&doctype=HOWTO&id=1296274.1 to view online discussions, get details about array firmware, and find out more about downloading Common Array Manager software and its patches.

You can also join or start a discussion with Oracle experts and industry peers in the My Oracle Support Community for Storage Disk 6000 and 2000 Series RAID Arrays at:
.https://communities.oracle.com/portal/server.pt/community/storage_disk_6000_and_2000_series_raid_arrays/465.

What You Get with the Software

TABLE 1 lists the version information for the software included in this release.

TABLE 1 Sun Storage Common Array Manager Contents

Type	Version
Sun Storage Common Array Manager	6.8.1
Oracle Java Web Console software	3.1
Oracle Java 2 Software Development Kit	1.6 u20
Firmware files	See "Firmware" on page 10
Remote scripting CLI client	2.1.4

Licensing Optional Premium Features

There are a variety of premium features for which you can purchase licenses. Reference your hardware release notes to see which premium features are available for your array.

When you order licenses, they are sent to you with instructions on how to activate the features. For more information, search the online help pages for these topics:

- About Licensed Features
- Adding a License
- Managing Licenses

What's New in This Release

This maintenance release introduces the following enhancements:

- Updated Sun Storage 2510, 2530, 2540 array firmware (07.35.67.10)
- New OS platform support for Sun Storage 2500-M2 arrays:
  - Microsoft Windows 2008 with MPIO
  - Microsoft Windows 2003 with MPIO
- Updated man pages for Sun Storage 2530-M2 and 2540-M2 arrays
- Updated StorageTek 6140, 6540, FLX380 array firmware (07.60.56.10)
- Updated IOM firmware 98E4 for 6140/6540/FLX380 with 7.x controller firmware
- Updated Seagate Hurricane 3.5" 15.6K and 146/300/450G SAS/FC drive firmware
- Updated Seagate 250G/500G/750G/1.0T SATA drive support for Sun Storage J4200/J4400 arrays

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Note – Host software upgrades are supported from Sun Storage Common Array Manager release 6.x to 6.8.1.

Documentation

For hardware information, refer to the array's release notes and hardware installation guide.

Online help and man pages are incorporated into the Sun Storage Common Array Manager software.

You can search for documentation at:
http://www.oracle.com/technetwork/indexes/documentation

TABLE 2 Sun Storage Common Array Manager Related Documentation

Documents Related To Sun Storage Common Array Manager
Sun Storage Common Array Manager Quick Start Guide
Sun Storage Common Array Manager Installation and Setup Guide
Sun Storage Common Array Manager CLI Guide
Documents Related to Supported Arrays
Sun Storage Common Array Manager Baseline Firmware Reference
Sun Storage F5100 Flash Array Documentation including Release Notes
Sun Storage J4200 Array Documentation including Release Notes
Sun Storage J4400 Array Documentation including Release Notes
Sun Storage J4500 Array Documentation including Release Notes
SAS-1/SAS-2 Compatibility Upgrade Guide
Sun Blade 6000 Disk Module Documentation including Release Notes
Sun Storage 2500-M2 Arrays Documentation including Release Notes
Sun StorageTek 2500 Arrays Getting Started Guide
Sun StorageTek 2500 Arrays Release Notes
Sun StorageTek 2500 Arrays Firmware Upgrade Guide
Sun Storage 6x80 Array Release Notes
Sun Storage 6580/6780 Hardware Installation Guide
Getting Started Guide for Sun Storage 6580/6780 Rack Mounted Arrays

Documents Related To Sun Storage Common Array Manager
Sun StorageTek MPIO Device Specific Module Installation Guide for Microsoft Windows OS Platform
Sun StorageTek RDAC Failover Driver Installation Guide for Linux OS
Uniform Command-Line Interface User's Guide

System Requirements

System requirements for Sun Storage Common Array Manager software are described in the following sections:

- "Supported Arrays" on page 6
- "Supported Web Browsers" on page 7
- "Supported Languages" on page 8
- "Patches" on page 8
- "Supported Platforms" on page 9

Supported Arrays

Sun Storage Common Array Manager software supports the following Sun storage systems:

- Sun Storage 6180 array
- Sun Storage 6580 array
- Sun Storage 6780 array
- StorEdge 6130 array
- StorageTek 6540 array
- StorageTek 6140 array
- Sun Storage 2530-M2 array
- Sun Storage 2540-M2 array
- StorageTek 2510 array
- StorageTek 2530 array
- StorageTek 2540 array
- StorageTek FLX380 array
- StorageTek FLX280 array

- StorageTek FLX240 array
- Sun Storage F5100 Flash array
- Sun Storage J4200 array
- Sun Storage J4400 array
- Sun Storage J4500 array
- Sun Blade 6000 Disk Module
- Sun Blade 6000 Multi-Fabric Network Express Module
- Sun Blade 6000 10GbE Multi-Fabric Network Express Module
- Sun Blade 6000 Virtualized Multi-Fabric 10GbE Network Express Module

Supported Web Browsers

TABLE 3 Supported Web Browsers

Browser	Supported Version
Firefox	3.0 and higher
Microsoft Internet Explorer	8.0

Best Practices for Browser Performance

For best web browser performance:

- Enable pop-up windows.
- Specify No Proxy for the Sun Storage Common Array Manager host to avoid situations where your browser might hang, time out, or generate error messages. From Preferences > Advanced > Proxies (or a similar path, depending on your browser), add the Sun Storage Common Array Manager management host name to the "No Proxy for" section.
- Recent Firefox versions might require you to accept and add a security certificate prior to bringing up the authentication page.

Supported Languages

Because locales are part of the installation, there is no need to download additional software other than appropriate patches.

For Solaris, Linux, and Windows, the Browser User Interface (BUI) is available in:

- English
- French
- Japanese
- Simplified Chinese

Command-line interface (CLI) is available in:

- English

Online help is available in:

- English
- Simplified Chinese
- Japanese

Man pages are available in:

- English
- Japanese

Patches

See "How to Get the Software" on page 2 for instructions on downloading patches.

To obtain patches using Solaris, install Solaris 10 Update 8 or 9.

The mpt_sas driver requires these patches:

- Oracle Solaris 10 10/09 plus patch 142676-02
- Oracle Solaris 10 10/09 plus patch 143523-02

The mpt_sas driver also requires this Solaris 10 update:

- Oracle Solaris 10 09/10 Update 9

See http://www.lsi.com/support/sun for information about LSI HBA packages.

Supported Platforms

Beginning with CAM 6.8, the Remote Scripting CLI Client does not support Solaris 8, Windows 2000 Server, Windows Advanced Server, RHEL3, IBM AIX, or HP-UX.

TABLE 4 Supported Platforms

Platform	Operating System
SPARC server or workstation	Solaris 9 Solaris 10 U9, U5 OpenSolaris 2009.06 (Sun Storage J4000 series and Sun Storage F5100 arrays only) Solaris 11 Express 2010.11 (Sun Storage FL5100 arrays only)
Windows Servers	Windows 2003 SP2 Windows Server 2008 SP2 Windows Server 2008 R2
x64 computer	Oracle Enterprise Linux 6.0, 5.6, 5.5 Red Hat Enterprise Linux 6.0, 5.6, 5.5 (Before installing Linux 6.0, see the ***Note** at the bottom of this page.) SUSE Linux Enterprise Server 10 SP3 SUSE Linux Enterprise Server 11 SP1 Oracle VM 2.2.2 Note: Unbreakable Enterprise Kernel (UEK) is not supported in this release.
x86 computer	Solaris 10 OS Solaris 11 Express 2010.11 (Sun Storage FL5100 arrays only) OpenSolaris 2009.06 (Sun Storage J4000 series and Sun Storage F5100 arrays only)

Note – *Before installing CAM on Oracle Enterprise Linux 6.0 or Red Hat Enterprise Linux 6.0, you must install the packages listed in the authentication and core installation items under "Installation Issues" on page 26 in these Release Notes.

Firmware

Firmware delivered with Sun Storage Common Array Manager software can be installed using the Install Firmware Baseline feature. However, moving from one major firmware release to another might require special procedures.

If you attempt an upgrade and it fails, contact Support at:
https://support.oracle.com

For baseline firmware information, such as controller, NVSRAM, IOM, disk drive, version, and firmware file, see *Sun Storage Common Array Software Baseline Firmware Reference*.

2500 Arrays Upgrade

For the 25xx arrays, upgrading from a 06.xx.xx.xx version to 07.xx.xx.xx requires a special utility. Consult the My Oracle Support document *Procedure to Upgrade the Sun StorageTek 2500 Series Array Controller Firmware from 06.xx to 07.xx* (Doc ID 1319254.1) which provides links to the upgrade utility and to the *Sun StorageTek 2500 Array Series Firmware Upgrade Guide (820-6362)*.

2500 Array Support for VMware ESX 4.1 with Firmware 07.35.55.10

VMware ESX 4.1 is supported as a data host platform for StorageTek 2540 arrays with firmware version 07.35.55.10 installed. The corresponding ESXi version 4.1 is also supported by this firmware version. Note that this support is not mentioned in the latest *Sun StorageTek 2500 Series Array Release Notes, Release 1.4*.

6540, 6140, and FLX380 Arrays Upgrade

Upgrading from a 06.xx.xx.xx version to 07.xx.xx.xx requires a special utility. Consult the My Oracle Support document *Procedure to Upgrade the Sun StorageTek 6540 Array, 6140 Array or FLX380 Storage Array from Firmware 06.xx to 07.xx.* (Doc ID 1131593.1) which provides links to the upgrade utility and to the *Sun StorageTek 6000 Series Array Firmware Upgrade Guide* (820-7197).

J4000 Arrays

It is best practice to upgrade HBAs to Phase 14 firmware (1.26.03) or later before upgrading JBOD installations to Sun Storage Common Array Manager version 6.6 and above. This helps avoid issues in discovering JBODs with the firmware (J4200/J4400—3A53/3R53) if the HBA has not been upgraded.

Sun Blade 6000 Disk Module

Before beginning the firmware upgrade process, review this document: *SAS-1/SAS-2 Compatibility Upgrade Guide*. This guide contains information required for a successful firmware upgrade.

Sun Storage F5100 Flash Array

The FMod firmware upgrade process requires a manual enclosure power cycle.

SAS2 HBA connectivity requires 5.04.05 firmware, which is installed only on units shipped by manufacturing. Field upgrades from 5.3.73 firmware to 5.04.05 firmware using CAM 6.8.x are not possible.

Supported Expansion Modules

To add expansion modules to an array configuration, follow the procedures documented in Service Advisor.

The following tables list supported expansion modules that can be attached to an array configuration.

TABLE 5 Supported Expansion Modules: 6000 Series Arrays

Array Controller	Firmware	Supported Expansion Module	IOM Code
Sun Storage 6180	07.77.13.11	CSM200	98E4
Sun Storage 6580 and Sun Storage 6780	07.77.13.11	CSM200	98E4
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLC200-dSATA	9566
		FLC200-iSATA	9728
StorageTek 6540	06.60.22.10	CSM200	98D4
		CSM100 FC	9728
		CSM100 SATA	9682
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728
StorageTek 6540	07.60.56.10	CSM200	98E4
		CSM100 FC	9728
		CSM100 SATA	9682
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728

TABLE 5 Supported Expansion Modules: 6000 Series Arrays *(Continued)*

Array Controller	Firmware	Supported Expansion Module	IOM Code
StorageTek 6140	06.60.22.10	CSM200	98D4
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728
StorageTek 6140	07.60.56.10	CSM200	98E4
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728
StorEdge 6130	06.60.22.10	CSM200	98D0
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLC200-dSATA	9566

TABLE 6 Supported Expansion Module: 2500 Series Arrays

Array Controller	Firmware	Supported Expansion Module	IOM Code
Sun Storage 2530-M2	07.77.13.11	2501-M2	0343
Sun Storage 2540-M2	07.77.13.11	2501-M2	0343
StorageTek 2510. 2530. 2540	06.70.54.11	2501*	0196
	07.35.67.10	2501	0196

* Only Simplex 2501 expansion modules may be attached to a Simplex 2500 series controller tray.

TABLE 7 Supported Expansion Modules: FLX240, FLX280, and FLX380 Arrays

Array Controller	Firmware	Supported Expansion Modules	IOM Code
StorageTek FLX240	06.60.22.20	CSM200	98D0
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728
StorageTek FLX280	06.60.22.20	CSM200	98D0
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728
StorageTek FLX380	06.60.22.20	CSM200	98D4
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728
StorageTek FLX380	07.60.56.10	CSM200	98E4
		CSM100 FC	9682
		CSM100 SATA	9728
		FLA200	9330
		FLA300	9682
		FLC200-dSATA	9566
		FLC200-iSATA	9728

For additional baseline firmware information, such as controller, NVSRAM, disk drive, version, and firmware file, see *Sun Storage Array Baseline Firmware Reference*.

Notable Fixes

Common Array Manager

Bug 6996329—Updated IOM firmware 98E4 on 6140/6540/FLX380 only with 7.x CFW

Bug 7058006—CAM 6.8.0 does not supply man page for 2530M2/2540M2 arrays

Bug 7074539—Windows installs missing firmware upgrades for ExmoorM5 and AlleghenyM5

Bug 7082614—Blank message-id event missing CAM event code in telemetry data preventing reporting of Expired Battery alarms for 2530/2540/2530-M2/2540-M2 arrays via ASR.

2500 Series Arrays (7.35.xx.xx firmware)

Bug 6927229—Battery Learn Cycle reported incomplete

Bug 6934583—After the Firmware Update to 7.35.50.10 a 2540 reports write cache as inactive even if it is active

Bug 6949074—IP address cannot be changed through GUI or CLI

Bug 6 954481—Watchdog Timeout from task "TcpService" after reinserting repository volumes drives in 2530/2540 array.

Bug 6954489—Data Abort _ZN6symrpc10TcpService6daemonEv reported on 4988

Bug 6968469—(symTask3): ASSERT: Assertion failed: false, file evfVolume.cc, line 3038

Bug 6969709—Management port link down/up triggering connected data hosts seeing SCSI Unit Attention messages

Bug 6983502—Both controllers rebooting with Exception: Data Abort

Bug 6984981—Storage array profile incorrectly interpreting SATA drive manufacturing date

Bug 6987616—Smart battery failed during a learn cycle due to i2c bus errors

Bug 6988049—Component location mis-reported in the "Controller reset by its alternate" event type 0x400F

Bug 7000485—Update IOC FW to version 24.64.00

Bug 7000486—Incorrect release of scatter gather list local chains in firmware on pended IOs to a missing device

Bug 7006912—2540: Reboot due to ancient I/O

Bug 7020305—2530: Battery Learn Cycle started very much later than scheduled.

Bug 7029499—Controller reboots

Bug 7038153—ST2500: Cannot reset battery age using CAM

6000 Series Arrays (7.77.xx.xx firmware)

Bug 6979483—Controller panics: Exception: Prefetch Abort

Bug 7005032—Incorrect data field type for the event type 0x5023

Bug 7007372—Ancient IO; tNetReset task holds semaphore while sleeping

Bug 7010976—Cannot reset battery age using CAM

Bug 7020591—Management Port "eth0: LinkDown event" misreported in MEL as type 5802 "Management Port Link Up"

Bug 7026519—The remote side array didn’t report mirrored pair synchronized event in log twice.

Bug 7032913—Controller reboot due to ASSERT: Assertion failed: recNum != - 1, file nvpsPersistentSyncMgr.cc, lin

Bug 7066911—RVM delta log bitmap entries are not being persisted to disk during volume transfer

Bug 7062619—ST6540:Volume initialization hung

Input/Output Modules (IOMs)

Bug 6996329—IOMs may reboot after update to 98D3 and log 280D error messages during reboot

Known Issues

The following sections describe known issues and recommended workarounds:

- "Array Issues" on page 17
- "Configuration Issues" on page 19
- "Documentation Issues" on page 23
- "Firmware Update Issues" on page 24
- "Installation Issues" on page 26
- "Windows Issues" on page 28
- "Linux Issues" on page 28
- "Solaris Issues" on page 30

Array Issues

Reference the hardware release notes for more information about known issues that pertain to your arrays.

Disk drive replacement—CAUTION

When inserting a replacement disk drive, be sure the role of the replacement drive is "unassigned" to a virtual disk. All data will be erased before the controller reconstructs the data on the replacement disk drive.

Battery nears expiration: 06.xx write back cache should not be disabled

Bug 6983826—With the 06.xx array firmware, the write back cache is incorrectly inactivated when the batteries enter the near-expiration period. Normally, it should in-activate when the batteries expire.

Resolution—Upgrade the array firmware to 07.xx. See "Firmware" on page 10.

Both RAID controllers reboot after 828.5 days--2500/6000 arrays

Bugs 6872995, 6949589—Both RAID controllers reboot after 828.5 days of continuous operation. A timer in the firmware (vxWorks) called "vxAbsTicks" is a 32-bit (double word) integer that keeps count in the 0x0000 0000 format. When this timer rolls over from 0xffffffff to 0x00000000 (after approximately 828.5 days), if there is host I/O to volumes, the associated drives fail with a write failure.

Original Resolution—Every 24 hours, firmware spawns a task--cfgMonitorTask--that checks the value of the vxworks kernel timing counter. For controllers with 03.xx-06.60 firmware (6000 series) and 03.xx-6.70 firmware (2500 series): Both controllers reboot if counter is greater than 825 days.

Final Resolution—Every 24 hours, firmware spawns a task--cfgMonitorTask--that checks the value of the vxworks kernel timing counter.

This fix staggers the reboots of the controllers for approximately five days so the only impact is a small performance degradation while the reboot occurs.

For controllers with firmware 07.15.11.12 or later (6000 series) and firmware 07.35.10.10 or later (2500 series): Controller A reboots if counter is greater than 820 days. Controller B reboots if counter is greater than 825 days.

Communication Loss reported from Windows and Linux when registering JBODs on Oracle Enterprise Linux 6 proxy

Bug 7044185—Windows and Solaris management hosts report communication loss.

Workaround—Register the JBOD locally or use Solaris management host to manage the Oracle Enterprise Linux 6 proxy.

Reboots occur due to ancient I/O being aborted in large configurations

Bug 6931169—In configurations where vdisks include more than 32 volumes, you might see host I/O errors or internal controller reboots from the controller detecting the I/Os that have not been processed within the timeout period (for example, ancient I/Os).

Workaround—A best practice is to quiesce host I/O when performing vdisk re-configuration. This helps avoid host I/O errors or internal controller reboots that might occur before setup operations complete.

Volume Copy License removal can have "Out of Compliance" impact

Bug 6826242—When a Volume Copy license is removed or otherwise becomes "Out of Compliance" on an array, the operations listed below may fail or no longer operate as desired:

- Standard RAID Volume Creation
- Automatic Configuration
- Creation of Storage Partition Mappings
- Hot Spare Assignment
- Snapshot Volume Creation
- Remote Volume Mirror (RVM) Activation and Mirrored-Pair Establishment Volume Copy
- Establishment and "Start Copy" Operations

If the storage array supports multiple performance tiers, performance will suffer after the next storage array reboot unless the condition is resolved and the array is brought into compliance.

Volume error—evShowVol output: Initialization: Not Completed

Bug 6969328—25xx/6xxx array has a number of volumes with the following in the evfShowVol output: Initialization: Not Completed in the stateCaptureData.dmp file bundled with the supportdata.

This bug leads to performance issues with RAID 5 configurations.

Workaround—Contact Support at `https://support.oracle.com` and reference this Bug number.

Configuration Issues

Registering arrays using CLI does not list all array types

Bug 7084599—Output of the `sscs add -d registerarray` command, does not list array types F5100, FLX240 and FLX280.

Workaround—List array details for F5100, FLX240 and FLX280 arrays, as shown in the following example:

```
> sscs list array flx240-02
```

Access Configuration: cascaded J4400 issues

Bugs 6924428, 6925163, 6925341–-Auto-save zone template does not import; cascaded J4400s return incorrect PHY port data; hosts connected to ports with no zones see all disks in J4400.

Workaround—Use only the "HostOrSimLinkIn" port to cascade J4400 arrays.

Access Configuration: Sun Storage 6Gb SAS HBA—OS hangs

Bug 6948920—When both 6Gb SAS ports are connected to a single expander, a X8 wide port results. The OS hangs with dual ports in single-zoned domain. This configuration is invalid.

Workaround—Disable X8 wide port configurations in Access Configuration Zoning.

Access Configuration fails with error: java.util.HashMap cannot be cast to java.util.Properties

Bug 6928490—This error has been observed in a configuration of cascaded J4200 and J4400 arrays with dual-path to the host (one HBA connected to SIM0 domain and another HBA of the same host connected to SIM1).

Workaround—Retry the operation.

Access Configuration: non-zoned SAS2 wide port aggregation FRU Report display—F5100 + 6Gb/sec HBA

Bug 6960746—Report for configuration with both HBA ports into single SAS Domain with Zoning disabled yields FRU Report issues such as:

- Chassis.00 FRU reports: One of the two connected Expander 1 Port 0 Cable Status fields is dropped from the report.
- Chassis.00 FRU reports: The second connected port Expander 1 Port 1 Cable Status displayed is Degraded.
- Access Configuration pages are missing port 0.

Attaching both ports from an HBA into the same F5100 expander results in a "wide port" (8 phys). Sun Storage Common Array Manager software models the aggregated connections as a single, logical SAS port. The information displayed in the Access Configuration Summary only lists the connected port with the higher alphanumeric sort. For example, if Ports 0 and 2 are connected into the same expander, only Port 2 is listed.

This issue also occurs in the CLI where Port options list a single entry under the Connector list.

Other forms of addressing the wide port are still in force. The SAS Address of the port is available for use in operations, presenting a single address for all eight PHYS of the two HBA connectors.

Array lock key must be set before configuration files are imported

If the configuration file to be imported contains secure volumes, the array lock key must be set *before* the import. The verification step of the import fails if a secure volume is found but the array lock key has not been set. The import job will not be started and no settings on the target array will be changed.

CLI warning message displays after "sscs add -d registeredarray"

Bug 6796540—After the "sscs add -d registeredarray" command is issued and associated arrays are registered on the host, this message displays on the GUI: "A script on this page may be busy, or it may have stopped responding. You can stop the script now, or you can continue to see if the script will complete."

Workaround—Click Continue to allow scripts. Avoid registering arrays with the CLI when the GUI is running.

ComponentInsertEvent not generated for disk drive inserted into J4200

Bug 6953638—When a disk drive is inserted into the J4200, no ComponentInsertEvent is generated and entered into the Event Log. Only ValueChangeEvents [such as (Status +) from Removed to OK for disk in slot x] are generated.

Current Jobs page can take more than five minutes to display

Bug 6871197—In a Sun Storage 6180 array with 1023 Volume Copies, it takes over five minutes for the Current Jobs page to display.

Workaround—Click the Current Jobs page a second time to display the page more quickly.

Expander firmware 5.3.73 does not persist a SAS zone group

Sun Storage F5100 Flash array expander firmware 5.3.73 does not persist a SAS zone group in the case where an initiator's SAS address changes. Initiator SAS address change can be caused by a host reboot or when a new initiator is plugged into a previously zoned F5100 port. When a SAS address changes, Sun Storage Common Array Manager will still report the initiator and the devices are associated; however, the F5100 expander has actually disassociated the host from the zoned devices. This results in the host losing access to zoned devices.

Workaround –Re-zone the new initiator address with the existing devices, to ensure the new host initiator is associated with the target devices. This issue is fixed in F5100 expander firmware 5.4.4.

Free capacity does not add up

Bug 6800666—Storage Utilization on Storage System Free Capacity does not add up.

Works as designed –When computing the Storage System free capacity, Sun Storage Common Array Manager sums the precise free capacity of each disk and not the less precise values displayed on the page. This computed value accurately represents the total free capacity, and may differ slightly from a sum of the displayed values.

Replication status incorrect when primary volume fails

Bug 6561709 –When the primary volume in a replication set (6xxx arrays) fails, the management software might incorrectly list the volume as replicating.

Service Advisor: replacing failed SIM with dual path configurations

If you have dual paths to hosts in zones with cascaded JBODs and you need to replace a failed SIM, you might encounter a problem when you have to plug in the SAS cables to the new SIM. This is because the new SIM is not zoned and all hosts see all disks until the old zone is restored.

Workaround—Before you replace a failed SIM, be sure to **stop all I/O, even in dual path configurations**. When you insert the new SIM, you have to upgrade the firmware which requires stopping the I/O anyway. Taking this step before replacing a failed SIM enables rezoning the new SIM before attempting further I/O.

Volumes not deleting from the Single Page window

Bug 6807053—Unable to delete volumes with the "Show Data in Single Page" option from the Volume Summary page. After multiple volumes are deleted, the Volume Summary Page still shows the same number of volumes as before.

Workaround—Use paginated view to delete volumes.

Windows 2008 proxy host computer name must match resolved IP address name

Bug 6952686 Workaround—Windows 2008 computer name must match the resolved network IP address name for the software to monitor the proxy host for JBOD arrays. Change the computer name and then restart Windows.

Documentation Issues

2500 Series Release Notes: Simplex vs. Duplex Configurations

The *Sun StorageTek 2500 Series Array Release Notes, Release 1.4* document contains contradictory information on pages one and 21 concerning the StorageTek 2501 Expansion Module in simplex and duplex configurations. The correct information is this: **Only Simplex 2501 expansion modules may be attached to a Simplex 2500 series controller tray.**

Admin Guide gives incorrect information for maximum number of drives

Bug 7050610—Common Array Manager Online Help and Administration Guide incorrectly state that 6140 and 6180 arrays support up to 128 drives. The correct number is 112.

CLI Guide error --help command example

In Table 1-2 of the *Sun Storage Common Array Manager CLI Guide*, incorrect sample output is given for displaying syntax for a command/sub-command pair for a specific array type or array name. Within the sample output for the "list alarm" command, the following --faultdevtype array name specifications are incorrect:

- F5100 should be **f5100**
- B6000 should be **b6000**

- NEM should be **nem**

Workaround—Use the above replacement array names when reading the sample output.

Redistribute Volumes function needs better explanation in online help

Bug 7035754—When using the Redistribute Volumes function from the GUI, this behavior is observed: When no volume exists, or the existed volume is owned by its preferred controller, Redistribute Volumes button is available. When the button is pressed, this message displays: "The operation to redistribute volumes was started successfully. Job 2011.04.11.16.12.18.901 was started." The job then goes to Historical Jobs after it's done.

The online help/administration guide currently states "Click to move volumes back to their preferred controller owner. This button is not available if all volumes are currently owned by their preferred controllers, or if no volume exists on the storage array." However, the button is available.

When using the Redistribute Volumes function from the CLI, the command processes successfully; however, the job does not appear in the list jobs output.

CAM functionality for this feature is working as designed. In the next product release, it will be better described in the online help. For example, the Redistribute Volume button is not supposed to become unavailable.

Firmware Update Issues

For notable fixed issues related to firmware, see "Notable Fixes" on page 15.

Firmware upgrade fails with error: FWR_UPGRADE_FAILURE,6 for J4200/J4400 arrays

Bugs 6871188, 6919285, 6925388—Upgrading firmware on J4200/J4400 attached to x6250 blade fails, with the following error message:

Error upgrading firmware. Check the following error message and array alarm page for possible problems. `flash firmware image failed FWR_UPGRADE_FAILURE,6`

The firmware on the JBOD remained at 3R21 and all disks remained at the same FW level.

Workarounds—For this symptom–SUSE Linux host, J4400 SIM upgrade failed with return code 6, possibly leading to SIM firmware mismatch–there are two possible workarounds:

- If the upgrade failed without firmware mismatch, do this:

  Power cycle the array and rerun the firmware upgrade wizard GUI.

- If the upgrade failed with firmware mismatch, do this:

  Power cycle the array and rerun the firmware upgrade using one of the following CLI commands:

  sscs modify -a <*array-name*> **-f -t sim -o -w firmware**

  or

  csmservice -i -a <*array-name*> **-f -t sim -o -w**

Firmware upgrade fails on J4400 SATA drives

Bug 6939824 Workaround—Move affected disks to another slot before upgrading so they do not remain in a degraded state.

Firmware upgrade fails when expander and disks are upgraded together

Bug 6916355 Workaround—Power-cycle the array and re-run the firmware install wizard. Then resume the disk drive firmware upgrade.

Firmware upgrade not recognized by GUI until agent runs

Bug 6873568 Workaround—Wait 5 minutes for the agent to run or run the agent manually.

Sun Blade 6000 firmware upgrade error: No such expander - 50800200006deabf SIGSEGV in Linux libSTORARC.so

Bug 6952753 Workaround—Use a non-Adaptec HBA (mixed blade environment with SAS controller).

Sun Blade 6000 firmware upgrade fails with down-level expander

Bug 6948014 Workaround—When the Network Expansion Module (NEM) and Sun Blade 6000 Disk Module are flagged for upgrade, execute an upgrade on the NEM first. Then, the upgrade works for the Sun Blade 6000 Disk Module storage. For more information, see the *SAS Compatibility Firmware Guide*.

Sun Blade 6250 and 6270—upgrading network expansion modules fails

Bug 6965677 Workaround—Retry the upgrade or use a non-Adaptec HBA.

Installation Issues

Authentication fails for CAM GUI and CLI—Oracle Enterprise Linux 6

Bug 7026486—Oracle Enterprise Linux 6.0, Red Hat Enterprise Linux 6.0: CAM does not seem to be able authenticate root user/password.

Workaround—Install packages in this order:

- libselinux-2.0.94-2.el6.i686.rpm
- audit-libs-2.0.4-1.el6.i686.rpm
- cracklib-2.8.16-2.el6.i686.rpm
- db4-4.7.25-16.el6.i686.rpm
- pam-1.1.1-4.el6.i686.rpm

Core installation package sun-cam-scsi fails on dependencies

Bug 7023915—The installation core package fails to install on Oracle Enterprise Linux 6.0 and Red Hat Enterprise Linux 6.0.

Workaround—Before installing CAM on Linux, install these packages:

- libstdc++-4.4.4-13.el6.i686.rpm
- zlib-1.2.3-25.el6.i686.rpm
- ksh-20100621-2.el6.x86_64.rpm

Installation fails due to missing TEMP—Windows platforms only

Bug 6791511 Workaround—Windows users should investigate TEMP, TMP, and USERPROFILE environment variable settings, rather than follow the directions in the pop-up window.

Installation fails when user account control is On—Windows 2008

Bug 6753949—Users with Administrative privileges that are used to install Sun Storage Common Array Manager on Windows 2008 must have User Account Control turned off.

Workaround—From the Control Panel, select User Accounts, and then turn the User Account Control OFF.

Oracle Java Web Console service fails—InstallShield gives wrong switch

Bugs 6792599 and 6753860—InstallShield provides wrong switch (should be -c) in error message.

- Invalid switch option is given on GUI-based install failure.
- Oracle Java Web Console Service Default is 40bit SSL keys fail FIPS/Fed autids.
- When attempting to install Sun Storage Common Array Manager via text-based install, the installer is unable to run in graphical mode unless the correct switch is added.

Workaround—Run the installer with:

```
-c flag
```

root@sx-dimen-a04# **./RunMe.bin -c**

Note – Contact Support at `https://support.oracle.com` for instructions on how to modify the default ciphers for JVM or modify Tomcat configuration files.

Windows proxy does not run after reboot

Bug 6953143—Communication lost with Win2k8 SP2 remote data host after OS reboot.

Workaround—Re-execute proxycfg.bat enable.

Windows Issues

Support Data does not save using Windows 2008 R2 SP1 Servers

Bug 7076972—Application support data files cannot be saved using Windows 2008 R2 SP1 servers. Support data for an array is collected and saved in the Common Array Manager by selecting *array* > General Configuration > Support Data.

Workaround—On the Windows 2008 server, disable "Do not save encrypted pages to disk." Go to Tools > Internet Options > Advanced > Security and uncheck "Do not save encrypted pages to disk."

Linux Issues

Note – *Before installing CAM on Oracle Enterprise Linux 6.0 or Red Hat Enterprise Linux 6.0, you must install the packages listed in the authentication and core installation items under "Installation Issues" on page 26 in these Release Notes.

"Require-Stop" not working in SUSE11.1 innserv jexec init.d script

Bug 7013981—The dependency boot sequence LSB comment for "Require-Stop" is missing in the /etc/init.d jexec script. Currently, this generates warnings whenever an administrator installs other unrelated products like RPMS, HBA mgmt apps / failover RDAC packages etc.

Workaround—Add the following line in /etc/init.d/jexec:

Required-Stop: $local_fs

After invalid password is entered on SUSE11, login ceases to work even when valid password is provided

Bug 6911829 Workaround—Close the browser, then open it again and log in using the correct password.

Adding or removing SATA drives requires host boot

Bug 6835314—Linux kernel:mptbase(Abort) occurs on both RedHat 5.2 and SUSE 10.

Adding or removing SATA drives to a Linux host yields the following message:

kernel: mptsas: ioc2: removing sata device: fw_channel 0, fw_id 4, phy 4, sas_addr 0x500163600010a390

kernel: mptbase: ioc1: LogInfo(0x31120101): Originator={PL}, Code={Abort}, SubCode(0x0101)

The following message is also common:

multipathd: sdd: checker msg is “tur checker reports path is down”

Normally the (kernal: mptsas) messages are seen for zoning operations but when the (kernel:mptbase) message is also seen, only a reboot will recover the hosts’ ability to properly see the drives.

Workaround—Reboot host.

Sun Storage J4000 and F5100 Flash arrays—Linux hot plug issues

Two categories of J4x00/F5100 Hot Plug issues have been identified--those that require a Linux host reboot and those in which the hot plug is not supported. These are separated into two sub-sections:

1. **Linux host reboot is required if the array or any of its components are not recognized after changes such as cable re-configurations, firmware upgrades, etc.**
   - StorageTek SAS RAID HBA hot plug is not supported.
   - Sun StorageTek SAS RAID HBA is inconsistent with reports and missing FRU disk information. This is expected J4x00 registration behavior during SAS bus re-scan.
   - Firmware upgrade failed for Sun Blade 6000 Disk Module.
   - J4x00—Name issues during registration and upgrade connected to B0/B1 side.
   - J4x00—Linux J4x00 registration—sg_map -i must be clear of all errors or it fails; leads to host reboot to clear sg_map.
   - Newly added or removed targets (i.e. disks) due to changes in Access Configuration, cable re-configuration, firmware upgrades, or the addition of new storage can potentially cause the host to hang or panic due to known Linux kernel issues.

   Bug 6731595—J4200/J4400: Sun StorageTek PCI-Express SAS Host Bus Adapter B3: SUSE 9 SP4: Multipath (device mapper): Alternate SIM failure causes host to hang.

   Bug 6732411—J4200/J4400: Sun StorageTek PCI-Express SAS Host Bus Adapter B3: SLES9SP4: Multipath: Lost Communication to JBOD after Sun Storage Common Array Manager software SIM firmware upgrade.

Bug 6777089—MPT 3.16.00.00 pandora hba SAS cable insert, expander reset or power cycle hang x86 host until reset.

Bug 6817878—OS does not see zoning filtering through to proxy server correctly. This issue is specific to Linux hosts.

Bug 6830042—As a result of JBOD expander firmware upgrade, expander reset might hang Linux OS.

Bug 6833156—1.26.03.00: linux missing targets, fdisk -l and sg_map -i hangs after JBOD second power cycle.

2. **Sun StorageTek SAS RAID HBA hot plug is not supported. Generally, the workaround is to reboot the array between any cable changes etc.**

   Bug 6723686—J4x00 failed disk drive (Sun StorageTek SAS RAID HBA) not reported.

   Bug 6732704—J4x00 Windows agent (Sun StorageTek SAS RAID HBA) 0.0 MB reported; drive FRU missing unique identifier.

Solaris Issues

Error—"no execute access to opt/SMgr/agent/notifysmagent.sh"—occurs during system boot-up

Bug 6934913—This error occurs when /opt(SMagent install directory) is built on a disk partition other than root partition. Though event notification is lost as a result, there are no adverse effects because the SMagent detects the disk device(UTM volume) during re-scan. The notifysmagent.sh script should be available to the sysseventd since the script is located in the same directory of SMagent startup script.

UTM LUNs Controlled by "Solaris Traffic Manager" 6000/2500 arrays

After you upgrade to S10U3 (or later), the in-band management UTM LUNs are controlled by Solaris Traffic Manager (MPxIO). In most cases, in-band management will not fail as a result of this; however, it is best practice to ensure that the UTM LUNs are not controlled by MPxIO.

Workaround—Use the `format inquire` command to get the eight-character Vendor (VID) and Product IDs. Follow this procedure

1. **Edit the file /kernel/drv/scsi_vhci.conf**

   The following line should read:

```
device-type-scsi-options-list = "SUN Universal Xport", "disable-
option"; disable-option = 0x7000000
```

2. **Run the** `stmsboot -u` **command.**

   Respond to the prompts as follows:

   ```
   WARNING: This operation will require a reboot.
   Do you want to continue? [y/n] (default: y) y
   ```

   The changes will result when the system is rebooted.

   ```
   Reboot the system now? [y/n] (default: y) y
   ```

Contacting Support

Contact Support at: https://support.oracle.com