

Sun StorageTek[™] Common Array Manager Software Release Notes

Release 6.6.0

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Sun StorageTekTM Common Array Manager Software Release Notes

These Release Notes provide information about the 6.6.0 release of Sun StorageTekTM Common Array Manager software, including requirements and issues that can affect installation and operation.

Note – For installation instructions, see the *Sun StorageTek Common Array Manager Software Installation Guide*.

These Release Notes include the following sections:

- "About Common Array Manager Software" on page 2
- "How to Get Common Array Manager Software" on page 2
- "What's New in this Release" on page 3
- "What You Get with Common Array Manager Software" on page 4
- "Documentation" on page 5
- "System Requirements" on page 6
- "Array Firmware" on page 13
- "Known Issues and Operational Information" on page 16
- "Notable Bug Fixes in this Release" on page 34
- "How to Contact Sun for Support" on page 35
- "Third-Party Web Sites" on page 35

About Common Array Manager Software

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

The software includes a distributed architecture which enables you to manage Sun/StorageTek Storage platforms throughout your company, regardless of location. You can designate local and remote domains through which you can configure and manage your storage environment for optimal efficiency and productivity.

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 Common Array Manager Software

1. Go to:

http://www.oracle.com/us/products/servers-storage/storage/storage-software/031603.htm

2. Click the "Buy Now" button to obtain the latest information and version available. Note that you will be taken to the "Get It" tab where you can download the software for free.

Note – Also see "Patches" on page 8.

What's New in this Release

The following features are introduced in this release:

- Support for Oracle Enterprise Linux
- Support for increased cache size for Sun Storage 6780 and 6580 Arrays
- Data Encryption Services feature for Sun Storage 6180, 6780, 6580, 6540, 6140 and FLX380 Arrays
- Maintenance 2 firmware release for Sun StorageTek 2510, 2530, and 2540 Arrays
- Updated SATA FMod Firmware for Sun Storage F5100 Flash Array Storage
- Serviceability Enhancements for Sun Storage F5100 Flash Array Storage
- SSD Support for Sun Storage 6780 and 6580 Arrays
- Port-based SAS Access Configuration
- Automatic saving of SAS Access Configuration as a template
- Serviceability Enhancements for Access Configuration
- Updated Sun Storage J4200 and J4400 Arrays Expander Firmware

Note – Host software upgrades are supported from Common Array Manager release 6.x to 6.6.0.

What You Get with Common Array Manager Software

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

 TABLE 1
 Common Array Manager DVD Contents

Туре	Version
Common Array Manager	6.6.0
Java WebConsole software	3.0.5
Java 2 Software Development Kit	1.6 u12
Firmware files	See "Array Firmware" on page 13
Remote scripting CLI client	2.1.4

Licensing Optional Premium Features

Note – Arrays should be named before licenses are added.

Common Array Management software offers a variety of premium features for which you can purchase licenses. 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

Note – Premium features are not supported for the Sun Storage J4000 Array Family or Sun Storage F5100 Flash Array Storage.

Documentation

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

You can search for Sun documentation at:

http://www.sun.com/documentation

Online Help and manpages are incorporated into the software. The following table lists other documentation related to Common Array Management software.

TABLE 2 Common Array Manager - Related Documentation

Documents Related To Common Array Manager

Sun StorageTek Common Array Manager Software Installation Guide

Sun StorageTek Common Array Manager CLI Guide

Sun StorageTek Common Array Manager User Guide for Open Systems

Sun Storage Array Baseline Firmware

Sun Storage F5100 Flash Array Storage Documentation

Sun Storage J4200 Array Documentation

Sun Storage J4400 Array Documentation

Sun Storage J4500 Array Documentation

Sun Blade 6000 Disk Module Documentation

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

Sun StorageTek MPIO Device Specific Module Installation Guide for Microsoft Windows OS Platform

Sun StorageTek RDAC Failover Driver Installation Guide for Linux OS

System Requirements

System requirements for the 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 7
- "Patches" on page 8
- "Supported Platforms" on page 9

Supported Arrays

Common Array Management software supports the following Sun storage systems:

- Sun Storage 6780 Array
- Sun Storage 6580 Array
- Sun Storage 6180 Array
- Sun Storage 6540 Array
- Sun StorageTek 6140 Array
- Sun StorEdge 6130 Array
- Sun StorageTek 2510 Array (iSCSI)
- Sun StorageTek 2530 Array (SAS)
- Sun StorageTek 2540 Array (FC)
- Sun StorageTek Flexline 380 Array
- Sun StorageTek Flexline 280 Array
- Sun StorageTek Flexline 240 Array
- Sun Storage F5100 Flash Array
- Sun Storage J4200 Array
- Sun Storage J4400 Array
- Sun Storage J4500 Array
- Sun BladeTM 6000 Disk Module

Supported Web Browsers

TABLE 3 Supported Web Browsers

Browser	Minimum Version
Firefox	3.0
Microsoft Internet Explorer	6.0 Note: Versions 7 and 8 are not supported.

Best Practices for Browser Performance

For best web browser performance:

- Enable pop-up windows.
- Specify No Proxy for the 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
 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 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

The CLI is available in:

English

The online Help is available in:

- English
- Japanese
- Simplified Chinese

The man pages are available in array configurations supported in full installation in:

- English
- Japanese
- Optional array firmware

For instructions on CLI Minimal Installation, refer to the *Sun StorageTek Common Array Manager Software Installation Guide*.

Patches

The most current patches available for your system are available on the web.

1. Go to the Common Array Manager Support page here:

http://www.sun.com/storage/management_software/resource_management/cam/support.xml

- 2. Scroll down to the Resources section on the left side of the page.
- 3. Under Software Updates, click the link to find the latest patches.
- 4. If you still need more information about patches, check the Patches and Updates section here:

http://sunsolve.com

To obtain patches using Solaris, install Solaris 10 Update 4 or later.

- Solaris 10 Sparc U4-U7 SES/SGEN driver patch 138880-01
- Solaris 10 Sparc MPT SAS driver 141736-05
- Solaris 10 x86 U4-U7 SES/SGEN driver patch 138881-01
- Solaris 10 x86 U4-U7 MPT driver patch 141737-05

The SCSI Enclosure Services (SES) driver manages the hardware environment and must be patched in order for the management software to do discovery and manage non-RAID arrays.

For information about LSI HBA packages, reference the HBA documentation and also go to:

http://www.lsilogic.com/support/sun

Supported Platforms

TABLE 4 Supported Platforms

Platform	Operating System
SPARC server or workstation	Solaris 9 OS Solaris 10 OS OpenSolaris 2009.06
Windows Servers	Windows 2003 SP2 Windows XP Professional SP3* Windows 2008
x64 computer	Red Hat Linux 4.7 Red Hat Linux 5.3** SuSE Linux Enterprise Server 11** SuSE Linux Enterprise Server 10 SP2 Oracle Enterprise Linux 5.3
x86 computer	Solaris 10 OS OpenSolaris 2009.06
IBM AIX***	3.5
HP-UX***	B.11.23

^{*} Windows XP Pro is a management host only (no data path support). Windows XP Home Ed. is not supported.

TABLE 5 lists Solaris packages that must be installed on your Solaris host. Installing the minimum Solaris operating system as listed in TABLE 4 will install all but the last four packages. Those packages are required by Java but are not used by the management software.

 TABLE 5
 Required Solaris Packages

File	Description
SUNWcar	Core Architecture, (Root)
SUNWcsd	Core Solaris Devices
SUNWcsl	Core Solaris, (Shared Libs)
SUNWcsr	Core Solaris, (Root)
SUNWcsu	Core Solaris, (Usr)
SUNWkvm	Core Architecture, (Kvm)

^{**} RHEL 5.3 nor SuSE Linux 11 SAS drivers are available for SAS HBA's as of the 6.6.0 product release date.

^{***} IBM AIX and HP-UX are remote scripting CLI platforms only.

 TABLE 5
 Required Solaris Packages

File	Description	
SUNWlibC	Sun Workshop Compilers Bundled libC	
SUNWxwice	X Window System Inter-Client Exchange (ICE) Components	
SUNWxwplt	X Window System platform software	
SUNWxwrtl	X Window System & Graphics Runtime Library Links in /usr/lib	

TABLE 6 lists Linux files and packages that must be installed on your Linux host. The 32-bit versions of these files are required.

 TABLE 6
 Required Linux Packages

File	Version	
fileutils	4.0-8	
gawk	3.0.4-1	
glibc	2.1.2-11	
ld-linux.so.2	-	
ld-linux.so.2	(GLIBC_2.3)	
libcrypt.so.1	-	
libcrypt.so.1	(GLIBC_2.0)	
libc.so.6		
libc.so.6	(GLIBC_2.0)	
libc.so.6	(GLIBC_2.1)	
libc.so.6	(GLIBC_2.1.1)	
libc.so.6	(GLIBC_2.1.2)	
libc.so.6	(GLIBC_2.1.3)	
libc.so.6	(GLIBC_2.2)	
libc.so.6	(GLIBC_2.3)	
libdl.so.2	-	
libdl.so.2	(GLIBC_2.0)	
libdl.so.2	(GLIBC_2.1)	
libpam.so.0	-	
sh-utils	2.0-1	
textutils	2.0-2	

To compile Linux files and packages, run the following command on each RPM file included in the Common Array Management software's Linux distribution:

Client Security

To configure firewalls, you will need information about the security aspects of communication between components in the client environment. Port 443 must be opened to the URLs in the following table.

TABLE 7 depicts the data collected for case creation, used to determine entitlement.

TABLE 7 Data Collected for Case Creation

Data Collected	Destination URL	Port and Description
Activation event	Client Registration: https://inv-cs.sun.com/SCRK/ClientRegistrationV1_1_0 Agent Registration: https://inv-cs.sun.com/ProductRegistrationService/agent/ Product Registration: https://inv-cs.sun.com/ProductRegistrationService/scrk/ Case Generation: https://cns-services.sun.com/ServiceInformation/ServiceInformation	Port = 443; Static Data collected for purpose of registration and entitlement.
Heartbeat event	Case Generation: https://cns-services.sun.com/ServiceInformation/ServiceInformation	Port 443; Dynamic data periodically collected to establish a device is capable of connecting. Sent every 6 hours.
Audit event	Case Generation: https://cns-services.sun.com/ServiceInformation/ServiceInformation	Event type = daily Port 443; Dynamic configuration data collected and sent every seven days.
Alert event	Case Generation: https://cns-services.sun.com/ServiceInformation/ServiceInformation	Event type = audit Port 443; Potential case- generating events are sent via the secure transport to trigger case generation.
	Note: Not all events generate cases; some represent information collected to provide context for already existing cases.	Event type = alert

Array Firmware

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

- For the 6140, 6540 and FLX380 array types, upgrading from a 06.xx.xx.xx version to 07.xx.xx.xx requires a special utility. Consult the 6000 Series Array Firmware Upgrade Guide (820-7197).
- For the 25xx array types, upgrading from a 06.xx.xx.xx version to 07.xx.xx.xx requires a special utility. Consult the *Sun StorageTek* 2500 *Array Series Firmware Upgrade Utility Guide* (820-6362).

Note – If you attempt an upgrade and it fails, you should contact a support representative. See "How to Contact Sun for Support" on page 35.

For information about patches, see "Patches" on page 8.

This section describes the following topics:

- "Location of Firmware Files" on page 13
- "Supported Expansion Modules" on page 14

Location of Firmware Files

Firmware files are installed in the following locations:

- Solaris: /opt/SUNWstkcam/share/fw
- Windows:
 - 64 bit <system drive>:\Program Files (x86)\Sun\Common Array Manager\ Component\SunStorageTekArrayFirmware\
 - 32 bit <system drive>:\Program Files\Sun\Common Array Manager\
 Component\SunStorageTekArrayFirmware\
- Linux /opt/sun/cam/share/fw/
 - In this base directory, there are README files for each array type defining the firmware baseline. Each component is listed with the baseline version number and the filename of the firmware.
- README_2500.txt defines the firmware baseline for the 2500 Series Arrays.
- README_6000.txt defines the firmware baseline for the 6130, 6140, 6540, FLX240, FLX280, and FLX380 arrays.

■ README_J4000.txt defines the firmware baseline for the J4000 Series and Sun Blade 6000 Disk Module.

Firmware files are located in the images subdirectory:

- Controller, NVSRAM, IOM firmware images/nge
- SIM firmware images/qnt/
- Expander board firmware images/sun
- Disk drive firmware images/disk

For baseline firmware information, such as controller, NVSRAM, IOM, disk drive, version, and firmware file, see *Sun Storage Array Baseline Firmware*, part number 821-0136-11.

Supported Expansion Modules

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

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

 TABLE 8
 Supported Expansion Modules: 6000 Series Arrays

Array Controller	Supported Expansion Modules
Sun StorageTek 6540 Array	CSM100, CSM200, FLA200, FLC200, FLA300
Sun StorageTek 6140 Array	CSM100, CSM200, FLA200, FLC200, FLA300
Sun StorEdge 6130 Array	CSM100, CSM200
Sun Storage 6180 Array	CSM200
Sun Storage 6580 Array	CSM100, CSM200, FLA300, FLC200
Sun Storage 6780 Array	CSM100, CSM200, FLA300, FLC200

 TABLE 9
 Supported Expansion Module: 2500 Series Arrays

Array Controller	Supported Expansion Modules
StorageTek 2500 Series Arrays	2501

 TABLE 10
 Supported Expansion Module: FLX240, FLX280, and FLX380 Arrays

Array Controller	Supported Expansion Modules
Sun StorageTek FLX240 Array	CSM200, FLA200, FLC200, FLA300
Sun StorageTek FLX280 Array	CSM200, FLA200, FLC200, FLA300
Sun StorageTek FLX380 Array	CSM200, FLA200, FLC200, FLA300

Installing Firmware for Additional Expansion Modules

1. Install the Common Array Manager release after the standard installation procedure.

For more information, see the Sun StorageTek Common Array Manager Software Installation Guide.

- 2. Register the array, if needed.
- 3. From the Storage Summary page or Array Administration page, click the Install Firmware Baseline button.
- 4. Follow the instructions given in the Firmware Upgrade Wizard.

See the Service Advisor for detailed information.

Known Issues and Operational Information

The following sections describe known issues and recommended workarounds, as well as operational information not found elsewhere in the documentation:

- "Solaris Issues" on page 16
- "Documentation Issues" on page 18
- "Storage Array Operational Information and Issues" on page 19
- "Configuration Issues" on page 23
- "Firmware Issues" on page 29
- "Linux Issues" on page 31
- "Localization Issues" on page 34
- "Notable Bug Fixes in this Release" on page 34

Solaris Issues

Solaris Target Port Group Support (TPGS) is Not Supported

Bug 6872689 –Solaris Target Port Group Support (TPGS) is not a supported host type at this time. Do not select this host type until Solaris provides the necessary support.

OpenSolaris 2009.06 mpt bug causes Prepare Storage button to Time-out

Bug 6917914 Workaround –Follow these steps:

- 1. Turn off multipath.
- 2. Reboot.
- 3. Using Common Array Manager software, make your zoning changes.
- 4. Turn multipath back on and reboot again.

Upgrading Solaris to version 10 or higher might Disable Webconsole Connections

After performing the upgrade, open port 6789 for incoming connections:

1. Check current status of port 6789:

```
#netstat -an | grep 6789
Typical output is: *.6789 *.* 0 0 49152 0 LISTEN
```

2. Enable port 6789:

```
# svccfg -s svc:/system/webconsole setprop options/tcp_listen = true
# smcwebserver restart*
```

UTM LUNs Controlled by "Solaris Traffic Manager" -6000/2500 Arrays

Bug 6594360 –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. Performing the following workaround task will help prevent problems.

Workaround –Use the format inquire command to get the eight-character Vendor (VID) and Product IDs. Use the procedure that follows.

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 come into effect after rebooting the system. Reboot the system now? [y/n] (default: y) y
```

Documentation Issues

Disk Space Requirements for Release 6.6.0 Not in Installation Guide

The Sun StorageTek Common Array Manager Software Installation Guide (820-7921-10), for version 6.5.0, is being used for this 6.6.0 product release.

Updated disk space requirements for 6.6.0 have been added to the Sun StorageTek Common Array Manager User Guide for Open Systems (820-7921-10):

Solaris

```
190 MB on /tmp
```

5 MB on /

40 MB on /usr

85 MB on /var

740 MB on /opt

Linux

100 MB on /tmp

5 MB on /

245 MB on /usr

100 MB on /var

550 MB on /opt

Windows

1175 MB on the system drive

Common Array Manager Installation Guide Error re: Drives Needed to Create RAID 10

Bug 6878744 -Sun StorageTek Common Array Manager Software Installation Guide, Release 6.2.0 (part number 820-5747-10) incorrectly states five drives are needed to create RAID 10.

To combine disk mirroring with disk striping, configure RAID 1 with four or more drives. The firmware automatically creates a RAID 1+0 virtual disk.

Storage Array Operational Information and Issues

Array Out of Compliance Yields Errors

When an array is out of compliance due to an invalid or missing license, a number of operations might not occur, such as:

- Standard RAID volume creation
- Automatic configuration
- Creation of storage partitions mappings
- Hot spare assignments
- DSS
- DCE/DVE
- Snapshot volume creation

Controller Resetting Issues on In-band Managed Array

This information applies only to FLX240, FLX280, FLX380, 6130, 6140, 6540, 6580, 6780, 2510, 2530 and 2540 arrays.

For best performance, ensure both controllers are connected during configuration.

Bug 6603978 –The controller for an in-band managed array cannot be reset even when physical connectivity between the array and the management host has been verified.

Workaround –Un-register and then re-register the array.

Java Web Console 3.0.2 goes into Maintenance Mode

Bug 6657309 –After several minutes of inactivity, the Sun Java Web Console Version 3.0.2 goes into maintenance mode and yields errors similar to the following:

m4000 gconfd (noaccess-2277): I can't write to '/var/tmp/orbit-noaccess', ORB init failed

m4000 svc.startd[7]: system/webconsole:console failed: transitioned to maintenance (see 'svcs -xv' for details)

svc:/system/webconsole:console (Java web console)

State: maintenance since Tue Apr 18 14:08:06 2009

Reason: Method failed.

See: http://sun.com/msg/SMF-8000-8Q

See: man -M /usr/share/man -s 1M smcwebserver

See: /var/svc/log/system-webconsole:console.log

Impact: This service is not running.

Workaround –For unix hosts, set the directory permission to 01777 (i.e., chmod 01777 /var/tmp) and restart the console.

Network Address Column Shows Change from Out-of-band to In-band when Registering an In-band Array

This information applies only to FLX240, FLX280, FLX380, 6130, 6140, 6540, 2510, 2530 and 2540 arrays.

Bug 6612214 –When one of the arrays behind an in-band management proxy is removed, the software will change the management of the other arrays behind the proxy to out-of-band management if that path exists. An in-band discovery of the proxy agent would return them to in-band management in this case.

Performance Monitoring Page Does Not Display In-band Statistics

This information applies only to FLX240, FLX280, FLX380, 6130, 6140, 6540, 6580, 6780, 2510, 2530 and 2540 arrays.

Bug 6681582 –Performance Monitoring page lists the Performance statistics as Unavailable.

■ Workaround –Check the physical connectivity from the management host to the array. If the connectivity is good, try un-registering and then re-registering this array.

Solaris Runtime and RAID Array Proxy Agent Packages Install on Wrong Architectures

Bug 6665774 –If you perform installation using the incorrect package, Common Array Manager software will install but not run. For example, if the in-band proxy agent packages are being delivered as architecture-dependent (SPARC and x86 for Solaris), then the SPARC package installation should not succeed on an x86 platform. The risk of this happening is low.

Workaround –Install the correct package. See the Installation Guide for instructions.

DACstore Issues

Maintained by the array firmware, DACstore stores information on each of the arrays' disk drives. Before you connect any replacement drive or additional expansion module to an existing functioning array, you should contact Sun Support at http://www.sun.com/contact/support.jsp to ensure the connection goes smoothly and avoid issues with the DACstore configuration and status database.

Arrays with Potential DACstore Issues

- Sun StorEdge 6130 Array
- Sun StorageTek 6140 Array
- Sun StorageTek 6540 Array
- StorageTek FLX280 Array
- StorageTek FLX380 Array

If you observe any of the following, contact Sun Microsystems Support Services at http://www.sun.com/contact/support.jsp

- Fail to apply feature licenses
- Fail to upgrade/install the baseline for array firmware
- Host operating system reports the wrong product identifier
- Array registration or discovery fails to complete
- Persistent or unrecoverable multipathing failover

Errors - General Password Mismatch

Bug 6590097, 6577775, 6592703 –Using an invalid array password might result in configuration error messages.

Workaround –Use the correct array password.

Free Capacity Does Not Add Up

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

Works as designed –Common Array Manager adds up the free capacity's real value which might seem slightly high.

Installation Fails due to Missing TEMP - Windows

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 Workaround –Users with Administrative privileges that are used to install Common Array Manager on Windows 2008 must have User Account Control turned off. From the Control Panel, select User Accounts, and then turn the User Account Control off.

Jobs Checkbox Does Not Display; Job Will Not Cancel

Bug 6600387 –When a long job is running, such as large volume creation, the Cancel checkbox does not display on current job status. Some jobs cannot be cancelled once they have started on the array.

Workaround –If the queue includes multiple jobs for the array to perform, the job can be cancelled at the point where the GUI sends the next job to the array.

Webconsole Service Fails -- InstallShield Provides Wrong Switch

Bugs 6792599 and 6753860 –Webconsole service fails. InstallShield provides wrong switch (should be -c) in error message.

- Invalid switch option given on GUI-based install failure.
- Webconsole Service' Default 40bit SSL keys fail FIPS/Fed autids.
- When attempting to install 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 — Appropriate ciphers can be setup in JVM or Tomcat used by Java Web Console via configuration files. Contact Sun Microsystems Support Services at http://www.sun.com/contact/support.jsp for instructions on how to modify the default ciphers for JVM or modify Tomcat configuration files.

Windows -- Stop Applications before Running the Uninstaller

Bug 6769156 –Users must stop all applications that are running a java.exe or javaw.exe before running the uninstaller.

Configuration Issues

Note – Using multiple configuration tools can cause issues. Common Array Manager has a locking mechanism which prevents multiple sessions from interfering with one another. There is, however, no way to prevent interference from other tools that perform equivalent functions such as configuring the storage array.

Access Configuration: Summary Page shows "Initiator: <hostname>" instead of JBOD/Port Name

Bug 6915122 —After registering F5100 and J4400 JBODs, we observed that the Access Configuration Summary page for the F1500 SAS domains do not display the correct port name info; instead, it shows as "Initiator: d10c."

Workaround —Identify the host to which the port is attached by viewing the Port column in the Access Configuration screen(s).

Array Lock Key Must be Set Before Configuration Files that Contain Secure Volumes are Imported

If the configuration file to be imported contains secure volumes, the array lock key for the array must be set before importing the configuration. The verification step of the import will fail 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.

Cascaded J4400 JBODs Return Incorrect PHY Port Data

Bug 6924428 Workaround —Use the Host or SIM Link In port to cascade J4400 arrays.

CLI - "modify sas-domain" to Associate or Dissociate defines Access Configuration lists - J4xxx/F5100



Caution – Using the "modify sas-domain" command to associate or dissociate initiators and disks defines access configuration lists. You should not use this command for incremental changes, as each change affects all elements of the SAS domain. For example, dissociating one disk in a SAS domain containing 48 drives implicitly associates the other 47 drives.

CLI Import Template J4200 yields Unexpected Error

Bug 6919026 –During a CLI import operation of a J4200 SAS Domain configuration, this error occurs: "Unexpected Internal System error."

Workaround –Follow these steps for a cascaded configuration:

1. Leave only one data path to the data host; disconnect all other data paths to the same data host.

Otherwise, you might experience access configuration operation timeouts. Multipathing is recommended to remain enabled.

2. Run reset to default prior to importing template.

Otherwise, incorrect access configuration might be set up.

3. For each anchor point in the template, run import template command with a single anchor point and a single candidate. For unused (unattached) port, imported access configuration will be incomplete.

You might have to manually modify the access configuration to complete the import operation.

CLI Usage Statement Syntax Error - "The resource was not found"

CLI usage statement yields syntax error "The resource was not found."

Workaround –Add spaces between the disks.

Resolution for this issue is in progress. Generally, adding spaces can break scripts; however, in this case it is the only workaround.

CLI - Warning Message Displays in GUI After Issuing "sscs add -d registeredarray" Command

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 running the CLI and browser user interface in parallel.

Current Jobs Page can take more than Five Minutes to display for 6180 arrays when a large number (1000+) of Volume Copies have been created

Bug 6871197 –In a 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.

Disabled Snapshot Re-enabled after Firmware Update

Bug 6529172 –A snapshot volume that is disabled will be automatically reenabled after a firmware update occurs. If the snapshot volume is full, it can start generating warning events.

Workaround -Disable the snapshot again after the firmware update.

Disk Names Do Not Display Correctly when SAS Zoning is Enabled and Disks are Not Assigned to a Host

Bug 6908159 –This behavior has been observed during Access Configuration modification for a cascaded J4200 configuration with one domain connected to two different hosts (initiators).

Workaround –Retry the operation.

Email Notification Does Not Save "Apply Email Filters" Option

Bug 6813244 Workaround –

1. From the Email Notification page select New... to add a new notification policy.

- 2. Enter an email address, and select the "Yes" radio button next to "Apply Email Filters."
- 3. Save the page.
- 4. Click Refresh and verify "No" is selected in the radio button for "Apply Email Filters property."

Import Configuration Error - 2510 Arrays

Bug 6764318 –Importing array configuration from Administration page yields "Error executing the import command."

Workaround –Prior to Importing, select Reset Configuration on the array's Administration page or run the following CLI command:

sscs reset -a ArrayName -l array array

J4500 Bundle Fails to Load when Common Array Manager is Installed on Windows

Bug 6927113 Workaround –After installing release 6.6 on Windows, manually restart FMS using the following commands:

C:\sc stop Sun_STK_FMS

C:\sc start Sun_STK_FMS

Replication Status May be Listed Incorrectly when Primary Volume Fails - 6xxx Arrays

Bug 6561709 –When the primary volume in a replication set fails, the management software may incorrectly list the volume as replicating.

SAS Domains - Clicking Links Causes Tree to Unexpectedly Collapse

Bug 6819851 Workaround –Re-open the tree to the desired location when this problem occurs.

SAS Zoning Operations Might Fail in Cascaded JBOD environments, displaying this 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.

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 will 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. Being sure you take this step before replacing a failed SIM enables rezoning the new SIM before attempting further I/O.

Virtual Disk Name Change Fails when GHS is in Use

Bug 6757428 – Attempting to change the name of a optimal/enabled vdisk fails when GHS is in use.

Volume Copy Instances while Volume Copy License is Removed

Bug 6826242 –Unable to activate replication set license if installed volume copy license is removed.

Works as designed –Arrays must be compliant with volume copy license. Otherwise, you cannot perform the following operations:

- Standard RAID Volume Creation
- Automatic Configuration
- Creation of Storage Partition Mappings
- Hot Spare Assignment
- Dynamic Segment Sizing (DSS) and Dynamic RAID Migration (DRM)
- Dynamic Capacity Expansion (DCE) and Dynamic Volume Expansion (DVE)
- 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.

Solution –Search for "premium features" and/or "license" information in Online Help. Also see "Licensing Optional Premium Features" on page 4 for general information.

Volume Mapping - Historical Job "Create Mappings" Failed with nonspecific failure data provided

Bug 6801450 –Using the New wizard to select and map volumes starts the job; then, the job finishes and displays in Historical Job Summary. Mappings failed; however, the error is not specific as to which volumes failed.

Volume Name Should be 25 or Fewer Characters

Bug 6809745 – Assigning a very large name to a volume and selecting Multiple Volume Creation from the Volume Wizard does not work.

Workaround –When naming a volume, use 25 or fewer characters.

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.

Volume Segment Size, when changed, requires a New Profile with a Variable Number of Disks

Bug 6599933 –Changing a volume to a different segment size requires that you create a new profile with the desired segment size, create a pool using that profile, and apply the new pool to the volume. However, if the original profile was created using a fixed number of disks instead of a variable number of disks, an error is returned.

Workaround –Adjust the new profile so that the number of disks is variable instead of fixed.

Windows "param=value" --CLI throws exception in Modify Site

Bug 6800989 Workaround –Do not insert a space before the first quotation mark.

Firmware Issues

For notable fixed issues related to firmware, see "Notable Bug Fixes in this Release" on page 34.

Avoiding Firmware Issues

To avoid issues regarding the new 07.xx.xx.xx firmware:

■ Contact Sun Microsystems Support Services at:

http://www.sun.com/contact/support.jsp

to upgrade from 06.xx firmware baseline for the 6140, 6540, and FLX380 arrays.

■ To install the new 07.35.xx.xx firmware for the 2500 Series Arrays, consult the 2500 Array Series Firmware Upgrade Utility Guide.

Note – After the initial installation of 07.10.xx.xx, you can install changes to the 07 firmware baseline using the normal upgrade procedures described in this document.

Firmware Upgrade Fails for J4200/J4400 with Error: FWR_UPGRADE_FAILURE,6

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, as follows:

- 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 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.

JBODs must be Removed/Re-registered after CAM Upgrade

Bugs 6870618 and **6871154**–Prior to upgrading from release 6.2 to 6.4 or higher, unregister any J4200 or J4400 arrays or CAM proxy hosts that are in use and rediscover these J4200, J4400 or proxy hosts after the upgrade. Alarms will be generated if problems are found and the historical event log can be gathered from the Service Advisor's Support Data function prior to the upgrade.

JBOD Names Display as "-"

Bug 6854775 –CAM6.4.2.6: Names of JBODs running 6.2.0.13 baseline firmware are displayed as "-" and can't be changed.

Works as designed –Array name will return after array is upgraded to baseline firmware revision.

Upgrading from version 6.2.0.15: Arrays must be Removed/Re-registered

Bug 6871154 Workaround –After upgrading to CAM 6.6 on Windows, manually restart fms on Windows using the following commands.

C:\sc stop Sun_STK_FMS

C:\sc start Sun_STK_FMS

Upgrading from 6.4.1 to 6.4.2 Generates ValueChangeEvents for All Disks not in a Zone

Bug 6858130 –After upgrading a J4200 array from CAM 6.4.1 to CAM 6.4.2, a critical alarm is generated for each drive that is in an "Unknown" state with "Unassigned" status. This error indicates no host can access these disks. You will see a description similar to the following in the email notification:

The property Drive Zoned Out for Disk.00 on J4200_J04D_Top has changed to True.

Workaround:

- 1. Discover the host that has access to the disks.
- 2. Change access configuration so the host being monitored has access to the disks.

Linux Issues

Adding or Removing SATA Drives Requires Host Boot - Linux

Bug 6835314—Linux kernel:mptbase(Abort) occurring when SATA drives are added or removed. This issue has been discovered on both RedHat 5.2 and SuSE 10.

When adding or removing SATA drives to a Linux host (in this case this is done with access configuration in CAM or the Quanta SZQ tool), the Linux host frequently gives the following (mptbase -- Abort) message and then will not allow any more commands to be passed:

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 will be 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.

Email Notification not working on RH4

Bug 6927445 Workaround –Do not use SMTP required authentication for email notification. To learn how to disable authentication in Sendmail in Red Hat Enterprise Linux 4, go to:

http://kbase.redhat.com/faq/docs/DOC-4113

Install for Linux runs chmod 755 on /dev/null

Bug 6874549 Workaround–Manually change the permissions back to 766:

crw-rw-rw-1 root root 1, 3 Feb 5 02:21 /dev/null

Patch for Linux Hosts - WebConsole 3.1 Breaks CAM UI

Bug 6701605 Workaround –Download patch 125954-16 or later for Linux hosts and apply it to the CAM server to upgrade the WebConsole to 3.1. For Solaris and Windows, the upgrade is seamless. For Linux, the CAM interface might have problems, in which case you can refer to your Linux documentation. See "Patches" on page 8.

Sun Storage J4000 and F5100 Flash Arrays - Hot Plug Issues - Linux

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 as follows:

- 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.
 - Sun StorageTek SAS RAID HBA hot plug is not supported.
 - Sun StorageTek SAS RAID HBA is inconsistent with CAM 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 will fail; 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 6918422 – After Linux hot-plug, CAM does not continue monitoring the JBOD.

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 CAM SIM firmware upgrade.

Bug 6741578 –Cannot register J4x00 on Linux until host reboot3.

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 by CAM.

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

Uninstall Error on Linux - GUI

Bug 6920716 –If CAM and Mega RAID Storage Manager are installed on the same machine, uninstall Mega RAID Storage Manager before you uninstall CAM.

Workaround –Before importing a configuration: Reset the array using the CLI command "sscs reset -a <array_name> -l array array," or select Reset Configuration from the array's administration page in the GUI.

Localization Issues

Import/Export fails with non-ascii configuration file name under localized system

Bug 6829795 Workaround –Use non-ascii file name of the configuration file for importing/exporting feature.

Notable Bug Fixes in this Release

6000 Series Arrays

6829972 -Controller reboot due to a lack of buffer handling the required reads from the snapshot directory database

2500 Series Arrays

- 6830572 -ISCI timeouts with four initiator sessions causing controllers to hang
- 6844287 -Controller reboot due to Exception Data Abort in TcpService on firmware
- 6858732 -Controllers are periodically logging DDE's in MEL (Invalid Field in Parameter List)
- 6884638 -Inband getChangeState requests fill all UTM structures
- 6884639 -ECC errors on one controller cause outage to the alternate controller
- 6927229 -Battery Learn Cycle reports incomplete
- 6907481 -Time synchronization causes RAID controllers batteries to fail

How to Contact Sun for Support

If you need help installing or using a product, contact Sun Microsystems Support Services at:

http://www.sun.com/contact/support.jsp

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