

Sun StorageTek[™] Common Array Manager Software Release Notes

Release 6.5.0

Sun Microsystems, Inc. www.sun.com

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Sun StorageTek Common Array Manager Software Release Notes

These Release Notes provide information about the 6.5.0 release of Sun StorageTek[™] Common Array Manager (CAM) 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 CAM" on page 2
- "How to Get CAM" on page 2
- "What's New in this Release" on page 3
- "What You Get with CAM" on page 3
- "Documentation" on page 6
- "System Requirements" on page 7
- "Array Firmware Delivered with CAM" on page 12
- "Known Issues and Operational Information" on page 15
- "Notable Updates/Fixes in this Release" on page 33
- "Sun Microsystems Support" on page 34
- "Sun Welcomes Your Comments" on page 34
- "Third-Party Web Sites" on page 34

About CAM

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

CAM includes a distributed architecture which enables you to manage Sun 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.

CAM software 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 CAM

1. Go to:

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

2. Click the "Get It" button to obtain the latest information and version available.

Note – Also see "Patches" on page 9.

What's New in this Release

The following features are introduced in this CAM release:

- Firmware for Sun Storage 6140, 6540, 6580, 6780 and FLX380 Arrays
- Firmware for the Sun Storage F5100 Flash Array
- Support for the Sun Storage 6180 Array
- Support for OpenSolaris 2009.06

What You Get with CAM

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

Туре	Version
Common Array Manager	6.5.0
Java WebConsole software	3.0.5
Java 2 Software Development Kit	1.5
Firmware files	See "Array Firmware Delivered with CAM" on page 12
Remote scripting CLI client	2.1.4

 TABLE 1
 Sun StorageTek CAM DVD Contents

Licensing Optional Premium Features

Note – Arrays should be named before licenses are added.

CAM 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 CAM 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.

The following licenses for premium features are available:

Premium Feature	6540 Array	6180 Array	6140 Array	6130 Array	2500 Arrays	FLX240 Array	FLX280 Array	FLX380 Array
Data Snapshot	Х	Х	Х	Х	Х	Х	Х	Х
Data Volume Copy	Х	Х	Х	Х	Х	Х	Х	Х
Data Replicator	Х	Х	Х	Х		Х	Х	Х
4 Domains	Х		Х		Х	Х	Х	Х
Upgrade 4 to 8 Domains	Х		Х			Х	Х	Х
8 Domains	Х	Х	Х		Х	Х	Х	Х
Upgrade 8 to 16 Domains	Х	Х	Х	Х		Х	Х	Х
16 Domains	Х	Х	Х	Х	Х	Х	Х	Х
Upgrade 16 to 64 Domains	Х	Х	Х	Х		Х	Х	Х
64 Domains	Х	Х	Х	Х		Х	Х	х
Combo Data Snapshot and 8 Domains	Х	х	Х				Х	Х
Combo Data Snapshot, Data Volume Copy, Data Replicator, and 64 Domains	Х	Х	Х	Х		Х	Х	Х
Combo Data Snapshot, Data Volume Copy	х	Х	Х	Х		Х	Х	х
Combo Data Snapshot, Data Volume Copy, and Data Replicator	Х	Х	Х	Х		Х	Х	Х

 TABLE 2
 Premium Feature Licenses: 06.xx.xx and 07.xx.xx.xx Controller Firmware

Premium Feature	6140 Array	6180 Array	6540 Array	6580 Array	6780 Array
Enhanced Data Snapshot	Х	Х	Х	Х	Х
Enhanced Data Snapshot Upgrade	х	Х	Х	Х	Х
Enhanced Data Replicator	х	Х	Х	Х	Х
Enhanced Data Replicator Upgrade	х	Х	Х	Х	Х
2 Domains	х		Х	Х	Х
Upgrade 2 to 4 Domains	Х		х	Х	Х
8 Domains	Х	Х	х	Х	Х
Upgrade 16 to 32 Domains	х	Х	Х	Х	Х
32 Domains	х	Х	Х	Х	Х
Upgrade 32 to 64 Domains	х	Х	Х	Х	Х
Upgrade 64 to 96 Domains	х	Х	Х	Х	Х
96 Domains	х	Х	Х	Х	Х
Upgrade 96 to 128 Domains	х	Х	Х	Х	Х
128 Domains	х	Х	Х	Х	Х
Upgrade 128 to 256 Domains			х	Х	Х
256 Domains			х	Х	Х
Upgrade 256 to 512 Domains			х	Х	Х
512 Domains			Х	Х	Х

 TABLE 3
 Premium Feature Licenses for 07.xx.xx.xx Controller Firmware Only

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 CAM.

TABLE 4 Common Array Manager - Related Documentation

Documents Related To CAM

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 F5100 Flash Array 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 Series Array Getting Started Guide
Sun StorageTek 2500 Series Array Release Notes
Sun StorageTek 2500 Series Array 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 Sun StorageTek Common Array Manager software are described in the following sections:

- "Supported Arrays" on page 7
- "Supported Web Browsers" on page 8
- "Supported Languages" on page 8
- "Patches" on page 9
- "Supported Platforms" on page 10

Supported Arrays

CAM software supports the following Sun storage systems:

- Sun StorageTek Flexline 240 Array
- Sun StorageTek Flexline 280 Array
- Sun StorageTek Flexline 380 Array
- Sun StorageTek 2510 (iSCSI) Array
- Sun StorageTek 2530 Array (SAS)
- Sun StorageTek 2540 Array (FC)
- Sun StorEdge 6130 Array
- Sun StorageTek 6140 Array
- Sun StorageTek 6180 Array
- Sun StorageTek 6540 Array
- Sun StorageTek 6580 Array
- Sun StorageTek 6780 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

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

TABLE 5 Supported Web Browsers

Best Practices for Browser Performance

For best web browser performance while using CAM, consider the following items:

- 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 CAM's installation, there is no need to download additional software other than appropriate patches.

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

- English
- French

Because of Bug 6875870, many localized pages will display as English via a Windows operating system. To resolve this issue, install patch 141581-01.

- 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

To get the latest patches available for your arrays:

1. Go to the Sun StorageTek Common Array Manager Software website's Support page here:

http://www.sun.com/storage/management_software/resource_manageme nt/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 CAM 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 s10u4 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 CAM 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

Platform	Operating System	CPU	Minimum System Memory
SPARC server or workstation	Solaris 9 OS Solaris 10 OS OpenSolaris 2009.06	UltraSPARC 3 or better (750 MHz)	1 GB
Windows Servers	Windows 2003 SP2 Windows XP Professional SP3 [*] Windows 2008	1.5 GHz PC	500 MB
x64 computer	Red Hat Linux 4.7 Red Hat Linux 5.3** SuSE Linux Enterprise Server 11** SuSE Linux Enterprise Server 10 SP2	x64	500 MB
x86 computer	Solaris 10 OS OpenSolaris 2009.06	x86	1 GB
IBM AIX***	3.5	IBM AIX	3.5
HP-UX***	B.11.23	HP-UX	B.11.23

TABLE 6 Supported Platforms

* Windows XP Pro is a management host only (no data path support). Windows XP Home Ed. is not supported.
 ** RHEL 5.3 nor SuSE Linux 11 SAS drivers are available for SAS HBA's as of the CAM 6.5.0 product release date.
 *** IBM AIX and HP-UX are remote scripting CLI platforms only.

TABLE 7 lists Solaris packages that must be installed on your Solaris host. Installing the minimum Solaris operating system as listed in TABLE 6 will install all but the last four packages. Those packages are required by Java but are not used by the management software.

 TABLE 7
 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)
SUNWlibC	Sun Workshop Compilers Bundled libC

 TABLE 7
 Required Solaris Packages

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

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	

 TABLE 8
 Required Linux Packages

To compile Linux files and packages, run the following command on each RPM file included in the CAM Linux distribution:

```
rpm -q --queryformat "[%{REQUIRENAME} %{REQUIREFLAGS:depflags} %{REQUIREVERSION}\n]" -p $RPM
```

Array Firmware Delivered with CAM

Firmware delivered with CAM can be installed using CAM's 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 requires a special utility. Consult the *Sun StorageTek 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 "Sun Microsystems Support" on page 34.

For information about patches, see "Patches" on page 9.

This section describes the following topics:

- "Location of Firmware Files" on page 12
- "Supported Expansion Modules" on page 13

Location of Firmware Files

CAM installs the firmware files in the following locations:

- Solaris: /opt/SUNWstkcam/share/fw
- Windows:
 - 64 bit <system drive>:\Program Files (x86)\Sun\Common Array Manager\ Component\jSunStorageTekArrayFirmware\
 - 32 bit <system drive>:\Program Files\Sun\Common Array Manager\ Component\jSunStorageTekArrayFirmware\
- 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 Sun StorageTek 2500 Series Arrays.
- README_6000.txt defines the firmware baseline for the Sun StorageTek 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, go to:

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

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:

Array Controller	Supported Expansion Modules
Sun StorageTek 6540 Array	CSM100, CSM200, FLA200, FLC200, FLA300
Sun StorageTek 6140 Array	CSM100, CSM200, FLA200, FLC200, FLA300
Sun StorageTek 6130 Array	CSM100, CSM200, FLA200, FLC200, FLA300

 TABLE 9
 Supported Expansion Modules: 6000 Series Arrays

Array Controller	Supported Expansion Modules
Sun StorageTek 6180 Array	CSM200
Sun StorageTek 6580 Array	CSM100, CSM200, FLA300, FLC200
Sun StorageTek 6780 Array	CSM100, CSM200, FLA300, FLC200

 TABLE 9
 Supported Expansion Modules: 6000 Series Arrays

 TABLE 10
 Supported Expansion Module: 2500 Series Array

Array Controller	Supported Expansion Modules
Sun StorageTek 2500 Series Arrays	2501

 TABLE 11
 Supported Expansion Module: FLX240, FLX280, and FLX380 Arrays

Array Controller	Supported Expansion Modules
Sun StorageTek FLX240 Array	CSM100, CSM200, FLA200, FLC200, FLA300
Sun StorageTek FLX280 Array	CSM100, CSM200, FLA200, FLC200, FLA300
Sun StorageTek FLX380 Array	CSM100, 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 15
- "RAID Array Operational Information and Issues" on page 16
- "Configuration Issues" on page 20
- "Firmware Issues" on page 28
- "Linux Issues" on page 30
- "Localization Issues" on page 32
- "Notable Updates/Fixes in this Release" on page 33

Solaris Issues

Upgrading Solaris to version 10 or higher disables 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" - 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

RAID 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

Array Removal Might Not Complete Successfully

Bug 6593318 – When a number of in-band managed arrays are selected for removal, the operation appears to complete successfully. However, one array may still be listed on the Storage System Summary page.

This will be addressed in a future release.

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 in CAM, 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, CAM 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, 6592717, 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 –CAM 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 CAM 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 CAM install failure.
- Webconsole Service' Default 40bit SSL keys fail FIPS/Fed autids.
- When attempting to install CAM 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 <u>http://www.sun.com/contact/support.jsp</u> 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. CAM has a locking mechanism which prevents multiple CAM 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.

6xxx RAID Arrays Show Controller Host Ports as Down When Using RAID Array Proxy Agent

Bug 6756920 –Directly connected 6140 array registered with one controller shows opposite controller host ports as down. This issue only occurs when using the RAID array proxy agent and is cosmetic in nature.

Alarm not generated for Ambient Temperature above 40.0 C - F5100

Bug 6865769 Workaround —When CAM registers a chassis alarm, check for an overtemperature situation and resolve as needed. If no over-temperature situation is apparent, contact Sun Service at http://www.sun.com/contact/support.jsp for troubleshooting assistance.

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: Dissociate Command Not Working Properly

Bugs 6866971 and **6829299** –-Under certain conditions, sscs access configuration modifications associate/dissociate (sscs modify -A/-D sas-domain) might move unintended targets from zone 1 to zone 127. This can have the unintended consequence of restricting visibility to targets not listed on the command.

CLI Error -- Connection Failed

Bug 6635453 –sscs displays "Connection failed!" error when user's home directory or its files cannot be read.

Workaround –If you get a "Connection failed!" error when using the CAM CLI command sscs, do the following:

1. Ensure the value of the HOME environment variable is set to your home directory.

2. Verify that \$HOME/.sscs_conf, if it exists, has owner read and write permission.

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.

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."

F5100 - 16 Proxy Agents under Host Domains Missing under SAS Domains in Navigation Tree

Bug 6855446 –While registering 16 data hosts connected to F5100 through CAM registration wizard in a single operation, some times one or two hosts may not get successfully registered. Navigation tree will not display SAS domains for those hosts, which will ultimately prevent SAS domain management, pertaining to those data hosts.

Workaround –Re-register the unregistered data hosts through the registration wizard.

F5100- Host Details Page does not display Storage shared with Proxy Host

Bug 6838246 Workaround –Enable the proxycfg on localhost and rediscover with hostname. This will be fixed in a future product release.

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

Import Errors - 6580 and 6780 Arrays

Bug 6826976 –While performing an import using CAM 6.4.0.10 with registered 6580 array, this error message was received: "The target array does not support a required licensable feature." Performing an import with a registered 6780 array yields this error message: "Error executing the import command. It may be necessary to manually reset the array and try the import again."

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.

The array name will be "unlabeled" after the import is complete.

Import Fails when Target Array has a Password

Bug 6800352 –Import failure displays the following error: "Error executing the import command. Errors occurred while importing the array settings. Try importing again, or configuring the array manually."

Workaround –Reset the array password before performing the import.

Installation Fails When Another Version's Installation Exists

Bug 6729062 –CAM fails to install on Windows with another version already installed.

Workaround –If either of the following two instances occur, use the procedure that follows:

- The following error occurs at any time during CAM installation: "Another version of this product is already installed. Installation of this version cannot continue. To configure or remove the existing version of this product, use Add/Remove Programs on the Control Panel."
- Uninstallation of CAM cannot clean up the Windows registry

1. Download the Windows Installer CleanUp Utility from the following website:

http://support.microsoft.com/kb/290301

2. Install the Windows Installer CleanUp Utility, by running msicuu2.exe.

IP Address for Replaced Controller - Unable to Change (ipv4)

Bug 6807816 Workaround –Change the IP address on the controller from the serial port.

J4x00 Registered Name is Offset by Character

Bug 6745468 –This is expected behavior. The physical sticker indicates the base WWN shared by all four expanders. This offset does not affect ASR registration, because the chassis WWN is used to register rather than the nickname.

Multipath: When attaching two Ports of the same HBA to the same SAS Domain, Host Details Page shows Disks presented to specific Initiator

Bug 6821919 –For JBODs only: Multipath:Host Detail Page shows disks presented to specific init only (2portHBA - 1Exp)

Workaround –Contact Sun Service if dual connections from a single HBA must be attached to a single SAS domain. Special HBA settings must be changed to allow this type of configuration.

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.

Replication Set Detail Page Shows Incorrect Dedicated Port - 6xxx Arrays

Bug 6684018 –Will be fixed in a future release.

SAS Domains - Clicking Links Causes Tree to Unexpectedly Collapse

Bug 6819851 Workaround –Re-open the tree to the desired location when this problem occurs. This behavior will be fixed in the next product release.

Service Advisor Controller Replacement does not describe restoring Access Configuration / SIM Replacement results in loss of path to targets for expander

Bug 6830576 and 6817270 Workaround –Controller replacement requires existing access configurations to be exported before the controller fails and restored after it is replaced. This will be documented in Service Advisor in a future release.

Snapshot Reserve Error when -Z Option is Used

Bug 6665092 – When used together, the -Z option overrides the -L option.

Therefore, the following command yields an error:

/sscs create -a 6540-1 -V master-vol-1 -f failsnapshot -m res-vol-1 -Z 5GB -w 50 -C 1 -L average snapshot snap-1.

Workaround –Do not use the -Z option. Instead, use the -w option.

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.

Workaround –Will be fixed in a future release.

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 –See "Licensing Optional Premium Features" on page 3 or search for this information in Online Help.

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.

This issue will be fixed in a future release.

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 –Will be fixed in release 6.5.1.

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.

Volumes Supported on the Sun StorageTek 6130 Array up to 1022

Bug 6540170 – CAM can be used to create up to 1022 volumes (volumes 0 through 1021) on the Sun StorageTek 6130 array. However, if the Access LUN is in use, up to 1023 volumes (volumes 0-1022) can be created. If you attempt to create more than the supported number of volumes, an error message is returned.

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 updates/fixed issues related to firmware, see "Notable Updates/Fixes in this Release" on page 33.

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 Array Series, consult the 2500 *Array Series Firmware Upgrade Utility Guide*.

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

Controller Slot Positions Contained in MEL Log are Unreliable

Bug 6747684 –The controller redundancy lost event is showing the wrong controller slot in the component field on a 2530 array.

This will be fixed in a future release.

Firmware upgrade failed to J4000 with FWR_UPGRADE_FAILURE, 6

Bug 6871188 –Firmware upgrades to J4000 arrays might fail with message "Error upgrading firmware. Check the following error message and array alarm page for possible problems. - flash firmware image failed - FWR_UPGRADE_FAILURE, 6"

Workaround –Power cycle J4000 array and retry the firmware upgrade operation.

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.

JBOD Firmware Upgrade Relies on DNS

Bug 6859158 –The JBOD firmware cannot upgrade because CAM is trying to resolve the host name via DNS. Since the DNS name and internal host name mismatched, it could not find the host and the upgrade failed.

Workaround –In order to run JBOD firmware upgrade through remote proxies, the hostnames of the management host and remote proxy hosts should be resolved from each host. For example in Solaris and Linux hostname/IP entries can added to the /etc/hosts of the management and remote proxy hosts.

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 Firmware Update from a Windows Management Host and Proxy host (any OS) fails with error java.io.IOException

Bug 6877044 –JBOD expander firmware update from Windows Management host and attached proxy host (and operating system) fails with error message: "Error upgrading firmware. Check the following error message and array alarm page for possible problems. - java.io.IOException: C:\Program Files (x86)\Sun\Common ArrayManager\Component\SunStorageTekArrayFirmware\images\sun\ sasxfwlo.5.03.73.fw"

Workaround -Install patch 141581-01.

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.

Upgrade Utility Automatic Array Discovery Password Verify does not Reference the Array

Bug 6736963 – When multiple arrays are discovered (using the Automatic scan subnet option), the Password Verification pop-up windows do not make reference to the array.

This will be addressed in a future release.

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.

This will be addressed in a future release.

Email Notification not working on RH4

Bug 6874549 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/fag/docs/DOC-4113

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 9.

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.



Caution – Newly added (or removed) targets (i.e. disks) due to changes in Access Configuration or the addition of new storage can potentially cause the host to hang or panic due to known Linux kernel issues.

Bugs 6731595 –Alamo/Riverwalk: Sun StorageTek PCI-Express SAS Host Bus Adapter B3: SuSE 9 SP4: Multipath (device mapper): Alternate SIM failure causes host to hang. **Bug 6730678** –Alamo/Riverwalk: Sun StorageTek PCI-Express SAS Host Bus Adapter B3: SuSE 9 SP4: Multipath (device-mapper): Alternate SIM failure causes host to hang.

Bug 6732411 – ALlamo/Riverwalk: Sun StorageTek PCI-Express SAS Host Bus Adapter B3: SLES9SP4: Multipath: Lost Communication to Alamo/Riverwalk 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.

Localization Issues

Online Help - Left Panel does not display Tree Structure in zh

Bug 6829803 Workaround –Set your language of browser to "en-us" for english help for the reference.

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.

Localized Pages display as English in Windows

Bug 6875870 Workaround –Install patch 141581-01.

Notable Updates/Fixes in this Release

Bug 6792078 –6140: During ESM/IOM code download and "ESM firmware mismatch" may be reported

Bug 6822647 –6140: SANtricity produces extra, multiple, spurious OK dialogs when completing config changes

Bug 6826150 – Assertion failed: ccb, file cacheCacheMgr.cc, line 2113

Bug 6827902 –6140: Inband getChangeState requests fill all UTM structures

Bug 6840311 –katana: ANIC: Memory free failure at 0x3a9e60

Bug 6848514 –6180: Unable to map SFP data to physical position

Bug 6850128 –6180: Need support for Solaris (with Traffic Manager) OS in the 6180 arrays

Bug 6853193 –6180: upgrade from 97.60.05.10 to 97.60.05.16 resulted in B controller being off-lined

Bug 6857533 –6140: Watchdog timeout when collecting support data

Bug 6863933 –6140: Failover causes controller resets in Aurora Firmware

Bug 6863329 –katana: RVM issue after upgrading Firmware-critical alerts indicates the mirror is degraded and not synchronized

Bug 6864032 –6180 array running version 07.60.08.10 is not exposing its serial number

Bug 6871068 –6180: Cache restore gets stuck during power-on

Bug 6873555 –6180: Array controller goes to offline/inactive state when volume expansion is attempted

Sun Microsystems Support

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

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

To download Common Array Manager software, go to:

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

Click the "Get It" tab to obtain the latest information and version available.

To search for a document from Sun's website, go to:

http://www.sun.com/documentation

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Sun StorageTek Common Array Manager Release Notes, part number 820-7920-12.

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