Sun StorEdge™ Component Manager 1.0 Release Notes

For Sun StorEdgeTM A5x00 Subsystems



THE NETWORK IS THE COMPUTER™

Sun Microsystems, Inc. 901 San Antonio Road Palo Alto, CA 94303-4900 USA 650 960-1300 Fax 650 969-9131

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Send comments about this document to: docfeedback@sun.com

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Sun StorEdge Component Manager 1.0 Release Notes

This document contains important information about the installation and operation of the Sun StorEdge $^{\text{TM}}$ Component Manager software. You should read this document before attempting to install or operate Sun StorEdge Component Manager 1.0 on a Sun StorEdge A5000, Sun StorEdge A5100, or Sun StorEdge A5200 subsystem. (Unless a specific subsystem is uniquely identified, all supported subsystems are referred to as "A5x00" within this document.)

The following topics are covered in this document:

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Solaris Releases Supported

Sun StorEdge Component Manager 1.0 software supports the Solaris™ 2.6 and Solaris 7 operating environments.

Pre-installation Requirements

Before installing the Sun StorEdge Component Manager software, verify that you have met the following requirements:

- If you are running under the Solaris 2.6 operating environment, the SUNWses package must already be installed (see "Required Solaris 2.6 Package").
- If you are running under the Solaris 2.6 operating environment, Patch ID 105357 (Revision 02 or higher) must be installed. See TABLE 1.
- The required patches and firmware for your operating environment have been installed (see "Required Patches and Firmware").
- A minimum of 140MB has been allotted for Sun StorEdge Component Manager virtual memory usage. Each additional enclosure requires approximately 3MB of virtual memory.
- You have allotted enough disk space:
 - /etc a minimum of 9K
 - /var a minimum of 1686K
 - /usr/opt 35MB
- The Sun StorEdge A5x00 configuration must be correct (and all the valid ses entries for the A5x00 are in the /dev/es directory). Refer to the Sun StorEdge A5x00 Configuration Guide for more details.

Required Solaris 2.6 Package

Before installing Sun StorEdge Component Manager, you must have the SUNWses package already installed on your system if you are running under the Solaris 2.6 operating environment. If it is not already installed, the SUNWses package can be found on the Solaris 2.6 software CD. Once you have accessed the package, type the following command to install the package:

pkgadd -d . SUNWses

Required Patches and Firmware

The following table lists the patches required for your particular Solaris 2.6 or Solaris 7 operating environment (all patches must be at the specified level or higher).

TABLE 1 Sun StorEdge Component Manager Patch Requirements

Solaris Operating Environment	Required Patches for Component Manager ¹	Required Patches for A5x00 ⁴
Solaris 2.6	105181-12 ²	103346-xx
	105210-19	105356-08
	$105357-02^3$	105357-02
	105490-07	105375-10
	105568-13	106129-06
	105633-18	
	105669-07	
Solaris 7	106980-04	103346-xx
	107078-07	106129-06

The Sun StorEdge Component Manager installation script (install_cm.ksh)
checks for these patches during the installation process, and will automatically install
these patches if they are not already on your system.

The following table lists the firmware levels required for Sun StorEdge A5x00 (all firmware must be at the specified level or higher). Refer to the following web site for the latest Sun StorEdge A5x00 Software/Firmware Configuration Matrix:

http://sunsolve.sun.com

TABLE 2 A5x00 Firmware Requirements

Solaris Operating Environment	IB Firmware Level	SBus Host Adapter Firmware Level	Disk Firmware Level	On Board Host Adapter Firmware Level	Required Patches for PCI Bus Host Adapter Firmware
Solaris 2.6	1.08	1.11	14xx (A5000 9GB) 9154 (A5100 18GB) 0728 (A5200 9GB)	1.8.7	105357-02 105375-10 107280-01
Solaris 7	1.08	1.11	14xx (A5000 9GB) 9154 (A5100 18GB) 0728 (A5200 9GB)	1.8.7	None

^{2.} Be sure to reboot your system after installing patch 105181-12.

^{3.} Be sure to reboot your system after installing patch 105357-02 (for the SES driver).

To download the latest revision level of these patches, refer to the following web site: http://sunsolve.sun.com

Software Notes

■ In the case when syslogd has stopped running (for any reason) and error messages are not sent to /var/adm/messages, the messages may actually be queued in chronological order until syslogd restarts. However, Component Manager will interpret the time stamp for each message sent after syslogd has restarted as the *current* date, rather than the original date(s) when each message was generated. This may, in turn, cause Component Manager to generate Alert alarms that are not valid.

To avoid unnecessary and invalid alarms, you should first stop the management stations, restart syslogd, and then restart the management stations.

To stop and restart the management stations, refer to the *Sun StorEdge Component Manager 1.0 Installation Guide*.

- When removing a device from a configuration, be sure to also remove the entries corresponding to the device from the device tree (under /dev/es).
- For large configurations:

To create the objects, allow approximately 1 to 2 minutes per enclosure for the managed object station to come up. While this is happening, minimal information is displayed to show that the managed objects are being built. You can verify that they are increasing by running the following command on the managed object processes:

ps -ely | grep java

During installation, the time for the managed object station to come up is increased by a factor of >4. To avoid this issue, follow these steps during the installation:

Once all the packages have been installed and the managed object station begins to come up, you will see the following message:

```
Installation of StorEdge Component Manager was successful. StorEdge Component Manager daemons are now starting .....
```

1. You will need to stop the moboot station by running the following command (in a separate xterm window):

```
/usr/opt/SUNWesm/sbin/esm_moboot stop
```

2. After the installation completes, stop the management class station using the following command, and then restart both the managed object and management class stations:

```
/usr/opt/SUNWesm/sbin/esm_mcboot stop
```

3. When the system reboots, the console login will be unavailable until the management stations complete their rebuilding of the objects. To avoid this situation, you must remove the following scripts from /etc/rc2.d and restart the processes manually after the system reboot has completed.

```
S99uesm_em_mo S99vesm_em_mc S00uesm_mo S00vesm_mc
```

To restart the management stations, refer to the Sun StorEdge Component Manager 1.0 Installation Guide.

Workarounds:

Some issues have been seen on large configurations that require modification of some setup utilities. If your site requires monitoring and control of more than 12 enclosures, make the following changes:

In $/usr/opt/SUNWesm/sbin/esm_setup$, find the following lines in the set command line function:

```
# Memory configuration
_ESM_JVM_MEMORY=-Xss524288
```

Add the following line immediately after the above two lines:

```
_ESM_HEAP_MEMORY=-Xmx200m
```

Also change the following line:

to:

In /usr/opt/SUNWesm/sbin/esm_moboot and
/usr/opt/SUNWesm/sbin/esm_mcboot, change the ulimit line to read as
follows:

```
ulimit -n 1024 # ( previously was "ulimit -n 256")
```

Known Limitations

The following list details known limitations for the Sun StorEdge Component Manager 1.0 release:

- This release does not support notification that the A5x00 subsystem is attached to multiple hosts. In the case where the A5x00 loop is split (one half goes to one host and the other half goes to another host), this release can manage only the portion that is visible from the host in which Component Manager is running.
- This release is not a replacement of the luxadm program.
- This release requires that the Sun StorEdge Management Console be launched from the machine in which Sun StorEdge Component Manager is installed.
- **Bug 4224081**: Online help search does not correctly highlight "found" entries When using the online help Search utility, the entry is not always highlighted correctly in the main content pane.
- Bug 4224107: Many java NullPointerExceptions found when traversing through online help search
 - When using the online help Search utility, some NullPointerExceptions messages may occur.
- Bug 4224161: Received IllegalArgumentException while selecting text in online help
 - When using the online help Search utility, some IllegalArgumentException messages may occur when attempting to select text within the main content pane.
- Bug 4228923: Container-level icons in tree view are lost after re-enabling Maintenance Mode
 - The hardware container-level icons in the navigation pane (backplanes, disks, fans, etc.) are lost (become folders) after enabling and then disabling the Enable Maintenance Mode checkbox.

- **Bug 4233268**: Rebooting system causes remote reporting to regenerate email When rebooting your host system or when restarting the management class or managed object stations: email, file, and system log notifications are regenerated for all *outstanding* alarms (i.e., alarms that have not been addressed and removed through the Alarm Viewer).
- **Bug 4235016**: Unable to select node in tree view if Enclosure Name is NULL If your enclosure does not have its enclosure name set, you cannot select it in the navigation pane. You can expand it, but it cannot be selected, even though the enclosure icon is displayed. This means you cannot set the Enclosure Name nor

the hardware polling Time Interval via the Configuration Tab.

Workaround:

Configure the Sun StorEdge A5x00 via the front panel, then set the Enclosure Name via the Configuration Tab, restart the management class and managed object stations, and restart the Sun StorEdge Management Console. To restart the management stations and the Sun StorEdge Management Console, refer to the Sun StorEdge Component Manager 1.0 Installation Guide.

■ Bug 4235227: logfile_config_error is generated in Log Viewer after error condition is fixed

For remote reporting, if you accidentally specify and apply an invalid log file pathname, an error message is generated to the Log Viewer, but the message continues to be written to the Log Viewer even after the error has been corrected and applied.

■ **Bug 4235773**: File ➤ Close causes Log Viewer error in console

When using File ➤ Close to close the Log Viewer, error messages are displayed in the console window.

Workaround:

Close the Log Viewer through the window manager (by clicking on the title bar).

■ Bug 4239724: Libercl reporting a Libercl/Managed Object version mismatch

In a multi-byte environment (MBE), the following error message may be displayed:

"Libercl/Managed Object version mismatch. Expected version: "1.0

■ **Bug 4240688**: Powering Down Front-Disk-0 reports that Backplane 1 Disk 0 has been powered down

When powering down backplane Front-Disk-0, the following is reported:

```
Backplane: 1 - Disk 0 has been powered off
```

When powering down the Rear-Disk-0, the following is reported:

```
Backplane: 2 - Disk 0 has been powered off
```

Backplane 1 should be reported as the Backplane Front and Backplane 2 should be reported as the Backplane Rear.

- **Bug 4244177**: Enclosure-level icons are lost when maintenance mode is re-enabled If you enable and then disable Maintenance Mode within the Configuration Tab, all objects are destroyed and re-created. This causes the enclosure-level icons to be lost.
- **Bug 4244219**: Managed object station process dies during polling

 The managed object process may sometimes fail during the installation process.

 For example, you may receive an error message similar to the following:

```
Segmentation Fault
si_signo [11]: Segmentation Fault
si_errno [0]: Error 0
si_code [1]: SEGV_MAPERR [addr: 0x0]

stackpointer=E9E7FC40

*** panic: JIT signal handler did not take the signal
```

You will need to stop the management stations and then restart both the managed object and management class stations. To restart the management stations, refer to the *Sun StorEdge Component Manager 1.0 Installation Guide*.

■ **Bug 4244313**: Component Manager generates the wrong alarm

When you remove the interface board, Component Manager generates an alarm for removal of a GBIC, instead of removal of the interface board.

However, Component Manager's console correctly indicates that the interface board is not installed.

■ **Bug 4244444**: Multiple GUIs should not initiate re-discovery

If multiple users are running the Sun StorEdge Management Console and have enabled and disabled Maintenance Mode concurrently within the Configuration Tab, the system can become unusable.

Workaround:

Only one user should enable and disable Maintenance Mode at one time.

■ **Bug 4244447**: Script does not kill background processes

When you have multiple processes running concurrently and attempt to stop the managed object process by using the following command, the process may still continue to run:

/usr/opt/SUNWesm/sbin/esm moboot stop

■ Bug 4244881: Alarm message fails to mention enclosure name

When an alarm is generated for a disk error, the enclosure name is not noted in the Alarm Viewer message. This may make it difficult to determine the location of the error.

■ **Bug 4246296**: Management station startup for Component Manager interferes with system startup during boot

When you reboot your system, the system console may not display a login prompt until the Component Manager scripts (to start the management stations) have completed.

- **Bug 4247571**: GUI does not recognize enclosures with four paths to an array When a Sun StorEdge A5*x*00 is configured with four paths (two connections per loop), the management class logs an error upon startup and no enclosures are recognized by the Sun StorEdge Management Console.
- Bug 4248186: Both esm_mcboot status and esm_moboot status return false status

The esm_mcboot status and esm_moboot status commands may return a good status even when none of the processes are running.

■ Bug 4248608: Email alarm designations should be consistent

There is currently some inconsistency of alarm designations between the GUI and documentation, system log and message files, and email notifications.

The Sun StorEdge Management Console and the *Sun StorEdge Component Manager* 1.0 User's Guide describe problem severity levels in the following order of priority:

- Down
- Critical
- Alert
- Caution
- Disabled

The system log and message file designates an alarm severity level as a P# (for example, P2).

Email messages provide a priority number for an alarm severity level (for example, PRIORITY: 2).

The current mapping of priority numbers to severity level names is as follows:

Alarm Severity Level Name	Priority Level in Sun StorEdge Management Console	Priority Level in Email, Message File, and System Log
Down	1	2
Critical	2	1

Email messages currently provide more information (resolution hints) than the Alarm Viewer within the Sun StorEdge Management Console.

■ Bug 4248764: Installation may cause application to panic

After installing Component Manager in 64-bit mode, rebooting the system to 32-bit may display errors. Rebooting your system back to 64-bit mode displays errors, as well. These errors do not appear during installation or during boot from 64-bit mode to 64-bit mode, but do appear after booting your system from either 32- to 64-bit or 64- to 32-bit.

Once in 64-bit mode, de-installing the application (using the script in /var/tmp) then reinstalling the application may cause a panic.

■ Bug 4248810: esm_gui freezes

When disconnecting Sun StorEdge A5x00 Fibre Channel cables, GBICs, or interface cards, the Sun StorEdge Management Console may freeze, and no alarm is generated.

■ Bug 4251053: Control operation fails and reports Error: Null Node WWN found When attempting to power down a disk through the Control Tab Power Down button, the operation sometimes fails and the following error message is displayed:

"Error: Null Node WWN found."

- Bug 4251235: Same control operation generating multiple error messages

 When attempting to power up a disk through the Control Tab Power Up button,
 you may receive various error messages that indicate Component Manager
 detects a loop error.
- **Bug 4251390**: Extra thread being created but not removed while doing control operations

For Control Tab operations, an extraneous thread may be created, but may not be removed.

■ **Bug 4252291**: Closing Alarm Viewer when modal dialog is up causes GUI to be unusable

If you close the Alarm Viewer through the windowing control when the modal dialog is up, the GUI may become unusable.

Use the menu to close the Alarm Viewer and always respond to modal dialogs before closing Alarm Viewer.

■ **Bug 4255636**: Application hangs when invalid log files are supplied as settings Component Manager hangs if an invalid file name is designated for logging. If you supply a directory name for logging, this will also hang Component Manager.

Workaround:

Make sure that a valid file name is designated.

■ **Bug 4256741**: Down alarm message received after startup is misleading When Component Manager encounters a problem during boot-up with any enclosure, an alarm is generated with the following message:

Component Manager detects an error during boot up. No enclosure is visible. The error message is $\{0\}$.

The message may be misleading because it does not specify the problem enclosure(s), and also because only one enclosure may not be visible, and not necessarily *all* the enclosures.

■ **Bug 4256784**: Managed object dies while trying to (re-)enable Maintenance Mode When either adding or deleting A5*x*00s, you may receive the following error message and the managed object station may die:

Exception occurred during event dispatching: com.sun.dae.sdok.ProtocolException: Unable to perform a remote operation

You will need to stop the management stations and then restart both the managed object and management class stations. To restart the management stations, refer to the *Sun StorEdge Component Manager 1.0 Installation Guide*.

■ Bug 4256846: mcboot fails due to .dat files in persistent directory

When starting the management class station by typing ./esm_mcboot start, the following error message may be displayed:

MCBoot: INFO: starting realm "StoreX" on station "MCStation"

Error processing the services clause of the Station configuration.

Failure Starting Service(s)

Service Instantiation Error

throw from lower level

Service Not Installed

Workaround:

Move the persistence files in /var/opt/SUNWesm/mc/persistence/* to another location, and restart the management class station.



Caution – You will lose your current configuration (e.g., email addresses, log file location) if you choose to use this workaround for Bug ID 4256846.

Bug 4257257: Topology View does not accurately represent system
 When enabling/disabling Maintenance Mode, the Topology View does not always correctly represent what is configured.

Workaround:

Stop and restart the management stations.

- Bug 4257295: Managed object crashes when trying to rebuild objects
 When rebuilding the objects after enabling/disabling Maintenance Mode, the managed object station may crash and generate a core file.
 You will need to stop the management stations and then restart both the managed
 - You will need to stop the management stations and then restart both the managed object and management class stations. To restart the management stations, refer to the Sun StorEdge Component Manager 1.0 Installation Guide.
- **Bug 4258004**: Starting management stations via install process takes too long When installing Component Manager, the managed object and management class stations may take a long time to boot up within a large configuration (e.g., 160 enclosures). See "Software Notes" on page 4.

■ Bug 4258781: Management class ran out of memory and died

When the management class station is running in a large configuration (e.g., 20 TB, 80 enclosures), it may run out of memory and the process may die after approximately 15 hours.

You will need to stop the management stations and then restart both the managed object and management class stations. To restart the management stations, refer to the *Sun StorEdge Component Manager 1.0 Installation Guide*.

■ **Bug 4258782**: GUI is not correctly updated when enclosure polling is turned off automatically

When Component Manager determines there is a problem with an enclosure, hardware polling is turned off. This is accurately represented under the Health Tab where the polling state is designated as "inactive." However, under the Configuration Tab, the checkbox may still be enabled—implying that polling is still in process.

■ **Bug 4258824**: Unable to read Log Viewer, receiving java.io.NotSerializable exception

When you attempt to launch the Log Viewer, the following error message may appear and prevent you from accessing Log Viewer messages:

```
Error while reading log file.

Writing aborted by exception; java.io.NotSerializable:
com.sun.dae.components.alarm.remote_alarm.email.EmailRAHandler$1
```

Workaround:

Press the Next button, and the Log Viewer messages are displayed.

■ Bug 4258830: mcboot process appears to hang

When attempting to restart the managed object and management class stations, the management class station may appear to hang while instantiating the management class of the first object.

■ Bug 4258834: Status of disks is being reported as Unknown

The status of some disks is being reported as Unknown. The luxadm program reports the disk status as follows:

on (Open Failed)

■ Bug 4258865: Received java.lang.NullPointerException while creating alarms

When attempting to create alarms, you may receive a NULLPointerException that prevents you from generating Critical alarms.

■ **Bug 4259063**: Trinket needs to be translated for log file alarm messages
When accessing Remote Reporting, you may see the following error message sent to a log file:

StoreX (7/30/99 4:16 PM photon-01):P1:Enclosure 14-N0 - Temperatures failed because: The temperature for the backplane 'EMRemoteSupportableAlarmMessage.A5k_BP_BACK' is above normal. The average temperature reads: 60

■ **Bug 4259366**: Stopping and starting the management class station causes the GUI to slow down to unusable state

Workaround:

Whenever you restart the management class station, make sure that you also restart the managed object station.

■ **Bug 4260118**: Data is not updated correctly when switching from Configuration Tab to Health Tab

Data may not be updated when you switch to the Health Tab from the Configuration Tab (or vice versa) for the same enclosure.

Workaround:

Select another enclosure, and then re-select your original enclosure.

Documentation Issues

The following issues reflect software revisions made after the Sun StorEdge Component Manager 1.0 release documentation was published:

■ The correct rules for disk evaluation should be documented in the *Sun StorEdge Component Manager 1.0 User's Guide* as follows:

A system log message will be written under the following conditions:

- When a disk drive is powered down
- When a disk drive is powered up
- When a disk drive is bypassed by the user (Port A or B)
- When a disk drive is bypassed by a device (Port A or B)
- When a disk LED is turned on or off
- When a disk LED is set to blink

A system log message will be written and an alarm message will be generated (also triggering a remote support notification) under the following conditions:

- When a disk drive fails due to an open failure, SCSI error, or fault condition (Critical alarm)
- When an unknown condition is detected (Alert alarm)
- When a disk drive is unplugged (Down alarm)
- Online Help incorrectly lists the Message Types for remote reporting as EMEA, NAFO, ESMC, and Command Center. Email Message Types consist only of default message formats and log Message Types consist only of log message formats.
- Online Help incorrectly states the default polling time interval for hardware polling as 60 seconds. The correct default polling time interval is 900 seconds.
- Online Help incorrectly indicates the "file monitoring" (string pattern) alarm for disks and GBICs as a Caution severity level. An Alert alarm is generated instead of a Caution alarm.