Sun StorEdge™ Component Manager 1.0 Installation Guide

For Sun StorEdge™ A5x00 Subsystems

THE NETWORK IS THE COMPUTER™

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Preface

The *Sun StorEdge Component Manager Installation Guide* provides instructions for installing the Sun StorEdge™ Component Manager software, verifying the installation, launching the software, and de-installing the software.

How This Book Is Organized

Chapter 1 describes the steps needed to install the software, as well as how to stop and restart the software.

Chapter 2 addresses potential error messages that may require troubleshooting.

Using UNIX Commands

This document may not contain information on basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

- AnswerBook™ online documentation for the Solaris™ operating environment
- Other software documentation that you received with your system

Typographic Conventions

TABLE P-1 Typographic Conventions

Typeface	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with on-screen computer output	`% su` `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this.
	Command-line variable; replace with a real name or value	To delete a file, type `rm` *filename*.

Shell Prompts

TABLE P-2 Shell Prompts

Shell	Prompt
C shell	*machine_name*%
C shell superuser	*machine_name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#

Related Documentation

TABLE P-3 Related Documentation

Application	Title	Part Number
User	*Sun StorEdge Component Manager User's Guide*	806-0160
Release	*Sun StorEdge Component Manager Release Notes*	806-0161
Help	Sun StorEdge Component Manager Online Help	

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CHAPTER 1

Installing Sun StorEdge Component Manager

This chapter contains the following topics for installing the Sun StorEdge Component Manager software:

Note – You should read this chapter before attempting to install or operate Sun StorEdge Component Manager on a Sun StorEdge A5000, Sun StorEdge A5100, or Sun StorEdge A5200 subsystem. (All supported subsystems are referred to as "A5*x*00" within this document.)

Introduction to Sun StorEdge Component Manager

Sun StorEdge Component Manager is a graphical interface that enables you to monitor and manage subsystem storage enclosures. Component Manager 1.0 supports Sun StorEdge A5*x*00 subsystems and operates under the Solaris 2.6 and Solaris 7 operating environments.

Specifically, Sun StorEdge Component Manager provides status monitoring, alarm notification, email and remote service support functionality, and control capability for a single enclosure or multiple Sun StorEdge A5*x*00 enclosures attached to a single host or multiple Solaris hosts.

Note – This release does not support notification that the A5*x*00 subsystem is attached to multiple hosts. In the case where the A5*x*00 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.

Pre-installation Requirements

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

- You have allotted enough disk space:
  - `/etc` — 9K
  - `/var` — 1686K
  - `/usr/opt` (or user-specified install location) — 35MB
- The Sun StorEdge A5*x*00 configuration must be correct (and all the valid `ses` entries for the A5*x*00 are in the `/dev/es` directory). Refer to the *Sun StorEdge A5x00 Configuration Guide* for more details.
- The required patches are installed for your particular Solaris 2.6 or Solaris 7 operating environment, as indicated in TABLE 1-1 (all patches must be at the specified level or higher).

TABLE 1-1 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] 105210-19 105357-02[3] 105490-07 105568-13 105633-18 105669-07	103346-xx 105356-08 105357-02 105375-10 106129-06
Solaris 7	106980-04 107078-07	103346-xx 106129-06

1. 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.
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).
4. To download the latest revision level of these patches, refer to the following web site: http://sunsolve.sun.com

- You have the correct firmware levels as shown in TABLE 1-2 (all firmware must be at the specified level or higher). Refer to the following web site for the latest A5*x*00 Software/Firmware Configuration Matrix:

  `http://sunsolve.sun.com`

TABLE 1-2 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

Installing the Software

1. **Load the disc with the label-side facing up into the CD-ROM drive.**
2. **Mount the CD-ROM drive.**
   a. **If the Solaris volume manager daemon (`vold`) is running, the CD-ROM drive should be available at the `/cdrom/cdrom0` mount point. Proceed to Step 3.**
   b. **If `vold` is *not* running, create the following mount point and mount the CD-ROM drive by typing:**

```
# mkdir /cdrom/cdrom0
# mount -F hsfs -o ro /dev/dsk/cXtXdXsX /cdrom/cdrom0
```

   Where *cXtXdXsX* is the device node of the CD-ROM (for example, `c0t6d0s0`) and `/cdrom/cdrom0` is the mount point.

3. **Change directories to the Sun StorEdge Component Manager directory for your particular Solaris environment.**

   If you are running Solaris 2.6:

```
# cd /cdrom/cdrom0/Sol_2.6
```

   If you are running Solaris 7:

```
# cd /cdrom/cdrom0/Sol_7
```

4. **Run the `install_cm.ksh` script, and answer the questions when prompted (see "Running the Installation Script" on page 5):**

```
# ksh ./install_cm.ksh
```

Running the Installation Script

The following installation session is an example of the output you will see and the questions you will be asked when running the `install_cm.ksh` script under the Solaris 2.6 operating environment.

CODE EXAMPLE 1-1 Example Installation Session

```
                  StorEdge Component Manager 1.0

This product provides a graphical interface to the monitoring and configuring
of the A5000 storage enclosure.  It is assumed that you agree to legal terms
explained in
    http://www.sun.com/share/text/SMICopyright.html

DO YOU AGREE TO THE ABOVE TERMS AND WISH TO INSTALL THIS ON TO YOUR SYSTEM?

Do you agree to the above license terms? [yes or no]
yes
Checking for required patch 105357-02
Checking for required patch 105490-07
Checking for required patch 105210-19
Checking for required patch 105568-13
Checking for required patch 105181-12
Checking for required patch 105633-18
Checking for required patch 105669-07

This product and the execution platform are installed into /usr/opt

An install log can be found at
/var/tmp/Component_Manager_install.log.02Jun1999-17:09:07

Starting installation of Platform packages.

Installation of <SUNWj2rt> was successful.

Installation of <SUNWesm> was successful.

Installation of <SUNWmjacf> was successful.

Installation of <SUNWmjmai> was successful.

Installation of <SUNWmjhlp> was successful.

Installation of <SUNWdaert> was successful.

Installation of <SUNWesmru> was successful.
```

CODE EXAMPLE 1-1 Example Installation Session *(Continued)*

```
Installation of <SUNWesmrt> was successful.


Starting installation of Component Manager packages.

Installation of <SUNWencl> was successful.

Installation of <SUNWencm> was successful.

Installation of <SUNWencc> was successful.

Installation of <SUNWencu> was successful.

Installation of <SUNWencmr> was successful.

Installation of <SUNWenccr> was successful.

Installation of StorEdge Component Manager was successful.
StorEdge Component Manager daemons are now starting .....
/usr/opt/SUNWesm/sbin/esm_moboot start
/usr/opt/SUNWesm/sbin/esm_mcboot start
/usr/opt/SUNWesm/sbin/esm_em_moboot start
Start loading Component Manager specific managed objects...
..Done loading Component Manager specific managed objects...
/usr/opt/SUNWesm/sbin/esm_em_mcboot start
Start loading Component Manager specific management classes...
.Done loading Component Manager specific management classes...

Done.
An un-install script has been generated to aid in the removal of this
software.
The location of the un-install script is:
    /var/tmp/uninstall_component_mgr
```

Verifying the Installation

You can verify your installation by looking at the log file from the `install_cm.ksh` script, which is located in `/var/tmp`:

```
Component_Manager_install.log.date-time
```

The installation script also starts the management stations. You can verify that these stations are running by entering the following commands:

```
# /usr/opt/SUNWesm/sbin/esm_moboot status
# /usr/opt/SUNWesm/sbin/esm_mcboot status
```

If the return code of these commands is `0`, then the stations are running.

Note – After successful installation, a de-installation script named `uninstall_component_mgr` is automatically created and placed in the `/var/tmp` directory.

Starting the Sun StorEdge Management Console

1. **Become root.**
2. **Start the Sun StorEdge Management Console:**

```
# /usr/opt/SUNWesm/bin/esm_gui &
```

The following figure provides an example of the main console window.

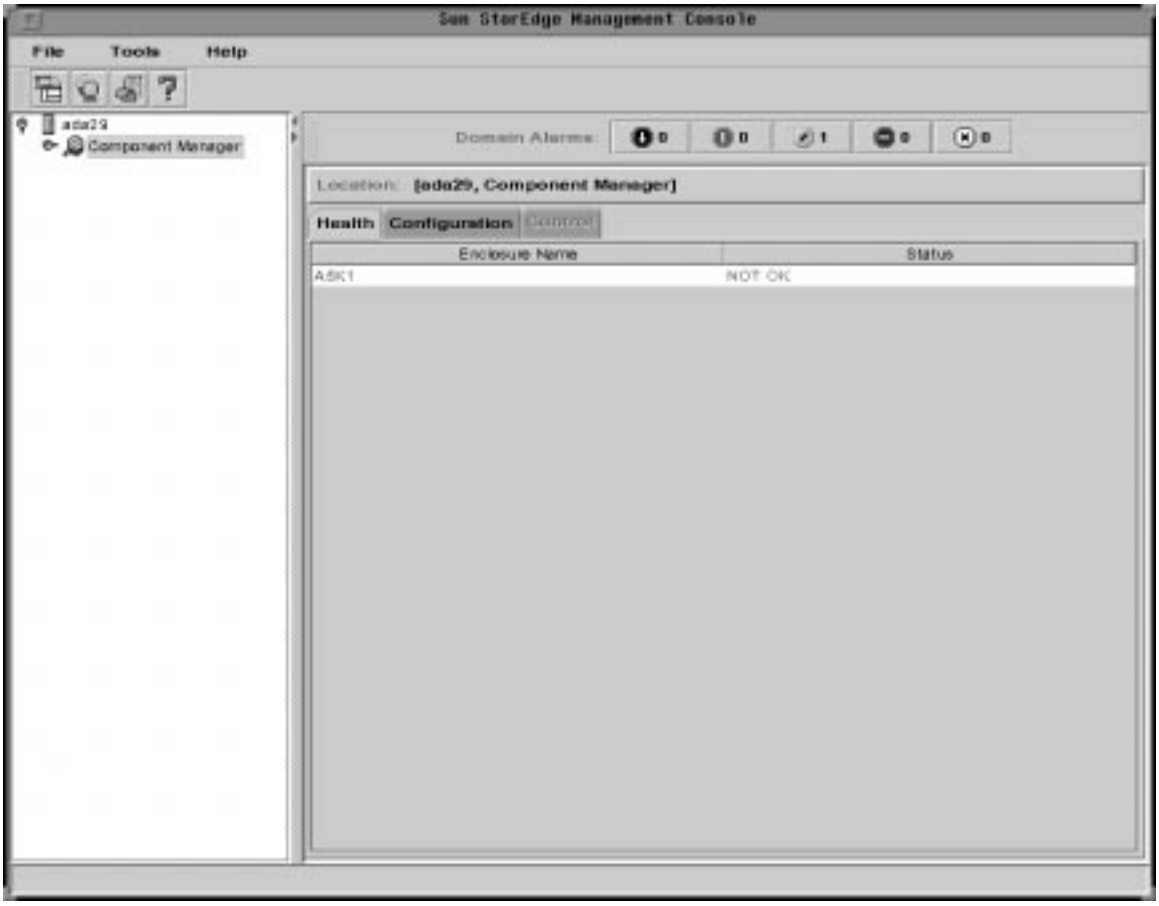

FIGURE 1-1 Sun StorEdge Management Console

Restarting the Software

Use the following steps to stop and restart the management stations if the software fails to start automatically.

Note – The steps below must be performed in the order shown.

---

1. **Become root.**
2. **Stop any currently running management class and managed object stations:**

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

3. **Start the managed object station:**

```
# /usr/opt/SUNWesm/sbin/esm_moboot -v start
```

Wait until you see the following message before proceeding to the next step:

```
“MOBoot: INFO: realm “StoreX” on station “MOStation” - booted”
```

4. **Start the management class station:**

```
# /usr/opt/SUNWesm/sbin/esm_mcboot -v start
```

Wait until you see the following message before proceeding to the next step:

```
“MCBoot: INFO: realm “StoreX” on station “MCStation” - booted”
```

5. **Type the following commands:**

```
# /usr/opt/SUNWesm/sbin/esm_em_moboot start
```

```
# /usr/opt/SUNWesm/sbin/esm_em_mcboot start
```

6. **Start the Sun StorEdge Management Console:**

```
# /usr/opt/SUNWesm/bin/esm_gui &
```

De-installing the Software

If you need to de-install the Sun StorEdge Component Manager software, perform *either* Step 1 or Step 2 below.

1. **If available, run the following script:**

```
# /var/tmp/uninstall_component_mgr
```

2. **If the script is unavailable, use the** `pkgrm` **command to de-install the software.**

   a. **Remove the Sun StorEdge Component Manager packages in the following order:**

```
# pkgrm SUNWencu SUNWenccr SUNWencc SUNWencmr SUNWencm SUNWencl
```

   b. **Remove the other platform packages in the following order:**

```
# pkgrm SUNWesmru SUNWesmrt SUNWdaert SUNWmjhlp SUNWmjmai
SUNWmjacf SUNWesm SUNWj2rt
```

Note – If the `uninstall_component_mgr` script is available, you do not need to run any `pkgrm` commands. Use `pkgrm` *only* if the `uninstall_component_mgr` script is unavailable.

The following de-installation session is an example of the output you will see and the questions you will be asked when running the `uninstall_component_mgr` script.

CODE EXAMPLE 1-2 Example De-installation Session

```
An uninstall log can be found at
/var/tmp/Component_Manager_uninstall.log.02Jun99-17:05:20


Do you want to remove StorEdge Component Manager? [yes or no]
yes
Removal of <SUNWenccr> was successful.
Removal of <SUNWencmr> was successful.
Removal of <SUNWencu> was successful.
Removal of <SUNWencc> was successful.
Removal of <SUNWencm> was successful.
Removal of <SUNWencl> was successful.

Do you want to remove the Platform? [yes or no]
yes
Removal of <SUNWesmrt> was successful.
Removal of <SUNWesmru> was successful.
Removal of <SUNWdaert> was successful.
Removal of <SUNWmjhlp> was successful.
Removal of <SUNWmjmai> was successful.
Removal of <SUNWmjacf> was successful.
Removal of <SUNWesm> was successful.
Removal of <SUNWj2rt> was successful.
```

You can verify your de-installation by looking at the log file from the `uninstall_component_mgr` script, located in `/var/tmp`:

```
Component_Manager_uninstall.log.date-time
```

CHAPTER 2

Error Messages

This chapter addresses potential error messages that may require troubleshooting:

InvocationTargetException: Cannot open device

```
java.lang.reflect.InvocationTargetException Cannot open device /dev/es/ses**
```

Description

Bad and/or outdated device entries are located in the `/dev/es` directory.

User Action

Clear the `/dev/es` tree by removing old device entries. Reboot the host with *either* of the following commands.

From the open boot prompt:

```
ok boot -r
```

Or from root:

```
# touch /reconfigure; init 6
```

InvocationTargetException: Inappropriate ioctl for device

```
java.lang.reflect.InvocationTargetException
    Inappropriate ioctl for device

java.lang.reflect.InvocationTargetException:
com.sun.esm.library.encl.LibenclException: Inappropriate ioctl for device at
com.sun.esm.library.encl.SESElement.SESElementproxy_get_elements(Native
Method)
        at com.sun.esm.library.encl.SESElement.getElements(Compiled Code)
        at com.sun.esm.mo.a5k.A5kEnclMOImpl.fetchSubelements(Compiled Code)
        at com.sun.esm.mo.ses.SESEnclMOImpl.<init>(Compiled Code)
        at com.sun.esm.mo.a5k.A5kEnclMOImpl.<init>(Compiled Code)
        at com.sun.esm.mo.host.HostMOImpl.discoverEnclosures(Compiled Code)
        at com.sun.esm.mo.host.HostMOImpl.<init>(Compiled Code)
        at java.lang.reflect.Constructor.newInstance(Native Method)
        at com.sun.esm.mo.MOBootstrap.initiateMO(Compiled Code)
        at com.sun.esm.mo.MOBootstrap.instantiateMO(Compiled Code)
        at com.sun.esm.mo.MOBootstrap.<init>(Compiled Code)
        at com.sun.esm.mo.MOBoot.boot(Compiled Code)
        at com.sun.esm.mo.MOBoot.main(Compiled Code)
MOBoot: WARN: problem while instantiating Managed Objects
MOBoot: INFO: invocation target exception on class
com.sun.esm.mo.host.HostMOImpl com.sun.esm.library.encl.LibenclException:
Inappropriate ioctl for device
```

Description

`Inappropriate ioctl for device` message appears when starting the Component Manager daemons. This is the result of the SES driver patch not being installed, or the SES driver is not loaded into the kernel.

User Action

Be sure the SES driver patch is installed if you are running the Solaris 2.6 operating environment. Refer to “Pre-installation Requirements” on page 2 for all required patch IDs. If you are certain the SES driver patch has already been installed, reboot your system to ensure that the driver is loaded into the kernel.