



Sun Fire™ Link Software Installation Guide

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Part No. 817-0401-11
May 2003, Revision A

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Preface

This *Sun Fire™ Link Software Installation Guide* provides instructions for installing, setting up, uninstalling, updating, starting, and stopping the software that supports the Sun Fire Link high-performance cluster interconnect for the Sun Fire™ 15K/12K and Sun Fire™ 6800 systems.

This installation guide is intended for systems administrators who install and use the software that supports the Sun Fire Link high-performance cluster interconnect for the Sun Fire 15K/12K and Sun Fire 6800 systems.

The documents for the Sun Fire Link are available in French, Japanese, Korean, Simplified Chinese, and Traditional Chinese. However, the examples of screens in this guide appear only in English.

Note – If you have trouble seeing all the text in your language in a given window, resize the window.

Before You Read This Book

Before you install any of the software described in this guide, read the *Sun Fire Link 1.1 Release Notes*, which lists the supported hardware configurations, the required versions of the Solaris™ Operating Environment, and any open bugs and workarounds.

Before you install Sun™ Management Center software, read the *Sun Management Center 3.5 Installation and Configuration Guide*, which provides information you need to know about installing and configuring Sun Management Center 3.5 software.

How This Book Is Organized

Chapter 1 provides a high-level description of the topics covered by this document, and includes preinstallation information, such as correct software versions and any needed patches. This chapter also describes how to upgrade from Sun Management Center 3.0, Platform Update 4 (PU4), software to Sun Management Center 3.5 software.

Chapter 2 provides instructions for configuring system controllers, updating firmware, and installing the Solaris Operating Environment.

Chapter 3 provides instructions for installing, setting up, uninstalling, starting, and stopping the Sun Management Center 3.5 software, using the Sun Management Center 3.5 Wizards. This chapter assumes you are doing a fresh installation. The chapter includes installing, setting up, and uninstalling the base software, the Fabric Manager (FM), the Remote Shared Memory (RSM) proxies, and the Sun Fire Link agents on their respective hosts.

Chapter 4 describes how to update Sun Management Center Sun Fire Link agent layer software on multiple nodes simultaneously using the Agent Update process.

Chapter 5 provides optional procedures for installing the Sun Validation Test Suite (SunVTS™) packages.

Chapter 6 describes configuring the RSM network, which you need to do, and configuring the Data Link Provider Interface (DLPI), which is optional.

Appendix A describes the command line interface (CLI) procedures for installing, setting up, uninstalling, starting, and stopping the Sun Management Center 3.5 software, including the base software, the Fabric Manager, the RSM proxies, and the Sun Fire Link agent software. This appendix assumes you are doing a fresh installation. Using the CLI, you can choose to uninstall one, several, or all of the Sun Management Center software packages.

The glossary defines abbreviations and acronyms used in this installation guide and in the Sun Management Center 3.5 graphical user interface.

To view license terms, attribution, and copyright statements for open source software included in this release, the default path is:

```
/cdrom/sunmc_3_5_d1/image/Webserver/Solaris_9/SUNWtcatr \
/install/copyright
```

If you are using Solaris 8 software, substitute `Solaris_8` for `Solaris_9` in the path.

Using UNIX Commands

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

Refer to one or more of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- Online documentation for the Solaris Operating Environment
- Other software documentation that you received with your system

Typographic Conventions

Typeface ¹	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% su Password:
<i>AaBbCc123</i>	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this. To delete a file, type <code>rm filename</code> .

¹ The settings on your browser might differ from these settings.

Shell Prompts

Shell	Prompt
C shell	<i>machine-name%</i>
C shell superuser	<i>machine-name#</i>
Bourne shell and Korn shell	\$
Bourne shell and Korn shell superuser	#

Related Documentation

Application	Title	Part Number
Overview of Sun Fire Link system	<i>Sun Fire Link System Overview</i>	816-0697
Getting started on Sun Fire Link systems	<i>Task Map for Getting Started With Sun Fire Link Networks</i>	816-0041
Supported hardware and software, and any open bugs and workarounds for the Sun Fire Link product	<i>Sun Fire Link 1.1 Release Notes</i>	817-2377
Issues, limitations, and bugs for Sun Management Center 3.5 base and platform add-on software	<i>Sun Management Center 3.5 Release Notes</i>	816-2718
Installing and configuring Sun Management Center 3.5 base software	<i>Sun Management Center 3.5 Installation and Configuration Guide</i>	816-2678
Administering Sun Fire Link Systems using Sun Management Center	<i>Sun Fire Link Fabric Administrator's Guide</i>	806-1405
Using Sun Management Center 3.5 base software	<i>Sun Management Center 3.5 User's Guide</i>	816-2716
Installing and using Sun Management Center software with Sun Fire 15K/12K systems	<i>Sun Management Center 3.5 Supplement for Sun Fire 15K/12K Systems</i>	816-7377

Application	Title	Part Number
Installing and using Sun Management Center software with Sun Fire 6800 systems	<i>Sun Management Center 3.5 Supplement for Sun Fire 6800/4810/4800/3800 Systems</i>	816-7381
Installing Sun Fire Link hardware	<i>Sun Fire Link Hardware Installation Guide</i>	806-1396
Installing and servicing Sun Fire Link switches	<i>Sun Fire Link Switch Installation and Service Manual</i>	806-1397
Servicing Sun Fire Link hardware	<i>Sun Fire Link Service Manual</i>	806-1394
Solaris 8 or 9 reference	Sun Solaris 8 or 9 Reference Manual Collection at docs.sun.com	n/a

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Sun Fire Link Software Installation Guide, part number 817-0401-11

Preparation and Upgrading

This chapter describes the preparation necessary for installing the software that supports the Sun Fire Link high-performance cluster interconnect for the Sun Fire 15K/12K and Sun Fire 6800 servers.

This software includes the following components:

- Node firmware
- Switch firmware
- Sun Fire Link Manager software
- Sun Management Center 3.5 add-ons
- SunVTS add-ons

This chapter also describes how to upgrade from Sun Management Center 3.0, Platform Update 4 (PU4), software to Sun Management Center 3.5 software. If you are doing a fresh installation using the Sun Management Center 3.5 Installation Wizard, see Chapter 3. If you are doing a fresh installation using the command-line interface, see Appendix A.

Preparing for the Installation

Before installing the Sun Fire Link software, you need to perform the following procedures:

- “To Read the Sun Fire Link Release Notes” on page 2
- “To Install the Sun Fire Link Network Hardware” on page 2
- “To Identify Your Target Systems” on page 2
- “To Verify Required Software and Patches” on page 4

▼ To Read the Sun Fire Link Release Notes

- **Read the *Sun Fire Link Release Notes*, which lists the supported hardware configurations and the required versions of the Solaris Operating Environment and other related software, including software patches.**

The release notes also describe open bugs and any workarounds there are for the bugs.

▼ To Install the Sun Fire Link Network Hardware

- **Install the Sun Fire Link hardware assemblies: Sun Fire Link I/O assemblies, optical cables, and Sun Fire Link switches (if used).**

For Sun Fire Link hardware installation instructions, see the following documents:

- *Sun Fire Link Hardware Installation Guide*
- *Sun Fire Link Switch Installation and Service Manual*

These documents are available in PDF format on the Sun Fire Link 1.1 CD-ROM that comes with your hardware or on the Web at:

http://www.sun.com/products-n-solutions/hardware/docs/Servers/Cluster_Interconnects/Sun_Fire_Link/Hardware/index.html

Note – The same documents apply to both Solaris 8 and Solaris 9 installations.

▼ To Identify Your Target Systems

1. **Use TABLE 1-1 to identify the various servers and other host systems that play some role in the Sun Fire Link software installation process.**

Note that some roles can be performed by a single system.

2. Ensure that the host systems shown in TABLE 1-1 are available.

TABLE 1-1 Systems Involved in Sun Fire Link Software Installation

Role	Description	Requirements
Installation host	System on which to load the Sun Fire Link software CD-ROM	<ul style="list-style-type: none"> • Shall be connected by TCP/IP network to all Sun Fire systems on which Sun Fire Link software will be installed • Can, but need not, be a target for Sun Fire Link installation
FTP or web server	System to be used for updating the flash memory on boards in the Sun Fire systems and Sun Fire Link switches	<ul style="list-style-type: none"> • Shall be connected by TCP/IP network to all Sun Fire systems that are also connected to the Sun Fire Link network • Can, but need not, be an installation target for Sun Fire Link software
Sun Fire Link Manager server	System where the Sun Fire Link Fabric Manager (FM) software is to reside. When this system is also host to the Sun Management Center console, it is also referred to as the Sun Fire Link Management Station.	<ul style="list-style-type: none"> • Shall be connected by TCP/IP network to all Sun Fire systems that are also connected to the Sun Fire Link network • Shall be <i>external</i> to the Sun Fire Link network • Can be the same system as the Sun Management Center server
Sun Management Center server	System where the Sun Management Center base software is to reside	<ul style="list-style-type: none"> • Shall be connected by TCP/IP network to all Sun Fire systems that are also connected to the Sun Fire Link network • Can be the same system as the FM server, or it can be a different system
Sun Management Center console	System where the Sun Management Center console is to run	<ul style="list-style-type: none"> • Shall be connected by TCP/IP network to all Sun Fire systems that are also connected to the Sun Fire Link network. • Can be the same system as the FM server and Sun Management Center server, or it can be a different system
Sun Fire system cluster compute nodes	Sun Fire systems that are to operate as Sun™ Cluster or Sun HPC ClusterTools™ platforms in a Sun Fire Link network	<ul style="list-style-type: none"> • Shall be connected to both Sun Fire Link and TCP/IP networks
Sun Fire Link Switch System Controllers	System controller (SC) for the Sun Fire Link switch; its role is similar to system controllers in Sun Fire systems	<ul style="list-style-type: none"> • Terminal or server shall be connected to the switch SC's serial port for configuring the SC and flash updating the switch firmware

▼ To Verify Required Software and Patches

1. Use TABLE 1-2 to identify various dependencies that the Sun Fire Link 1.1 software has on other software.

TABLE 1-2 Sun Fire Link 1.1 Software Dependencies

Software	Sun Fire Link Dependency
Operating environments	Solaris 8, 2/02, Solaris 9, 12/02, or Solaris 9 4/03
RSM™ in Solaris 8	Incorporated in the Solaris 8 software distribution
RSM in Solaris 9	Incorporated in the Solaris 9 software distribution
Switch firmware	1.12.31
Sun Management Center base software and Sun Fire Link add-ons. Other add-ons depend on what machines you are using and what add-ons you have licensed.	3.5
Sun Fire 15K/12K System Management Services (SMS)	1.3
Sun Fire 6800 firmware	5.15.0
SunVTS for Solaris 8 2/02	4.6
SunVTS for Solaris 9 12/02	5.1 PS1
SunVTS for Solaris 9 4/03	5.1 PS2
Java™ Development Kit (JDK™)	Sun Management Center server layer requires JDK 1.4+ Sun Management Center console layer requires JDK 1.3+ Sun Management Center agent layer, FM, and RSM proxy recommends JDK 1.2.2_10+*

* The FM and the proxy JDK versions should match to avoid problems. If you choose to run JDK 1.3 for the proxies, use this same JDK for the FM.

2. Refer to the *Sun Fire Link 1.1 Release Notes* for the list of software patch requirements. You can download the patches from SunSolve if they are not included on your CDs.

Instructions for Upgrading From Sun Fire Link 1.0 Software to Sun Fire Link 1.1 Software

If you will be upgrading a system from Sun Fire Link 1.0 software to 1.1 software, you must first remove the version 1.0 packages from the FM server and the cluster nodes. The procedure for doing this is described below.

1. Stop the RSM proxy daemons on every cluster node.

```
# /etc/init.d/wrsm_proxy stop
```

2. Remove the FM packages from the FM server and every cluster node.

```
# /etc/init.d/wrsm_proxy stop
```

Upgrading from Sun Management Center 3.0, Platform Update 4, to Sun Management Center 3.5

Note – These instructions assume that the Sun Fire Link Manager server and the Sun Management Center server are the same. The instructions might be slightly different if the servers are different.

Things to consider:

- If you do not plan to upgrade your RSM driver, you do not need to unconfigure the cluster to bring down the links.
- If you do not want to preserve your existing cluster configuration, you can skip Steps 1, answer n in Step 5, skip Step 7, use a different data directory for Step 9, and skip Step 11.

- If you do plan to preserve your existing cluster configuration, you need to follow all the steps. In addition, you need to know the current setup for the Fabric Management data directory. The file `/opt/SUNWwcfm/config/wcfm_base_data_dir.cfg` on the Sun Fire Link Manager server (`<SFLM_server_name>`) has the information for the data directory.

```
<SFLM_server_name># cat /opt/SUNWwcfm/config/wcfm_base_data_dir.cfg
<FM_setup_directory>/SUNWwcfm/config
```

The `<FM_setup_directory>` is the directory path you need to enter for Step9b.

1. Before the upgrade:

a. List current configured fabrics:

```
<SFLM_server_name># /opt/SUNWwcfm/bin/listfabrics
```

b. Stop all fabrics (`<fabric_name_1>`, `<fabric_name_2>`, ...) *only on the Sun Fire Link Manager server; do not delete fabrics.*

```
<SFLM_server_name># /opt/SUNWwcfm/bin/stopfabric <fabric_name_1>
<SFLM_server_name># /opt/SUNWwcfm/bin/stopfabric <fabric_name_2>
....
```

2. Stop all Sun Management Center processes on all nodes and the Sun Management Center server.

a. To stop all the Sun Management Center processes on each node (`<node_name-a>`, `<node_name-b>`, ...):

```
<node_name-a># /opt/SUNWsymon/sbin/es-stop -a
<node_name-b># /opt/SUNWsymon/sbin/es-stop -a
....
```

b. To stop all the Sun Management Center processes on the Sun Management Center server (`<SunMC_server_name>`):

```
<SunMC_server_name># /opt/SUNWsymon/sbin/es-stop -Sa
```

3. Remove all Fabric Manager (FM) packages on all nodes and the Sun Fire Link Manager server using the `pkgrm` command.

- a. To remove all FM packages on all nodes:

```
<node_name-a># pkgrm SUNWrsmptu SUNWrsmpr SUNWwcfms  
<node_name-b># pkgrm SUNWrsmptu SUNWrsmpr SUNWwcfms  
.....
```

- b. To remove all FM packages on the Sun Fire Link Manager server:

```
<SFLM_server_name># pkgrm SUNWwccmn SUNWwcfms SUNWwcfmu SUNWwcfmr
```

4. Uninstall Sun Management Center 3.0, Platform Update 4, software from the Sun Management Center server using `es-uninst`.

```
<SunMC_server_name># /opt/SUNWsymon/sbin/es-uninst
```

5. Be sure to type `y` for yes to the following question if you have kept the cluster configured and the links up, and you want to retrieve cluster information after the upgrade. Otherwise, type `n` for no.

```
If you are upgrading Sun Management Center, you may want to save  
your existing data.  
  
Do you want to preserve your existing data [y|n|q] y  
  
Will not remove the existing data.
```

6. Install the Sun Management Center 3.5 core and Sun Fire Link add-on software on the Sun Management Center server.

```
<SunMC_server_name># /opt/SUNWsymon/sbin/es-inst
```

7. Be sure to type `y` for yes to the following question if you answered yes in Step 5 to preserve your existing data. If you answered no in Step 5, you will not see this question.

```
Existing Sun Management Center Data detected.  
  
Would you like to migrate your previous data [y|n|q] y
```

8. Set up the Sun Management Center 3.5 core and Sun Fire Link add-on software on the Sun Management Center server.

```
<SunMC_server_name># /opt/SUNWsymon/sbin/es-setup
```

9. During the setup of the Sun Fire Link add-on module, use the original Fabric Manager data directory that you set *before* you began the upgrade.

```
Do you want to import your previous data [y|n|q] y
....

Enter a NON EXISTING Data Directory for the Sun Fire Link Manager (Suggested
location is a new subdirectory of /var/opt/): /var/opt/<subdirectory_name>
```

- a. Type **y** for yes to the question “Do you want to import your previous data?”
 - b. Enter the directory name that you set up previously (<FM_setup_directory>).
10. Use the Agent Update feature to install Sun Management Center 3.5 software on all nodes.

For more information about using Agent Update, see Chapter 4.

- a. **Create an image file using /opt/SUNWsymon/sbin/es-imagetool or /opt/SUNWsymon/sbin/es-gui-imagetool on the Sun Management Center server.**

```
<SunMC_server_name># /opt/SUNWsymon/sbin/es-imagetool
```

- i. Type **y** for yes to the following questions when prompted while running `es-imagetool`:

```
Do you want to upgrade components of Base Agent [y|n|q] y
Do you want to install/upgrade components of Addons [y|n|q] y
```

- ii. **You are prompted to enter an image name while running `es-imagetool`. Remember the image name (<image-name>) you enter, because you need it again in Step 10d.**

```
Enter image name : <image-name>
```


- b. Copy `/opt/SUNWsymon/base/bin/agent-update.bin` from the Sun Management Center server to a temporary directory on each of your agent nodes (any directory is okay).

You can use the remote copy command (`rcp`) to remotely copy `agent-update.bin` from the Sun Management Center server to the agent nodes.

```
<node_name-a># rcp
<SunMC_server_name>:/opt/SUNWsymon/base/bin/agent-update.bin
<temp_directory>

<node_name-b># rcp
<SunMC_server_name>:/opt/SUNWsymon/base/bin/agent-update.bin
<temp_directory>

....
```

- c. Run the following command on each agent node:

```
<node_name-a># <directory_on_agent_machine>/agent-update.bin -s
<SunMC_server_name> -r <http_port> -p <image-name>

<node_name-b># <directory_on_agent_machine>/agent-update.bin -s
<SunMC_server_name> -r <http_port> -p <image-name>

....
```

The default http port (`<http_port>`) is 8080. The image name (`<image-name>`) is the same one you entered in Step10bii.

11. After the completion of the Agent Update, start the fabrics on the Sun Fire Link Manager server.

```
<SFLM_server_name># /opt/SUNWwcfm/bin/startfabric <fabric_name_1>
<SFLM_server_name># /opt/SUNWwcfm/bin/startfabric <fabric_name_2>

....
```


Update System Controllers and Install Solaris Operating Environment

This chapter provides instructions for:

- “To Load the Sun Fire Link 1.1 CD-ROM on Sun Fire 15K/12K and 6800 Systems” on page 11
- “To Configure a Server for Upgrading Sun Fire Link Firmware on Sun Fire 15K/12K and 6800 Systems” on page 13
- “Updating the Firmware, Operating Environment, and Sun Fire Link Software on Sun Fire Link 6800 Systems” on page 15
- “Updating Switch Firmware and Sun Fire Link Software on Sun Fire 15K/12K Systems” on page 28

▼ To Load the Sun Fire Link 1.1 CD-ROM on Sun Fire 15K/12K and 6800 Systems

Load the Sun Fire Link CD-ROM provided with the Sun Fire Link hardware on the machine chosen to be the installation host. The machine is used as a Network File Services (NFS) server for the software installation. In the following example, *<install_host>* is the host name of this system.

1. **Log in to the installation host machine and become superuser.**
2. **If the Sun Fire Link 1.1 CD-ROM is not already inserted into this system, insert it now.**

3. Check that the Sun Fire Link 1.1 CD-ROM contents are visible.

```
<install_host># cd /cdrom/sun-fire-link_1.1/
<install_host># ls
Docs      Patches  Product
```

4. Add the following line to `/etc/dfs/dfstab` to support remote sharing of files.

If this file does not already exist, create it and add the following line to it.

```
share -o ro /cdrom/sun-fire-link_1.1/
```

5. Stop and restart the NFS daemons so the new `share` command takes effect.

```
<install_host># /etc/init.d/nfs.server stop
<install_host># /etc/init.d/nfs.server start
```

6. Verify that the Sun Fire Link software directory is available for mounting by remote systems.

```
<install_host># share
-                /cdrom/sun-fire-link_1.1/  ro    ""
```

Note – Later in the installation process you will need to install the Solaris CD-ROM in place of the Sun Fire Link 1.1 CD-ROM. Before using the Solaris CD-ROM, you must edit the `dfstab` file again, removing the line you added in Step 4. Then you must stop and start the NFS daemons (as in Step 5) to unshare the previous Sun Fire Link 1.1 CD-ROM.

▼ To Configure a Server for Upgrading Sun Fire Link Firmware on Sun Fire 15K/12K and 6800 Systems

The Sun Fire Link firmware is copied from the Sun Fire Link 1.1 CD-ROM onto a File Transfer Protocol (FTP) server or web server, from which it is flashed onto the boards and switches of the Sun Fire cluster.

The server can be any preconfigured FTP or web server, or you can configure the administration server to serve this purpose. Use your preferred method to configure an FTP server or web server. One simple method is to run the script documented in the Solaris man page for the File Transfer Protocol server command, `ftpd(1M)`, which creates an anonymous FTP server.

1. Find the `ftp-script` description on the `ftpd` man page, and copy it to your chosen FTP server.

```
% man ftpd
...
```

2. Add the anonymous ftp user name and password entry to the `/etc/passwd` file.
For example:

```
ftp:x:30000:30000:Anonymous FTP:/export/anonymous-ftp:/nosuchshell
```

3. Add the following line to the `/etc/shadow` file.

```
ftp:NP:6445:.....:
```

4. As superuser, run `ftp-script` on the FTP server (named `<ftp-host>` in this example).

```
<ftp-host># ftp-script /export/anonymous-ftp
```

5. Create a directory on the FTP server to hold the Sun Fire Link firmware.

```
<ftp-host># mkdir /export/anonymous-ftp/firmware
```

6. Copy the Sun Fire Link node firmware from the Sun Fire Link 1.1 CD-ROM into the firmware directory.

In the following example, the Sun Fire Link 1.1 CD-ROM is inserted into the FTP server.

```
<ftp-host># cp /cdrom/sun-fire-link_1.1/tftpboot/* \
/export/anonymous-ftp/firmware
```

However, do the following if the administration server and FTP server are different systems and the Sun Fire Link 1.1 CD-ROM is inserted into the administration server (named *<admin_host>* in this example).

```
<admin_host># cp /net/admin_host/cdrom/sun-fire-link_1.1/tftpboot/* \
/export/anonymous-ftp/firmware
```

7. On the FTP server, install the package that loads the switch firmware. The package name is SUNWwcsfi.

Assuming that the Sun Fire Link CD-ROM is inserted in the administration server and the FTP server is a different system, change directory to either the *Solaris_8* or *Solaris_9* directory and add the *SUNWwcsfi* package, as shown below.

- For a Solaris 8 Operating Environment, type:

```
<ftp-host># cd /net/admin_host/cdrom/sun-fire-link_1.1/Product/Solaris_8
<ftp-host># pkgadd -d . SUNWwcsfi
```

- For a Solaris 9 Operating Environment, type:

```
<ftp-host># cd /net/admin_host/cdrom/sun-fire-link_1.1/Product/Solaris_9
<ftp-host># pkgadd -d . SUNWwcsfi
```

8. Copy the Sun Fire Link switch firmware from its destination on the FTP server into the server's firmware directory.

Step 7 loaded the switch firmware into the */opt* directory on the FTP server. This step makes it available for anonymous FTP access.

```
<ftp-host># cp /opt/SUNWwcsfi/flash/SscApp.jflash /export/anonymous-ftp/firmware
```

Updating the Firmware, Operating Environment, and Sun Fire Link Software on Sun Fire Link 6800 Systems

FIGURE 2-1 illustrates the sequence of procedures you perform to install the software components provided in the Solaris, Sun Fire Link 1.1, and Sun Management Center 3.5 CD-ROMs or downloaded software. Detailed instructions for these procedures follow.

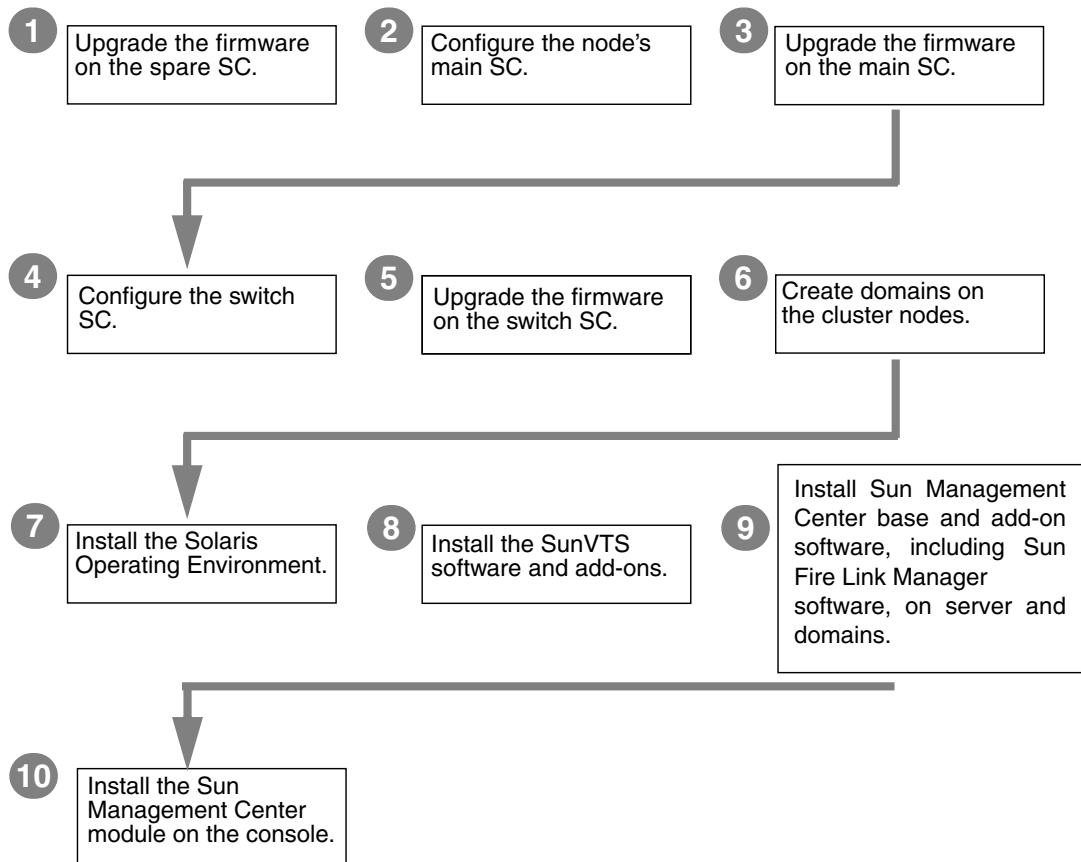


FIGURE 2-1 Sun Fire Link Software Installation Sequence

This section describes the following procedures that you would perform on your Sun Fire 6800 systems:

- “To Update the Firmware on the Spare SC” on page 17
- “To Configure the Main SC” on page 18
- “To Update the Firmware on the Main SC” on page 20
- “To Repeat the SC Configuration and Firmware Update Procedures for Other Nodes in Cluster” on page 21
- “To Configure the Switch System Controller” on page 21
- “To Update the Firmware on the Switch System Controller” on page 23
- “To Repeat the SSC Configuration and Firmware Update Procedures for Other Switches” on page 23
- “To Create Domains on the Nodes” on page 24
- “To Install the Solaris Operating Environment” on page 25
- “To Install RSM Patch for Solaris 8 Operating Environment” on page 26

▼ To Update the Firmware on the Spare SC

The Sun Fire Link firmware (for nodes and switches) consists of the following images, which you copied to an FTP or web server in the preparation phase.

TABLE 2-1 Installation Locations for Firmware Flash Images

Installation Location	Flash Image	Image Description
Sun Fire 6800 system controller	sgsc.flash	ScApp
Sun Fire 6800 system controller	sgrtos.flash	RTOS
Sun Fire 6800 system boards	sgcpu.flash	SB
Sun Fire 6800 I/O assemblies	sgpci.flash	IO
Sun Fire Link assemblies (WIBs)	sglowci.flash	WIB

Update the Sun Fire 6800 firmware, ScApp, and real-time operating system (RTOS) on the spare SC as follows.

1. **Connect to the console of the spare SC on one of the cluster nodes (node1-sc1 in this example) and enter the platform shell.**

Use your site-specific method to connect to the SC through the serial port, not through a Telnet session.

```
# <site-specific-command> node1-sc1
System Controller 'node1-sc1':

    Type 0 for Platform Shell

    Input: 0

Platform Shell
node1-sc1:SC>
```

2. **Execute the `poweron all` command to ensure that all system boards have power.**
3. **From the platform shell, update the spare SC.**

```
node1-sc1:SC> flashupdate -f ftp://<ftp-server-ip>/firmware
ScApp RTOS
```

where `<ftp-server-ip>` is the IP address of the FTP server.

4. **Verify that the spare SC firmware has been updated correctly.**

Execute the command `showsc` from the platform shell.

▼ To Configure the Main SC

1. Connect to the console of the main SC on one of the cluster nodes (`node1-sc0` in this example) and enter the platform shell.

```
# <site-specific-command> node1-sc0
System Controller 'node1-sc0':

    Type 0 for Platform Shell

    Input: 0

Platform Shell
node1-sc0:SC>
```

2. Configure the main SC.

Use `setupplatform` to configure the main SC as you like. You need to supply (or accept defaults for) the following items:

- Host name
- Internet Protocol (IP) address
- Netmask
- Gateway
- Domain Name Service (DNS) domain and DNS servers
- Loghosts
- Simple Network Management Protocol (SNMP) trap host (the system you plan to use as the Sun Management Center server)
- Access Control Lists (ACLs)
- Post level
- Partition mode

For example, an SC might be configured as shown in CODE EXAMPLE 2-1.

CODE EXAMPLE 2-1 Configuring the Main SC Using `setupplatform`

```
node1-sc0:SC> setupplatform

Network Configuration
-----
Is the system controller on a network? []: yes
Use DHCP or static network settings? []: static
Hostname []: node1-sc0
IP Address []: 65.2.112.74
Netmask []: 255.255.255.0
Gateway []: 65.2.112.244
DNS Domain []:
Primary DNS Server []:
```

CODE EXAMPLE 2-1 Configuring the Main SC Using setupplatform (Continued)

```
Secondary DNS Server [ ]:

Loghosts
-----
Loghost [ ]:
Log Facility [local0]:

SNTP
----
SNTP server [ ]:

SNMP
----
Platform Description [Sun Fire 6800]:
Platform Contact [ ]:
Platform Location [ ]:
Enable SNMP Agent? [no]: yes
Trap Hosts: your-Sun Management Center-server-name
Public Community String [P-public]:
Private Community String [P-private]:

ACLS
----
ACL for domain A [ SB0 SB1 SB2 SB3 SB4 SB5 IB6 IB7 IB8 IB9 ]:
ACL for domain B [ SB0 SB1 SB2 SB3 SB4 SB5 IB6 IB7 IB8 IB9 ]:
ACL for domain C [ SB0 SB1 SB2 SB3 SB4 SB5 IB6 IB7 IB8 IB9 ]:
ACL for domain D [ SB0 SB1 SB2 SB3 SB4 SB5 IB6 IB7 IB8 IB9 ]:

SC POST
-----
SC POST diag Level [min]:
Enable SC Failover? [yes]:
Logical Hostname or IP Address [ ]:

Security Options
-----
Enable Telnet servers? [yes]:
Idle connection timeout (in minutes; 0 means no timeout) [0]:

Partition Mode
-----
Configure chassis for single or dual partition mode? [single]:

node1-sc0:SC>
```

3. Set date, time, and time zone from the platform shell.

```
node1-sc0:SC> setdate -t EST mmdHHMMyyyy
```

For example:

```
node1-sc0:SC> setdate -t EST 052218162002  
Wed May 22 18:16:00 EDT 2002
```

4. Assign the SC password.

```
node1-sc0:SC> password  
Enter new password:  
Enter new password again:
```

5. Verify that the SC is configured correctly.

```
node1-sc0:SC> showplatform  
. . .
```

▼ To Update the Firmware on the Main SC

You can obtain the Sun Fire 6800 5.15 firmware from SunSolve or it will already be installed on your Sun Fire 6800 system if it new.

1. Now update the ScApp and RTOS on the main SC, system boards, and I/O assemblies.

All steps are performed from the SC's platform shell.

```
node1-sc0:SC> flashupdate -f ftp://<ftp-server-ip>/firmware all
```

2. Verify that the main SC firmware has been updated correctly.

Execute the commands `showsc` and `showboard -v -p prom` from the platform shell.

▼ To Repeat the SC Configuration and Firmware Update Procedures for Other Nodes in Cluster

- Perform the procedures on each of the remaining nodes in the Sun Fire Link cluster as described in the following sections:
 - “To Update the Firmware on the Spare SC” on page 17
 - “To Configure the Main SC” on page 18
 - “To Update the Firmware on the Main SC” on page 20

▼ To Configure the Switch System Controller

If your cluster configuration includes Sun Fire Link switches, you need to configure each switch system controller (SSC). If you did not perform this procedure at the time of installing the switch hardware, do so now.

1. Connect to the SSC.

Connect to the SSC (`switch1` in this example) via the serial port. For the requested password, enter the password that was specified as part of the switch installation procedure.

```
# <site-specific-command> switch1  
Enter Password:  
switch1:SSC>
```

2. Configure the SSC.

Use `setupplatform` to configure the SSC as you like. You need to supply (or accept defaults for) the following items:

- IP mode
- IP address
- Net mask
- Router IP address
- Host name
- DNS domain and DNS resolvers
- Loghosts

- SNMP trap host (the system you plan to use as the Sun Management Center server)

For example, an SSC might be configured as follows.

```
switch1:SSC> setupplatform
ip_mode [] > dhcp
ip_address [] > 65.2.56.32
netmask [] > 255.255.252.0
routers [] > 65.2.112.45
hostname [] > switch1
tpe_link_test [] > true
dns_domain [] > east.Sun.COM
dns_resolvers [] > 129.43.1.22, 129.43.6.81
loghost [] >
snmp_enabled [] > true
switch_description [null] >
switch_contact [null] >
switch_location [null] >
snmp_private_community [P-private] >
snmp_public_community [P-public] >
snmp_trap_hosts [] > <your-Sun Management Center-server-name>
switch1:SSC>
```

3. Set date, time, and time zone.

```
switch1:SSC> setdate -t EST <mmddHHMMyyyy>
```

For example:

```
switch1:SSC> setdate -t EST 030613362002
System date is 06-Mar-02 1:36:00 PM
```

4. Assign the SSC password.

```
switch1:SSC> rmi_password
Enter new password:
Enter new password again:
```

5. Verify that the SSC is configured correctly.

```
switch1:SSC> showplatform  
. . .
```

▼ To Update the Firmware on the Switch System Controller

1. Now update the firmware on the SSC.

```
switch1:SSC> flashupdate -f ftp://<ftp-server-ip>/firmware/SscApp.jflash
```

2. Reboot the SSC.

```
switch1:SSC> reboot
```

▼ To Repeat the SSC Configuration and Firmware Update Procedures for Other Switches

- Perform the procedures on each of the remaining switches in the Sun Fire Link cluster as described in the following sections:
 - “To Configure the Switch System Controller” on page 21
 - “To Update the Firmware on the Switch System Controller” on page 23

▼ To Create Domains on the Nodes

1. Connect to the node SC.

Connect to a node SC via the serial port or a Telnet session and enter the platform shell.

```
# <site-specific-command> node1-sc0
System Controller 'node1-sc0':

      Type  0  for Platform Shell

      Type  1  for domain A console
      Type  2  for domain B console
      Type  3  for domain C console
      Type  4  for domain D console

      Input:  0

Platform Shell
node1-sc0:SC>
```

2. Create one or more domains on the node by assigning boards to them.

From the platform shell, add the boards to a domain.

```
node1-sc0:SC> addboard -d <domain> <board> [<board> ...]
```

For example, to create domain A with four boards, type:

```
node1-sc0:SC> addboard -d A sb0 ib7 ib8 ib9
```

3. Enter the domain you created. In this example, domain A.

```
node1-sc0:SC> console A
Connected to Domain A
Domain Shell for Domain A
node1-sc0:A
```

4. Within domain A, run `setupdomain`.

You need to supply (or accept defaults for) the following items:

- Diag-level
- Verbosity-level

- Interleave (scope and mode)
- OpenBoot™ PROM—use `nvrामrc` and `auto-boot`
- Loghost
- SNMP trap host (the machine you plan to use as the Sun Management Center server)

```
node1-sc0:A> setupdomain
```

5. Show the boards to verify that they are assigned correctly.

```
node1-sc0:SC> showboards -d A
```

Slot	Pwr	Component	Type	State	Status	Domain
----	---	-----	-----	-----	-----	-----
/N0/SB0	On	CPU	Board	Assigned	Not tested	A
/N0/IB7	On	PCI	I/O Board	Assigned	Not tested	A
/N0/IB8	On	WCI	CPCI I/O Board	Assigned	Not tested	A
/N0/IB9	On	WCI	CPCI I/O Board	Assigned	Not tested	A

6. Repeat this procedure for each node in the Sun Fire cluster.

▼ To Install the Solaris Operating Environment

Perform an "Entire Distribution" installation of the Solaris Operating Environment into the domains you have created. The procedure is described in the Solaris documentation.

If the `/etc/dfs/dfstab` change you made in "To Load the Sun Fire Link 1.1 CD-ROM on Sun Fire 15K/12K and 6800 Systems" on page 11 is still in effect, perform the following steps to unshare the Sun Fire Link 1.1 CD-ROM.

1. Edit `/etc/dfs/dfstab`, and remove the following line.

```
share -o ro /cdrom/sun-fire-link_1.1
```

2. Stop and restart the NFS daemons to unshare the Sun Fire Link 1.1 CD-ROM.

```
admin_host# /etc/init.d/nfs.server stop
admin_host# /etc/init.d/nfs.server start
```

3. Install the Solaris Operating Environment software as described in the applicable Solaris documentation.

▼ To Install RSM Patch for Solaris 8 Operating Environment

The RSM software that is supplied with the Solaris 8 Operating Environment must be updated with patch 109664-14 on every domain of the Sun Fire cluster. The RSM software supplied with the Solaris 9 Operating Environment must be updated with patch 109726-09.

Perform the following procedure on each domain.

1. Connect to the domain and become superuser.

Connect to a domain using your preferred method.

- Use `rlogin` to connect to the domain.
- Use `Telnet` to connect to the domain.
- Use `Telnet` to connect to the SC and enter that domain's shell.

2. Go to the `<SFL_sw_directory>`.

3. Add the following line to `/etc/dfs/dfstab`.

```
share -o ro /cdrom/sun-fire-link_1.1
```

4. Stop and restart the NFS daemons so the new `share` command takes effect.

```
<admin_host># /etc/init.d/nfs.server stop  
<admin_host># /etc/init.d/nfs.server start
```

5. Change directory to either the `Solaris_8` or `Solaris_9` directory and install the required patches, as shown below.

- For the Solaris 8 Operating Environment, install patch 109664-14.

```
<admin_host># cd /net/admin_host/cdrom/sun-fire-link_1.1/Patches/Solaris_8  
<admin_host># patchadd 109664-14
```

- For the Solaris 9 Operating Environment, install patch 109726-09.

```
<admin_host># cd /net/admin_host/cdrom/sun-fire-link_1.1/Patches/Solaris_9  
<admin_host># patchadd 109726-09
```

6. Verify that the patch has installed.

- For the Solaris 8 Operating Environment, type:

```
# showrev -p | grep 109664-14
```

- For the Solaris 9 Operating Environments, type:

```
# showrev -p | grep 109726-09
```

7. Perform a reconfigure reboot, using whichever of the following methods applies.

- If the correct boot device path is set, type:

```
# reboot -- -r
```

- If the correct boot device path is *not* set, bring the system down to the OpenBoot PROM prompt and boot with the correct boot device path, followed by `-r`.

```
# init 0  
{c} ok boot <bootpath> -r
```

where `<bootpath>` is the correct boot device path.

- To set the boot device to the current boot path at the OpenBoot PROM prompt, type.

```
{c} ok set boot-device <bootpath>  
{c} ok set diag-device <bootpath>
```

8. Repeat the RSM patch installation on each domain in the cluster.

Updating Switch Firmware and Sun Fire Link Software on Sun Fire 15K/12K Systems

FIGURE 2-2 illustrates the sequence of procedures you perform on Sun Fire 15K/12K Systems to install the software components provided in the Solaris, Sun Fire Link 1.1, and Sun Management Center 3.5 CD-ROMs or downloaded software. Detailed instructions for these procedures follow.

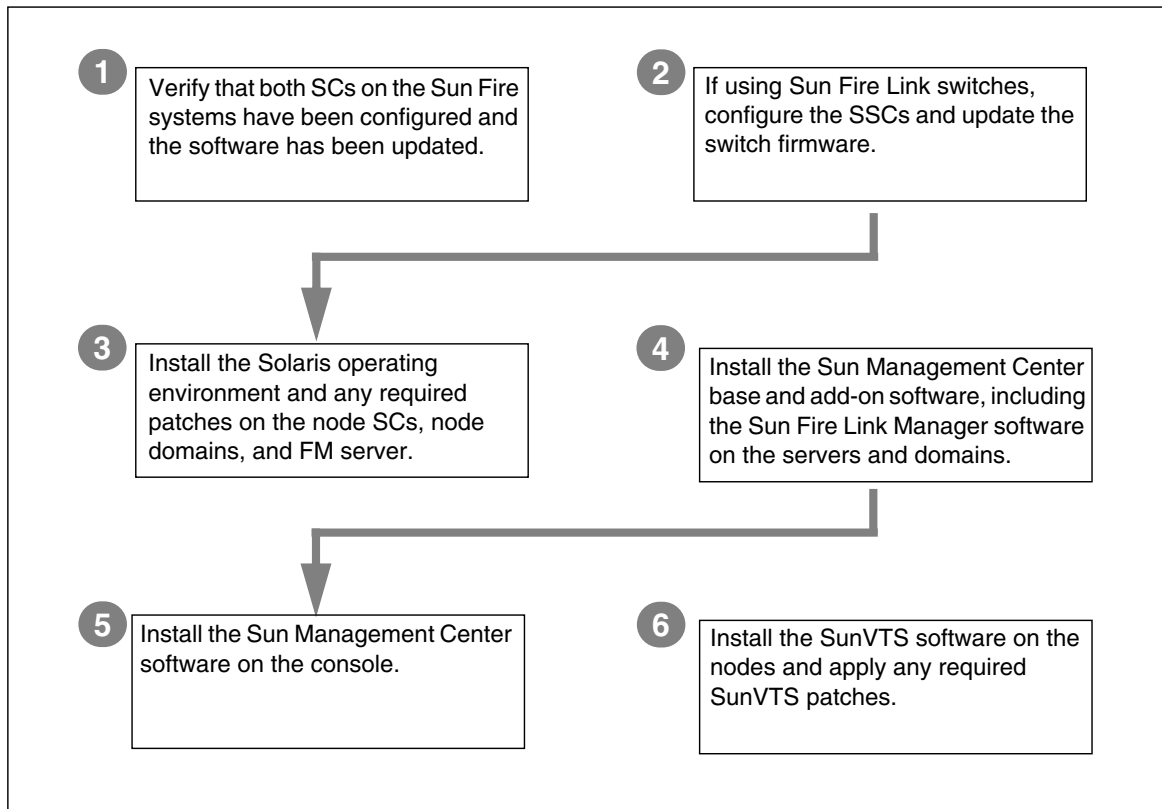


FIGURE 2-2 Sun Fire Link Software Installation Sequence

Note – The following procedures assume that version 1.3 of the Sun Management System (SMS) software, including any required patches, have already been installed on the Sun Fire 15K/12K systems. For more information, refer to *System Management Services (SMS) 1.3 Installation Guide and Release Notes for the Sun Fire 15K/12K System*.

This section describes the following additional procedures that you would perform on your Sun Fire 15K/12K systems:

- “Verify the Sun Fire 15K/12K SCs” on page 29
- “Configure the Switch SCs and Update the Switch Firmware” on page 29
- “Set Up Cluster Domains” on page 30
- “Install the Solaris Operating Environment” on page 30

Verify the Sun Fire 15K/12K SCs

Before configuring the switch SC and updating its firmware, ensure that the System Controllers in the node chassis have been configured and the software has been updated.

Configure the Switch SCs and Update the Switch Firmware

If your cluster configuration includes Sun Fire Link switches, you need to configure each switch system controller (SSC). If you did not perform this procedure at the time of installing the switch hardware, do so now.

▼ To Configure the Switch SC

1. **Connect to the SSC (switch1 in this example) via the serial port.**

For the requested password, enter the password that was specified as part of the switch installation procedure.

2. **Use `setupplatform` to configure the SSC.**

3. **Assign the SSC’s RMI password.**

```
switch1:SSC> rmi_password
Enter new password:
Enter new password again:
```

▼ To Update the Firmware on the Switch SC

1. Update the firmware on the SSC from the flashupdate server you set up previously—either an FTP server or HTTP server.

The following example shows the update being done from an FTP server:

```
switch1:SSC> flashupdate -f ftp://ftp-server-ip/firmware/SScApp.jflash
```

2. Reboot the SSC.

```
switch1:SSC> reboot
```

Repeat these SSC configuration and firmware update procedures on the remaining Sun Fire Link switches.

Set Up Cluster Domains

When setting up domains in the Sun 15K/12K systems, configure some to include the I/O slots that contain Sun Fire Link link assemblies. These domains can then be included as nodes in the Sun Fire Link network

Install the Solaris Operating Environment

Perform an "Entire Distribution" installation of the Solaris operating environment onto the FM server, on each cluster node SC, and on each cluster domain. Also, apply any patches identified in the *Sun Fire Link Release Notes*.

Install, Set Up, and Uninstall Sun Management Center 3.5 Software Using the Wizards

This chapter provides instructions for installing, setting up, uninstalling, starting, and stopping Sun Management Center 3.5 software, including the base software, the Fabric Manager, the RSM proxies, and Sun Fire Link agents on their respective hosts using the Sun Management Center 3.5 Wizards. Refer to the Sun Management Center 3.5 Installation and Configuration Guide for more information about installing, setting up, uninstalling, starting, and stopping Sun Management Center 3.5 base software.



Caution – Use the installation and setup scripts or Wizards provided with the Sun Management Center 3.5 software. Do *not* manually add packages or manually change configuration files.

Things to know:

- This chapter assumes you are doing a fresh installation. If you are upgrading Sun Management Center 3.0 PU4 software to Sun Management Center 3.5 software, see “Upgrading from Sun Management Center 3.0, Platform Update 4, to Sun Management Center 3.5” on page 5.
- See Appendix A for instructions on installing, setting up, uninstalling, starting, and stopping the same software using the CLI.
- The Uninstall Wizard, `es-guiuninst`, has an option to uninstall one module, several modules, or all Sun Management Center 3.5 software.
- You can install on multiple nodes in parallel using the Agent Update feature (see Chapter 4 for using the Agent Update feature).

Your Sun Management Center 3.5 installation and setup scripts or Wizards may not display exactly the same messages in exactly the same sequence as the examples shown in this chapter. However, these examples show the basic messages you will

receive in approximately the sequence you will receive them. Your actual installation and setup scripts depend on the add-on components you choose to install and other choices you make.

Sun Management Center software runs on top of the Sun Fire Link Manager and provides a convenient GUI interface for monitoring and managing the RSM network on a Sun Fire cluster.

The Sun Fire Link 1.1 software release provides support for Sun Fire 15K/12K and 6800 systems. Instructions for installing and setting up and lists of the Sun Management Center 3.5 packages for the Sun Fire 15K/12K and 6800 systems are provided in the *Sun Management Center 3.5 Supplement for Sun Fire 15K/12K Systems* and the *Sun Management Center 3.5 Supplement for Sun Fire 6800/4810/4800/3800 Systems*. TABLE 3-1 lists the Sun Management Center packages provided in the Sun Fire Link 1.1 release.

TABLE 3-1 Sun Management Center Add-On Packages for Sun Fire Link

Package Name	Package Description	Installation Location
SUNWeswci	Sun Management Center - Sun Fire Link Manager Console	Sun Management Center console
SUNWswsrv	Sun Management Center - Sun Fire Link Server	Sun Management Center server
SUNWwhelp	Sun Management Center - Sun Fire Link Help	Sun Management Center server and console
SUNWeswcx	Sun Management Center - Sun Fire Link Switch Agent	Sun Fire Link Manager server
SUNWeswfm	Sun Management Center - Sun Fire Link Manager Agent	Sun Fire Link Manager server
SUNWswrsm	Sun Management Center - Sun Fire Link WRSB Agent	RSM domains (nodes)
SUNWensfl	Sun Management Center - Sun Fire Link English Message Files	Sun Management Center console, server, FM Host, and RSM Domains
SUNWrsmpr	Sun Fire Link RSM Proxy Root Package	RSM domains
SUNWrsmptu	Sun Fire Link RSM Proxy User Package	RSM domains
SUNWsf1cm	Sun Fire Link Common Package	Sun Management Center server, FM Host, RSM Domains
SUNWwccmn	Sun Fire Link Interface Common Files	FM Host
SUNWwcfms	Sun Fire Link Manager Shared Files	Sun Management Center server and/or FM Host

TABLE 3-1 Sun Management Center Add-On Packages for Sun Fire Link (*Continued*)

Package Name	Package Description	Installation Location
SUNWwc fmr	Sun Fire Link Manager Root Package	Sun Management Center server and/or FM Host
SUNWwc fmu	Sun Fire Link Manager User Package	Sun Management Center server and/or FM Host
SUNWensf1	Sun Management Center - Sun Fire Link English Message Files	Sun Management Center console, server, FM Host, and RSM Domains

Installing the Sun Management Center 3.5 Base Software Using the Installation Wizard

The following packages need to be installed on various systems:

- Individual cluster domains
- Console for the GUI
- Sun Management Center server
- Sun Fire Link Manager server

The latter three roles might be filled by the same system or by two or three different systems. Most commonly, the administration server doubles as the Sun Management Center console, and a separate (usually larger) system acts as both Sun Management Center server and Sun Fire Link Manager server.

FIGURE 3-1 is a graphic representation of the system location requirements of the various packages.

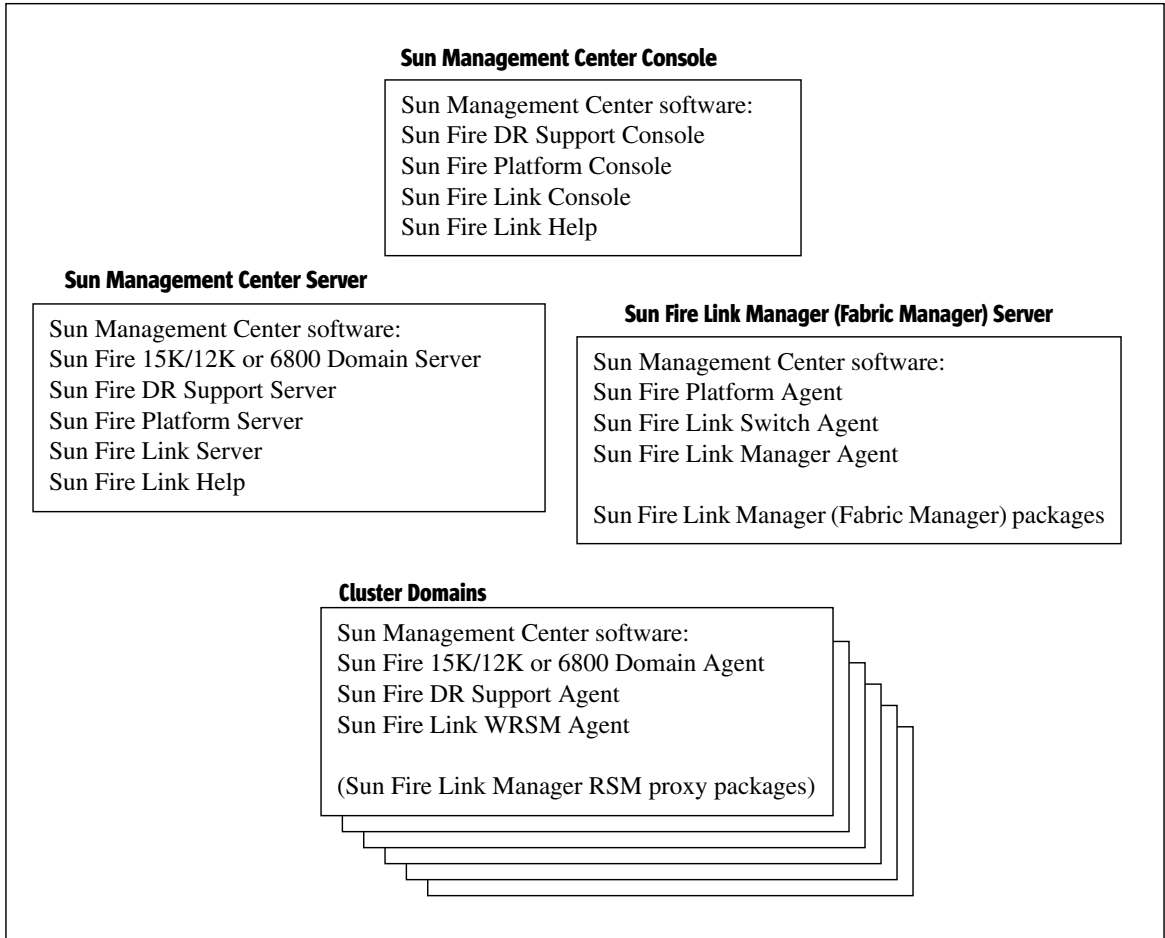


FIGURE 3-1 Install Location of Sun Management Center and Sun Fire Link Packages

▼ To Install the Sun Management Center 3.5 Base Software Using the Installation Wizard

1. Log in to each target system as superuser.
2. Run the Sun Management Center 3.5 Installation Wizard, `es-guiinst`, which walks you through the installation.

Installing the Sun Fire Link Add-on Software Using the Sun Management Center 3.5 Installation Wizard

This section provides a summary of installing Sun Management Center 3.5 base software and Sun Fire Link add-on software using the Sun Management Center 3.5 Installation Wizard. Chapter 6, *Installation and Setup*, of the *Sun Management Center 3.5 Installation and Configuration Guide*, describes in detail how to install all the software.

- You can install the base console, server, and agent layers either separately or in combination.
- You can install the Sun Fire 15K/12K or 6800 Platform Agent on any machine where you have Sun Management Center 3.5 software running.
- You can install the Sun Fire 15K/12K or 6800 Domain Agent *only* on Sun Fire 15K/12K or 6800 domains.

▼ To Install Sun Management Center 3.5 Software

1. **As superuser, run the `es-guiinst` script as described in Chapter 6, “Installation and Setup,” of the *Sun Management Center 3.5 Installation and Configuration Guide*.**

After the base software is installed, the Select Add-on Product screen provides a selectable list of add-on products that you can install.

2. **Select those add-ons that apply to Sun Fire Link systems, and click Next.**

Note – The Sun Management Center 3.5 Setup Wizard starts automatically after all the software is installed.

Setting Up the Sun Fire Link Add-on Software Using the Sun Management Center 3.5 Setup Wizard

This section describes how to set up the Sun Fire Link add-on software using the Sun Management Center 3.5 Setup Wizard. The four Sun Fire Link add-on components are:

- Sun Fire Link Manager (Fabric Manager)
- Sun Fire Link Cluster Node
- Sun Fire Link Switch
- Sun Fire Link Server

Generally, you would not be setting up all four components at once. Rather, you probably would be setting up one or two of the components on any single node. The Sun Management Center 3.5 Setup Wizard recognizes which components are installed and only displays panels that are relevant to setting up these installed components.

Note – When the Back button at the bottom of a panel is enabled (not grayed out), you can click on it to take you back to the previous operation. When the back button is grayed out (not enabled), you cannot go back to the previous operation.

Note – Be sure you click Store Response Data during the Sun Management Center 3.5 base software setup process if you want to use the `setup-responses-file` to duplicate the setup on the current machine on other machines. That way all of your responses will be stored in

`/var/opt/SUNWsymon/install/setup-responses-file`. For more information, refer to “Setting Up Base Products and Add-ons on the Solaris Platform” in the *Sun Management Center 3.5 Installation and Configuration Guide*.

▼ To Set Up Sun Fire Link Add-on Software

1. Do one of the following:

- Click Next at the end of the installation to start the setup.
- Type `es-guisetup` to start the Sun Management Center Setup Wizard.

Once the Sun Management Center base software setup is complete, the Select Add-on Products panel appears listing the add-on products by platform installed on your system. In FIGURE 3-2 Sun Fire Link is the add-on product or platform installed.



FIGURE 3-2 Select Add-on Products Panel

2. Click Next to start the Sun Fire Link Setup.

The Welcome to Sun Fire Link Setup panel appears listing the add-on components that are installed. In FIGURE 3-3 the Sun Fire Link Server was not installed.

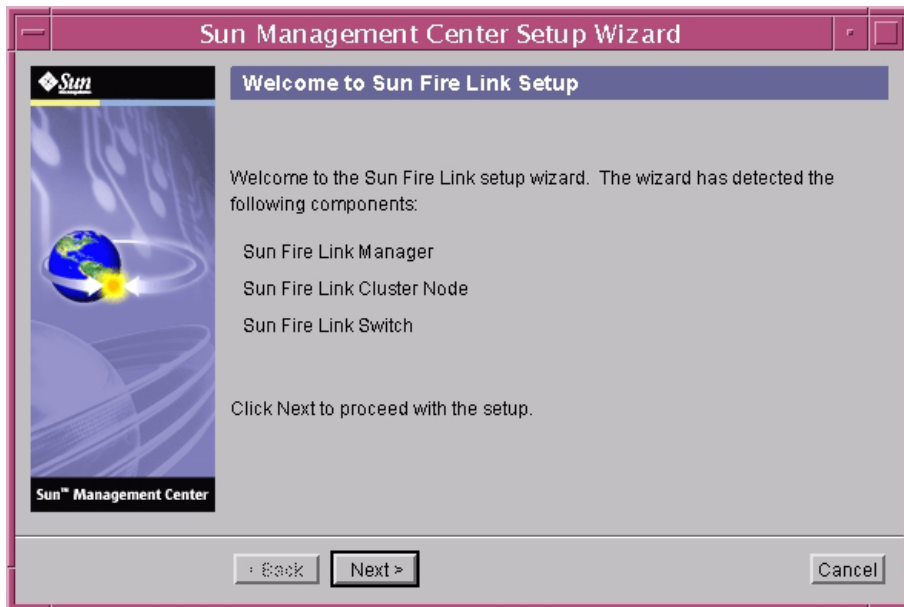


FIGURE 3-3 Welcome to Sun Fire Link Setup Panel

3. Go to one of the following procedures, depending on what add-on component you are setting up first.

- "To Set Up Instances of the Sun Fire Link Manager" on page 39
- "To Set Up Sun Fire Link Cluster Nodes" on page 54

▼ To Set Up Instances of the Sun Fire Link Manager

1. Click Next to continue.

The Java Runtime Environment panel appears showing the default path to the Java Runtime Environment.

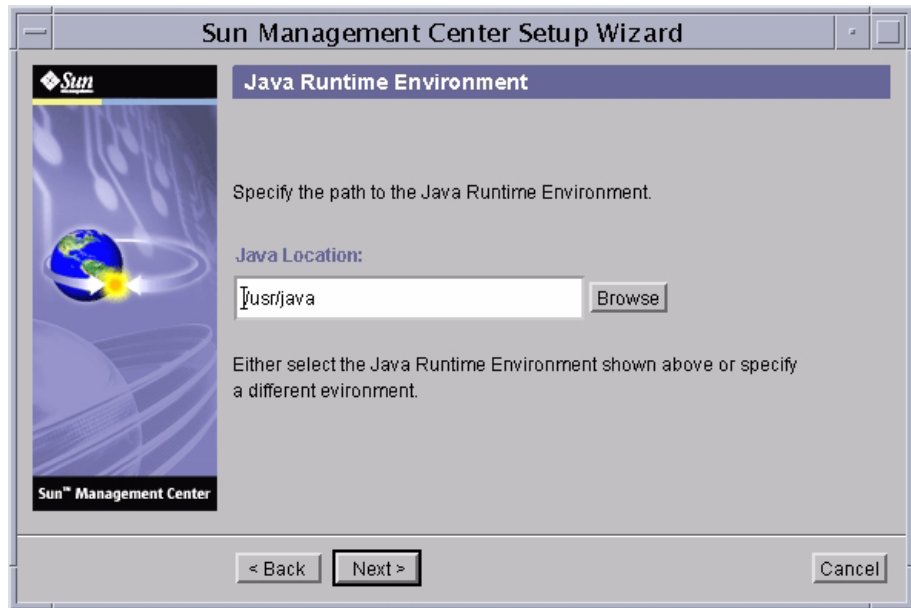


FIGURE 3-4 Java Runtime Environment Panel

2. Do one of the following:

- Keep the default path to the Java location.
- Select a different path to the Java location.

3. Click Next to continue.

The Configuration Files panel appears allowing you to specify a directory for storing the configuration files.

4. Do one of the following:

- Select a configuration directory if no directory is displayed.
The directory where you store configuration files should be a subdirectory of `/var/opt/`; for example, `/var/opt/fab2data`.
- Keep the pre-existing configuration directory as displayed on the panel.



Caution – If there is a pre-existing configuration directory specified, do not change the setting, or you will invalidate all currently running fabrics and fabric data.

5. Click **Next** to continue.

The RMI Port panel appears showing the default RMI port number.

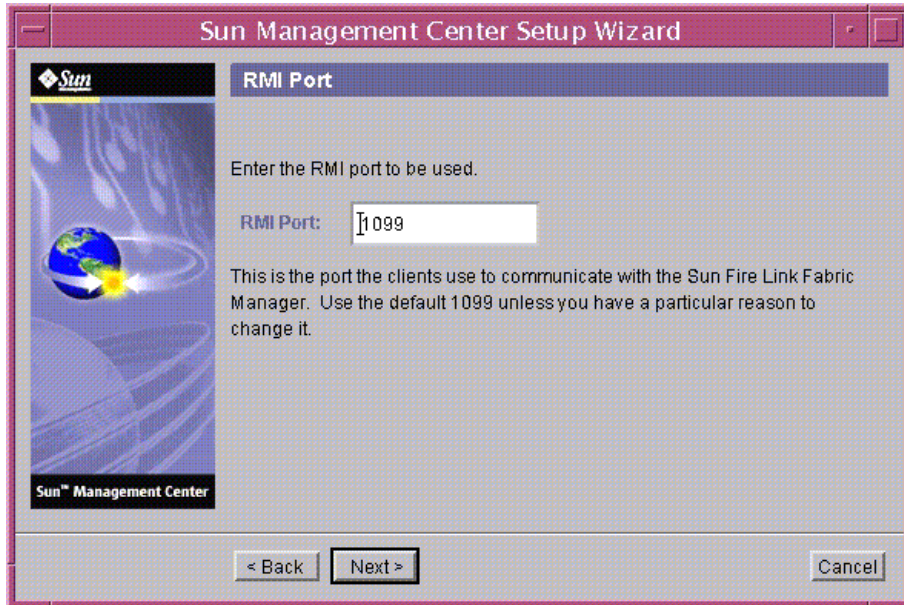


FIGURE 3-5 RMI Port Panel

6. Do one of the following:

- **Keep the default RMI port as shown.**

Normally, you would keep the default RMI port, which clients use to communicate with the Sun Fire Link Fabric Manager.

- **Enter a different default RMI port if necessary.**

7. Click Next to continue.

The Modify Fabric Manager Module Instances panel appears.

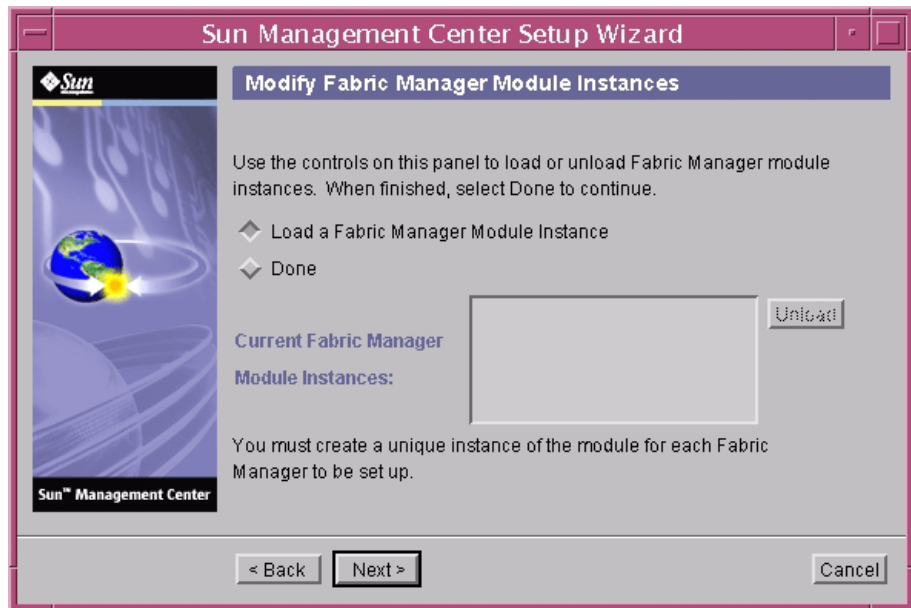


FIGURE 3-6 Modify Fabric Manager Module Instances Panel 1

8. Click the button to the left of Load a Fabric Manager Module instance to create a new instance.

You must create a unique instance of the module for each Fabric Manager to be set up.

9. Click Next to continue.

The Fabric Manager Module Instance Name panel appears.

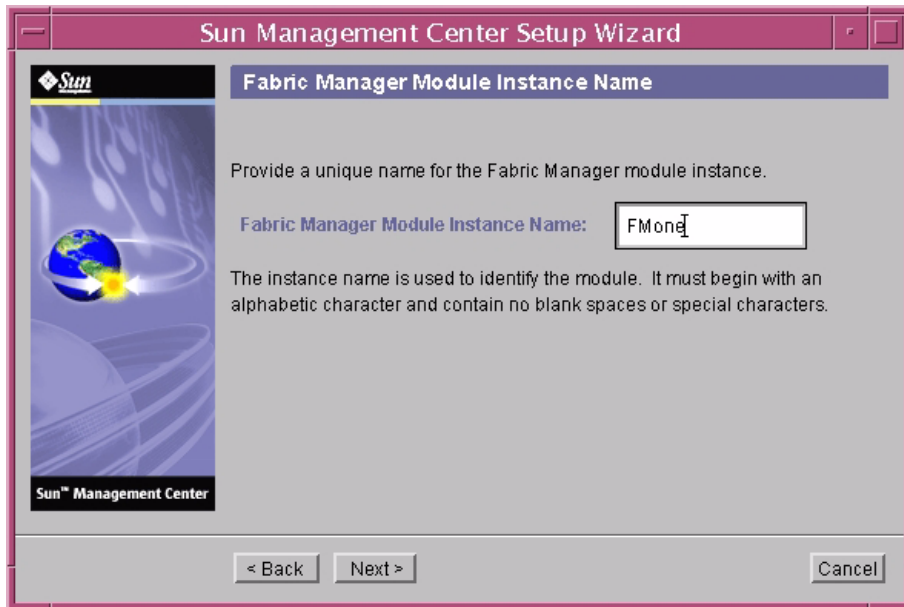


FIGURE 3-7 Fabric Manager Module Instance Name Panel

10. Enter a unique name for the Fabric Manager Module Instance.

The instance name identifies the module. It must begin with an alphabetic character and contain no blank spaces or special characters.

11. Click Next to continue.

The Fabric Manager Module Description panel appears.

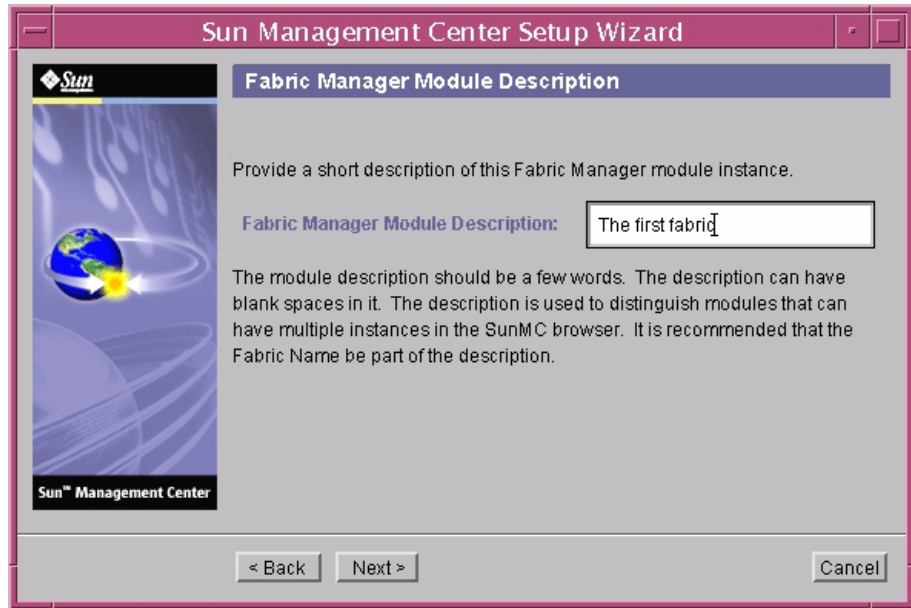


FIGURE 3-8 Fabric Manager Module Description Panel

12. Enter a short description of this Fabric Manager module instance.

The description is used to distinguish modules that have multiple instances in the Sun Management Center console. Putting the Fabric Name as part of the description would be a distinguishing characteristic. Blank spaces are allowed.

13. Click Next to continue.

The Fabric Name panel appears.

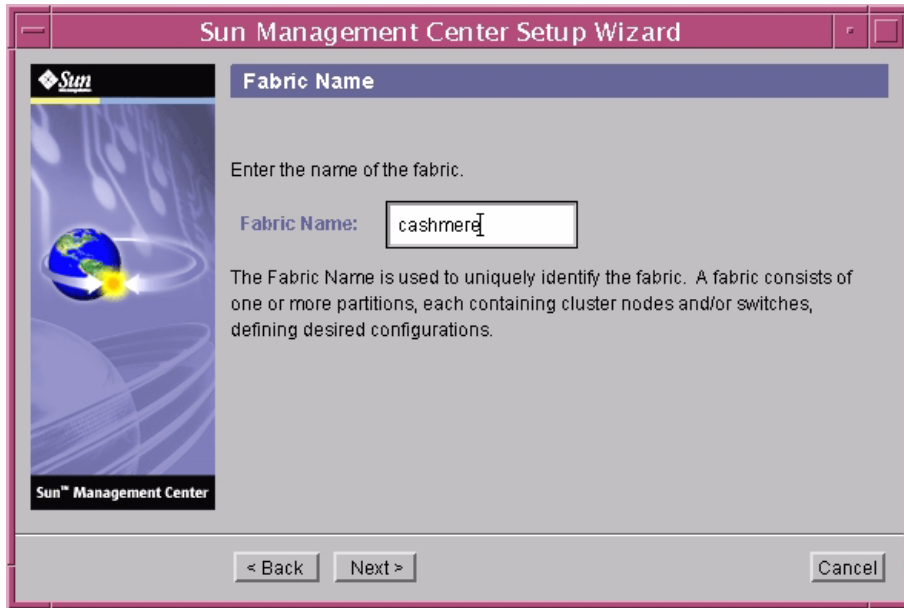


FIGURE 3-9 Fabric Name Panel

14. Enter the name of the fabric.

The Fabric Name identifies the fabric. A fabric has one or more partitions, each containing cluster nodes and/or switches, defining desired configurations.

15. Click **Next** to continue.

The Confirmation panel appears.



FIGURE 3-10 Fabric Manager Module Instance Confirmation Panel

Note – The entry for the Configuration Directory in Figure 3-10 says `/var/opt`. As stated earlier in Step 4, the configuration directory should be a subdirectory of `/var/opt/`, such as `/var/opt/fab1data`.

16. Verify the values on the panel. To change a value, click the **Back** button to return to the panel where the value was entered, and specify the new value.

17. When you are satisfied that all the values are correct, click Next on this panel (FIGURE 3-10) to save your data for the setup.

The Modify Fabric Manager Module Instances panel appears with the instances that have been created in the list box.

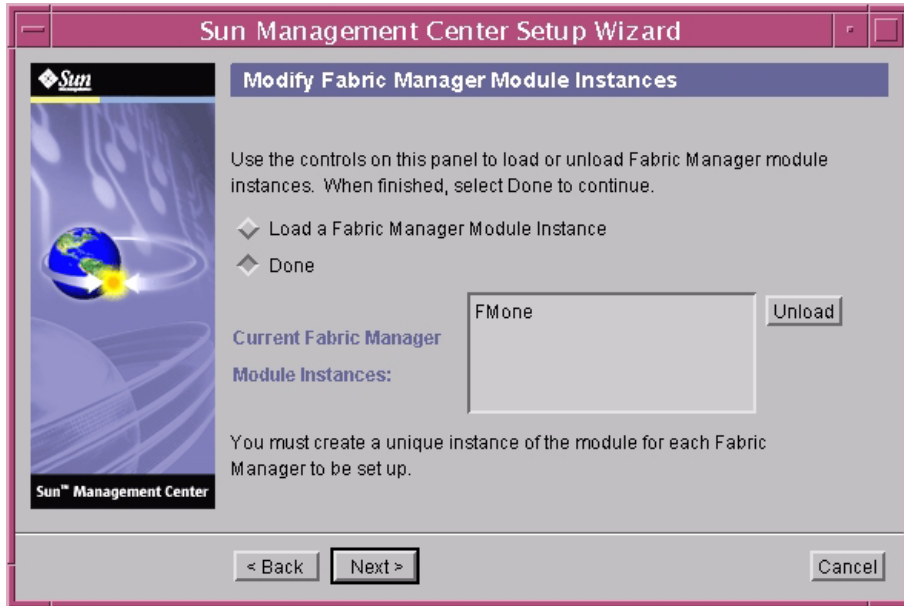


FIGURE 3-11 Modify Fabric Manager Module Instances Panel 2

18. Do any of the following:

- If you want to delete a Fabric Manager module instance, select the instance name and click Unload. Continue with Step 16.
- If you want to create another Fabric Manager module instance, click the button next to Load a Fabric Manager Module instance, and go to Step 7.
- If you are finished creating fabric Manger module instances, click the button next to Done, and go to Step 17.

19. Do one of the following:

- If the Sun Fire Link Switch was installed, go to the procedure "To Set Up Instances of the Sun Fire Link Switch" on page 47.
- If the Sun Fire Link Switch was not installed, go to the procedure "To Complete the Setup Process" on page 56.

▼ To Set Up Instances of the Sun Fire Link Switch

1. Click Next to continue.

The Modify Switch Module Instances panel appears.

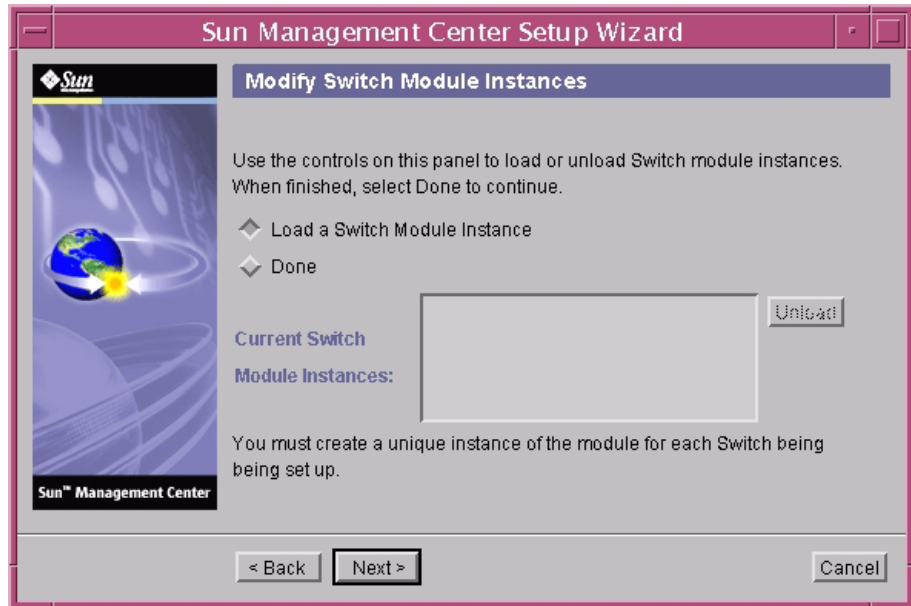


FIGURE 3-12 Modify Switch Module Instances Panel 1

2. Click the button next to Load a Switch Module Instance.

You must create a unique instance of the module for each Switch being set up.

3. Click Next to continue.

The Switch Module Instance Name panel appears.

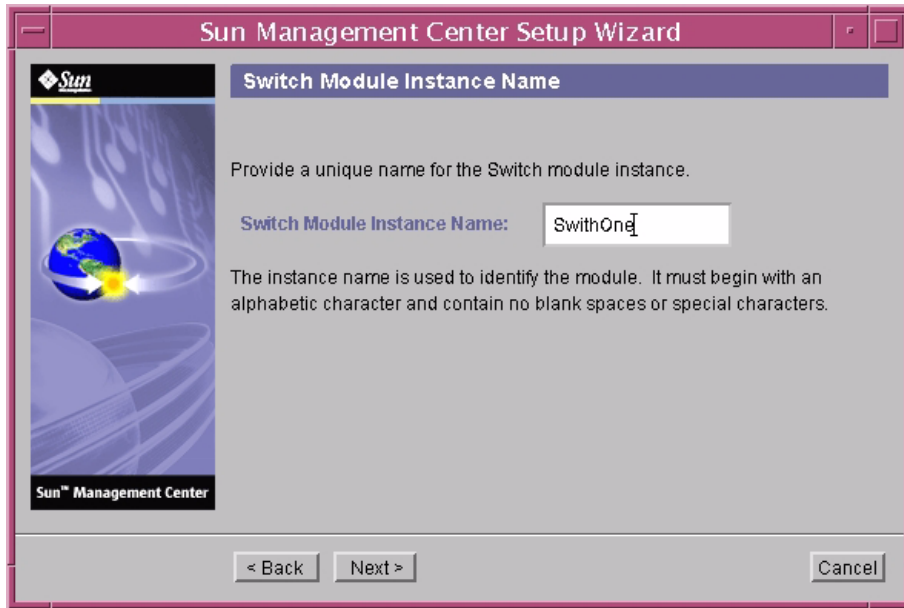


FIGURE 3-13 Switch Module Instance Name Panel

4. Enter a unique name for the Switch module instance.

The instance name identifies the module. It must begin with an alphabetic character and contain no blank spaces or special characters.

5. **Click Next to continue.**

The Switch Module Description panel appears.

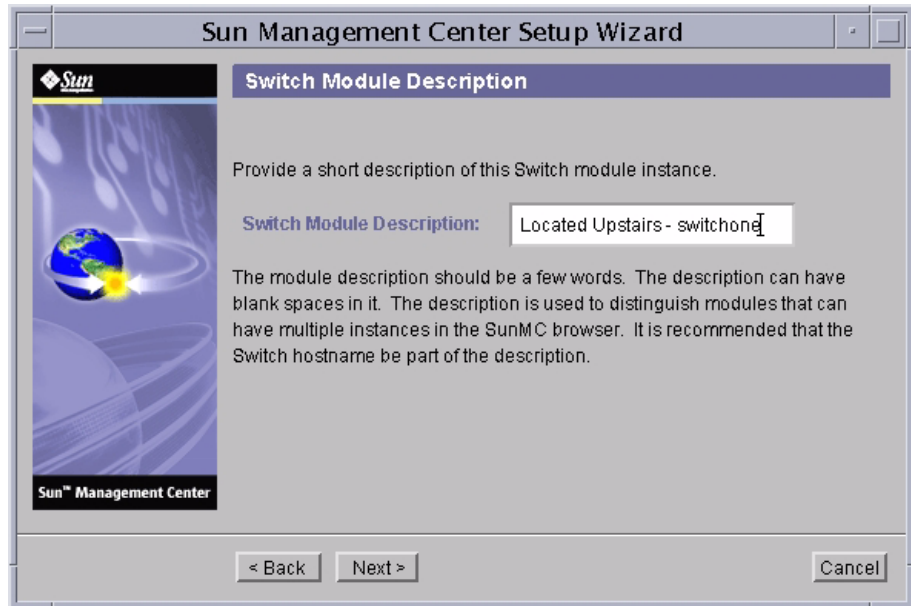


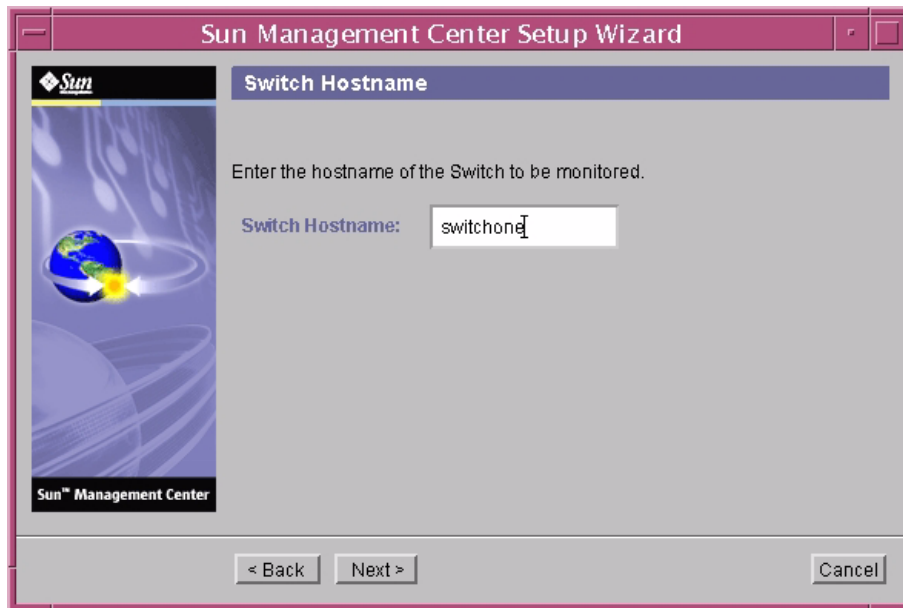
FIGURE 3-14 Switch Module Description Panel

6. **Enter a short description of this Switch module instance.**

The description is used to distinguish modules that have multiple instances in the Sun Management Center console. Putting the Switch host name as part of the description would be a distinguishing characteristic. Blank spaces are allowed.

7. Click Next to continue.

The Switch Hostname Panel appears.



8. Enter the host name of the Switch to be monitored.

9. **Click Next to continue.**

The Public Community String panel appears.

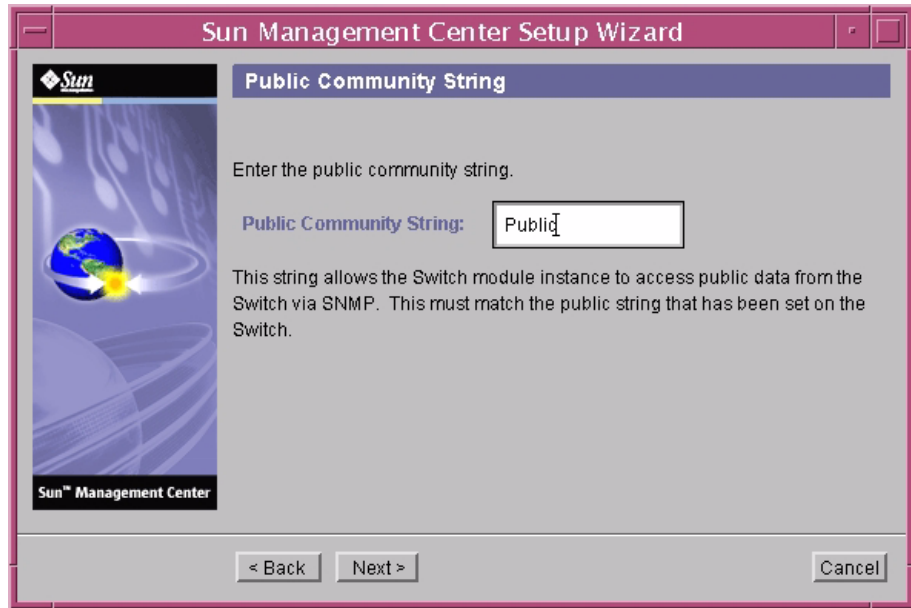


FIGURE 3-15 Public Community String Panel

10. **Enter the public community string, such as Public.**

This string allows the Switch module instance to access public data from the Switch via SNMP. This must match the public string set on the Switch.

11. Click Next to continue.

The Confirmation panel appears.

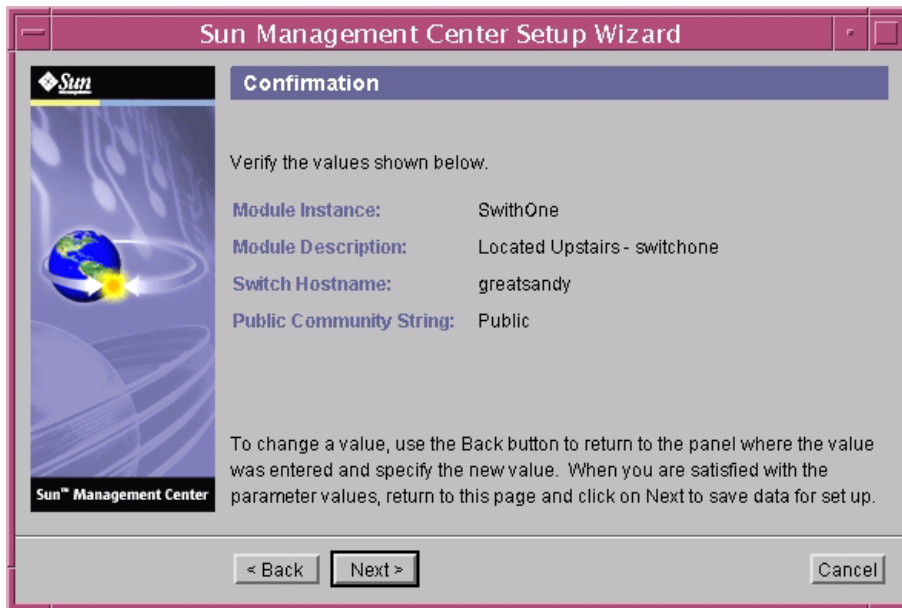


FIGURE 3-16 Switch Confirmation Panel

12. Verify the values on the panel. To change a value, click the Back button to return to the panel where the value was entered, and specify the new value.

13. When you are satisfied that all the values are correct, click Next on this panel (FIGURE 3-10) to save your data for the setup.

The Modify Switch Module Instances panel appears with the instances that have been created in the list box.

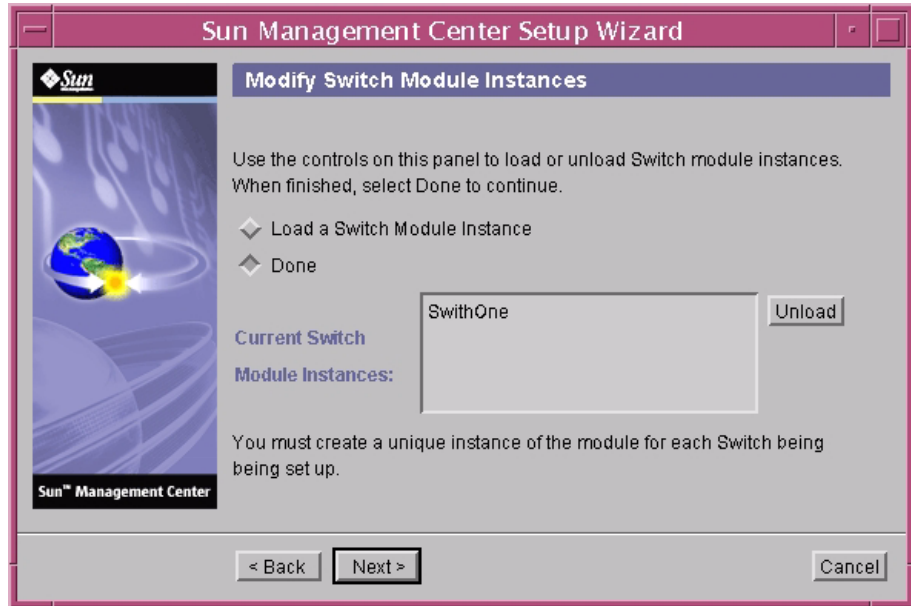


FIGURE 3-17 Modify Switch Module Instances Panel 2

14. Do any of the following:
- If you want to delete a Switch module instance, select the instance name and click Unload. Continue with Step 14.
 - If you want to create another Switch module instance, click the button next to Load a Switch Module instance, and go to Step 2.
 - If you are finished creating Switch module instances, click the button next to Done, and go to Step 15.

▼ To Set Up Sun Fire Link Cluster Nodes

1. Click Next to continue.

The Java Runtime Environment panel appears showing the default path to the Java Runtime Environment.

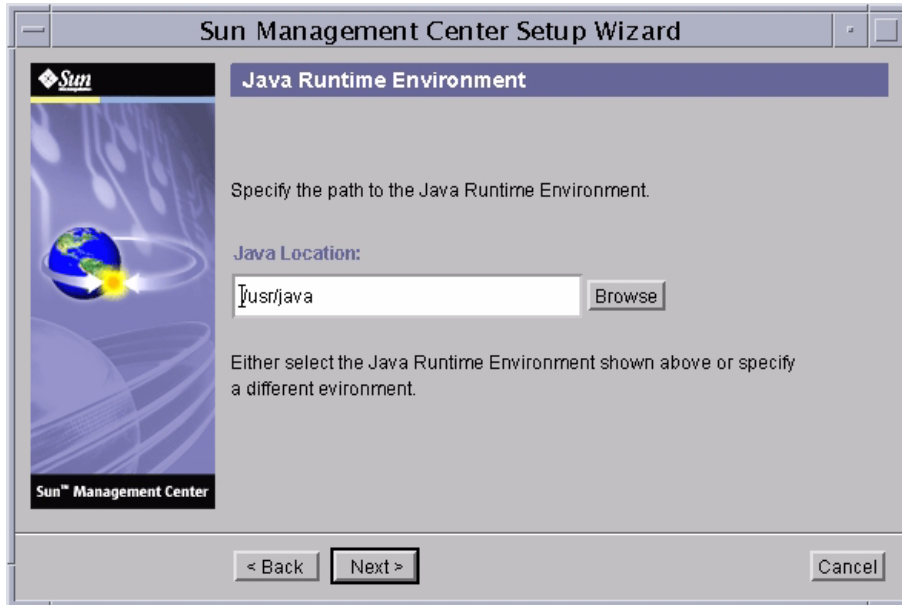


FIGURE 3-18 Java Runtime Environment Panel

2. Do one of the following:

- Keep the default path to the Java location.
- Select a different path to the Java location.

3. **Click Next to continue.**

The Hostname panel appears showing the default IP host name of the node.

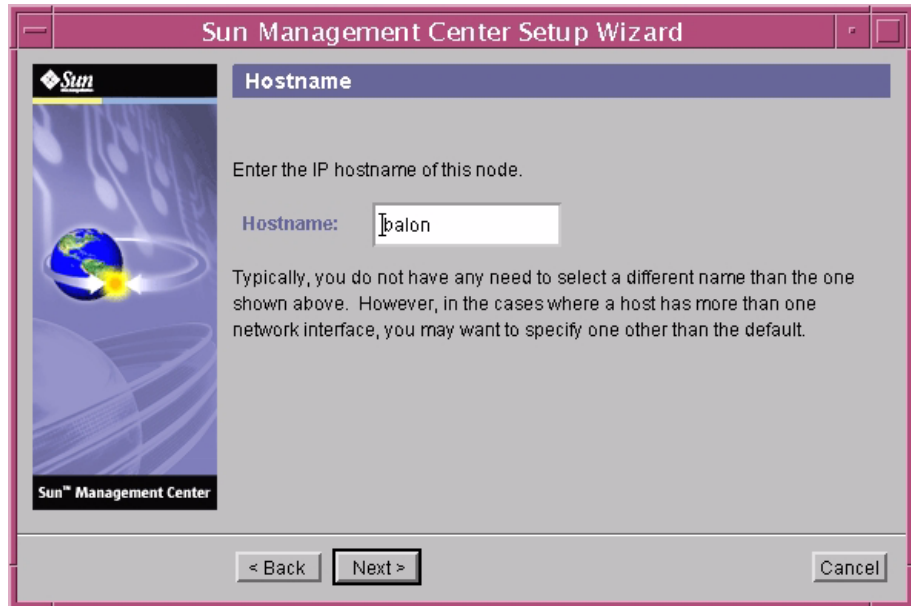


FIGURE 3-19 Hostname Panel

4. **Do one of the following:**

- **Keep the host name as shown.**

Normally you would not need to change this name.

- **Enter a different host name.**

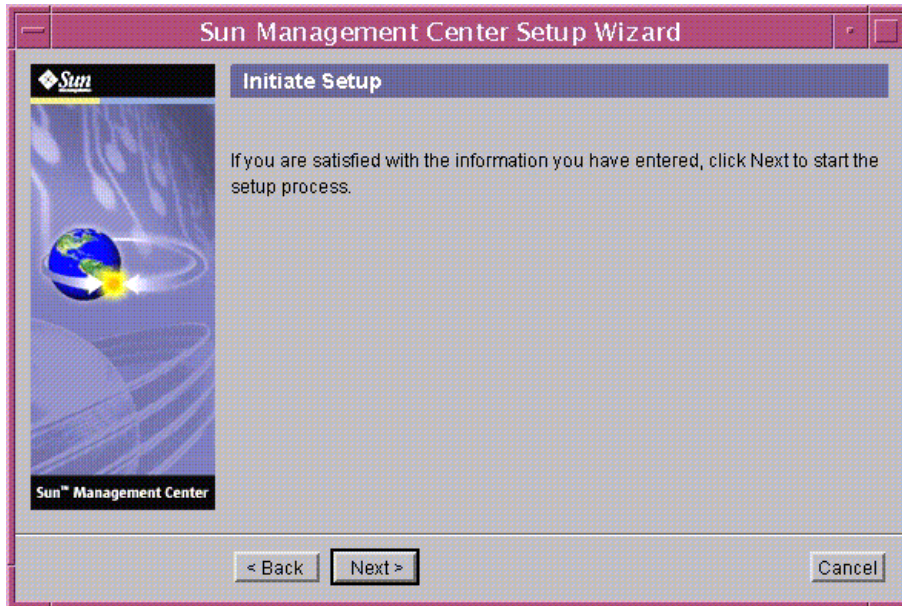
If the host has more than one network interface, you may want to specify a host name other than the default.

5. **Click Next to continue.**

▼ To Complete the Setup Process

1. **Click Next to continue.**

The Initiate Setup panel appears.



2. **Click Next to continue.**

The Setup in Progress panel appears so you can monitor the progress of the setup.

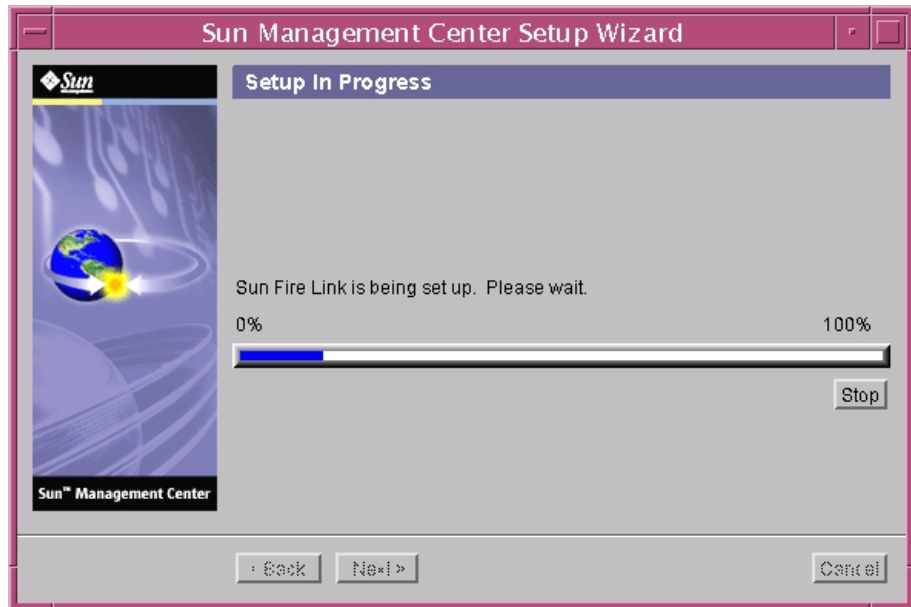


FIGURE 3-20 Setup in Progress Panel

3. Do one of the following:

- Click on **Stop** if you want to stop the setup process.
- Wait until the setup is **100% complete**.

When the setup is complete, the Next button becomes available.

4. Click Next to continue.

The Summary panel appears with this message.

The Sun Fire Link has now been set up. Click Next to continue.

5. Click Next to continue.

You may receive another add-on setup panel or a panel asking whether you want to start the software, depending on what add-ons are left to set up or whether you are finished setting up add-ons.

Installing Sun Fire Link Manager Software

When the Sun Fire Link add-on component is installed and set up during Sun Management Center 3.5 installation, all the Sun Fire Link packages are installed. You will need to set up security access for Sun Fire Link users once the Sun Fire Link add-on component is installed and set up.

▼ To Set Up Sun Fire Link User Access

1. **On each RSM domain, establish security settings for Sun Fire Link user access.**
 - a. **Edit** `/etc/group`.
Add a group named `sfladmin` and add the valid users to this group.
 - b. **Edit** `/etc/passwd`.
Add the users you listed in `/etc/group` to `/etc/passwd`.
 - c. **Execute** `pwconv` **to update** `/etc/shadow`.
 - d. **Execute** `passwd` **to assign passwords to the new users.**
2. **On the Sun Fire Link Manager server, establish security settings for Sun Fire Link users.**
 - a. **Edit** `/etc/group`.
Add a group named `sfladmin` and add the valid users to this group.
 - b. **Edit** `/etc/passwd`.
Add the users you listed in `/etc/group` to `/etc/passwd`.
 - c. **Execute** `pwconv` **to update** `/etc/shadow`.
 - d. **Execute** `passwd` **to assign passwords to the new users.**

Starting Sun Management Center Software Using the Sun Management Center 3.5 Start Wizard

You can use the Sun Management Center 3.5 Start Wizard, `es-guistart`, to start Sun Management Center software. Refer to Chapter 7, “Starting and Stopping Sun Management Center Software,” in the *Sun Management Center 3.5 Installation and Configuration Guide* for detailed options and instructions.

Stopping Sun Management Center Software Using the Sun Management Center 3.5 Stop Wizard

You can use the Sun Management Center 3.5 Stop Wizard, `es-guistop`, to stop Sun Management Center software. Refer to Chapter 7, “Starting and Stopping Sun Management Center Software,” in the *Sun Management Center 3.5 Installation and Configuration Guide* for detailed options and instructions.

Uninstalling Sun Management Center Software Using the Sun Management Center 3.5 Uninstall Wizard

You can use the Sun Management Center 3.5 Stop Wizard, `es-guiuninst`, to uninstall Sun Management Center software. Refer to Chapter 5, “Uninstalling Previous Versions of Sun Management Center Software,” in the *Sun Management Center 3.5 Installation and Configuration Guide* for detailed options and instructions. See “To Uninstall Individual Add-on Modules” on page 83 in this guide if you want to uninstall only one or two modules.

Update Multiple Hosts Using Image Tool and Agent Update

This chapter provides instructions for:

- Creating an Agent Update Image for Sun Fire Link, using either the command line interface (CLI) `es-imagetool` script or the graphical user interface (GUI) `es-gui-imagetool` script
- Updating multiple hosts at the same time, using Agent Update

Note – Be sure you click Store Response Data during the Sun Management Center 3.5 base software setup process if you want to use the `setup-responses-file` to duplicate the setup on the current machine on other machines. That way all of your responses will be stored in

`/var/opt/SUNWsymon/install/setup-responses-file`. For more information, refer to “Setting Up Base Products and Add-ons on the Solaris Platform” in the *Sun Management Center 3.5 Installation and Configuration Guide*.

Creating an Agent Update Image for Sun Fire Link

Sun Fire Link allows you to create an image of one, two, or all of the following Agent components:

- Sun Fire Link Manager
- Sun Fire Link Switch
- Sun Fire Link Cluster Node

Note – Before creating an image, the Sun Fire Link Server component must be installed on the server machine.

The primary use of Agent Update for the Sun Fire Link add-on software is to distribute the Cluster Node component to multiple nodes simultaneously. Because of a Sun Management Center 3.5 limitation, all component setup questions are asked, even when you select a single component for the image.

Typically, as recommended, the Sun Fire Link Manager and Switch components are installed and set up on a single target host machine. However, when you want to image the Manager and Switch components (as shown in CODE EXAMPLE 4-1), three main setup options appear: **l**, **u**, and **d**. Options **l** and **u** correspond to the Sun Management Center load and unload agent module commands. Use option **d** to end the setup for both components.

The Agent Update setup for these components asks you to:

```
Enter the hostname of the node that this data will be
applied....
```

This information is used to apply setup information to a specified target host, as shown in CODE EXAMPLE 4-1. The setup information for a specific target host, while contained in an image which will be distributed to multiple hosts, will be applied only to that target host; for example, if a manager component is imaged for distribution on hosts *tara* and *jenny*, and you only supply setup information for *tara*, that information is only applied to the setup on *tara*.

CODE EXAMPLE 4-1 Image Manager and Switch Components and Specify Target Host

```
Sun Fire Link
-----

-----
Welcome to the Sun Fire Link Addon Setup
-----

-----
Starting Sun Fire Link Manager Setup
-----

Enter "l" to load a module instance, "u" to unload an instance, "d" for done: l
Enter the hostname of the node that this data will be applied to (hostname MUST
be able to be translated to an IP Address): tara
Enter the instance name of the module (unique internal name MUST start with alpha
character and contain no whitespace or special characters): fminst1
```

CODE EXAMPLE 4-1 Image Manager and Switch Components and Specify Target Host (Continued)

```
Enter a short (few words, whitespace is OK) description of this module instance:
Initial install of the Manager
Enter the name of the Fabric you are monitoring: fab1
Enter the FM RMI port number [1099]:
Hit RETURN key if this is NOT an initial install of the Sun Fire Link Manager
on this node. Otherwise the entry will be ignored.
Enter a NON EXISTING Data Directory for the Sun Fire Link Manager (Suggested
location is a new subdirectory of /var/opt/): /var/opt/fab1data

Enter "l" to load a module instance, "u" to unload an instance, "d" for done: u
Enter the hostname of the node that this data will be applied to (hostname MUST
be able to be translated to an IP Address): jenny
Which instance of the Sun Fire Link Manager module would you like to remove?
fminst1

Enter "l" to load a module instance, "u" to unload an instance, "d" for done: l
Enter the hostname of the node that this data will be applied to (hostname MUST
be able to be translated to an IP Address): jenny
Enter the instance name of the module (unique internal name MUST start with alpha
character and contain no whitespace or special characters): fminst2
Enter a short (few words, whitespace is OK) description of this module instance:
This is an update of the Manager
Enter the name of the Fabric you are monitoring: fab2
Enter the FM RMI port number [1099]:
Hit RETURN key if this is NOT an initial install of the Sun Fire Link Manager
on this node. Otherwise the entry will be ignored.
Enter a NON EXISTING Data Directory for the Sun Fire Link Manager (Suggested
location is a new subdirectory of /var/opt/):

Enter "l" to load a module instance, "u" to unload an instance, "d" for done: d

-----
Starting Sun Fire Link Switch Setup
-----

Enter "l" to load a module instance, "u" to unload an instance, "d" for done: l
Enter the hostname of the node that this data will be applied to (hostname MUST
be able to be translated to an IP Address): tara
Enter the instance name of the module (unique internal name MUST start with alpha
character and contain no whitespace or special characters): swinst1
Enter a short (few words, whitespace is OK) description of this module instance:
Monitors swinst1
Enter the hostname of the SWITCH System Controller (hostname MUST be able to be
translated to an IP Address): dryvalley
Enter the public community string of the Switch: public

Enter "l" to load a module instance, "u" to unload an instance, "d" for done: u
```

CODE EXAMPLE 4-1 Image Manager and Switch Components and Specify Target Host (Continued)

```
Enter the hostname of the node that this data will be applied to (hostname MUST
be able to be translated to an IP Address): jenny
Which instance of the SFL Switch module would you like to remove? swinst1
Enter "l" to load a module instance, "u" to unload an instance, "d" for done: d
```

Note – Multiple instantiations of either component’s agent module should not monitor the same Manager or Switch, from the same or different hosts.

If an image contains a Manager component, and setup information is not supplied for target hosts when the component is installed for the first time, default directory information is used when setup is run on that host. The default directory is an area for Sun Fire Link Manager data:

```
/var/opt/FM_xxx
```

where *xxx* represents date and time-specific values.

If a Manager component is included in an image to be applied to hosts in that scenario, setup information must be specified for the target hosts.

Once a Sun Fire Link image has been applied to a target host, regardless of the components that are contained with the image, another update is not allowed by Sun Management Center until an image with an updated version is presented, or the add-on software is removed through Sun Management Center tools.

▼ To Create an Image File of Sun Fire Link Add-on Components

Use the preceding information to perform this step correctly for Sun Fire Link add-on components. For additional information, refer to Chapter 8, “Post-Installation Tasks,” in the *Sun Management Center 3.5 Installation and Configuration Guide* for detailed instructions about using either the Wizard or the CLI Image Tool.

- **Create an Image File of the desired Sun Fire Link add-on components to be distributed to the desired agent machines using either `es-gui-imagetool` or `es-imagetool`, which are base Sun Management Center scripts.**

Updating Multiple Hosts Using Agent Update

Using the Agent Update process, you create an Image File of the add-on components to be distributed to the target machines, and then add a New Job to Manage Jobs Task list to be run when you specify.

The Agent Update process must be run from the Sun Management Center server machine. The target hosts must have *only* the Agent layer installed (the Console layer must *not* be present), and each target host must have the Sun Management Center Agent Update module running.

▼ To Use the Agent Update Process to Update Multiple Hosts

1. **From your main Sun Management Center console window, select the Manage Jobs... option from the Tools menu.**

The system displays the Manage Jobs panel (FIGURE 4-1), which allows you to distribute the Image File.

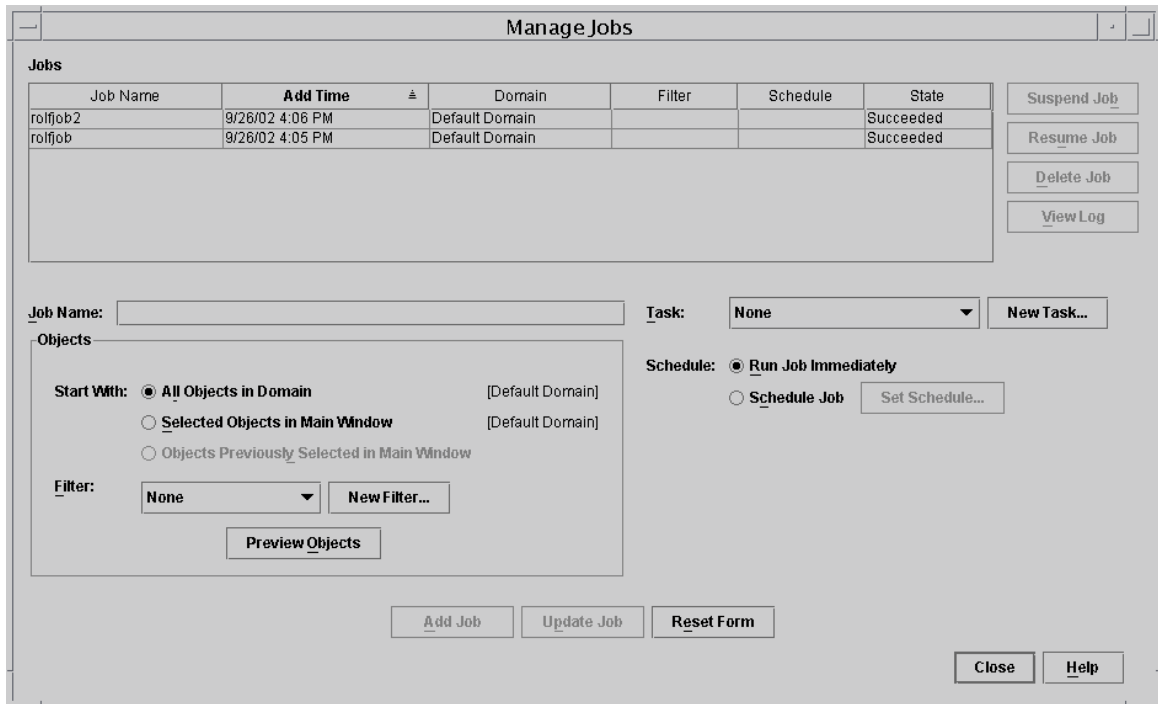


FIGURE 4-1 Manage Jobs Panel

2. In the Manage Jobs panel, select the New Task... button.

The system displays the New Task panel (FIGURE 4-2), which allows you to specify the Agent Update Image File to distribute.

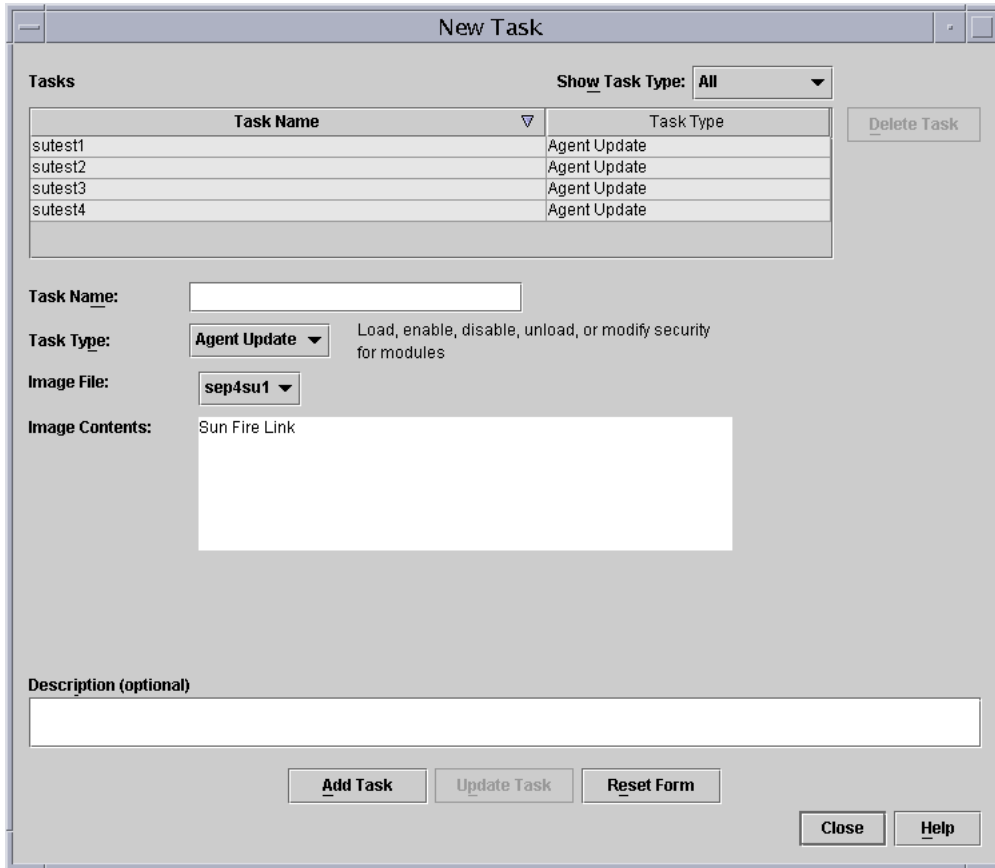


FIGURE 4-2 New Task Panel

3. In the New Task panel (FIGURE 4-2), do the following:
 - a. Select Agent Update for the Task Type.
 - b. Select the Image File you created in Step 1.
 - c. Enter the Task Name.
 - d. Click the Add Task button.
 - e. Click the Close button.
4. In the Manage Jobs panel (FIGURE 4-1), do the following:
 - a. Enter a Job Name.
 - b. Select the Task you created in Step 4.

- c. Do one of the following to schedule when you want the Task to run:
- If you want the Task to run immediately, click the radio button to the left of Run Immediately.
 - If you want to set a schedule for when the Task is to run, click the radio button to the left of Schedule Job, and set the schedule.

Note – Before you select objects (agent machines) where you want the Image File, you can create a group object containing all your agent machines. That way you do not have to select one agent machine at a time. Refer to Chapter 3, “To Create a Group,” in the Sun Management Center 3.5 User’s Guide for more information about creating object groups.

- d. Do one of the following to select the objects (agent machines) to which you want to distribute the Image File:
- Click the radio button to the left of All Objects in Domain to select all objects, and specify any filter you want to use to further select objects.
 - Click the radio button to the left of Selected Objects in Main Window to select one object at a time.
- e. Preview the objects (agent machines) you have selected and redo your selections if necessary.
- f. Click the Add Job button.

The job starts and distributes the Image File to the objects (agent machines) you selected. When the job is running, it appears in the Job list of the Manage Jobs panel. The panel shows the status of the job when running and when complete.

Note – When updating multiple hosts, any failure of a host results in a Failed status even though the majority of the hosts might have been updated successfully. Click on View Log to the right of the Jobs list on the Manage Jobs panel to see an individual list of the updates that succeeded and the updates that failed. If the Agent Update process did succeed, the Sun Management Center agents should restart automatically. You can open a host Details window on the Sun Management center console to each of the targeted hosts, and verify that the expected modules are present and working.

Install SunVTS (*Optional*)

This chapter provides instructions for installing SunVTS, which supports the Sun Fire Link high-performance cluster interconnect for the Sun Fire 15K/12K and Sun Fire 6800 systems. Installing SunVTS is not necessary for the Sun Management Center 3.5 Sun Fire Link add-on component to work.

Install the SunVTS Software

The Solaris 8 and Solaris 9 operating environments require different versions of the SunVTS software.

- Solaris 8 – SunVTS 4.6 FCS
- Solaris 9 – SunVTS 5.1 FCS

The SunVTS packages, including those that support Sun Fire Link, are listed below. Install all packages on each domain of the Sun Fire Link cluster.

Operating Environment	SunVTS Package Name	SunVTS Package Description	Dependencies
Solaris 8	SUNWvts	Core SunVTS	...
	SUNWvtsx	Core SunVTS (64-bit)	SUNvts
Solaris 9	SUNWvts	Core SunVTS	...
	SUNWvtsx	Core SunVTS (64-bit)	SUNvts

- 1. Insert the software supplement CD-ROM supplied with the Solaris 8 or Solaris 9 operating environment CD-ROM. This supplement CD-ROM contains the SunVTS core software packages.**

2. Install the SunVTS core software:

For the Solaris 8 operating environment:

```
# cd $S8_BASEDIR/SUNWvts_4.6
# pkgadd -d . SUNWvts
# pkgadd -d . SUNWvtsx
```

where \$S8_BASEDIR is the root directory for the SunVTS packages in the Solaris 8 path.

For the Solaris 9 operating environment:

```
# cd $S9_BASEDIR/SUNWvts_5.1
# pkgadd -d . SUNWvts
# pkgadd -d . SUNWvtsx
```

where \$S9_BASEDIR is the root directory for the SunVTS packages in the Solaris 9 path.

3. Verify that the packages are installed.

For the Solaris 8 operating environment:

```
# pkginfo | grep SUNWvts
system      SUNWvts      ...
system      SUNWvtsx    ...
```

For the Solaris 9 operating environment:

```
# pkginfo | grep SUNWvts
system      SUNWvts      ...
system      SUNWvtsx    ...
```

4. Apply any patches identified in the *Sun Fire Link Release Notes*.

5. Repeat the SunVTS installation procedure on each domain of the Sun Fire Link cluster.

Configure the RSM Network and the DLPI

This chapter describes the optional next steps after following the procedures in the preceding chapters:

- Configuring the Remote Shared Memory network
- Configuring the Data Link Provider Interface (*optional*)

▼ To Configure the RSM Network

After installing the Sun Fire Link software, the next step is to configure the Remote Shared Memory controllers. Configuring the RSM network is necessary for the Sun Management Center 3.5 Sun Fire Link add-on component to work. This step can be done in two ways.

- By using Sun Management Center software. (*Recommended method*).
- By using the Sun Fire Link Manager from the command line.

Both methods are described in the *Sun Fire Link Fabric Administrator's Guide* in the `/cdrom/sun-fire-link_1.1` directory.

▼ To Configure the DLPI (*Optional*)

After configuring the RSM controllers, you might want to configure the Data Link Provider Interface to permit communication via the TCP/IP protocol. Configuring the DLPI is *not* necessary for the Sun Management Center 3.5 Sun Fire Link add-on component to work. Use your preferred method, as on any other cluster interconnect.

Install, Set Up, and Uninstall Sun Management Center 3.5 Software Using the CLI

This appendix provides instructions for installing, setting up, uninstalling, starting, and stopping the Sun Management Center 3.5 software, including the base software, the Fabric Manager, the RSM proxies, and the Sun Fire Link agent software on their respective hosts using the CLI.

This appendix assumes you are doing a fresh installation. If you are upgrading Sun Management Center 3.0 PU4 software to Sun Management Center 3.5 software, see “Upgrading from Sun Management Center 3.0, Platform Update 4, to Sun Management Center 3.5” on page 5.



Caution – Use the installation and setup scripts or Wizards provided with the Sun Management Center 3.5 software. Do *not* manually add packages or manually change configuration files.

See Chapter 3 for instructions on installing, setting up, and uninstalling the same software using the Sun Management Center 3.5 Wizards.

The CLI script `es-uninst` has an option to uninstall one module, several modules, or all Sun Management Center 3.5 software.

You can install on multiple nodes in parallel using the Agent Update feature. See Chapter 4 for using the Agent Update feature.

Sun Management Center software runs on top of the Sun Fire Link Manager and provides a convenient GUI interface for monitoring and managing the RSM network on a Sun Fire cluster.

The Sun Fire Link release provides Sun Management Center add-on packages for Sun Fire 15K/12K and 6800 systems. TABLE 3-1 lists the Sun Management Center packages provided in the Sun Fire Link release.

These packages need to be installed on various systems.

- Individual cluster domains
- Console for the GUI
- Sun Management Center server
- Sun Fire Link Manager server

The latter three roles might be filled by the same system or by two or three different systems. Most commonly, the administration server doubles as the Sun Management Center console, and a separate (usually larger) system acts as both Sun Management Center server and Sun Fire Link Manager server. See FIGURE 3-1 for a graphic representation of the system location requirements of the various packages.

Note – The `es-inst` script changes various `/etc/system` entries to provide sufficient resources for database activities that Sun Management Center performs. These changes are shown in CODE EXAMPLE A-1.

CODE EXAMPLE A-1 Changes by `es-inst` to `/etc/system`

```
set shmsys:shminfo_shmmax=536870912
set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmni=100
set shmsys:shminfo_shmseg=10
set semsys:seminfo_semmni=100
set semsys:seminfo_semmsl=115
set semsys:seminfo_semmns=200
set semsys:seminfo_semopn=100
set semsys:seminfo_semvmx=32767
```

The examples shown in this section assume the following:

- Sun Management Center 3.5 is being newly installed from CD-ROM.
- The administration server is acting as Sun Management Center console and server and as Sun Fire Link manager server.

If your configuration differs from this, adjust your use of the installation script accordingly.

Installing Sun Management Center 3.5 Base Software Using the CLI

To perform the Sun Management Center 3.5 base software installation, log in to each target system as superuser, and run the Sun Management Center CLI script `es-inst`, which walks you through the installation. For more information about installing using the CLI, refer to Appendix A of the *Sun Management Center 3.5 Installation and Configuration Guide*.

Instructions for Upgrading From Sun Fire Link 1.0 Software to Sun Fire Link 1.1 Software

If you will be upgrading a system from Sun Fire Link 1.0 software to 1.1 software, you must first remove the version 1.0 packages from the FM server and the cluster nodes. The procedure for doing this is described below.

1. Stop the RSM proxy daemons on every cluster node.

```
# /etc/init.d/wrsm_proxy stop
```

2. Remove the FM packages from the FM server and every cluster node.

```
# /etc/init.d/wrsm_proxy stop
```

Installing Sun Fire Link Add-on Software for Sun Management Center 3.5 Using the CLI

You need to install the Sun Management Center 3.5 Base software first. Once that is installed, you can install the add-on software that supports the Sun Fire Link. At this point you can also install add-on software that supports the Sun Fire 15K/12K systems and Sun Fire 6800 systems. For more information about installing Sun Fire 15K/12K systems using the CLI, refer to Appendix A of the *Sun Management Center 3.5 Supplement for Sun Fire 15K/12K Systems*. For more information about installing Sun Fire 6800 systems using the CLI, refer to Appendix A of the *Sun Management Center 3.5 Supplement for Sun Fire 6800/4810/4800/3800 Systems*.

▼ To Install Sun Fire Link Add-on Software Using the CLI

Note – When installing the Sun Management Center software, type **y** for yes, **n** for no, or **q** to quit.

1. As superuser, type:

```
# ../sbin/es-inst -S
```

The preceding example assumes you are in the `.../disk1/image` directory.

The script displays this message.

```
-----  
This script will help you to install Sun (TM) Management Center 3.5.  
-----
```

```
Source directory: /SunManagementCenter/disk1/image
```

```
Target Directory: /opt
```

2. Either accept the default of /opt, or enter a different target directory.

The script displays this message.

```
Checking for Add-On products. Please wait...

Sun Management Center Product Selection
The following Add-On Products are available for your selection:

Sun Fire Link

Do you want to install the product: Sun Fire Link? [y|n|q]
  This product has the following Optional Components:
  Sun Fire Link Server
  Select for install? [y|n|q]
  Sun Fire Link Manager
  Select for install? [y|n|q]
  Sun Fire Link Switch
  Select for install? [y|n|q]
  Sun Fire Link Cluster Node
  Select for install? [y|n|q]
Sun Fire Link Console
  Select for install? [y|n|q]
```

3. Type y for each optional component you want to install.

The script displays this message.

```
The following Add-On Products will be installed:
Sun Fire Link

Do you want to proceed? [y|n|q]
```

4. Type y to proceed with installation, n to not proceed, or q to quit.

If you type **y** to proceed, all the add-on products you selected are installed in turn. The script displays a message when each product is installed, saying that the installation was successful. You then receive a message asking if “you want to run setup now?”

Setting Up Sun Management Center 3.5 Software Using the CLI

You can specify that you want to run setup right after installation. Or you can do it at a separate time, which the procedure below assumes. For more information about setting up Sun Management Center 3.5 software using the CLI, refer to Appendix A in the *Sun Management Center 3.5 Installation and Configuration Guide*.

▼ To Set up Sun Management 3.5 Add-on Software for Sun Fire Link

Note – When setting up Sun Management Center software, type **y** for yes, **n** for no, or **q** to quit.

1. As superuser, type:

```
# ./es-setup
```

The script displays this message.

```
-----  
This script will help you to setup Sun (TM) Management Center 3.5.  
-----  
  
Setting up Addon[s]...  
-----  
Welcome to the Sun Fire Link Addon Setup  
-----  
  
-----  
Starting Sun Fire Link Server Setup  
-----  
  
-----  
Starting Sun Fire Link Manager Setup  
-----  
  
The following are the current Sun Fire Link Manager module instances and their  
corresponding monitored Fabrics:  
ijjfab jjfab  
  
Enter "l" to load a module instance, "u" to unload an instance, "d" for done:
```

2. Type l to load a module instance, u to unload an instance, or d for done.

If you type **d**, the script displays this message.

```
Enter the path to a valid JRE[/usr/java]:
```

3. Either accept the default path to a valid Java Runtime Environment (/usr/java), or enter a different path to a valid JRE.

The script displays this message.

```
Enter a NON EXISTING Data Directory for the Sun Fire Link Manager(Suggested  
location is a new subdirectory of /var/opt/):
```

4. Enter a **NON-EXISTING Data Directory for the Sun Fire Link Manager**; for example, `/var/opt/fmjm` as a subdirectory of `/var/opt/`.

The script displays this message.

```
-----  
Starting Sun Fire Link Switch Setup  
(install will require Switch Hostname and SNMPv1 public community string)  
-----  
  
The following are the current Sun Fire Link Switch module instances:  
No instances present.  
  
Enter "l" to load a module instance, "u" to unload an instance, "d" for done:
```

5. Type **l** to load a module instance, **u** to unload an instance, or **d** for done.

If you enter **d**, the script displays this message.

```
Do you want to start Sun Management Center agent and server components now?  
[y|n|q]
```

Whether you start the software now or not, the script tells you that the "Setup of Sun Management Center is complete," and tells you the location of the setup logfile.

Installing Sun Fire Link Manager Software

When the Sun Fire Link add-on component is installed and set up during Sun Management Center 3.5 installation, all the Sun Fire Link packages are installed. You will need to set up security access for Sun Fire Link users once the Sun Fire Link add-on component is installed and set up.

▼ To Set Up Sun Fire Link User Access

1. On each RSM domain, establish security settings for Sun Fire Link user access.

- a. **Edit** `/etc/group`.
Add a group named `sfladmin` and add the valid users to this group.
 - b. **Edit** `/etc/passwd`.
Add the users you listed in `/etc/group` to `/etc/passwd`.
 - c. **Execute** `pwconv` **to update** `/etc/shadow`.
 - d. **Execute** `passwd` **to assign passwords to the new users**.
2. **On the Sun Fire Link Manager server, establish security settings for Sun Fire Link users.**
- a. **Edit** `/etc/group`.
Add a group named `sfladmin` and add the valid users to this group.
 - b. **Edit** `/etc/passwd`.
Add the users you listed in `/etc/group` to `/etc/passwd`.
 - c. **Execute** `pwconv` **to update** `/etc/shadow`.
 - d. **Execute** `passwd` **to assign passwords to the new users**.

Uninstalling Sun Management Center 3.5 Software Using the CLI

You can uninstall:

- All the Sun Management Center software (see “To Uninstall All Sun Management Center Software Using the CLI” on page 82)
- Either or both of the two modules of the Sun Fire Link add-on software (see “To Uninstall Individual Add-on Modules” on page 83)

For more information about uninstalling using the CLI, refer to Appendix A of the *Sun Management Center 3.5 Installation and Configuration Guide*.

▼ To Uninstall All Sun Management Center Software Using the CLI

Note – When uninstalling the Sun Management Center software, type *y* for yes, *n* for no, or *q* to quit.

1. As superuser, type:

```
# ./es-uninst
```

The system displays this message.

```
This script will help you to uninstall the Sun Management Center software.
```

```
Following Sun Management Center Products are installed:
```

```
-----  
PRODUCT                                DEPENDENT PRODUCTS  
-----
```

```
Production Environment                 All Addons  
Sun Fire Link                          None
```

```
Do you want to uninstall Production Environment? [y|n|q]
```

2. Type *y* to uninstall Production Environment, which uninstalls all Sun Management Center software.

The system displays this message.

```
This will uninstall ALL Sun Management Center Products. !!!
```

```
Do you want to change selection? [y|n|q]
```

3. Do one of the following:

- Type *y* to change your selection.

The system displays your selection; go to the beginning of Step 2.

- **Type `n` to *not* change your selection.**

The system displays this message.

```
Do you want to preserve database? [y|n|q]
```

Note – If you answer **y** for yes, the system preserves any data in the database, including open and closed alarms, loaded modules and their configurations, discoveries, managed objects, and rule thresholds.

4. **Type `y` to keep any existing topology and event data; or type `n` to discard the data.**

The system displays this message.

```
Proceed with uninstall? [y|n|q]
```

5. **Type `y` to proceed with the uninstall; or type `n` to *not* proceed with the uninstall.**

If you type **y** to proceed, the system displays the list of packages to be uninstalled, the packages as they are uninstalled, the status of the uninstallation, and the location of the log file.

▼ To Uninstall Individual Add-on Modules

The Sun Fire Link add-on module you can install is:

- Sun Fire Link

Note – When uninstalling the Sun Management Center software, type **y** for yes, **n** for no, or **q** to quit.

1. **As superuser, type:**

```
# ./es-uninst
```

The system displays this message.

```
This script will help you to uninstall the Sun Management Center software.
Following Sun Management Center Products are installed:
-----
PRODUCT                                DEPENDENT PRODUCTS
-----
Production Environment                 All Addons
Sun Fire Link                          None

Do you want to uninstall Production Environment? [y|n|q]
```

2. Type **n** to *not* uninstall the Production Environment; in other words, type **n** to uninstall individual modules.

The system displays this message.

```
Do you want to uninstall Sun Fire Link [y|n|q]
```

3. Type **y** beside the module if you do want to uninstall it and **n** beside the module if you do *not* want to uninstall it.

The system displays the module that will be uninstalled and this message.

```
Do you want to change selection? [y|n|q]
```

4. Do one of the following:

- Type **y** to change the selections.

The system displays your selections; go to the beginning of Step 3.

- Type **n** to *not* change your selections.

The system displays this message.

```
Proceed with uninstall? [y|n|q]
```

5. Type **y** to proceed with the uninstall; or type **n** to *not* proceed with the uninstall.

If you type **y** to proceed, the system displays the list of packages to be uninstalled, the packages as they are uninstalled, the status of the uninstallation, and the location of the log file.

Starting Sun Management Center Software

The `es-start` command requires different command arguments, depending on which component you are starting. Refer to the *Sun Management Center 3.5 Installation and Configuration Guide* for a list of the options for `es-start`. The `-h` option for `es-start` also lists all the options. The following procedure describes some common `es-start` options.

▼ To Start Sun Management Center Software

1. **Log in as superuser on the machine where the components are to be started.**
2. **Change the directory to the `/opt/SUNWsymon/sbin` directory.**

This example assumes that your software is in the default area `/opt`. If not, replace `/opt` with your own path.

```
# cd /opt/SUNWsymon/sbin
```

On the system controller, start the Sun Management Center agents.

```
# ./es-start -al
```

This command starts the base and platform agents. The platform agent provides all the Sun Fire 15K/12K, Sun Fire 6800, and Sun Fire Link system information to Sun Management Center software.

3. **To start the Sun Management Center agent on a Sun Fire 15K/12K or Sun Fire 6800 domain with only the Sun Management Center agent layer installed, type:**

```
# ./es-start -a
```

4. **To start all the Sun Management Center components on the Sun Management Center server host with all layers installed, type:**

```
# ./es-start -A
```

Note – Upon rebooting, all Sun Management Center agents start automatically.

5. To start the console, type:

```
# ./es-start -c
```

Note – To start the console, you can also be logged in as your own user ID; you do not have to be logged in as superuser. However, to access the platform or domain information, you must be in the appropriate security access groups.

Stopping and Exiting Sun Management Center Software

This section describes stopping and exiting Sun Management Center software.

- Stop the server and agent components by typing the `es-stop` command with the correct command argument.
- Exit the console through the main console window.

▼ To Stop Server and Agents

The `es-stop` command requires different command arguments depending on which component you are stopping. Refer to the *Sun Management Center 3.5 Installation and Configuration Guide* for a list of the `es-stop` options. The `-h` option for `es-stop` also lists all the options. The following procedure describes some common `es-stop` options.

1. Log in as superuser on the machine where the components are to be stopped.
2. Change the directory to the `/opt/SUNWsymon/sbin` directory.

This example assumes that your software is in the default area `/opt`. If not, replace `/opt` with your own path.

```
# cd /opt/SUNWsymon/sbin
```

3. To stop the server and agent components on the server machine, type:

```
# ./es-stop -Sa
```

4. To stop the domain agent components on the host machine for a domain, type:

```
# ./es-stop -a
```

5. On the system controller, to stop the host agent, which monitors the SC, and platform agent, type:

```
# ./es-stop -al
```

▼ To Exit Console

1. From the menu bar on the main console window, select File and Exit.
2. Click the Exit button on the Exit Sun Management Center dialog box.

Glossary

This list defines abbreviations and acronyms in the *Sun Fire Link Software Installation Guide* and in the Sun Management Center graphical user interface (GUI) for Sun Fire 15K/12K and 6800 system-specific modules.

CD-ROM	Compact Disc-Read Only Memory
CLI	Command-Line Interface
CPU	Central Processing Unit
DLPI	Data Link Provider Interface
DNS	Domain Name Service
DR	Dynamic Reconfiguration
FCS	First Customer Shipment
FM	Fabric Manager
FTP	File Transfer Protocol
GUI	graphical user interface
HPC	High-Performance Computing
HTML	HyperText Markup Language
I/O	Input/Output
IB6 - IB9	I/O Assemblies
JDK	Java Development Kit
JRE	Java Runtime Environment
MPI	Message Passing Interface

NFS	Network File Services
PDF	Portable Data Format
PROM	Programmable Read-Only Memory
RSM	Remote Shared Memory
RTOS	real-time operating system
SB0 - SB5	CPU/Memory boards
ScApp	Sun Fire 6800 firmware
SC	system controller
SMS	System Management Services for Sun Fire 15K/12K Systems
SNMP	Simple Network Management Protocol
SSC	Switch System Controller
SunVTS	Sun Validation Test Suite
TCP/IP	Transmission Control Protocol/Internet Protocol
URL	Uniform Resource Locator
WcApp	Sun Fire Link and Sun Fire 15K/12K SMS interface daemon
WCI	Sun Fire Link Interconnect