Sun™ Management Center 3.5 Version 6 Supplement for Sun Fire™ High-End Systems

Sun Microsystems, Inc.
www.sun.com

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Preface

This *Sun™ Management Center 3.5 Version 6 Supplement for Sun Fire™ High-End Systems* provides instructions on how to install, configure, and use Sun Management Center software on these Sun Fire high-end systems:

- Sun Fire E25K
- Sun Fire E20K
- Sun Fire 15K
- Sun Fire 12K

Systems containing UltraSPARC® IV and UltraSPARC IV+ CPU/Memory boards are supported.

This supplement is intended for system administrators of Sun Fire high-end systems who install and use the Sun Management Center software to monitor and manage their Sun Fire high-end systems.

The Sun Management Center software and documents for Sun Fire high-end systems are available in French, Japanese, Korean, Simplified Chinese, Traditional Chinese, and English. However, the examples of screens in this supplement 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

Read this supplement after reading the *Sun Management Center Installation and Configuration Guide*, which provides instructions for installing and configuring Sun Management Center software, and the *Sun Management Center User's Guide*, which provides instructions for using Sun Management Center software.

Note – For the latest information about this product, go to the Sun Management Center Web site at `http://www.sun.com/sunmanagementcenter`.

How This Book Is Organized

Chapter 1 introduces Sun Management Center software on the Sun Fire high-end systems.

Chapter 2 describes how to install, set up, start, stop, uninstall, reinstall, and reconfigure Sun Management Center software on the Sun Fire high-end systems. Use this chapter with the *Sun Management Center Installation and Configuration Guide*.

Chapter 3 describes how to set up administrative access security for Sun Management Center on the Sun Fire high-end systems.

Chapter 4 describes how to create, modify, and discover Sun Fire high-end system topology objects.

Chapter 5 describes platform, system controller, and domain data, which is specific to Sun Fire high-end systems and is shown in the respective Details window.

Chapter 6 briefly describes each property and the alarm rules used by the Sun Fire high-end system add-on components.

Chapter 7 describes how to use the dynamic reconfiguration and other management commands from the Platform/Domain State Management (PDSM) module, which is based on the System Management Services (SMS) commands.

Chapter 8 describes how to use the dynamic reconfiguration and other management commands from the dynamic reconfiguration (DR) module, which is based on the configuration administration `cfgadm`(1M) command.

Appendix A describes how to install and set up Sun Management Center software using the command-line interface (CLI).

A Glossary defines abbreviations and acronyms used in this supplement and in the Sun Management Center graphical user interface (GUI) for Sun Fire high-end system–specific modules.

A comprehensive Index helps you find information quickly in this supplement.

Localized Documentation

The Sun Management Center 3.5 documents for Sun Fire midrange systems are available in French, Japanese, Korean, Simplified Chinese, and Traditional Chinese. However, the examples of screens in this supplement appear only in English.

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

Open Source Information

The Sun Management Center 3.5 product includes open source software. Refer to the *Sun Management Center Installation and Configuration Guide* for information about license terms, attribution, and copyright statements for open source software included in this release.

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. See the following for this information:

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at

  `http://docs.sun.com`

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#

Typographic Conventions

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

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

Related Documentation

Application	Title
Issues, limitations, and bugs for Sun Management Center	*Sun Management Center Release Notes*
Installation and configuration for Sun Management Center	*Sun Management Center Installation and Configuration Guide*
Usage of Sun Management Center	*Sun Management Center User's Guide*
Overview	*Sun Fire High-End Systems Software Overview Guide*
Issues, limitations, and bugs for SMS and SMS DR	*System Management Services (SMS) Release Notes*
Installation and setup for SMS	*System Management Services (SMS) Installation Guide*
SMS administration	*System Management Services (SMS) Administrator Guide*
SMS reference	*System Management Services (SMS) Reference Manual*
Sun Fire high-end systems DR	*Sun Fire High-End and Midrange Systems Dynamic Reconfiguration User Guide*
Hardware	*Sun Fire E25K/E20K Systems Service Manual* *Sun Fire 15K/12K Systems Service Manual*
`luxadm`	*Platform Notes: Using luxadm Software*

Documentation, Support, and Training

Sun Function	URL	Description
Documentation	http://www.sun.com/documentation/	Download PDF and HTML documents, and order printed documents.
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Please include the title and part number of your document with your feedback:

Sun Management Center 3.5 Version 6 Supplement for Sun Fire High-End Systems, part number 819-0417-10.

CHAPTER 1

Introduction

Sun Management Center software is an open, extensible system monitoring and management application that uses Java™ software protocol and Simple Network Management Protocol (SNMP) to provide an integrated and comprehensive enterprise-wide management of Sun™ products and their subsystems, components, and peripheral devices.

The *Sun Management Center User's Guide* includes definitions, explanations, and diagrams that clarify the Sun Management Center architecture. Review that document whenever you have questions about how consoles, servers, agents, domains, and modules interact.

The Sun Fire high-end systems add-on software provides support for the Sun Fire high-end platforms, system controllers, and domains. The following Sun Fire high-end systems model numbers are supported in this release:

- E25K
- E20K
- 15K
- 12K

Systems containing UltraSPARC® IV and UltraSPARC IV+ CPU/Memory boards are supported.

For the Sun Fire high-end platforms, hardware configuration information resides both on the system controllers (SCs), currently CP1500s or CP2140s, and on each of the individual platform domains. Hardware configuration information, process monitoring, and management operations for the Sun Fire high-end systems are provided by the Sun Fire high-end systems agent modules listed in TABLE 1-1:

TABLE 1-1 Sun Fire High-End Systems Agent Modules

Agent Modules	Description
Platform Config Reader (PCR)	Provides information about the hardware configuration for the entire Sun Fire high-end systems platform
Platform/Domain State Management (PDSM)	Enables an administrator to perform platform and domain management, and global dynamic reconfiguration of system boards across the platform
Domain Config Reader (DCR)	Provides the hardware configuration for Sun Fire high-end systems domains
Dynamic Reconfiguration (DR)	Enables an administrator to perform dynamic reconfiguration of boards on one domain at a time
SC Config Reader	Provides the hardware configuration for system controllers in Sun Fire high-end systems
SC Monitoring (SCM)	Monitors the System Management Services (SMS) daemons on the active system controller for Sun Fire high-end systems
SC Status	Determines whether a system controller is the main or spare system controller on Sun Fire high-end systems

CHAPTER 2

Installation and Setup

This chapter describes how to install, set up, uninstall, reinstall, and reconfigure the Sun Management Center software for the Sun Fire high-end systems using Sun Management Center Wizards.

The Sun Management Center software is divided into:

- Base packages that provide the Sun Management Center infrastructure and basic support
- Add-on components that provide support for particular hardware platforms
- Licensed add-on products for additional features

Sun Fire high-end systems support requires the Sun Management Center base packages and the Sun Fire high-end systems add-on packages. The *Sun Management Center Installation and Configuration Guide* describes basic information about installing, setting up, starting, and stopping the Sun Management Center software. This chapter describes the processes specifically related to the Sun Fire high-end systems.

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

Your Sun Management Center scripts or Wizard panels might not display exactly the same messages in exactly the same sequence as the examples shown in this supplement. 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 Fire High-End System-Specific Packages

The Sun Fire high-end system–specific packages received with the Sun Management Center basic functionality is listed in TABLE 2-1. Refer to the *Sun Management Center Installation and Configuration Guide* for information about general Sun Management Center prerequisites.

TABLE 2-1 Sun Management Center Packages for the Sun Fire High-End Systems

Package	Description	Layer
SUNWesscp	Sun Management Center Sun Fire High-End Systems Platform Agent Support	Agent
SUNWesscd	Sun Management Center Sun Fire High-End Systems Domain Agent Support	Agent
SUNWscsca	Sun Management Center Sun Fire High-End System Controller Agent Support	Agent
SUNWesadf	Sun Management Center Agent Support for Dynamic Reconfiguration on Sun Fire High-End and Midrange Systems	Agent
SUNWesscg	Sun Management Center Sun Fire High-End Systems Common Support (Master Setup and Uninstall Scripts)	Agent, Server
SUNWensca	Sun Management Center Sun Fire High-End Systems English Message Files	Agent, Server
SUNWesscs	Sun Management Center Sun Fire High-End Systems Server Support	Server
SUNWscscs	Sun Management Center Sun Fire High-End System Controller Server Support	Server
SUNWessdf	Sun Management Center Server Support for Dynamic Reconfiguration on Sun Fire High-End and Midrange Systems	Server
SUNWesccd	Sun Management Center Sun Fire Support - Console Component for Dynamic Reconfiguration	Server, Console
SUNWescdf	Sun Management Center Console Support for Dynamic Reconfiguration on Sun Fire High-End and Midrange Systems	Server, Console
SUNWensdr	Sun Management Center Sun Fire High-End and Midrange Systems English DR Message Files	Server, Console

Network Port Configuration

Sun Management Center software requires network ports to communicate with various components of the system. The default port addresses for these components are listed in TABLE 2-2:

TABLE 2-2 Default Sun Management Center Port Addresses

Layer	Component	Default Port Number
Agent	Agent	161
Server	Trap handler	162
Server	Event manager	163
Server	Topology manager	164
Server	Configuration server	165
Agent	Platform agent	166
Server	Metadata	168

In some cases, this default port configuration conflicts with software already running on your system. Some Sun Fire high-end systems domains might have port 161 conflicts because of the presence of legacy SMNP agents. During the Sun Management Center software setup, specify an alternative network port to avoid this conflict. Refer to the *Sun Management Center Installation and Configuration Guide* for further information about solving port conflicts.

To create and access topology objects, the Sun Management Center agent layer software uses port 161 by default. If you configure an agent to use an alternative port, you must specify that port when the topology object is created or discovered. To simplify your Sun Management Center network configuration and management and enable more efficient discovery of Sun Management Center agents, choose an alternative port number and use that number for all agent installations that cannot use the default port configuration.

The Sun Fire high-end and midrange system controller has two Sun Management Center agents: the agent and the platform agent. The *agent* provides information about the system controller and the *platform agent* provides information about the Sun Fire high-end systems. Usually there are no port conflicts with the default port configuration for the platform agent. When a platform topology object is created or discovered, the correct default port is provided and does not need to be specified.

What You Can Do

With Sun Management Center software, you can install, set up, uninstall, and update the software in several different ways. TABLE 2-3 lists the various methods with a cross-reference to the information in this supplement and the *Sun Management Center Installation and Configuration Guide*.

TABLE 2-3 Installation, Setup, Uninstallation, and Update Procedures

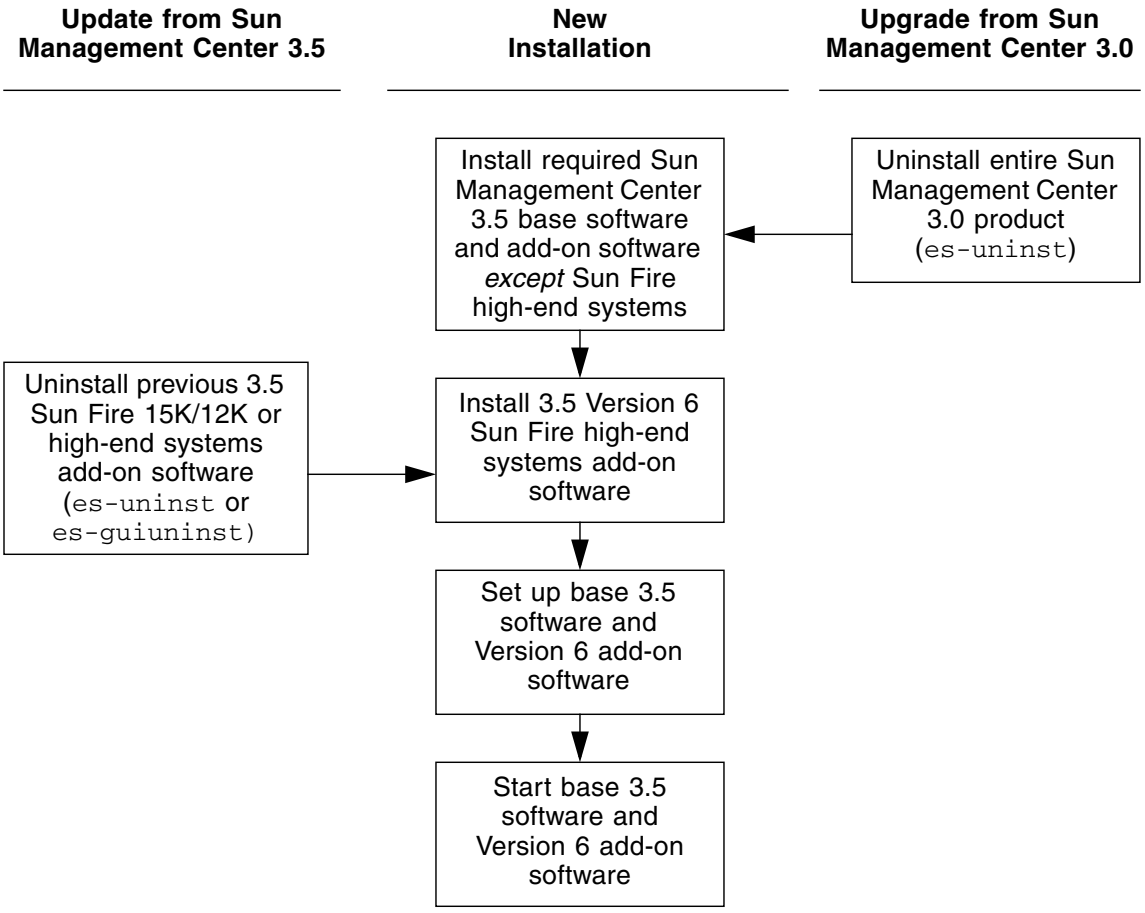
To Perform This Task	Refer to
Install base and add-on software using the CLI	Appendix B of the *Sun Management Center Installation and Configuration Guide*
Set up Sun Fire high-end systems add-on packages using the CLI	Appendix B of the *Sun Management Center Installation and Configuration Guide*
Update multiple hosts using Agent Update	"Updating Multiple Hosts Using Agent Update" on page 27 Creating Agent Installation and Update Images" in Chapter 6 of the *Sun Management Center Installation and Configuration Guide*
Uninstalle using the CLI	"Uninstalling Software Using the CLI" on page 33 Appendix B of the *Sun Management Center Installation and Configuration Guide*
Start software using the CLI	"Starting Sun Management Center Software Using the CLI" on page 36 "Starting Components Using `es-start`" in Chapter 8 of the *Sun Management Center Installation and Configuration Guide*
Stop software using the CLI	"Stopping and Exiting Sun Management Center Software Using the CLI" on page 38 "Stopping Components Using `es-stop`" in Chapter 8 of the *Sun Management Center Installation and Configuration Guide*
Install software using the Sun Management Center Installation Wizard	"Installing the Sun Fire High-End Systems Add-On Software Using the Sun Management Center Installation Wizard" on page 14 "Installing Sun Management Center on the Solaris Platform" in Chapter 6 of the *Sun Management Center Installation and Configuration Guide*
Set up, using the Sun Management Center Setup Wizard	"Setting Up the Sun Fire High-End Systems Add-On Software Using the Sun Management Center Setup Wizard" on page 15 "Setting Up Base Products and Add-Ons on the Solaris Platform" in Chapter 6 of the *Sun Management Center Installation and Configuration Guide*

TABLE 2-3 Installation, Setup, Uninstallation, and Update Procedures *(Continued)*

To Perform This Task	Refer to
Start, Using Wizard	"Starting Components Using `es-guistart`" in Chapter 8 of the *Sun Management Center Installation and Configuration Guide*
Stop, Using Wizard	"Stopping Components Using `es-guistop`" in Chapter 8 of the *Sun Management Center Installation and Configuration Guide*
Uninstall, Using Wizard	"Uninstalling Sun Management Center" in Appendix A of the *Sun Management Center Installation and Configuration Guide*

Installation Process Overview

FIGURE 2-1 shows a high-level view of the installation process.



Note - You can use Agent Update to install the software on multiple agent hosts.

FIGURE 2-1 Installation Process Flow

Updating Existing Sun Management Center 3.5 Add-On Software

If you are updating existing Sun Management Center 3.5 add-on software for Sun Fire high-end systems, you must:

- Remove the existing add-on software from the server, system controllers, and domains on your Sun Fire high-end systems.
- Install and set up the new add-on software on the server, system controllers, and domains on your Sun Fire high-end systems.

Uninstalling the Sun Management Center 3.5 Add-On Software for Sun Fire High-End Systems

- To use the CLI command `es-uninst` to uninstall the Sun Management Center 3.5 add-on software for Sun Fire high-end systems, see "To Uninstall Add-On Software from Sun Fire High-End Systems" on page 35.
- To use the Sun Management Center Uninstall Wizard, `es-guiuninst`, to uninstall the Sun Management Center 3.5 add-on software for Sun Fire high-end systems, refer to "Uninstalling Sun Management Center 3.5" in Appendix A of the *Sun Management Center Installation and Configuration Guide* for detailed options and instructions.

Installing and Setting Up the Sun Management Center 3.5 Add-On Software for Sun Fire High-End Systems

---

Note – Before you start, be aware that you can use Agent Update to install Sun Management Center software on multiple agent hosts. For instructions about updating multiple hosts using agent update, see "Updating Multiple Hosts Using Agent Update" on page 27.

See the following references depending on whether you are installing and setting up using the CLI or GUI:

- If you are installing and setting up using the Wizards, see "Installing and Setting Up the Sun Management Center 3.5 Add-On Software for Sun Fire High-End Systems" on page 9.
- If you are installing and setting up using the CLI, see Appendix A.

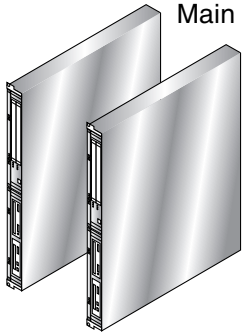
Upgrading From Sun Management Center 3.0 Software

Refer to Chapter 5 of the *Sun Management Center Installation and Configuration Guide* for detailed information about upgrading from Sun Management Center 3.0 software.

Installing and Setting Up New Sun Management Center Add-On Software

This section summarizes new installation and setup procedures for Sun Management Center software on Sun Fire high-end systems. FIGURE 2-2 illustrates the Sun Management Center software that needs to be installed on the system controllers and other hosts in Sun Fire high-end systems.

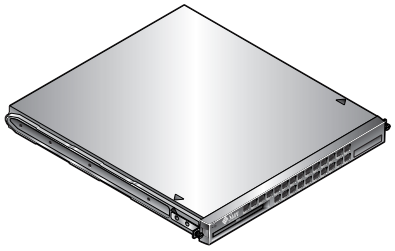
System Controllers for Sun Fire High-End Systems



- Base Sun Management Center agent layer
- Sun Fire high-end systems platform agent, system controller, platform agent DR, and common support

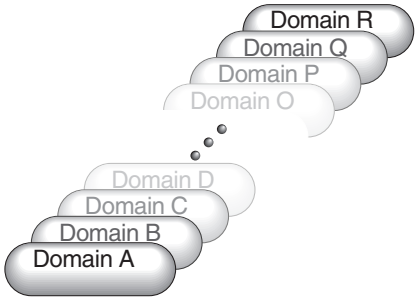
Sun Management Center Server

(can be any host with 512 MB of RAM)



- Base Sun Management Center server layer and agent layer
- Sun Fire high-end systems server and system controller server, server DR, and common support

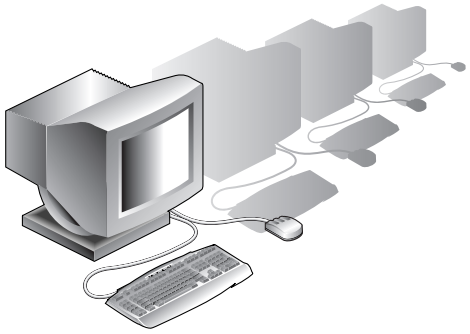
Sun Fire High-End Systems Domains



- Base Sun Management Center agent layer
- Sun Fire high-end systems domain agent, domain agent DR, and common support

Workstations

(or a common network location)



- Base Sun Management Center console layer and basic help component
- Sun Fire high-end systems console DR support

FIGURE 2-2 New Installation and Setup on Sun Fire High-End Systems

Choosing the Server Machine

Before you install the Sun Management Center software, determine which server is to be the Sun Management Center server machine. The server must have a minimum of 512 megabytes of memory available. If you try to install the base server component on a server with less than 512 megabytes of memory available, you receive an error message and the server installation stops.

The server should be a system with high availability. When the Sun Management Center server is down, you will *not* be able to use Sun Management Center software to manage your system. Refer to the *Sun Management Center Installation and Configuration Guide* for more information about server machine requirements.

Server Layers on the Server Machine

Install and set up the Sun Management Center base server layer and Sun Fire high-end systems and system controller server add-on components on the designated Sun Management Center server machine. The Sun Management Center base agent layer is automatically installed on the Sun Management Center server machine if you install the base server layer. This is so you can monitor the server machine itself.

Agent Layers on System Controllers and Sun Fire High-End Systems Domains

Following is a summary of the procedures for installing and setting up Sun Management Center software on the system controllers and Sun Fire high-end systems domains:

1. Install and set up the Sun Management Center base agent layer and the Sun Fire high-end systems platform agent and system controller add-on components on the main and spare system controllers.
2. Install and set up the Sun Management Center base agent layer and Sun Fire high-end systems domain agent add-on component for each Sun Fire high-end systems domain you want to monitor.

Console Layer and Basic Help on Workstations or Network

Install and set up the Sun Management Center base console layer, basic help component, and console DR support on a common network location or on each workstation from which you want to monitor by using the GUI.

Sun Fire High-End Systems Hosts and Installed Layers

For Sun Fire high-end systems support, install and set up the Sun Management Center software on the Sun Fire high-end systems hosts as shown in TABLE 2-4. The *Sun Management Center Installation and Configuration Guide* provides information about installing and setting up the base software. It also provides instructions for starting and stopping Sun Management Center software.

Note – You can install the Sun Fire high-end and midrange systems Platform Agents on any machine where you have Sun Management Center software running.

TABLE 2-4 Sun Fire High-End Systems Hosts and Installed Layers

Host	Layer	Installed Software
Sun Management Center server machine	Server	Base Sun Management Center server layer Base Sun Management Center agent layer (*automatic*) Sun Fire high-end systems server add-on component System controller server add-on component for Sun Fire high-end systems Sun Fire high-end and midrange systems server DR support Sun Fire high-end systems common support Sun Fire high-end systems message files
Sun Fire high-end systems domains	Agent	Base Sun Management Center agent layer Sun Fire high-end systems monitoring component Sun Fire high-end systems common support Sun Fire high-end systems message files

TABLE 2-4 Sun Fire High-End Systems Hosts and Installed Layers *(Continued)*

Host	Layer	Installed Software
Main SC	Agent	Base Sun Management Center agent layer Sun Fire high-end systems monitoring component System controller add-on component for Sun Fire high-end systems Sun Fire high-end systems common support Sun Fire high-end systems message files Note – No other Sun Management Center layers should be installed here.
Spare SC	Agent	Base Sun Management Center agent layer Sun Fire high-end systems monitoring component System controller add-on component for Sun Fire high-end systems Sun Fire high-end systems common support Sun Fire high-end systems message files Note – No other Sun Management Center layers should be installed here.
Workstations or common network location	Console	Base Sun Management Center console layer and basic help component Sun Fire high-end and midrange systems console DR support

Installing the Sun Fire High-End Systems Add-On Software Using the Sun Management Center Installation Wizard

"Installing Sun Management Center on the Solaris Platform" in Chapter 6 of the *Sun Management Center Installation and Configuration Guide* describes in detail how to install all the software. An overview of the process follows.

1. **As superuser, run the Sun Management Center Installation Wizard,** `es-guiinst`**, as described in Chapter 6, "Sun Management Center Installation and Setup," of the** *Sun Management Center Installation and Configuration Guide***.**
2. **Do one of the following:**
   a. **If you are installing separately released add-on software, change the directory to where the current Sun Fire high-end systems add-on software is located and run the** `es-guiinst` **script again. Then go to Step 3.**

b. If you are installing add-on software from the Sun Management Center CD, go to Step 3.

3. **The Select Add-On Product screen provides a selectable list of add-on products that you can install. Choose those add-on products that apply to Sun Fire high-end systems, and click Next.**

4. **The Sun Management Center Setup Wizard starts automatically after all the software is installed.**

Caution – If your system controller is a CP2140 board, you must reinstall system controller agent software on both the system controllers *and* the Sun Management center server to support the CP2140 board.

Setting Up the Sun Fire High-End Systems Add-On Software Using the Sun Management Center Setup Wizard

This section describes how to set up the Sun Fire high-end systems add-on software using the Sun Management Center Setup Wizard.

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 choose Store Response Data during the Sun Management Center base software setup process if you want to use the `setup-responses-file` to duplicate the setup of 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 Installation and Configuration Guide*.

▼ To Set Up Sun Fire High-End Systems Add-On Software on the System Controllers

1. **On a system controller, 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 with a list of add-on products by platform installed on your system. In this example, Sun Fire High-End Systems Monitoring is the product and platform.

```
The following add-on products are newly installed on this system
and will be set up.

 - Sun Fire High-End Systems Monitoring
```

2. **Click Next to start the Platform Setup.**

   The Sun Fire High-End Systems Platform Setup panel displays the following message.

```
Checking configuration files...

Status:

Set the platform server: <SChostname>
Checking for default platform agent port...
Default platform agent port: 166

Checking of configuration files complete.
```

3. **Click Next to continue.**

   If the default platform port was not set previously, the Sun Fire High-End Systems Platform Setup panel displays the following message.

```
The default port for the Sun Management Center platform agent is 166

Would you like to use the default Sun Management Center platform agent port?
O Yes
O No
```

   - **Select Yes to set the displayed port as the default.**

- **Select No if you do not want to set the displayed port as the default.**

4. **Click Next to continue.**

   The Sun Fire High-End Systems Platform Setup panel displays the following.

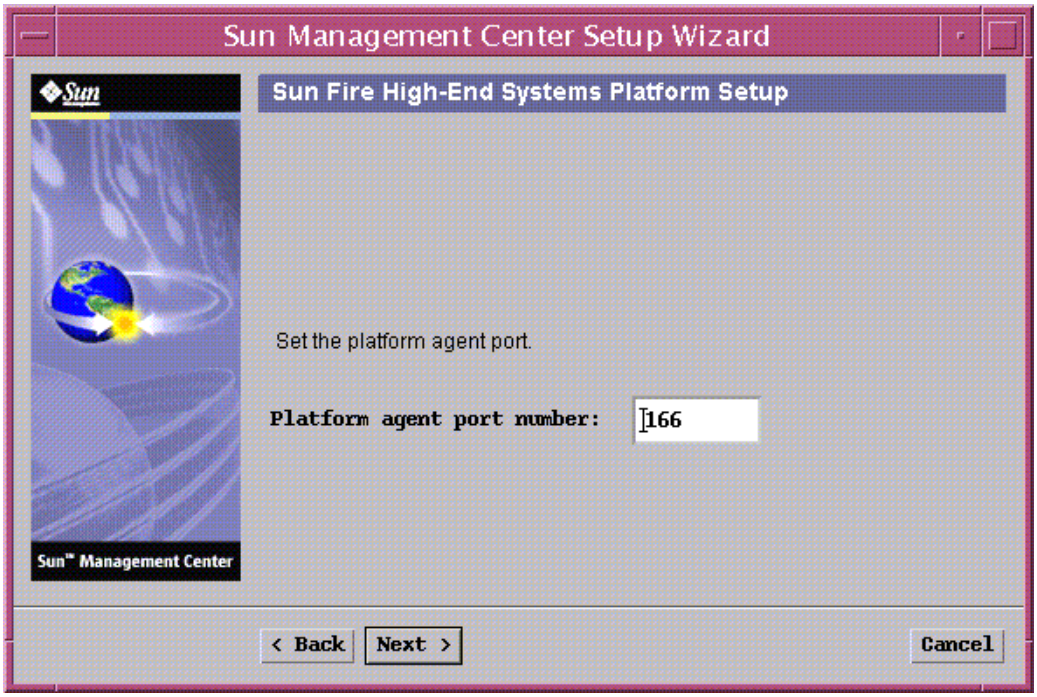


FIGURE 2-3 Set Platform Agent Port Number

- **If the default port number is displayed, accept it as is or change it.**
- **If the default port number is not displayed, enter a port number.**

5. **Click Next to continue.**

   The Sun Fire High-End Systems Platform Setup panel confirms the port number that you chose.

```
Confirmation of the platform agent port.

Platform agent port: 166
```

6. **Click Next to continue.**

   If you have added or changed the port number, the Sun Fire High-End Systems Platform Setup panel displays this message.

```
The Sun Management Center security keys must be regenerated because
the platform agent port number has been changed.

Would you like to regenerate the security keys now?
O Yes
O No
```

   - **Select Yes to regenerate the security keys now.**

     If you select yes, the Sun Fire High-End Systems Platform Setup panel displays this message.

```
This part of setup generates security keys used for communications
between processes. A seed must be provided to initialize the keys.
Make sure you use the same seed for all the machines you install.
You may like to keep record of this seed for future use.

Enter the seed to generate keys:

Re-enter the seed to confirm:
```

Note – Ensure you store the seed password securely. It will be needed if you perform any modifications to your Sun Management Center installation.

   i. Enter a unique password for the seed if this is a first-time installation. If not, enter the seed used in previous versions of Sun Management Center.

   ii. Reenter the seed to confirm.

   Select No if you do not want to regenerate the security keys now.

   If you select no, the Sun Fire High-End Systems Platform Setup panel displays this message.

```
The Sun Management Center security keys have not been regenerated.
Remember to regenerate them prior to starting Sun Management Center.
```

7. **Click Next to continue.**

   The Sun Fire High-End Systems Platform Setup panel displays the following.

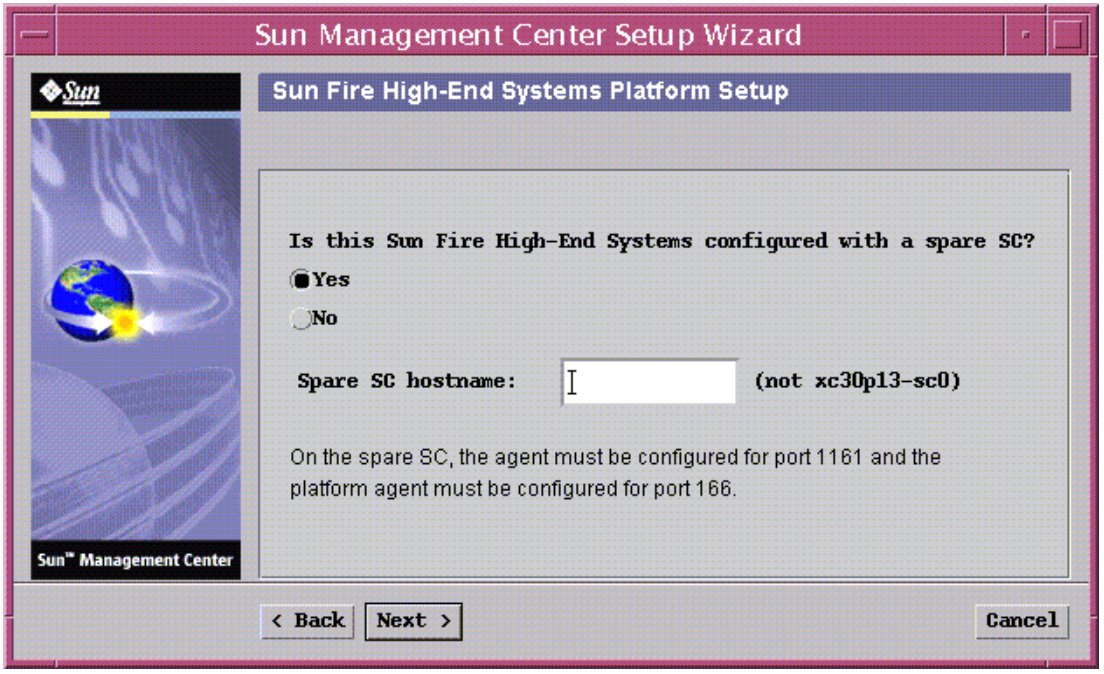


FIGURE 2-4 Spare System Controller Query

- **If this Sun Fire high-end system is configured with a spare SC:**

  i. Select Yes.

  ii. Enter the spare SC hostname.

- **If this Sun Fire high-end system is *not* configured with a spare SC, select No.**

8. **Click Next to continue.**

   The Sun Fire High-End Systems Platform Setup panel displays this message.

```
The Platform Agent will create a composite object that includes
Sun Management Center agents loaded on Sun Fire High-End Systems
domains.
```

9. **Click Next to continue.**

   The Sun Fire High-End Systems Platform Setup panel displays the default Sun Fire high-end systems domains port.

```
The default port to check for Sun Fire High-End Systems domains is
161.

Would you like to change the port to be checked?
O Yes
O No

Domain port number:                    (leave empty for none)
```

   - **If you want to change the Sun Fire high-end systems domains port to be checked:**

     i. Select Yes.

     ii. Enter the port number or leave blank for no ports to be checked.

     - **If you do *not* want to change the port to be checked, Select No.**

10. **Click Next to continue.**

    The Sun Fire High-End Systems Platform Setup panel displays this message.

```
Updating configuration files...

Status:

Updated Discovery Table information via es-dt
Creating Agent Update configuration file.

Update of configuration files complete.
```

11. **Click Next to continue.**

    The Sun Fire High-End Systems Platform Setup panel displays this message.

```
Sun Fire High-End Systems platform setup is complete.
```

12. **Click Next to continue.**

    The System Controller Agent Setup panel for Sun Fire high-end systems displays one of the following messages depending on the machine you are using for an SC.

    - If the system detects you are using a CP1500, you receive this message:

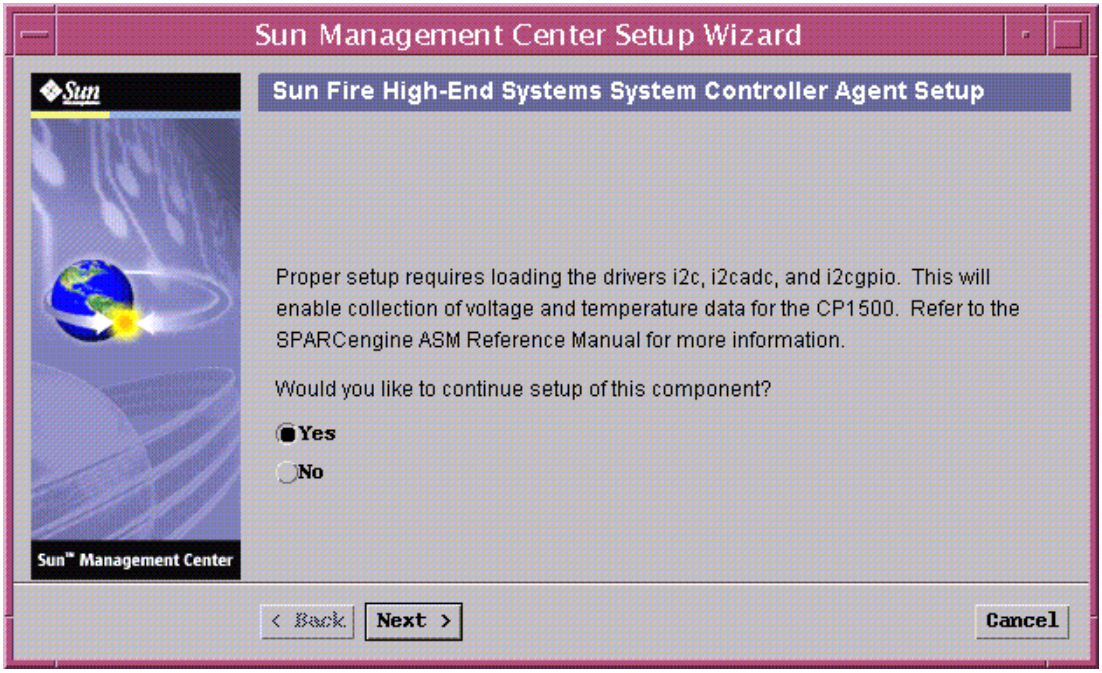


FIGURE 2-5 CP1500 System Controller Agent Setup

- **Select Yes to load the drivers `i2c`, `i2cadc`, and `i2cgpio` and continue setup of the System Controller agent.**

- If the system detects you are using a CP2140, you receive this message:

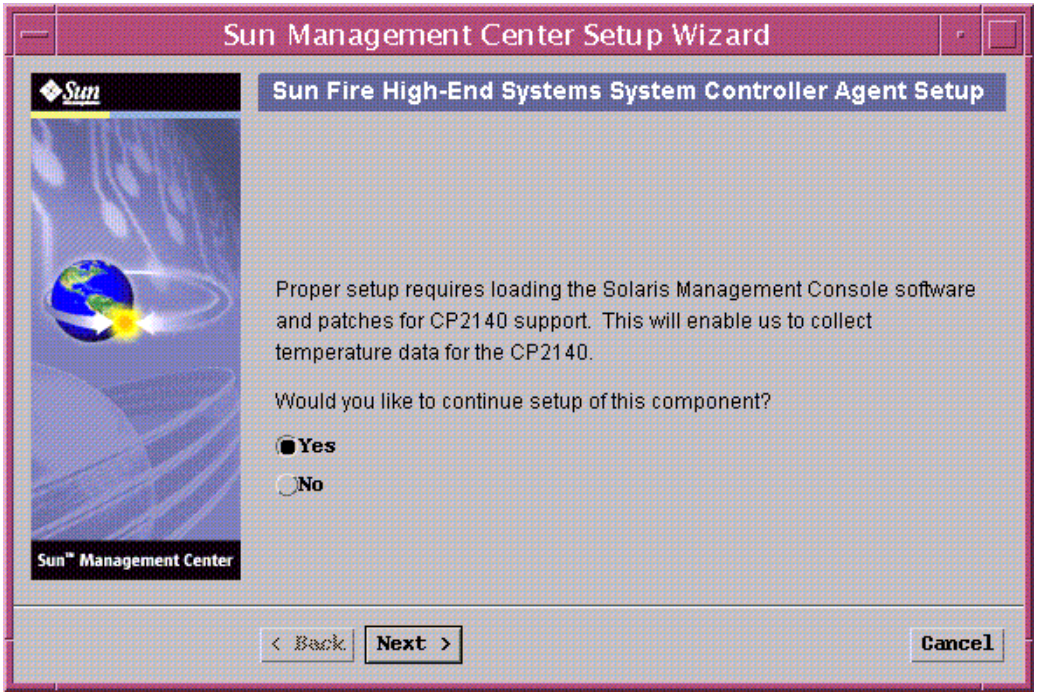


FIGURE 2-6 CP2140 System Controller Agent Setup

- **Select Yes to load the Solaris Management Console software and patches and continue setup of the System Controller agent.**

- If the system does *not* detect that you are using a CP1500 or a CP2140, you receive this message:

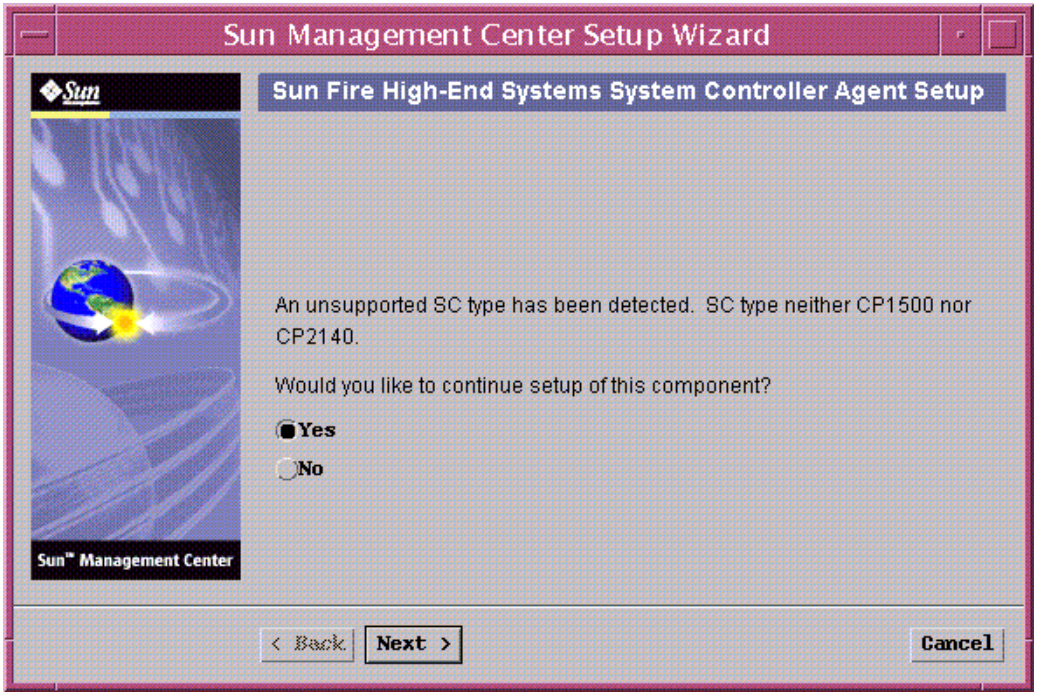


FIGURE 2-7 Unsupported System Controller Agent Setup

- **Select Yes to continue setup of the System Controller agent.**

13. **Click Next to continue.**

The System Controller Agent Setup panel for Sun Fire high-end systems displays this message.

```
Updating configuration files...

Status:

Created deviceinfo.conf file
....

Update of configuration files complete.
```

14. **Click Next to continue.**

    The System Controller Agent Setup panel for Sun Fire high-end systems displays this message.

```
Sun Fire High-End Systems SC agent setup is complete.
```

▼ To Set Up Sun Fire High-End Systems Add-On Software on the Domains

1. **On a Sun Fire high-end systems domain, 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 with a list of add-on products by platform installed on your system. In this example, Sun Fire High-End Systems Monitoring is the product and platform.

```
The following add-on products are newly installed on this system
and will be set up.

 - Sun Fire High-End Systems Monitoring
```

2. **Click Next to start the Domain Setup.**

    The Sun Fire High-End Systems Domain Setup panel displays the following:

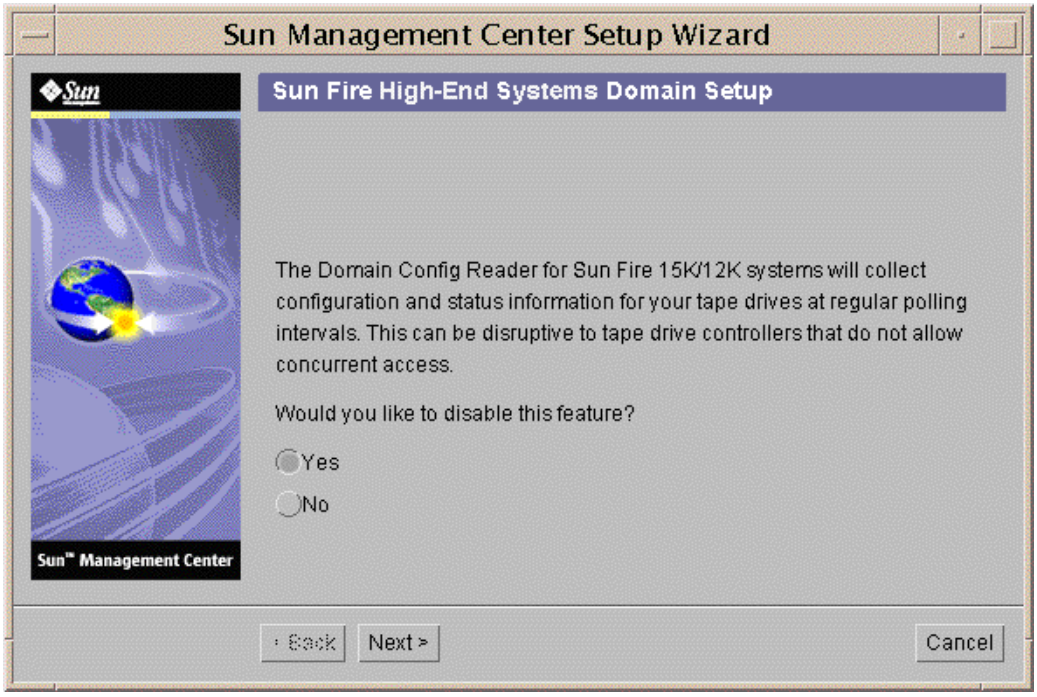


FIGURE 2-8 Domain Tape Disable Query

- **Select Yes to disable polling for your tape drives.**

  If your tape drive controllers do not allow concurrent access, you will want to disable this feature.

- **Select No if you do not want to disable tape drive polling.**

3. **Click Next to continue.**

   The Sun Fire High-End Systems Domain Setup panel displays the status of updating configuration files.

```
Updating configuration files...

Status
....
....

Update of configuration files complete.
```

4. **Click Next to continue.**

   The Sun Fire High-End Systems Domain Setup panel displays this message.

```
Sun Fire High-End Systems domain setup is complete.
```

▼ To Set Up Sun Fire High-End Systems Add-On Software on the Server Machine

1. **On the Sun Management Center server machine, 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 with a list of add-on products by platform installed on your system. In this example, Sun Fire High-End Systems Monitoring is the product and platform.

```
The following add-on products are newly installed on this system
and will be set up.

 - Sun Fire High-End Systems Monitoring
```

2. **Click Next to continue.**

   The Sun Fire High-End Systems Server Setup panel displays this message.

```
Updating configuration files...
```

   When the update is complete, the Sun Fire High-End Systems Server Setup panel displays this message.

```
Sun Fire High-End Systems server setup is complete.
```

3. **Click Next to continue.**

The System Controller Server Setup panel for Sun Fire high-end systems displays this message.

```
Updating configuration files...
```

When the update is complete, the System Controller Server Setup panel for Sun Fire high-end systems displays this message.

```
Sun Fire High-End Systems SC server setup is complete.
```

Updating Multiple Hosts Using Agent Update

This section describes how to update multiple hosts at once using Agent Update. The Agent Update process itself must be run on the Sun Management Center server machine. You must also ensure that Sun Management Center agents are running on all the target hosts.

Before You Start the Agent Update Process

To use Agent Update to fully install and set up the Sun Fire high-end systems platform agent modules, you must create an Agent Update configuration file for the module on the target hosts *before* you run the Agent Update Process on the Sun Management Center server machine.

Note – Be sure you choose Store Response Data during the Sun Management Center 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 Installation and Configuration Guide*.

▼ To Create the Agent Update Configuration File on the Target Hosts

1. **Ensure that the Sun Fire high-end systems platform agent modules are installed on the target hosts.**
2. **Ensure that the Sun Fire high-end systems platform agent modules are set up on the target hosts using either the `es-setup` script or the `es-guisetup` Wizard.**

   After this has been done, subsequent platform agent setup operations using Agent Update will work automatically, using the host-specific information provided during setup.

Using the Agent Update Process

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

Supported Update Configurations

Using Agent Update you can update the following configurations:

- "To Update From Sun Management Center Add-On Software" on page 28
- "To Update From No Add-On Software or Sun Management Center 3.0 Platform Update 4 Add-On Software" on page 32

▼ To Update From Sun Management Center Add-On Software

This procedure applies *only* to updating from Sun Management Center add-on software.

1. **Create an Image File of the desired Sun Fire high-end systems add-on components to be distributed to the desired agent machines using one of the base Sun Management Center scripts `es-gui-imagetool` or `es-imagetool`.**

   Refer to Chapter 7, "Sun Management Center Post-Installation Tasks," in the *Sun Management Center Installation and Configuration Guide* for detailed instructions about using either the Wizard or the CLI Image Tool.

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

   The system displays the Manage Jobs panel (FIGURE 2-9), which allows you to distribute the Image File.

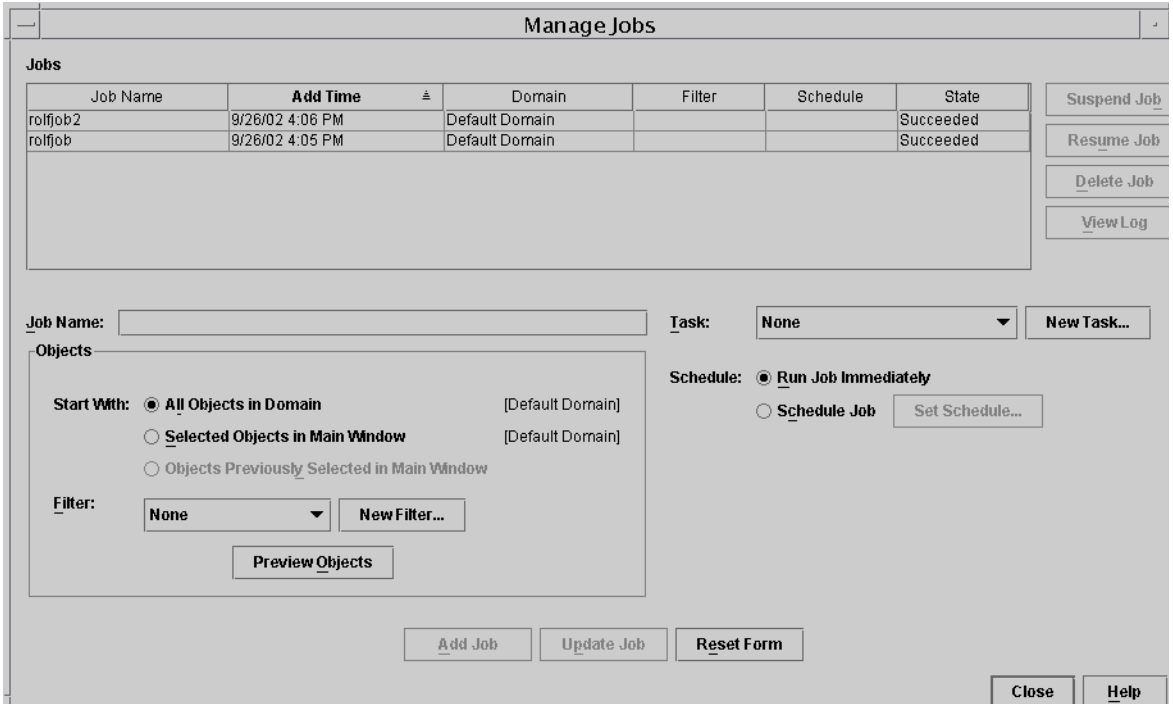


FIGURE 2-9 Manage Jobs Panel

3. **In the Manage Jobs panel, select the New Task... button.**

   The system displays the New Task panel (FIGURE 2-10), which allows you to specify the Agent Update Image File to distribute.

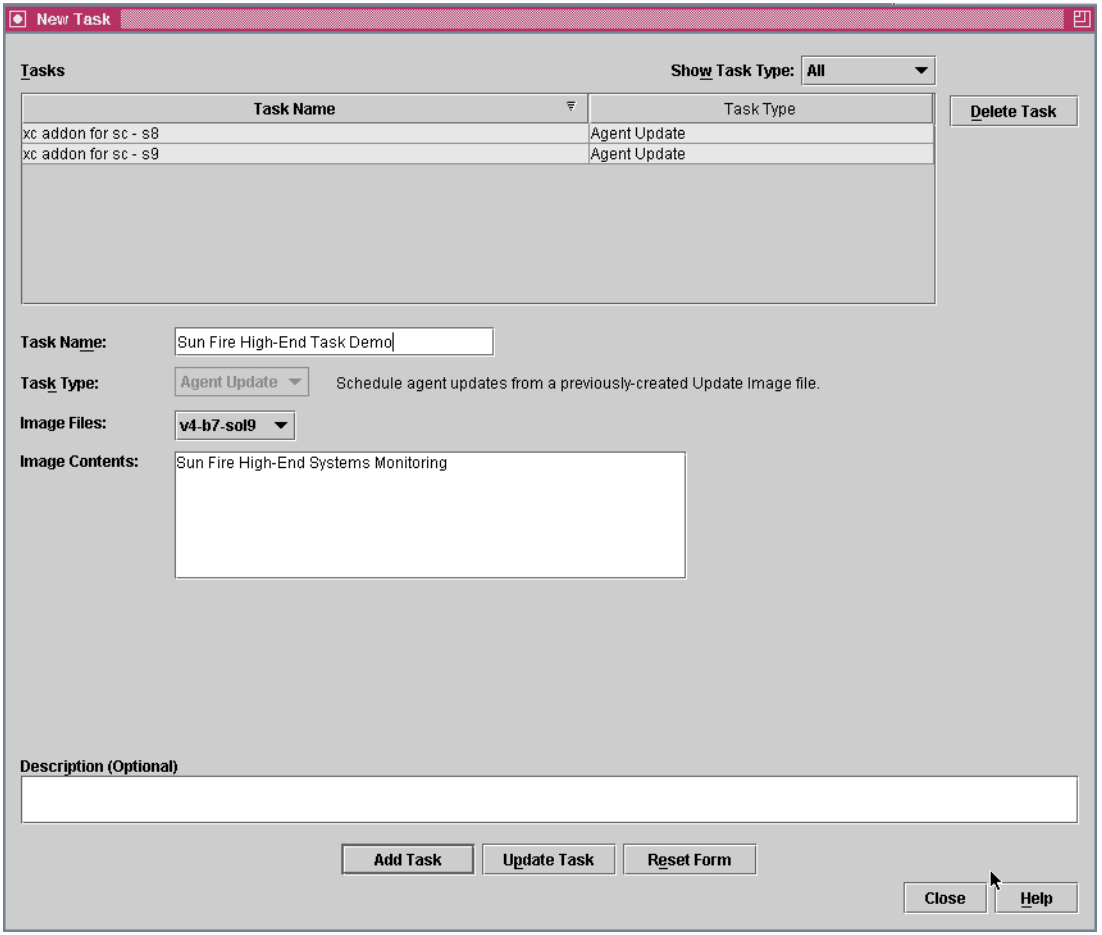


FIGURE 2-10 New Task Panel

4. **In the New Task panel (FIGURE 2-10), do the following:**
   a. **Choose Agent Update for the Task Type.**
   b. **Choose the Image File you created in Step 1.**
   c. **Enter the Task Name.**
   d. **Click the Add Task button.**
   e. **Click the Close button.**
5. **In the Manage Jobs panel (FIGURE 2-9), do the following:**
   a. **Enter a Job Name.**

b. Choose 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, select Run Job Immediately.**
- **If you want to set a schedule for when the Task is to run, select Schedule Job, and set the schedule.**

Note – Before you choose 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 choose one agent machine at a time. Refer to the *Sun Management Center User's Guide* for more information about creating object groups.

---

d. Do one of the following to choose the objects (agent machines) to which you want to distribute the Image File.

- **Select All Objects in Domain to choose all objects, and specify any filter you want to use to choose more objects.**
- **Select Selected Objects in Main Window, then choose the desired agent machines.**

e. Preview the objects (agent machines) you have chosen 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 view a 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.

▼ To Update From No Add-On Software or Sun Management Center 3.0 Platform Update 4 Add-On Software

This procedure applies to:

- Updating from no add-on software to Sun Management Center 3.5 add-on software
- Updating from Sun Management Center 3.0 Platform Update 4 add-on software to Sun Management Center 3.5 add-on software

1. **Log in as `root` on the Sun Management Center server machine.**
2. **Create an agent-update image using either of the image tools.**
   - To create an agent-update image using `es-gui-imagetool`, follow the instructions in "To Create an Agent-Update Image Using `es-gui-imagetool`" in the *Sun Management Center Installation and Configuration Guide*.
   - To create an agent-update image using `es-imagetool`, follow the instructions in "To Create an Agent-Update Image Using `es-imagetool`" in the *Sun Management Center Installation and Configuration Guide*.
3. **Download the file `/opt/SUNWsymon/base/bin/agent-update.bin` to each target machine's `root` directory.**

   If you installed Sun Management Center in a different directory than `/opt`, download */installdir*`/SUNWsymon/base/bin/agent-update.bin`, where *installdir* is the install directory you specified.
4. **Log in as `root` on the target machine.**
5. **Go to the directory where you downloaded `agent-update.bin`.**
6. **Type `./agent-update.bin -s` *server* `-r` *http-port* `-p` *image-name*, where**
   - *server* is the server that you logged into in Step 1.
   - *http-port* is the Sun Management Center Web server port.
   - *image-name* is the name of the agent-only image you created in Step 2.
7. **Provide the security seed and the SNMPv1 community string.**

   The agent-update process prompts you for the security seed and the SNMPv1 community string.
   - The security seed must be the same seed that you provided when you set up the Sun Management Center server and agent.
   - The SNMPv1 community string must be the same community string you provided when you set up the Sun Management Center server and agent.

   The update process applies the update to the machine without prompting for further information.

When the update process completes, check the update status by viewing the log file `/var/opt/SUNWsymon/log/agent-update.log` on the server host.

Uninstalling Software Using the CLI

You can uninstall:

- All the Sun Management Center software (see "To Uninstall All Sun Management Center Software" on page 33)
- Sun Fire high-end systems add-on software (see "To Uninstall Add-On Software from Sun Fire High-End Systems" on page 35)

▼ To Uninstall All Sun Management Center Software

1. **As superuser, type:**

```
# /opt/SUNWsymon/sbin/es-uninst
```

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

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 High-End Systems Monitoring                    None

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

2. **Type `y` to uninstall the 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` if you do not want to change your selection.**

     The system displays this message.

```
Select Save Data to save all user and configuration data. Your data
is saved and can be restored when you re-install Sun Management
Center.
Do you want to preserve data? [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 Add-On Software from Sun Fire High-End Systems

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 High-End Systems Monitoring                    None

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

2. **Type** `n` **to** ***not*** **uninstall the Production Environment.**

Caution – If you type **`y`** to uninstall the Production Environment, all Sun Management Center software will be removed including the base software.

The system displays this message.

```
Do you want to uninstall Sun Fire High-End Systems Monitoring? [y|n|q]
```

3. **Type** `y` **to uninstall Sun Fire High-End Systems Monitoring.**

The system displays the product that will be removed and this message.

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

4. **Do one of the following**

- **Type** `y` **to change your selection.**

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

- **Type `n` if you do not want to change your selection.**

  The system displays this message.

```
Select Save Data to save all user and configuration data. Your data
is saved and can be restored when you re-install Sun Management
Center.
Do you want to preserve data? [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.

---

5. **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]
```

6. **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 Using the CLI

The `es-start` command requires different command arguments, depending on which component you are starting. Refer to the *Sun Management Center 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 (see TABLE 2-4 for the location of the components).**

2. **Change the directory to the `/opt/SUNWsymon/sbin` directory.**

   This example assumes that your software is installed in the default area `/opt`. If it is 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 system information for Sun Fire high-end systems to Sun Management Center software.

3. **To start the Sun Management Center agent on a Sun Fire high-end systems 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 Config Reader, you must be in the appropriate security access groups. See "Security Considerations for Defining Groups" on page 43.

Stopping and Exiting Sun Management Center Software Using the CLI

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 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 (see** TABLE 2-4 **for the location of the components).**

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 -A
```

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, choose File and Exit.**
2. **Click the Exit button on the Exit Sun Management Center panel.**

Reconfiguring Sun Fire High-End Systems Setup Parameters

You can reconfigure the Sun Fire high-end systems setup parameters at any time by running the setup script (`es-setup`) again. You must reconfigure the appropriate Sun Fire high-end systems setup parameters if certain changes occur, including:

- If the system name of a Sun Fire high-end system is changed, reconfigure the Sun Fire high-end systems domain and platform components.
- If the Sun Management Center agent port configuration changes for the Sun Fire high-end systems domain agents, reconfigure the Sun Fire high-end systems platform component.
- If a spare system controller is added or removed from the platform configuration, reconfigure the Sun Fire high-end systems platform component.
- If the Sun Management Center server host or trap agent port configuration changes, reconfigure the Sun Fire high-end systems platform and domain components.
- If a host IP address changes, reconfigure the components on that host.

For information about where these components are located, see TABLE 2-4.

Note – You do *not* need to rerun setup after System Management Services (SMS) software is reinstalled; however, you do need to restart the Sun Management Center software. If you restart the Sun Management Center software before the SMS software starts, you might see a gray stop sign that states “status is spare,” or if the SC monitoring module is loaded, you might see the message “Module is on the spare SC or required SMS daemon(s) is stopped.” These messages disappear once the SMS software starts. No action is required.

▼ To Rerun Setup Script

1. **Log in as superuser on the machine where the components are that you want to reconfigure (see** TABLE 2-4 **for the location of the components).**

2. **Change the directory to the** `/opt/SUNWsymon/sbin` **directory.**

   This example assumes that you are using the default area `/opt`. If you are not, replace `/opt` with your own path.

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

3. **Stop the components to be reconfigured.**

   The command you use to stop the component depends on which component you are reconfiguring.

   - **To stop the Sun Fire high-end systems server and agent components if they are currently running on the server machine, type:**

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

   - **To stop a Sun Fire high-end systems domain agent currently running in a domain, type:**

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

   - **To stop the host agent, which monitors the SC and platform agent if they are currently running on the SC, type:**

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

4. **Run the setup script to reconfigure Sun Management Center base and add-on software.**

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

For information about using other arguments for the `es-setup` command, refer to the *Sun Management Center Installation and Configuration Guide*.

5. **Follow the instructions in the setup procedures for the corresponding components with these two additional prompts.**

In the Sun Management Center server setup, the system displays this message.

```
Do you want to preserve your existing data? [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.

---

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

In the Sun Fire high-end systems domain agent setup, the system displays this message.

```
server-hostname appears to be configured as your Sun Management Center
server. Is this correct? [y|n|q]
```

b. **Type `y` for yes if this is your Sun Management Center server, or type `n` for no if not. If you type `n`, you are prompted to type your correct server host name.**

6. **Restart the components that you stopped.**

Sun Management Center Web Interface

The Sun Management Center Web Interface is an optional, licensed Sun Management Center feature that provides most of the functionality available in the Sun Management Center Java-based Console. For a detailed description of the Sun Management Center Web Interface, refer to the *Sun Management Center User's Guide*.

Note – Be aware that the Web Interface provides no physical or logical views of the Sun Fire high-end systems. See Chapter 5 in this document for more information about physical and logical views.

Installation and Setup Log Files

This section provides examples of messages the system displays at the end of the installation and setup scripts. You can look at these files to see if there were any problems during installation and setup, and you can use these files for diagnosing errors.

This example shows a message when an installation script completes, where *nnnnnnnnnnnn.nnnnn* is the identifying number of the installation log.

```
Log file: /var/opt/SUNWsymon/install/install.nnnnnnnnnnnn.nnnnn
```

This example shows a message when a setup script completes, where *nnnnnnnnnnnn.nnnn* is the identifying number of the setup log.

```
Log file: /var/opt/SUNWsymon/install/setup.nnnnnnnnnnnn.nnnn
```

CHAPTER 3

Security Access Setup

This chapter describes how to set up user privileges to perform Sun Management Center administrative tasks on Sun Fire high-end systems. After the Sun Management Center software is installed and set up, you must set up users in two different software administrative groups according to the tasks they will perform:

- Sun Management Center user groups – refer to Chapter 18, "Sun Management Center Security," in the *Sun Management Center User's Guide* for more information about general Sun Management Center security.
- System Management Services (SMS) user groups – because SMS software manages system controller for Sun Fire high-end systems, you must set up user privileges in SMS groups, as well as Sun Management Center groups, to manage the Sun Fire high-end systems platform and domains from the system controller. Refer to Chapter 2, "SMS Security Options and Administrative Privileges," in the *System Management Services (SMS) Administrator Guide* for more information about general SMS security.

Security Considerations for Defining Groups

To use a Sun Management Center tool or module that requires membership in a System Management Services administrative group, your user ID must be listed as a member of that group in the group definition accessed by each of the two software packages. In other words, both the Sun Management Center and the System Management Services software must find your user ID as a member of the appropriate administrative group.

There are two ways to ensure that both Sun Management Center and System Management Services identify your user ID as a member of the appropriate System Management Services administrative group:

- Define and maintain the groups in a centralized network name service such as Network Information Service (NIS) that both the Sun Management Center and System Management Services software access.
- Define and maintain the groups locally in separate `/etc/group` files on the Sun Management Center server host and the system controller for Sun Fire high-end systems, and make sure that the System Management Services group definition on the Sun Management Center server host is identical to (or a subset of) the definition on the system controller for Sun Fire high-end systems. In other words, user IDs listed as members of System Management Services administrative groups on the Sun Management Center server host must also be identified as members of those groups on the system controller for Sun Fire high-end systems.

Obviously, maintaining a single file on a centralized name server host is more convenient and less prone to error than maintaining two separate files with identical information on two different machines. But security considerations might affect the method you choose and how you implement it.

Superuser Access

Both the Sun Management Center and SMS environments provide different administrative groups, so that you can assign different administrative privileges to different users. This system assumes that the power to add or remove users from these groups is tightly controlled. However, anyone with superuser privileges on the machine where group membership is defined has the power to create or delete groups and add or remove group members. Clearly, if unauthorized users have superuser privileges, they gain the ability to add themselves (or others) to administrative groups and that undercuts the purpose of having such groups.

Therefore, a key security consideration is how many people (and which people) have superuser privileges on either the central name server or the combination of Sun Management Center server host and system controller for Sun Fire high-end systems. While it is assumed that superuser privileges on the system controller are tightly controlled, in some environments, superuser privileges on the Sun Management Center server host are held by many people. At other sites, these superuser privileges are tightly restricted. In some environments, many people are granted superuser privileges on the name server. In others, superuser access to the name server is strictly limited.

Name Service Switch

The `group` setting in the name service switch file (`/etc/nsswitch.conf`) on both the Sun Management Center server host and the system controller for Sun Fire high-end systems affects group membership security. By default, most switch files are set up so that if an application does not find the group information it needs in one source (such as the `/etc/group` file), it looks in another source such as an NIS name server; or vice versa. Therefore, if security is a consideration, you must edit the `group` setting in the name service switch file to specify only a single source.

- To specify that the only source for group membership is the NIS server, edit the `group` line in the `/etc/nsswitch.conf` file on both the Sun Management Center server and the system controller for Sun Fire high-end systems to read:

```
group nis
```

- To specify that the only source for group membership is the local `/etc/group` file, edit the `group` line in `/etc/nsswitch.conf` file on both the Sun Management Center server and the system controller for Sun Fire high-end systems to read:

```
group files
```

Network Name Service

If you have more than one Sun Fire high-end system and you maintain group definitions on a central NIS name server, you might want to rename the System Management Services administrative groups from their default values. If group membership is maintained on a central name server, and two or more Sun Fire high-end systems use the same name for an SMS administrative group, then members of that group have administrative privileges on *both* machines.

For example, the default name for the Domain B administrative group is `dmnbadmn`. If more than one machine uses that name, then members of that group have administrative privileges over each machine's Domain B. You can restrict administrative privileges to a single machine by renaming the administrative groups on each machine to have unique values such as `dmnbadmn1` and `dmnbadmn2`.

Sun Management Center Groups

TABLE 3-1 describes the default Sun Management Center administrative groups.

TABLE 3-1 Default Sun Management Center Administrative Groups

Group Name	Group	Description
`esadm`	Administrator group	Can perform all administrative tasks including loading and unloading modules, maintaining access control for users and groups, and working with administrative domains, hosts, and modules.
`esops`	Operator group	Has a subset of `esadm` privileges. Can enable and disable modules but cannot load and unload them. Can perform monitoring tasks. Can acknowledge, delete, or fix events.
`esdomadm`	Domain group	Has a Sun Management Center domain-specific subset of `esadm` privileges. Can create administrative domains, create groups within administrative domains, add objects to groups or administrative domains.
`ANYGROUP`	General user group	By default, anyone listed in the `esusers` file is considered to be a member of the `ANYGROUP` group. Can view administrative domains, hosts, modules, events; graph data; and trigger manual refreshes. Can also run ad-hoc commands.

▼ To Add Users Into Sun Management Center User Groups

- **Add the user IDs of *all* Sun Management Center users in the `/var/opt/SUNWsymon/cfg/esusers` file on the Sun Management Center server host.**

  The user IDs must be valid UNIX user IDs.

  The following example is a typical partial listing in the `/var/opt/SUNWsymon/cfg/esusers` file for *all* Sun Management Center users:

```
esmaster
espublic
root
user1
user2
user3
user4
user5
....
....
```

Note – The Sun Management Center user ID `esmaster` is comparable to being a superuser or `root` in UNIX; it provides administrative privileges. The Sun Management Center user ID `espublic` is comparable to logging into a UNIX system as `guest`; it provides general access privileges. These two user IDs are added to the Sun Management Center `esusers` file when the software is installed on the server and *cannot* be changed. To use these user IDs to perform management operations on a Sun Fire high-end systems platform or domain, add these IDs to the appropriate SMS group.

System Management Services Groups

TABLE 3-2 describes the default SMS administrative groups.

TABLE 3-2 Default SMS Administrative Groups

Group Name	Group	Description
`platadmn`	Platform administrator group	Has all platform administrative privileges, including controlling boards and components power and assigning system boards to Sun Fire high-end systems domains. Does not have platform service privileges. Can assign a board to a domain if the board is free (unassigned). Can delete (unassign) a board from a domain if the board is not connected. Cannot connect, configure, unconfigure, or disconnect a board from a domain.
`platoper`	Platform operator group	Has a subset of `platadmn` privileges. Can view platform status.
`dmn`*x*`admn`[1]	Domain administrator group	Can access the Sun Fire high-end systems domain's console and perform Sun Fire high-end systems domain control, status, and access control tasks. Can connect, configure, unconfigure, and disconnect system boards from the domain. Can assign boards to the domain if they are listed in the domain's Access Control List (ACL) and have not been assigned to some other domain.
`dm-n`*x*`rc fg`[2]	Domain reconfiguration group	Has a subset of `dmn`*x*`admn` privileges. Can reconfigure and control power to system boards in the Sun Fire high-end systems domain.

1 Where *x* is a letter from `a` through `r` indicating a specific Sun Fire high-end systems domain. For example 1, `dmnbadmn` is the administrative group for domain B.

2 Where *x* is a letter from `a` through `r` indicating a specific Sun Fire high-end systems domain. For example 2, `dmnqrcfg` is the reconfiguration group for domain Q.

You must add user IDs to SMS groups whose capabilities you want the user to have, using one of the following:

- Central name service such as Network Information Service (NIS), which both the Sun Management Center server and the Sun Fire high-end systems can access. Refer to NIS documentation for more information.
- `/etc/group` file on the Sun Management Center server host *and* the system controller for Sun Fire high-end systems. This method is described in the procedure that follows.

Note – The user IDs must be valid UNIX user IDs.

▼ To Add Users Into SMS Groups Using the `smsconfig` Command

1. **On the system controllers, use the `smsconfig`(1M) command with the `-a` option to add user IDs one at a time to the `/etc/group` file.**

   Note – The group IDs are automatically created in the `/etc/group` file during SMS installation on the system controllers.

   Refer to the *System Management Services (SMS) Reference Manual* for more information about using the `smsconfig`(1M) command.

2. **On the Sun Management Center server, add the lines of SMS Administration group IDs and user ID in the `/etc/group` file in the exact manner they appear in the system controllers' `/etc/group` files.**

   For example, this is a typical partial listing in the `/etc/group` file of groups and user IDs for access to various Sun Management Center tasks:

```
root::0:root
other::1:
bin::2:root,bin,daemon
sys::3:root,bin,sys,adm
adm::4:root,adm,daemon
uucp::5:root,uucp
mail::6:root
tty::7:root,tty,adm
lp::8:root,lp,adm
nuucp::9:root,nuucp
staff::10:
daemon::12:root,daemon
sysadmin::14:
nobody::60001:
noaccess::60002:
nogroup::65534:
esadm::1000:root,guest,user1,user2
esdomadm::1001:root,guest,user3
esops::1002:guest,user4
platadmn::118:root,guest,user1,user2
```

```
platoper::119:root,guest,user4
dmnaadmn::121:user1, user3
dmnarcfg::122:user3
dmnbadmn::123:user1, user5
dmnbrcfg::124:user5
....
....
....
dmnradmn::155:
dmnrrcfg::156:
```

Using Sun Fire High-End Systems Modules

Administrative group requirements for using Sun Fire high-end systems modules are summarized in TABLE 3-3.

TABLE 3-3 Sun Fire High-End Systems Modules and Administrative Groups

Module Name	Sun Management Center Groups	System Management Services Groups
Platform Config Reader	`esadm`	`platadmn`, `platoper`
Platform/Domain State Management (PDSM)	`esadm`	Depends on operation (see "SMS Groups Required for PDSM Operations")
Domain Config Reader	`esadm`	`dmn`*x*`adm`
Dynamic Reconfiguration	`esadm`	`dmn`*x*`adm` or `dmn`*x*`rcfg`
SC Config Reader	`esadm`	No requirement
SC Monitoring	`esadm`	No requirement
SC Status	`esadm`	No requirement

For more information about setting up or changing service administrative groups, refer to *System Management Services (SMS) Administrator Guide*. For more information about setting up, changing, or further access privileges of Sun Management Center groups, refer to *Sun Management Center User's Guide*.

SMS Groups Required for PDSM Operations

To perform Sun Fire high-end systems Platform/Domain State Management (PDSM) operations, you must be a member of the appropriate SMS group for that operation:

- Platform View (TABLE 3-4)
- Domain View (TABLE 3-5)

Platform View Access Permissions

The platform view is readable only by the platform administrator (`platadmn`) and platform operator (`platoper`). TABLE 3-4 describes the management operations available in the platform view and the access privileges required for each operation.

TABLE 3-4 Sun Fire High-End Systems Platform View Management Operations and Access

Platform View Operation	Access
System controller power	`platadmn`, `platoper`
Power supply power	`platadmn`, `platoper`
Fan tray speed	`platadmn`, `platoper`
Slot 0 and slot 1 board power	`platadmn`, `platoper`
Addboard for slot 0 and 1 boards and empty slots	`platadmn`
Deleteboard for slot 0 and 1 boards and empty slots	`platadmn`
Moveboard for slot 0 and 1 boards and empty slots	`platadmn`
Show status	`platadmn`, `platoper`

Domain View Access Permissions

The 18 Sun Fire E25K/15K domains (`a` through `r`) and 9 Sun Fire E20K/12K domains are readable only by their respective Sun Fire high-end systems domain administrator (`dmn`*x*`admn`) and Sun Fire high-end systems domain reconfigurer (`dmn`*x*`rcfg`), and for some tasks performed by the platform administrator (`platadmn`) and platform operator (`platoper`). TABLE 3-5 describes the management operations available in the Sun Fire high-end systems domain view and the access privileges required for each operation.

TABLE 3-5 Sun Fire High-End Systems Domain View Management Operations and Access

Domain View Operation	Access
Domain tag	`platadmn`
Keyswitch	`dmn`*x*`admn`
Domain ACL	`platadmn`
Reset	`dmn`*x*`admn`
Slot 0 and slot 1 board power	`dmn`*x*`admn`, `dmn`*x*`rcfg`, `platadmn`, `platoper`
Slot 0 and slot 1 board test	`dmn`*x*`admn`
Addboard for slot 0 and slot 1 boards and empty slots	`dmn`*x*`admn`, `dmn`*x*`rcfg`, `platadmn`
Deleteboard for slot 0 and 1 boards and empty slots	`dmn`*x*`admn`, `dmn`*x*`rcfg`, `platadmn`
Moveboard for slot 0 and 1 boards and empty slots	`dmn`*x*`admn`, `dmn`*x*`rcfg`, `platadmn`
Show status	`dmn`*x*`admn`, `dmn`*x*`rcfg`, `platadmn`, `platoper`

Limit of 16 Group IDs for a User ID

Caution – Any single user ID can have up to 16 group IDs associated with it; any group ID after the 16th one is ignored, which causes access problems for the user ID. In other words, a user might appear to belong to a group, but if the 16-group limit is exceeded, the user might not have the access privileges of that group. For more information about how the system reacts when a user has more than 16 group IDs, see "Possible Reasons for DR Operation Attempts Failing" on page 195.

CHAPTER 4

Sun Fire High-End Systems Topology Objects

This chapter describes how to create, modify, and discover Sun Fire high-end systems topology objects. Refer to the *Sun Management Center User's Guide* for general information about creating and monitoring Sun Management Center objects.

Sun Fire High-End Systems Platform Composites

A Sun Fire high-end (E25K-F12K) systems composite is a Sun Management Center group object that contains all hosts associated with a Sun Fire high-end systems platform. This composite includes these icons:

- Sun Fire high-end systems group
- Main Sun Fire high-end systems platform
- Spare Sun Fire high-end systems platform, designated with a circled X on the lower-right corner
- Each Sun Fire high-end systems domain
- Main system controller for Sun Fire high-end sytems
- Spare system controller for Sun Fire high-end systems

The Sun Fire high-end systems composite groups these objects together to enable easier management of components of the Sun Fire high-end systems platform. TABLE 4-1 shows typical Sun Fire high-end (E25K-F12K) systems icons.

TABLE 4-1 Sun Fire High-End Systems Icons

Icon	Description
	Sun Fire high-end systems group icon
	Main Sun Fire high-end systems platform icon
	Spare Sun Fire high-end systems platform icon or required SMS daemon(s) is stopped
	Sun Fire high-end systems platform icon (when Sun Management Center agent is not running)
	Sun Fire high-end systems domain icon

TABLE 4-1 Sun Fire High-End Systems Icons *(Continued)*

Icon	Description
	Sun Fire high-end systems domain icon (when Sun Management Center agent is not running)
	Main and spare system controllers for Sun Fire high-end systems

Note – Icons for the hosts monitored by Sun Management Center agents include a tag with E25K-F12K representing the Sun Fire high-end family of servers. The icons for hosts that are not monitored by Sun Management Center agents display no tags.

The system controller and domain hosts for Sun Fire systems are independent hosts running their own Solaris Operating System, so they also can be created and discovered independently from the Sun Fire high-end systems platform composite. The system controller and domains for Sun Fire high-end systems can be created individually without having to create a Sun Fire high-end systems platform composite.

The system controller and domain hosts in a Sun Fire high-end systems platform composite can be included in multiple groupings in the Sun Management Center topology so that you can view the hosts by their Sun Fire high-end systems platform association as well as by their network grouping. When Sun Fire high-end systems hosts are found by a discovery request, they are placed in the topology according to their network groupings.

A Sun Fire E25K or 15K platform can have up to 18 domain hosts, and the Sun Fire E20K or 12K platform can have up to 9 domain hosts. Only domains that are active and running the Solaris Operating System are included in the composite object.

To monitor Sun Fire high-end systems domains and platforms, create a Sun Management Center Sun Fire high-end systems composite from the Create Topology Object window, or use a Sun Management Center discovery request.

▼ To Create a Sun Fire High-End Systems Composite Object

For more information about this procedure, refer to the *Sun Management Center User's Guide*.

1. **In the hierarchy view of the main console window, choose the level in the Sun Management Center domain topology where the new composite object is to be created.**
2. **In the main console window, choose Create Object from the Edit menu.**
3. **Click the Composite tab in the Create Object window.**
4. **From the Object list box, choose the Sun Fire high-end systems Composite object.**
5. **Type relevant information in the text boxes.**

   Enter either the agent host name or the agent IP address — only one is required.

   - *Agent hostname* – The main SC host name
   - *Agent IP address* – The main SC IP address
   - *Port* – The Sun Management Center agent port for the main SC: **`161`**

6. **Click OK.**

   The system displays this message.

   ```
   Creating composite object... Please Wait.
   ```

   The amount of time this operation requires depends on how many Sun Fire high-end systems domains are running.

   You can see the Sun Fire high-end systems folder added to the current location in the Sun Management Center domain topology. If the Sun Fire high-end systems composite is not created, follow the steps in "To Troubleshoot a Composite Failure" on page 60.

7. **Open the composite folder to see all the objects associated with the Sun Fire high-end systems platform.**

   See FIGURE 4-1 for an example of a Sun Fire high-end systems composite.

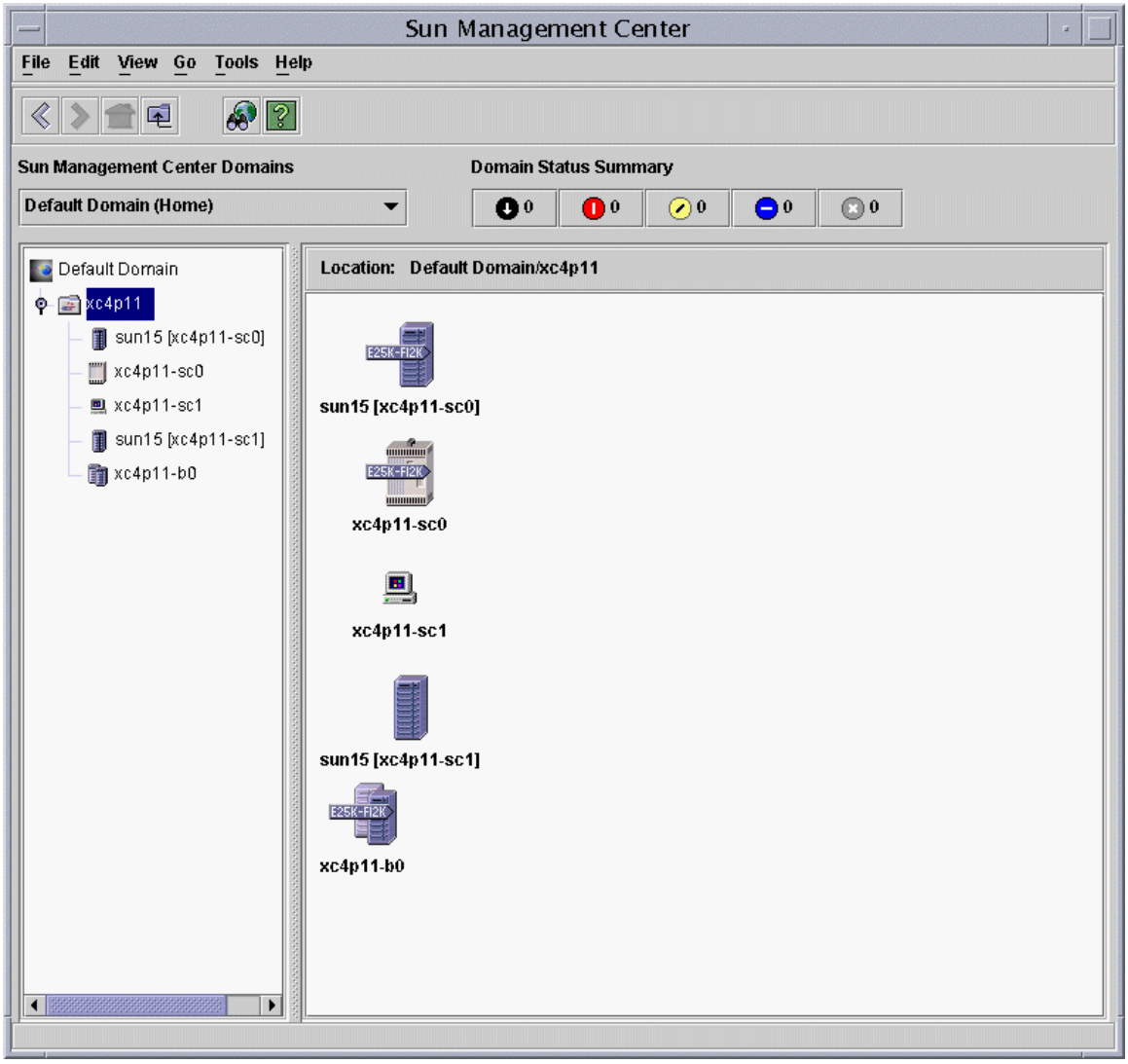


FIGURE 4-1 Example of a Sun Fire High-End Systems Composite

▼ To Discover a Sun Fire High-End Systems Composite

For more information about this procedure, refer to Chapter 4 of the *Sun Management Center User's Guide*.

1. **In the hierarchy view of the main console window, choose the level in the Sun Management Center domain topology where you want to discover a Sun Fire high-end systems composite object.**
2. **Choose Discover Objects from the Tools menu.**
3. **In the Discovery Objects panel, click Add.**
4. **Type information in the New Discover Request panel and click OK.**
5. **If the Sun Fire high-end systems composite is not created, follow the steps in "To Troubleshoot a Composite Failure" on page 60.**

Note – If the system controller was busy at the time the discovery request was made, run the discovery request again or increase the discovery request SNMP time-out value.

You can use the following Discovery Request filter options to customize your Sun Fire high-end systems composite discovery request.

- The Platform Type filter criteria enable you to include or exclude Sun Fire high-end systems domain and platform types.
- Sun Fire high-end systems domain hosts and the system controller within the composite can be filtered by the host names and operating environment filter criteria. The host names and operating environment filter criteria do not filter Sun Fire high-end systems platform objects.
- If the system controller is excluded by a filter criterion, the Sun Fire high-end systems composite objects are still examined by the Discovery Manager for inclusion in the Sun Management Center domain.

Updating a Sun Fire High-End Systems Platform Composite

After you have created the Sun Fire high-end systems platform composite, the contents and type of the composite Sun Management Center topology objects do not change. The composite objects must be updated if:

- Sun Fire high-end systems domains become active (running the Solaris Operating System).
- Spare system controller is added to or deleted from the platform configuration.
- Sun Management Center monitoring for an object no longer shows the correct monitor type. For example, if the Sun Management Center agent is not running on the Sun Fire high-end systems domain at the time the composite was created, an Internet Control Message Protocol (ICMP) Ping monitoring type host object is

created for the Sun Fire high-end systems domain. After the Sun Management Center agent is running again, the Sun Fire high-end systems domain host object needs to be updated so that it can be monitored as a Sun Management Center Agent—Host type.

Note – If Sun Fire high-end systems domain hosts running the Sun Management Center agent are monitored as a type other than a Sun Management Center Agent—Host, verify that you have specified the correct Sun Fire high-end systems domain ports during system controller platform setup.

▼ To Update a Composite Created by Create Topology Object

- **Do one of the following:**
  - **If the Sun Fire high-end systems platform composite was created using the Create Object window, perform all updates to the composite manually.**
  - **If Sun Fire high-end systems composite objects have been added or deleted, delete or create the objects as described in Chapter 3 of the *Sun Management Center User's Guide*.**
  - **If the monitoring type has changed, modify the topology object as described in the "Changing Objects" section of Chapter 3 in the *Sun Management Center User's Guide*.**

Note – If the changes are numerous, it might be easier to delete the current Sun Fire high-end systems composite object from the topology and recreate it. See "To Create a Sun Fire High-End Systems Composite Object" on page 56 for instructions.

▼ To Update a Composite Created by Discovery

- **If the Sun Fire high-end systems platform composite was created by the Discovery Manager, you can make many of the updates by running a discovery request for the main system controller.**

  This discovery request can either be started manually or scheduled for periodic running. Running the discovery request makes these change:

  - A new Sun Fire high-end systems object, such as a spare system controller, is added to the platform composite.

- If an object monitoring type has changed to a level of higher monitoring capability, the monitoring type is updated.

  Monitoring capability increases from the ICMP Ping monitoring type to the SNMP Ping monitoring type to the Sun Management Center Agent - Host monitoring type.

When running a discovery request, be aware of the following.

- Topology objects are *not* deleted from the platform composite.
- If any of the topology objects have been modified from the Sun Management Center console window, the object monitoring type is *not* updated.

- **If you prefer, you can create an updated platform composite by deleting the Sun Fire high-end systems platform composite from the topology and running a discovery request.**

▼ To Troubleshoot a Composite Failure

If you are unable to create a Sun Fire high-end systems platform composite, perform the following checks.

1. **Verify that the correct system controller host name and Sun Management Center agent port number were specified in the Create Topology Object procedure or discovery request.**

Note – The system controller must be the main system controller for the platform, not the spare system controller.

---

2. **Log in to the system controller and verify that the two Sun Management Center agents are running.**

```
SC# ps -ef | grep esd
root 21020 1 2 Mar 10 ? 84:03 esd - init agent -dir
/var/opt/SUNWsymon
root 21858 1 3 Mar 10 ? 103:07 esd - init platform -dir
/var/opt/SUNWsymon
```

3. **Try rerunning the discovery request or increasing the discovery request SNMP time-out value.**

4. **Create the Sun Fire high-end systems platform object directly by creating a node as described in "To Create a Sun Fire High-End Systems Platform Object" on page 62.**

5. **Examine the Module Browser tab of the platform Details window to confirm that the Config Reader (Sun Fire high-end systems) module is loaded under Hardware and that the module is not disabled.**

   The Discovery Object Table provided by this module defines the objects that are included in the Sun Fire high-end systems platform composite.

6. **On the system controller, run this command to ensure that the Discovery Table was created correctly.**

```
SC# /opt/SUNWsymon/sbin/es-dt -v
```

If the output is not present or does not have the information contained in the following example, the Discovery Table was *not* created correctly.

```
Label              Sun-Fire-High-End
Host               <host name>
Port               <port number>
OID                1.3.6.1.4.1.42.2.85.1.1.22
Node Object Type   Sun-Fire-High-End-platform-group
```

If you do not see this type of output, repeat the process starting with Step 5. If that still does not work, contact your Sun service representative.

Sun Fire High-End Systems Platform Objects

Sun Fire high-end systems platform information is provided by a Sun Management Center platform agent running on the main system controller. When a spare system controller is configured, two Sun Fire high-end systems platform objects are present in the Sun Fire high-end systems platform composite. Sun Fire high-end systems platform information is only available from the platform object associated with the main system controller. When a platform object is created as part of a composite, the platform object name includes the associated system controller name in square brackets. The spare system controller object and its associated spare Sun Fire high-end systems platform topology objects are designated with a circled X on the lower-right corner of the icon to distinguish the spare from the main topology objects (TABLE 4-1).

After Sun Management Center has been installed and set up on the main and spare system controllers and the Sun Fire high-end systems platform objects have been created, no Sun Management Center configuration changes are required when the spare system controller becomes the acting main system controller. When this switch from spare to acting main system controller occurs, the platform agent on the acting main system controller becomes active and collects current information about the Sun Fire high-end systems platform.

Not all information that was available prior to this switch is available from the newly active platform agent. The number of domain stops (`dstops`) and record stops (`rstops`) encountered are reset to zero. A current error, such as a high temperature, is reported if the condition still persists.

The Sun Management Center agents on the spare and main system controller are not automatically synchronized. If you modify any of the default limits, attributes, or loaded modules on either the main or spare system controller, you should make the corresponding changes to the agents operating on the other system controller.

▼ To Create a Sun Fire High-End Systems Platform Object

Sun Fire high-end systems platform objects are created as part of the Sun Fire high-end systems composite. You can also create the platform objects directly.

1. **Follow the instructions in the section "To Create a Node" in Chapter 3 of the** *Sun Management Center User's Guide* **to create a Sun Fire high-end systems platform object.**
2. **In Step 3 of that procedure, choose the Sun Management Center Agent - Platform monitoring type from the pull-down menu (Monitor Via).**
3. **In Step 4 of that procedure, type the requested information.**

Note – The default platform agent port number is port 166. Do not change this port number unless the platform agent was configured on a different port during Sun Management Center setup.

---

4. **Click OK.**

CHAPTER 5

Sun Fire High-End Systems Details Windows

This chapter describes how to access hardware summaries, physical views, and logical views from the platform, domain, and system controller Details windows for Sun Fire high-end systems.

Note – Some of the illustrations of Detail windows in this supplement have tabs that say Browser and Modules. The correct tab names are Module Browser and Module Manager.

TABLE 5-1 lists the Sun Management Center agent modules for the Sun Fire high-end systems that are viewable from the Sun Fire high-end systems Details windows.

TABLE 5-1 Sun Fire High-End Systems Agent Modules Viewable from the Details Windows

Module Name	Details Window
Platform Config Reader (PCR)	Sun Fire high-end systems platform
Platform/Domain State Management (PDSM)	Sun Fire high-end systems platform
SC Monitoring Module (SCM)	Sun Fire high-end systems platform
Domain Config Reader (DCR)	Sun Fire high-end systems domain
Dynamic Reconfiguration (DR)	Sun Fire high-end systems domain
SC Config Reader	System controller for Sun Fire high-end systems
SC Status	System controller for Sun Fire high-end systems

These modules provide Sun Fire high-end systems hardware monitoring and management capabilities and provide information about the Sun Fire high-end systems composite configuration. See Chapter 6 in this supplement for detailed information about the objects and properties provided by these modules. See Chapter 7 and Chapter 8 in this supplement for detailed information about performing Sun Fire high-end systems platform and domain dynamic reconfiguration and other management operations.

This chapter provides details about the Sun Fire high-end systems platform, system controller, and domain information shown in the Details window. Chapter 6, "Viewing Detailed Information About a Managed Object," in the *Sun Management Center User's Guide* provides general information about using the Sun Management Center Details window.

Note – The Sun Fire high-end systems Platform Config Reader module does not provide configuration information for I/O devices attached to the platform. To view this information, open a Sun Fire high-end systems domain Details window for each domain whose I/O devices you want to check.

Views Under the Hardware Tab

For the Sun Fire high-end systems platform, domain, and SC Details windows, you can access three types of views from the Hardware tab.

- Hardware Summary
- Physical View
- Logical View

Note – Not all alarms are displayed in the Physical View and Logical View.

Hardware Summary

The Hardware Summary provides a table summary of the resources available to that entity.

Physical View

The Physical View provides a photorealistic view of the Sun Fire high-end systems. The Physical View shows only components that are visible in the chassis. For example, the centerplane board and I/O devices are not shown in the Physical View. To view information on these devices, examine the Logical View or Browser displays.

Logical View

The Logical View provides a hierarchical view of the boards and components in that entity. Unlike the Physical View, which shows only those boards and components physically visible in the chassis, the Logical View shows all the boards and components.

Sun Fire High-End Systems Platform Details Window

The Sun Management Center Details window for a Sun Fire high-end systems platform displays information about the entire platform hardware. This window includes the following tabs, which are explained in Chapter 6, "Viewing Detailed Information About a Managed Object," in the *Sun Management Center User's Guide*:

- Info
- Module Browser
- Alarms
- Hardware

Note – If your Sun Fire high-end systems Platform Details window does not include the preceding four tabs, Sun Fire high-end systems support has not been correctly installed on your Sun Management Center server machine. Confirm that the add-on Sun Fire high-end systems components have been installed and set up correctly, and that the Sun Management Center server process has been restarted following installation.

The Sun Fire high-end systems platform is monitored by a Sun Management Center platform agent on the system controller. The platform agent is dedicated to this task.

This section describes using the Hardware tab to display information provided by the Sun Fire high-end systems Platform Config Reader module. This module provides up-to-date information about platform hardware, including:

- Voltage and temperature
- All boards
- Power supplies
- Fan trays
- Hardware errors encountered, such as the number of domain stops (`dstop`)

▼ To Access the Hardware Summary for the Sun Fire High-End Systems Platform

To access a summary of the Sun Fire high-end systems platform's hardware resources (FIGURE 5-1):

1. **Open the Sun Fire high-end systems platform Details window.**
2. **Click on the Hardware tab.**
3. **In the Views pull-down menu, choose Hardware Summary.**

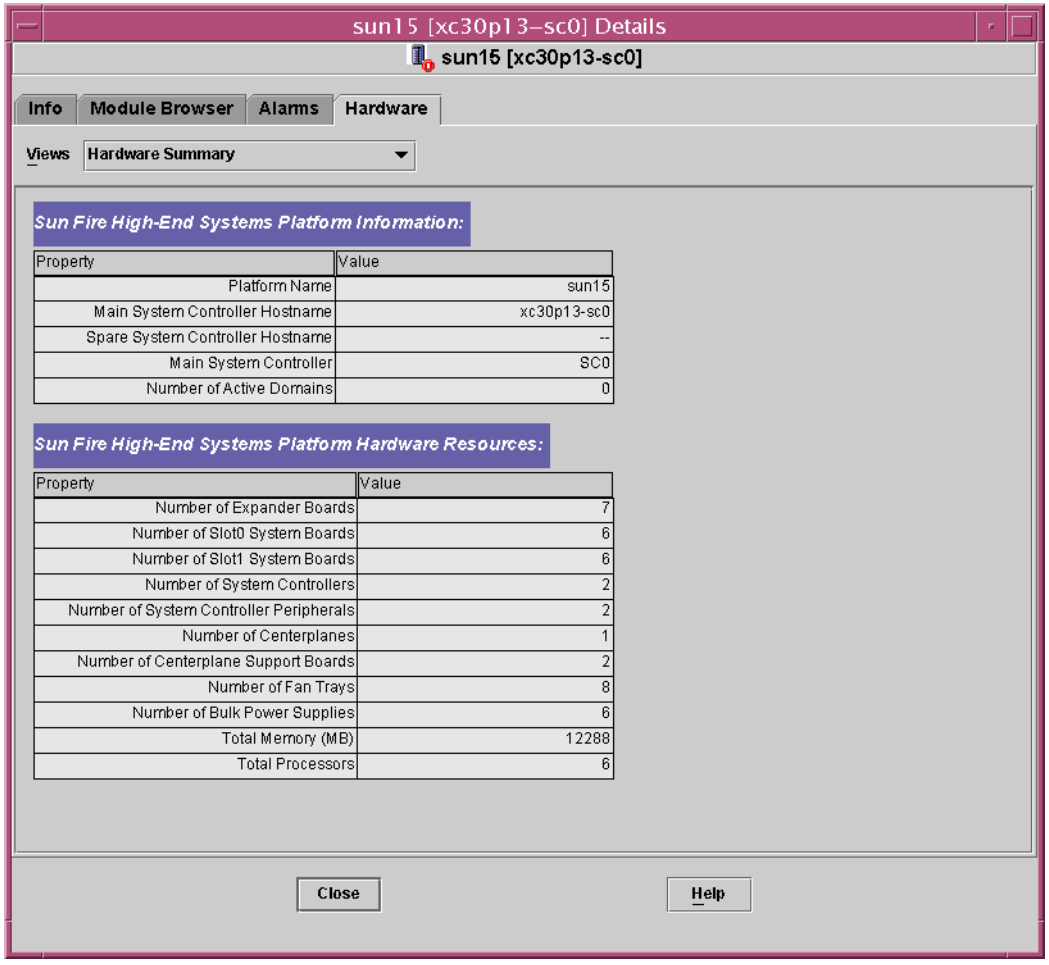


FIGURE 5-1 Hardware Summary for a Sun Fire High-End Systems Platform

The Sun Fire High-End Systems Platform Information table shown in FIGURE 5-1 includes these properties (TABLE 5-2):

TABLE 5-2 Sun Fire High-End Systems Platform Information

Property	Description
Platform Name	Name given to the platform during SMS configuration
Main System Controller Hostname	Host name of the main system controller

TABLE 5-2 Sun Fire High-End Systems Platform Information *(Continued)*

Property	Description
Spare System Controller Hostname	Host name of the spare system controller
Main System Controller	Identifier of the primary system controller: SC0 or SC1
Number of Active Domains	Number of active domains for Sun Fire E25K/15K platform (up to 18) or Sun Fire E20K/12K platform (up to 9)

The Sun Fire High-End Systems Platform Hardware Resources table shown in FIGURE 5-1 includes these properties (TABLE 5-3):

TABLE 5-3 Sun Fire High-End Systems Platform Hardware Resources

Property	Description
Number of Expander Boards	Number of expander boards
Number of Slot0 System Boards	Number of system boards in slot 0
Number of Slot1 System Boards	Number of system boards in slot 1
Number of System Controllers	Number of system controllers
Number of System Controller Peripherals	Number of system controller peripherals
Number of Centerplanes	Number of Sun™ Fireplane interconnects, also known as centerplanes
Number of Centerplane Support Boards	Number of centerplane support boards
Number of Fan Trays	Number of fan trays
Number of Bulk Power Supplies	Number of bulk power supplies
Total Memory (MB)	Total memory in megabytes as configured by the power-on self-test (POST)
Total Processors	Total number of processors as configured by POST

▼ To Access the Physical View of the Sun Fire High-End Systems Platform

To access a photorealistic view of the Sun Fire high-end systems platform (FIGURE 5-2):

1. **Open the Sun Fire high-end systems platform Details window.**

2. **Click on the Hardware tab.**

3. **In the Views pull-down menu, choose system under Physical View.**

4. **In the Rotate Current View pull-down menu, choose System—Front to view the front of the platform.**

   FIGURE 5-2 illustrates a Physical View of a Sun Fire high-end systems platform from the front. For more information about navigating the Physical Views, refer to the *Sun Management Center User's Guide*.

Note – The Physical View of the Sun Fire high-end systems platform shows *only* processors that are known to be present. The Physical View of the Sun Fire high-end systems platform does *not* show processors whose presence is unknown. For example, a processor with a POST status of `BLACKLISTED` in the Processor Table might be physically present, but is not shown in the platform Physical View.

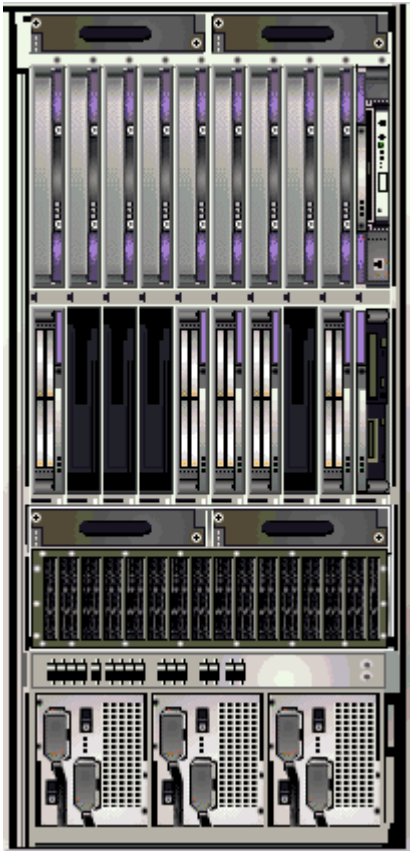


FIGURE 5-2 Sun Fire High-End Systems Platform Physical View—Front

5. **Click on one of the CPU boards in the top slots of the Sun Fire high-end systems platform to display a Physical View of the top of a CPU board (**FIGURE 5-3**).**

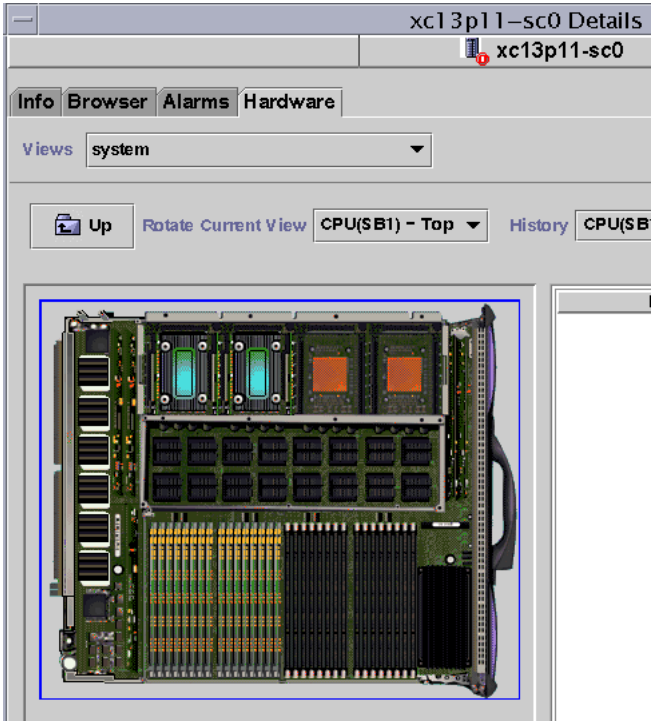


FIGURE 5-3 Top of CPU Board in Platform Physical View

▼ To Access the Logical View of the Sun Fire High-End Systems Platform

The platform Logical View shows the hierarchy of all boards and components attached to the entire Sun Fire high-end system. To access a hierarchical view of a Sun Fire high-end systems platform:

1. **Open the Sun Fire high-end systems platform Details window.**
2. **Click on the Hardware tab.**
3. **In the Views pull-down menu, choose system under Logical View.**
4. **Click on the Expand All button and then click on an object in the left pane to see a logical view similar to** FIGURE 5-4**.**

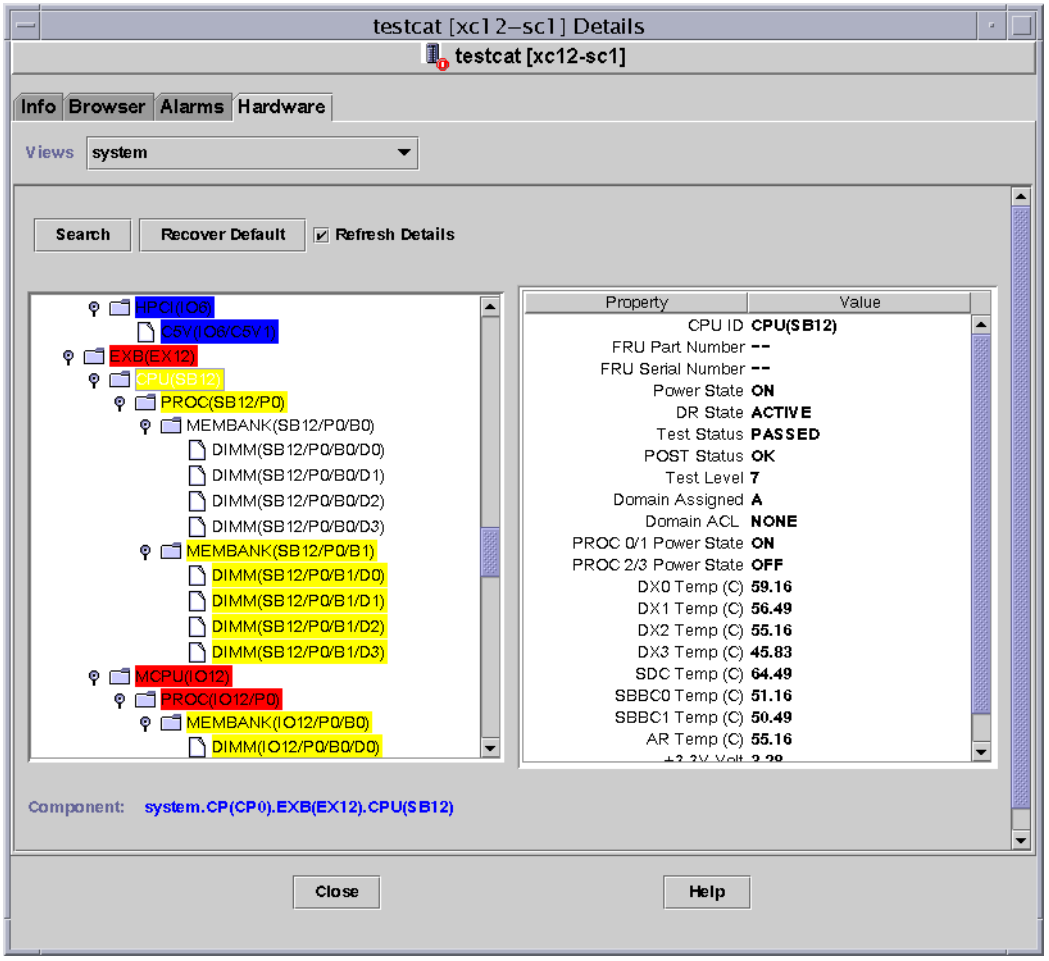


FIGURE 5-4 Sun Fire High-End Systems Platform Logical View

For more information about navigating Logical Views, refer to the *Sun Management Center User's Guide*.

Sun Fire High-End Systems Domain Details Window

The Sun Management Center Details window for a Sun Fire high-end systems domain displays information about that domain's hardware. The Sun Fire high-end systems domain Details window resembles the host Details window described in Chapter 6, "Viewing Detailed Information About a Managed Object," in the *Sun Management Center User's Guide*.

Only the boards and components allocated to the Sun Fire high-end systems domain are included in this information. Information about the hardware configuration of the entire platform can be viewed from the Sun Fire high-end systems platform Details window. See "Sun Fire High-End Systems Platform Details Window" on page 65 for more information.

The domain Details window includes the following tabs, which are explained in Chapter 6, "Viewing Detailed Information About a Managed Object," in the *Sun Management Center User's Guide*:

- Info
- Module Browser
- Alarms
- Module Manager
- Applications
- Hardware

Note – If your Sun Fire high-end systems domain Details window does not include the preceding six tabs, Sun Fire high-end systems support has not been installed correctly on your Sun Management Center server machine. Confirm that the add-on Sun Fire high-end systems components have been installed and set up correctly, and that the Sun Management Center server process has been restarted following installation.

This section describes using the Hardware tab to display information provided by the Sun Fire High-End Systems Domain Config Reader module. This module provides up-to-date information about system boards and components that reside on those boards including:

- Processors
- Memory
- Attached I/O devices

▼ To Access the Hardware Summary for a Sun Fire High-End Systems Domain

To access a summary of a Sun Fire high-end systems domain's hardware resources (FIGURE 5-5):

1. **Open the Sun Fire high-end systems domain Details window.**
2. **Click on the Hardware tab.**
3. **In the Views pull-down menu, choose Hardware Summary.**

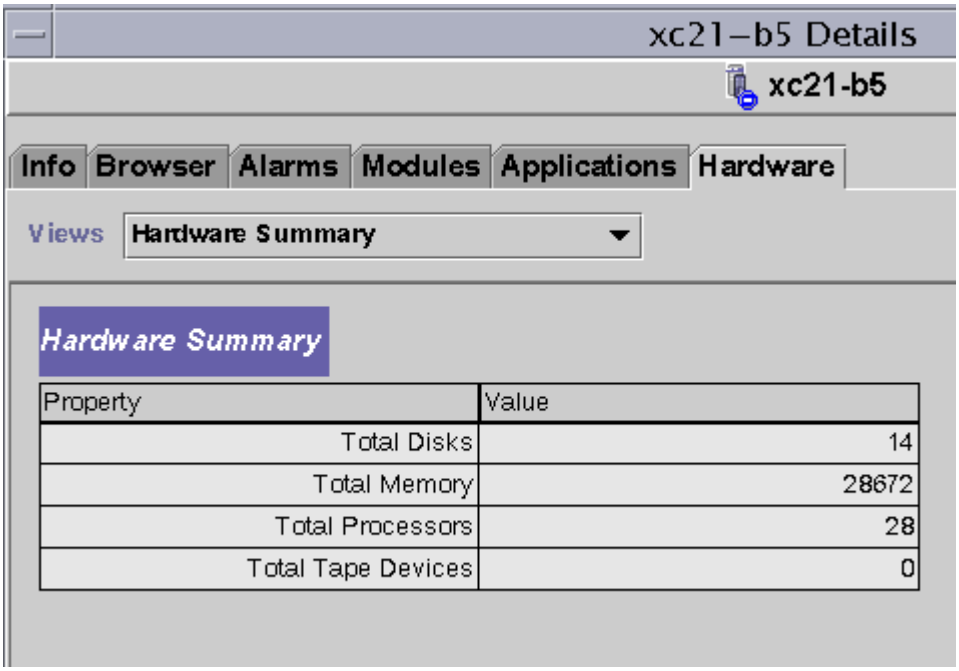


FIGURE 5-5 Hardware Summary for a Sun Fire High-End Systems Domain

The Sun Fire high-end systems domain information shown in FIGURE 5-5 includes the properties listed in TABLE 5-4.

TABLE 5-4 Sun Fire High-End Systems Domain Hardware Summary

Property	Description
Total Disks	Number of disks present in the system
Total Memory	Total memory in megabytes
Total Processors	Number of processors, which includes all processors allocated to the domain
Total Tape Devices	Number of tape devices present/assigned in the domain

▼ To Access the Physical View of a Sun Fire High-End Systems Domain

In the Physical View of a Sun Fire high-end systems domain, the picture has dimmed areas, such as power supplies, fan trays, the system controller, and the system controller peripherals. Only domain system board information is available from the Physical View of a Sun Fire high-end systems domain.

To access a photorealistic view of system board information for a Sun Fire high-end systems domain (FIGURE 5-6):

1. **Open the Sun Fire high-end systems domain Details window.**
2. **Click on the Hardware tab.**
3. **In the Views pull-down menu, choose system under Physical View.**
4. **In the Rotate Current View pull-down menu, choose System—Front to see the system boards assigned to the domain, which are physically in the front of the platform.**

FIGURE 5-6 illustrates a Physical View of systems boards assigned to the domain, which are physically in the front of the Sun Fire high-end systems platform. For more information about navigating Physical Views, refer to the *Sun Management Center User's Guide.*

Note – The domain chassis image in the physical view is the same as that of the platform with the fan trays and power supplies dimmed.

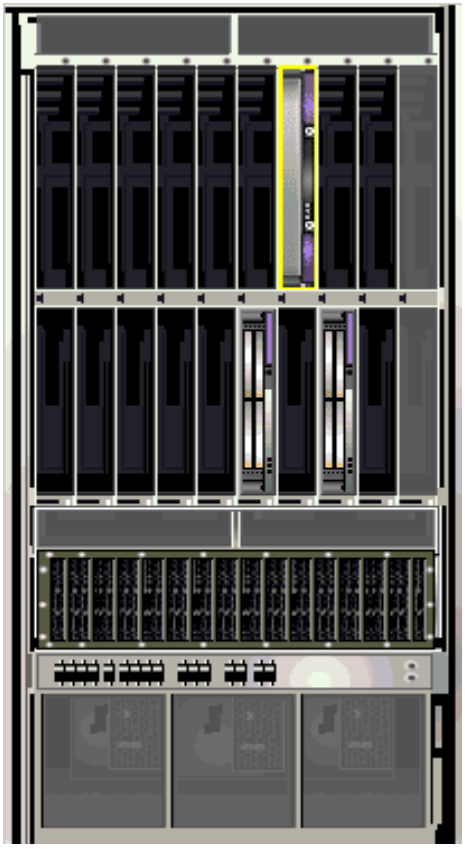


FIGURE 5-6 Sun Fire High-End Systems Domain Physical View—Front

5. **Click on one of the HPCI boards in the bottom slots of the Sun Fire high-end systems domain to display a Physical View of the top of a HPCI board (**FIGURE 5-7**).**

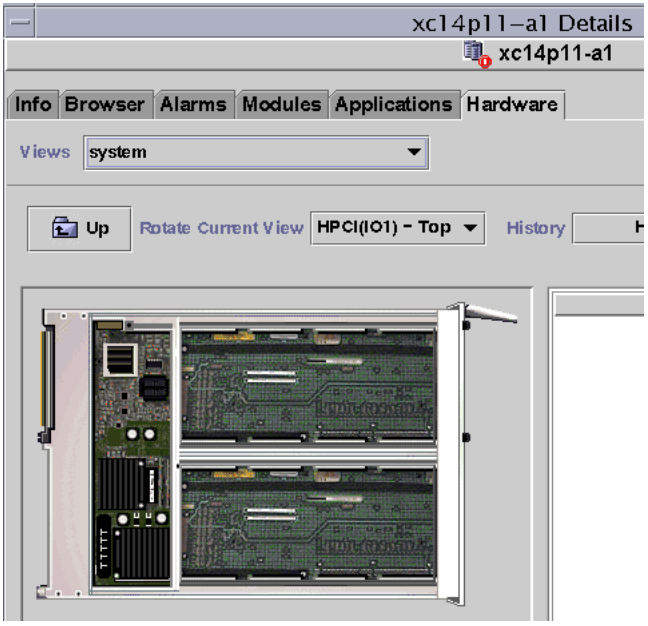


FIGURE 5-7 Top of HPCI Board in Domain Physical View

▼ To Access the Logical View of a Sun Fire High-End Systems Domain

The domain Logical View shows the hierarchy of all boards and components attached to a Sun Fire high-end systems domain. To access the hierarchical view of a Sun Fire high-end systems domain:

1. **Open the Sun Fire high-end systems domain Details window.**
2. **Click on the Hardware tab.**
3. **In the Views pull-down menu, choose system under Logical View.**
4. **Click on the Expand All button and then choose on an object in the left pane to see a logical view similar to** FIGURE 5-8**.**

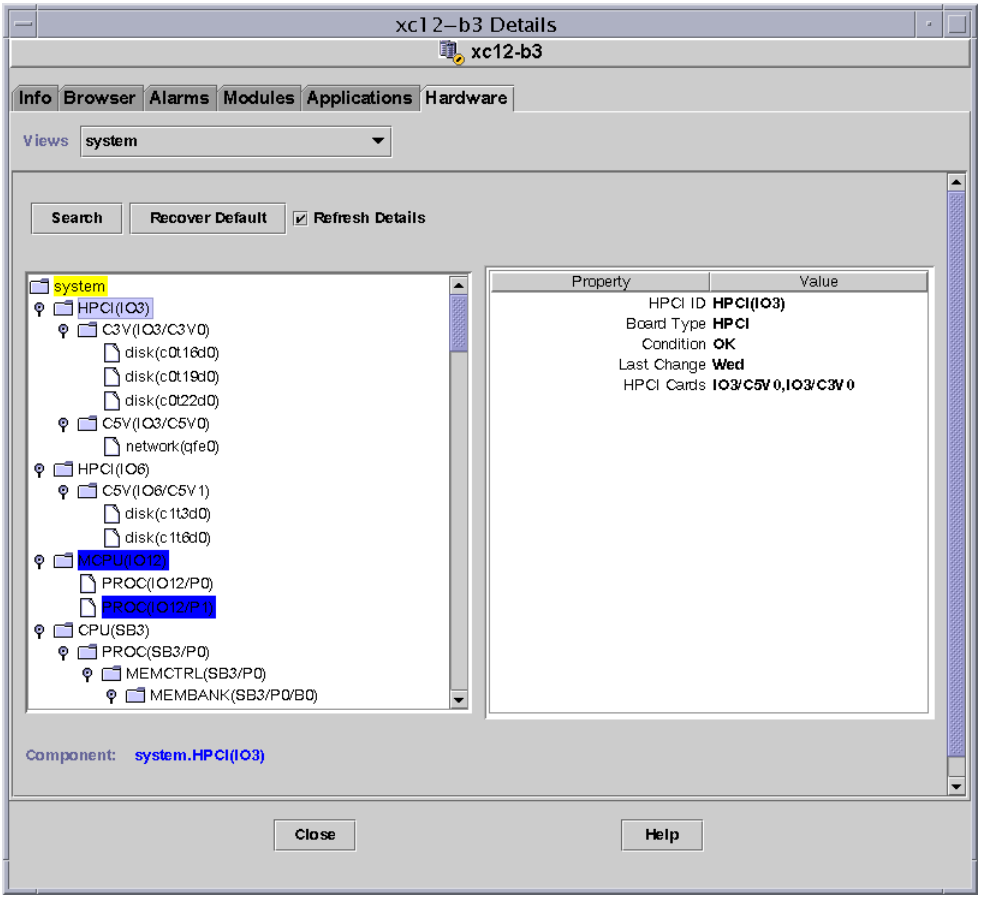


FIGURE 5-8 Sun Fire High-End Systems Domain Logical View

For more information about navigating Logical Views, refer to the *Sun Management Center User's Guide.*

Sun Fire High-End Systems SC Details Window

The Sun Management Center Details window for a Sun Fire high-end systems SC displays information about the system controller's hardware. The Sun Fire high-end systems SC Details window resembles the host Details window described in the *Sun Management Center User's Guide*.

Only boards and components allocated to the system controller for Sun Fire high-end systems are included in this information. Information about the hardware configuration of the entire platform can be viewed from the Sun Fire high-end systems platform Details window. See "Sun Fire High-End Systems Platform Details Window" on page 65 for more information.

The SC Details window includes the following tabs, which are explained in the *Sun Management Center User's Guide*:

- Info
- Module Browser
- Alarms
- Module Manager
- Applications
- Hardware

Note – If your Sun Fire high-end systems SC Details window does not include each of the preceding six tabs, the Sun Fire high-end systems support has not been installed correctly on your Sun Management Center server machine. Confirm that the add-on Sun Fire high-end systems components have been installed and set up correctly, and that the Sun Management Center server process has been restarted following installation.

This section describes using the Hardware tab to display information provided by the Sun Fire high-end systems SC Config Reader module. This module provides up-to-date information about the system boards and the components that reside on those boards including:

- Processors
- Memory
- Attached I/O devices

▼ To Access the Hardware Summary for a System Controller

To access a summary of the hardware resources for a system controller (FIGURE 5-9):

1. **Open the Sun Fire high-end systems SC Details window.**
2. **Click on the Hardware tab.**
3. **In the Views pull-down menu, choose Hardware Summary.**

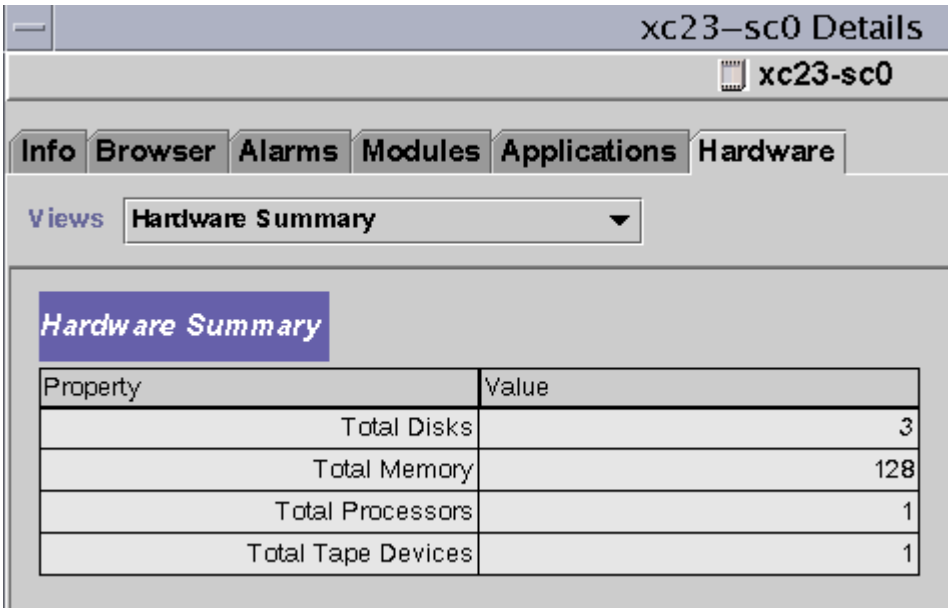


FIGURE 5-9 Hardware Summary for a Sun Fire High-End Systems System Controller

The Sun Fire high-end systems SC information shown in FIGURE 5-9 includes the properties listed in TABLE 5-5.

TABLE 5-5 Sun Fire High-End Systems SC Hardware Summary

Property	Description
Total Disks	Number of disks present in the system
Total Memory	Total memory in megabytes
Total Processors	Number of processors in the system controller
Total Tape Devices	Number of tape devices present in the system

▼ To Access a Physical View of the System Controller

The system controller is in the upper-right corner of the Sun Fire high-end systems platform. To access a photorealistic view of a system controller (FIGURE 5-10):

1. **Open the Sun Fire high-end systems SC Details window.**

2. **Click on the Hardware tab.**

3. **In the Views pull-down menu, choose system under Physical View.**

4. **To see the system controller in the front of the platform, choose System—Front in the Rotate Current View pull-down menu.**

Note – The system controller chassis image in the physical view is the same as that of the platform except the system controller slot is populated.

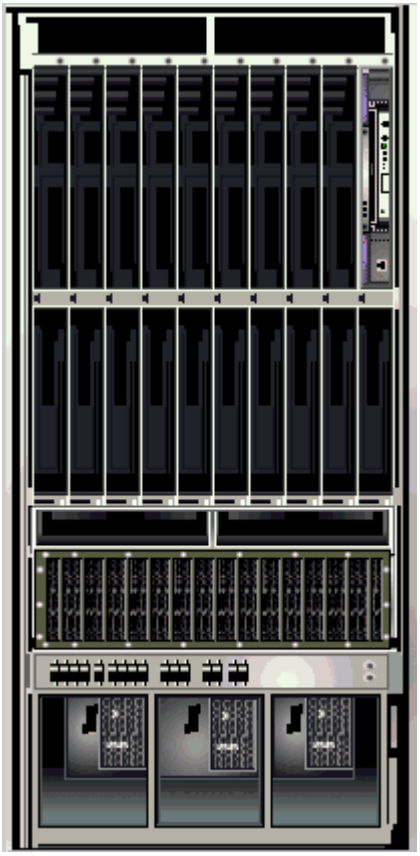


FIGURE 5-10 Sun Fire High-End Systems System Controller Physical View—Front

5. **Click on the system controller in the upper right of the Sun Fire high-end systems platform to display a Physical View of the top of a system controller (FIGURE 5-11).**

FIGURE 5-11 illustrates a Physical View of the top of a CP1500 system controller.

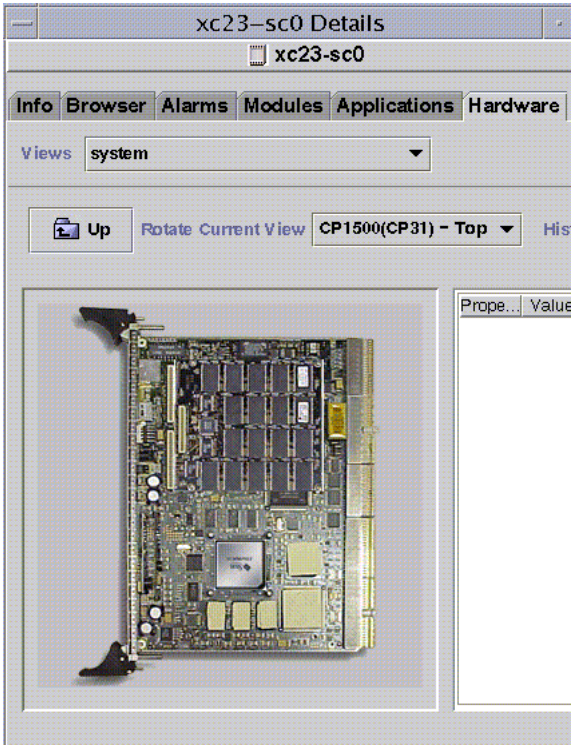


FIGURE 5-11 Top of CP1500 System Controller Physical View

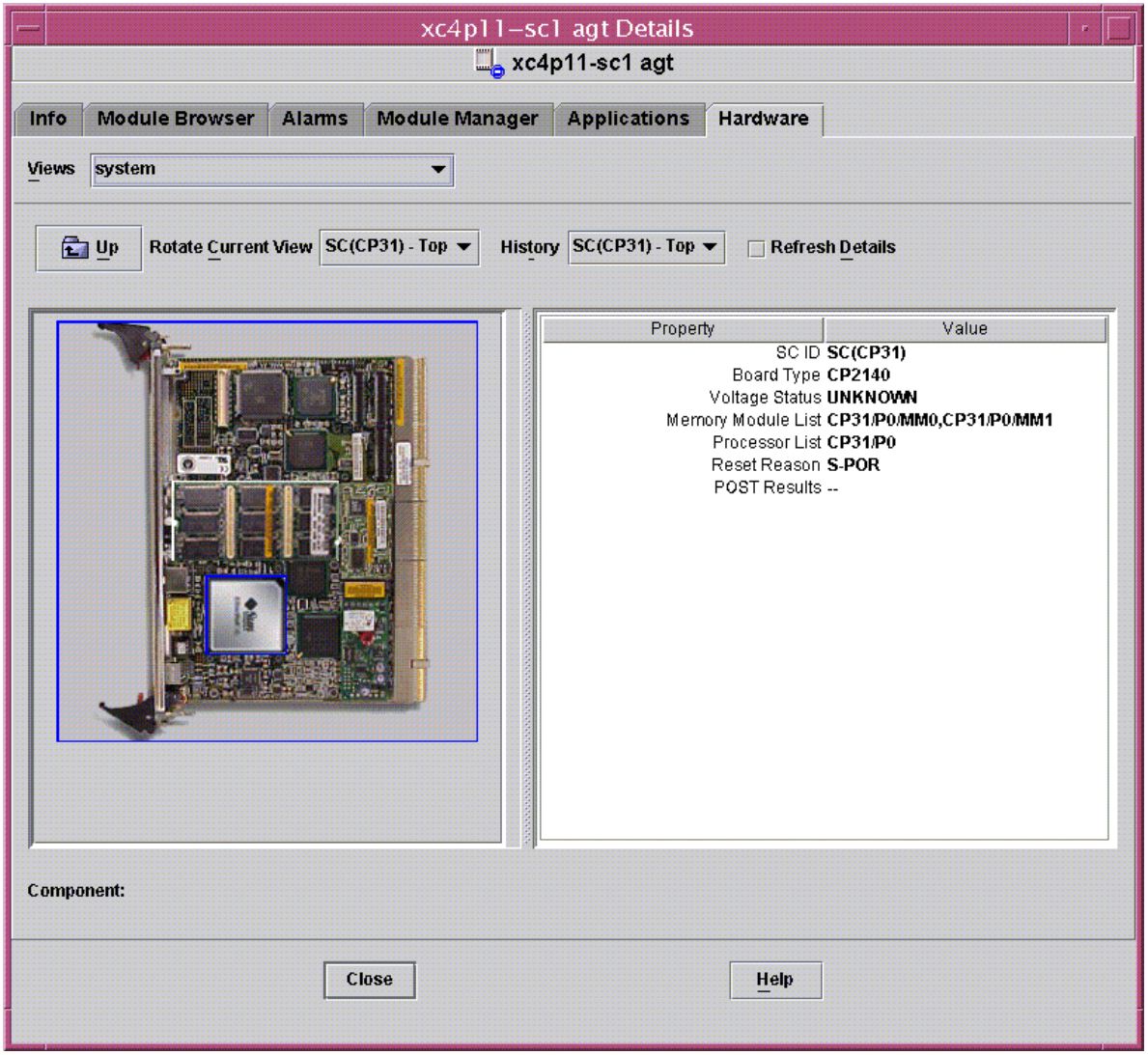


FIGURE 5-12 Top of CP2140 System Controller Physical View

FIGURE 5-12 illustrates a Physical View of the top of a CP2140 system controller.

For more information about navigating Physical Views, refer to the *Sun Management Center User's Guide*.

▼ To Access the Logical View of a System Controller

The Logical View of a system controller shows the hierarchy of all the boards and components attached to the system controller, which is either a CP1500 or a CP2140 machine. To access a hierarchical view of a system controller:

1. **Open the Sun Fire high-end systems SC Details window.**
2. **Click on the Hardware tab.**
3. **In the Views pull-down menu, choose system under Logical View.**
4. **Click on the Expand All button and then choose on an object in the left pane to see a logical view.**

   FIGURE 5-13 shows a logical view of the CP1500 system controller.

   FIGURE 5-14 shows a logical view of the CP2140 system controller.

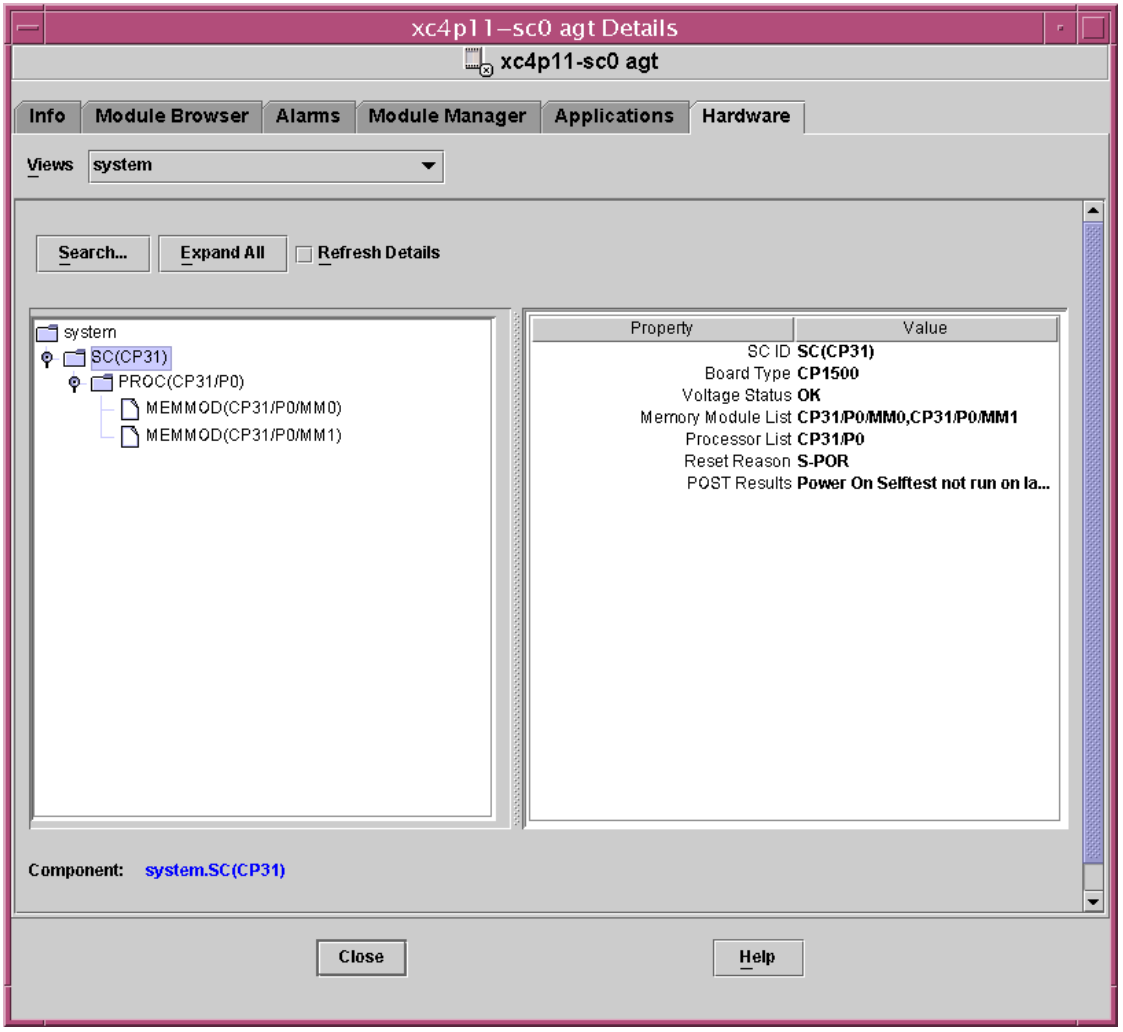


FIGURE 5-13 Sun Fire High-End Systems System Controller (CP1500) Logical View

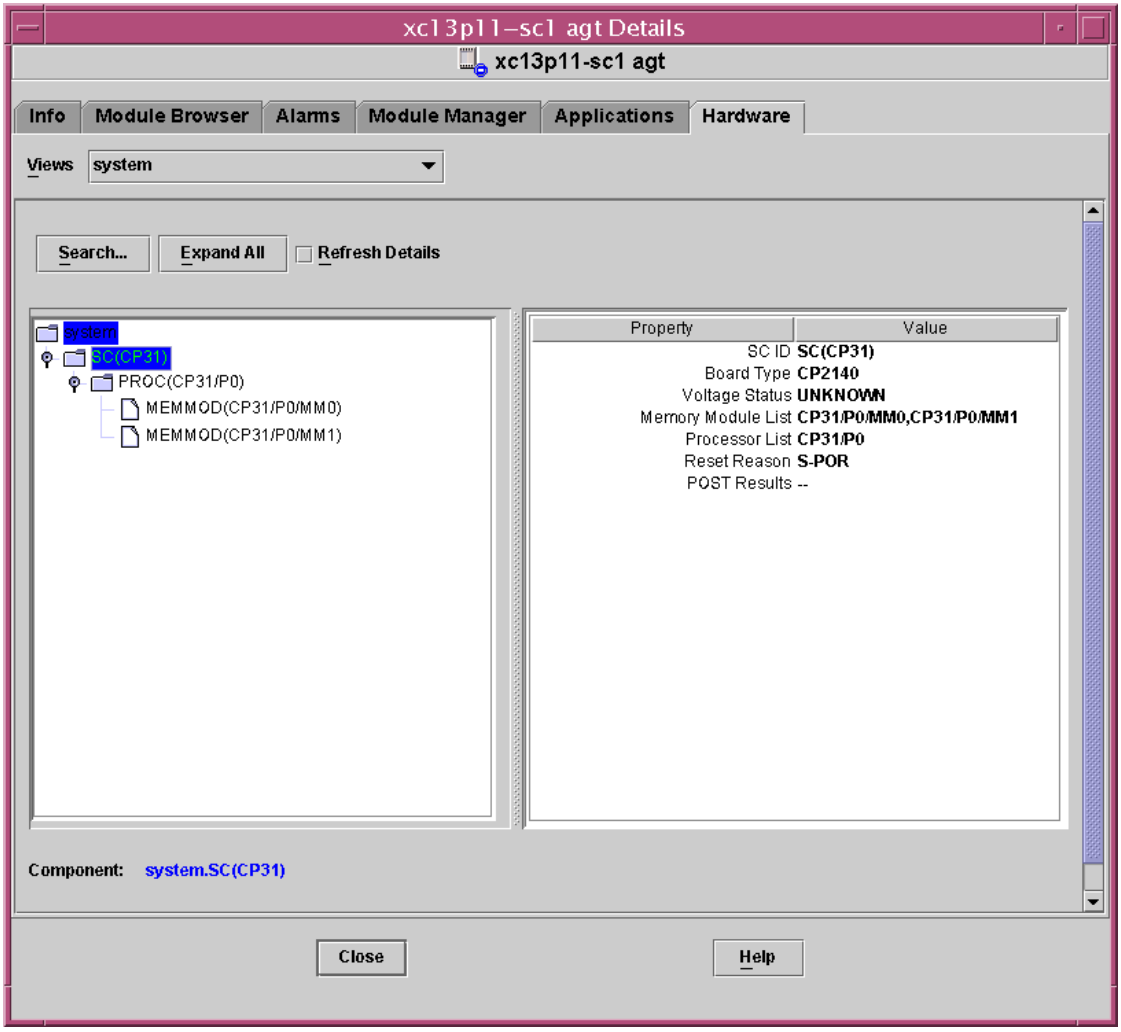


FIGURE 5-14 Sun Fire High-End Systems System Controller (CP2140) Logical View

For more information about navigating Logical Views, refer to the *Sun Management Center User's Guide*.

CHAPTER 6

Sun Fire High-End Systems Agent Modules

This chapter explains how to open each of the Sun Fire high-end system–specific agent modules and describes the tables, properties, and alarm rules for each module.

TABLE 6-1 shows each Sun Fire high-end system–specific module; a brief description; and whether the module is loaded by default, loadable, or unloadable. For specific information about loading and unloading Sun Management Center modules, refer to the *Sun Management Center User's Guide*.

TABLE 6-1 Summary of Sun Fire High-End Systems Agent Modules

Module	Description	Where Loaded[1]	Loaded by Default?	Loadable?	Unloadable?
Platform Config Reader	Provides information about the hardware configuration for the entire Sun Fire high-end systems platform	Platform Agent on SC	yes	no	no
Domain Config Reader	Provides the hardware configuration for a Sun Fire high-end systems domain	Domain	yes	yes	yes
SC Config Reader	Provides the hardware configuration for system controllers (SCs) for Sun Fire high-end systems	Base Agent on SC	yes	yes	yes
SC Status	Determines whether a system controller for Sun Fire high-end systems is the main or spare system controller	Base Agent on SC	yes	yes	yes
SC Monitoring	Monitors the System Management Services (SMS) daemons on the active system controller	Platform Agent on SC	yes	yes	yes

TABLE 6-1 Summary of Sun Fire High-End Systems Agent Modules *(Continued)*

Module	Description	Where Loaded[1]	Loaded by Default?	Loadable?	Unloadable?
Platform/ Domain State Management	Enables an administrator to perform platform and domain management, and global dynamic reconfiguration of system boards across the platform from the system controller	Platform Agent on SC	no	yes	yes
Dynamic Reconfiguration	Enables an administrator to perform dynamic reconfiguration of boards on one Sun Fire high-end systems domain at a time from the domain	Domain	no	yes	yes

1 Pay particular attention to which modules are loaded on which agents on the SC. If you do not load the correct modules on the correct agent on the SC, you will get a core dump.

Appendix C of the *Sun Management Center User's Guide* describes the base Sun Management Center modules that monitor various components of the system, including hardware, operating environment, local applications, and remote systems.

Platform Modules Disabled

The platform modules—Platform Config Reader, Platform/Domain State Management, and SC Monitoring—are automatically disabled if either of these conditions exist:

- System controller is the spare system controller
- One of the required SMS daemons for a given platform module is not active (TABLE 6-2)

TABLE 6-2 Required SMS Daemons for Platform Modules

Platform Module	Required SMS Daemons
Platform Config Reader	Capacity-on-Demand Daemon (`codd`) Event Front-end Daemon (`efe`) Error and Fault Handling Daemon (`efhd`) Event Log Access Daemon (`elad`) Event Reporting Daemon (`erd`) Environmental Status Monitoring Daemon (`esmd`) Failover Management Daemon (`fomd`) Hardware Access Daemon (`hwad`) Platform Configuration Daemon (`pcd`)
Platform/Domain State Management	Capacity-on-Demand Daemon (`codd`) Event Front-end Daemon (`efe`) Error and Fault Handling Daemon (`efhd`) Event Log Access Daemon (`elad`) Event Reporting Daemon (`erd`) Environmental Status Monitoring Daemon (`esmd`) Failover Management Daemon (`fomd`) Hardware Access Daemon (`hwad`) Platform Configuration Daemon (`pcd`)
SC Monitoring	Event Front-end Daemon (`efe`)

When a platform module is automatically disabled, an alarm is generated and the platform icon is designated with a circled X on the lower-right corner.

Sun Fire High-End Systems Module Properties

The tables in this chapter provide brief descriptions of each property in each module. Properties that can be graphed are noted in the property description. Refer to Chapter 9 of the *Sun Management Center User's Guide* for more information about graphing properties.

Sun Fire High-End Systems Module Alarm Rules

Each module section contained in the Sun Fire high-end systems add-on software describes the alarm rules for that module, if any. You cannot change the limits for any of these rules. The system provides a message with the alarm stating the current property and the limit. If a property is monitored by a Sun Management Center rule, the name of that rule is shown in the property tables for each module monitored by that rule.

For descriptions of the alarm rules for each module, see:

- "Platform Config Reader Alarm Rules" on page 122
- "Domain Config Reader Alarm Rules" on page 148
- "SC Config Reader Alarm Rules" on page 158
- "SC Monitoring Alarm Rule—Process Down Rule (`rDownProc`)" on page 172

Chapter 12 of the *Sun Management Center User's Guide* describes managing and controlling alarms.

Platform Config Reader Module

The Platform Config Reader module provides information about the hardware configuration for the entire Sun Fire high-end systems platform. During Sun Fire high-end systems platform add-on setup, this module loads automatically, and you *cannot* unload it.

FIGURE 6-1 shows the icon for the module—Config Reader (Sun Fire high-end systems)—as it is displayed in the platform Details window under the Module Browser tab and Hardware icon.

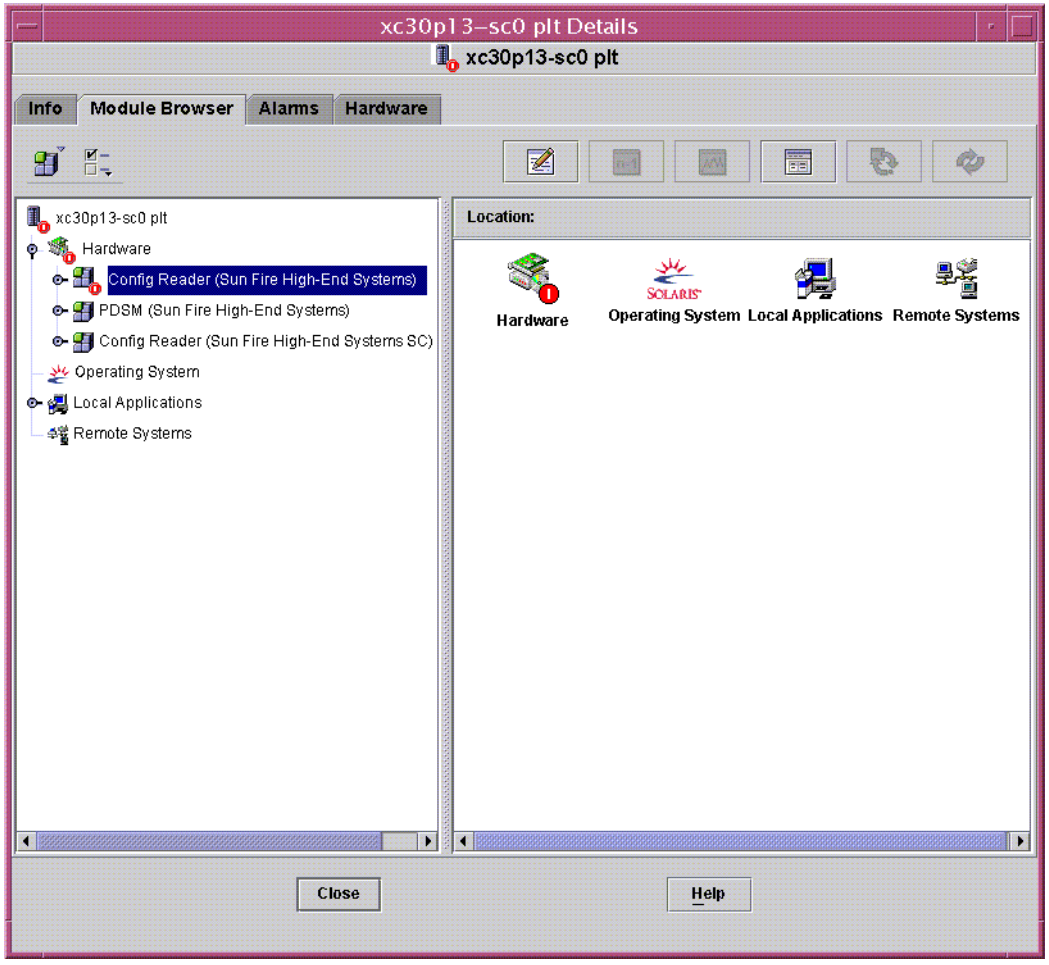


FIGURE 6-1 Platform Config Reader Module

Platform Config Reader Module Refresh

The Platform Config Reader module stores platform information in an internal cache. It gathers and refreshes this information in two ways:

- At 60-minute intervals, the Platform Config Reader interacts with SMS daemons on the SC to repopulate the entire contents of the cache. You cannot change the value of the refresh interval.
- Whenever platform properties, such as temperature or voltage, change, SMS daemons notify the Sun Management Center software. The Platform Config Reader then updates the affected hardware table in the Browser view.

By using the browser from the platform Details window, you can refresh any module property. However, doing so only retrieves the current value of the property from the platform agent; it does not force a recalculation of the data.

Platform Config Reader Properties

The tables in this section describe each of the visible properties for each Sun Fire high-end systems Platform Config Reader object. If a property has a value of `--` or `-1`, the Platform Config Reader is unable to get data for that property.

Note – All temperatures are measured in degrees Celsius (C).

System

The following table provides a brief description of the system properties for the Sun Fire high-end systems platform (TABLE 6-3).

TABLE 6-3 Platform Config Reader System

Property	Rule (if any)	Description
Name		`system`
Platform Type		Platform type identifier
Platform Name		Name assigned to this Sun Fire high-end systems platform during SMS software configuration
Chassis Host ID		Chassis host identifier
Failover State	`scFoStat`	Current failover state: `ACTIVATING`, `ACTIVE`, `DISABLED`, or `FAILED`
Admin Group		Administrative group identifier, such as `platadmn`
Operator Group		Operator group identifier, such as `platoper`
Service Group		Service group identifier, such as `platsvc`
Main System Controller Hostname		Host name of the main system controller
Spare System Controller Hostname		Host name of the spare system controller

TABLE 6-3 Platform Config Reader System *(Continued)*

Property	Rule (if any)	Description
Main System Controller		Identifier of the current main system controller: `SC0` or `SC1`
System Controller Internal IP Address		Internal IP address of the current main system controller
Clock Frequency (MHz)		Clock frequency in megahertz
System Clock Frequency (MHz)		System clock frequency in megahertz
Clock Type		Clock type used
Number of Active Domains		Number of active domains for Sun Fire E25K/15K platform (1–18) or Sun Fire E20K/12K platform (1–9)
Number of Expander Boards		Number of expander boards for Sun Fire E25K/15K platform (1–18) or Sun Fire E20K/12K platform (1–9)
Number of Slot0 System Boards		Number of system boards in slot 0 (1–18)
Number of Slot1 System Boards		Number of system boards in slot 1 (1–18)
Number of System Controllers		Number of system controllers (1–2)
Number of System Controller Peripherals		Number of system controller peripherals (1–2)
Number of Centerplanes		Number of centerplanes (1)
Number of Centerplane Support Boards		Number of centerplane support boards (1–2)
Number of Fan Trays		Number of fan trays (1–8)
Number of Bulk Power Supplies		Number of bulk power supplies (1–6)
Total Memory (MB)		Total memory in megabytes as configured by the power-on self-test (POST)
Total Processors		Total number of processors as configured by POST
Last Full Refresh		Last date and time the data in the internal cache was fully updated

Centerplane

The following table provides a brief description of the properties for the Sun Fireplane interconnect—also known as the centerplane—on Sun Fire high-end systems (TABLE 6-4).

TABLE 6-4 Platform Config Reader Centerplane

Property	Rule (if any)	Description
CP ID		Centerplane identifier containing *FRUID*(*SlotID*): `CP(CP0)`
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
CSBs Present		Comma-separated list of the numbers for the centerplane support boards that are present
EXBs Present		Comma-separated list of the numbers for the expander boards that are present
SCs Present		Comma-separated list of the numbers for the system controllers that are present
SCPERs Present		Comma-separated list of the numbers for the system controller peripherals that are present
DARB Temp 0	`scBTemp`	(graphable) Temperature of the DARB ASIC on centerplane board 0
RMX Temp 0	`scBTemp`	(graphable) Temperature of the RMX ASIC on logical centerplane board 0
AMX0 Temp 0	`scBTemp`	(graphable) Temperature of the AMX0 ASIC on logical centerplane board 0
AMX1 Temp 0	`scBTemp`	(graphable) Temperature of the AMX1 ASIC on logical centerplane board 0
DMX0 Temp 0	`scBTemp`	(graphable) Temperature of the DMX0 ASIC on logical centerplane board 0
DMX1 Temp 0	`scBTemp`	(graphable) Temperature of the DMX1 ASIC on logical centerplane board 0

TABLE 6-4 Platform Config Reader Centerplane *(Continued)*

Property	Rule (if any)	Description
DMX3 Temp 0	`scBTemp`	(graphable) Temperature of the DMX3 ASIC on logical centerplane board 0
DMX5 Temp 0	`scBTemp`	(graphable) Temperature of the DMX5 ASIC on logical centerplane board 0
DARB Temp 1	`scBTemp`	(graphable) Temperature of the DARB ASIC on logical centerplane board 1
RMX Temp 1	`scBTemp`	(graphable) Temperature of the RMX ASIC on logical centerplane board 1
AMX0 Temp 1	`scBTemp`	(graphable) Temperature of the AMX0 ASIC on logical centerplane board 1
AMX1 Temp 1	`scBTemp`	(graphable) Temperature of the AMX1 ASIC on logical centerplane board 1
DMX0 Temp 1	`scBTemp`	(graphable) Temperature of the DMX0 ASIC on logical centerplane board 1
DMX1 Temp 1	`scBTemp`	(graphable) Temperature of the DMX1 ASIC on logical centerplane board 1
DMX3 Temp 1	`scBTemp`	(graphable) Temperature of the DMX3 ASIC on logical centerplane board 1
DMX5 Temp 1	`scBTemp`	(graphable) Temperature of the DMX5 ASIC on logical centerplane board 1

Expander Board

The following table provides a brief description of the properties for an expander board on Sun Fire high-end systems(TABLE 6-5).

TABLE 6-5 Platform Config Reader Expander Board

Property	Rule (if any)	Description
EXB ID		Expander board identifier containing *FRUID*(*SlotID*): `EXB(EX`*x*`)`, where *x* is the expander board number (`0–17`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit

TABLE 6-5 Platform Config Reader Expander Board *(Continued)*

Property	Rule (if any)	Description
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the expander board power is `ON` or `OFF`
Slot 0		Identifier of the system board that occupies slot 0: `CPU(SB`*x*`)`, `V3CPU(SB`*x*`)`, or `NOT_PRESENT`, where *x* is the number of the centerplane slot containing the board (`0–17` and `V3` indicates an UltraSPARC IV CPU board.
Slot 1		Identifier of the system board that occupies slot 1: `HPCI(IO`*x*`)`, `MCPU(IO`*x*`)`, or `NOT_PRESENT`, where *x* is `0–17`
PS0 State	`scOBURul`	Status of power supply 0: `OK`, `BAD`, or `UNKNOWN`
PS1 State	`scOBURul`	Status of power supply 1: `OK`, `BAD`, or `UNKNOWN`
Ambient Top Temp (C)	`scBTemp`	(graphable) Ambient top temperature
Ambient Bottom Temp (C)	`scBTemp`	(graphable) Ambient bottom temperature
SBBC Temp (C)	`scBTemp`	(graphable) Temperature of the SBBC ASIC
SDI5 Temp (C)	`scBTemp`	(graphable) Temperature of the SDI5 ASIC
SDI0 Temp (C)	`scBTemp`	(graphable) Temperature of the SDI0, or master, ASIC
SDI3 Temp (C)	`scBTemp`	(graphable) Temperature of the SDI3 ASIC
AXQ Temp (C)	`scBTemp`	(graphable) Temperature of the AXQ ASIC
+3.3HK Volt	`scBVolt`	(graphable) Voltage level for the board +3.3 VDC housekeeping power
+3.3V Volt	`scBVolt`	(graphable) Voltage level for the board +3.3 VDC power
+1.5V Volt	`scBVolt`	(graphable) Voltage level for the board +1.5 VDC power
+2.5V Volt	`scBVolt`	(graphable) Voltage level for the board +2.5 VDC power

Centerplane Support Board

The following table provides a brief description of the properties for a centerplane support board on Sun Fire high-end systems (TABLE 6-6).

TABLE 6-6 Platform Config Reader Centerplane Support Board

Property	Rule (if any)	Description
CSB ID		Centerplane support board identifier containing *FRUID*(*SlotID*): `CSB(CS0)` or `CSB(CS1)`
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the board power is `ON` or `OFF`
PS0 State	`scOBURul`	Status of power supply 0: `OK`, `BAD`, or `UNKNOWN`
PS1 State	`scOBURul`	Status of power supply 1: `OK`, `BAD`, or `UNKNOWN`
Ambient Top Temp (C)	`scBTemp`	(graphable) Ambient top temperature
Ambient Bottom Temp (C)	`scBTemp`	(graphable) Ambient bottom temperature
SBBC Temp (C)	`scBTemp`	(graphable) Temperature of the SBBC ASIC
+3.3HK Volt	`scBVolt`	(graphable) Voltage level for the board +3.3 VDC housekeeping power
+3.3V Volt	`scBVolt`	(graphable) Voltage level for the board +3.3 VDC power
+2.5V Volt	`scBVolt`	(graphable) Voltage level for the board +2.5 VDC power
+1.5V Volt	`scBVolt`	(graphable) Voltage level for the board +1.5 VDC power

System Controller

The following table provides a brief description of the properties for a system controller on Sun Fire high-end systems (TABLE 6-7).

TABLE 6-7 Platform Config Reader System Controller

Property	Rule (if any)	Description
SC ID		System controller identifier containing *FRUID*(*SlotID*): `SC(SC0)` or `SC(SC1)`
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the SC power is `ON` or `OFF`
RIO Temp (C)	`scBTemp`	(graphable) Temperature of the RIO board
IOA0 Temp (C)	`scBTemp`	(graphable) Temperature of the input/output adapter (IOA0) board
PS0 Temp (C)	`scBTemp`	(graphable) Temperature of power supply 0
PS1 Temp (C)	`scBTemp`	(graphable) Temperature of power supply 1
SBBC Temp (C)	`scBTemp`	(graphable) Temperature of the SBBC ASIC. The value of this property is `0.0` if the SC is the spare SC.
CBH Temp (C)	`scBTemp`	(graphable) Temperature of the CBH ASIC. The value of this property is `0.0` if the SC is the spare SC.
+12V Volt	`scBVolt`	(graphable) Voltage level for the +12 VDC power supply
-12V Volt	`scBVolt`	(graphable) Voltage level for the -12 VDC power supply
+3.3HK Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC housekeeping power

TABLE 6-7 Platform Config Reader System Controller *(Continued)*

Property	Rule (if any)	Description
+3.3V Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC power supply
+1.5V Volt	`scBVolt`	(graphable) Voltage level for the +1.5 VDC power supply
+5.0V Volt	`scBVolt`	(graphable) Voltage level for the +5 VDC power supply
+5V Current 0	`scBCurrt`	(graphable) Current level 0 for the +5 VDC power
+5V Current 1	`scBCurrt`	(graphable) Current level 1 for the +5 VDC power
+3.3V Current 0	`scBCurrt`	(graphable) Current level 0 for the +3.3 VDC power
+3.3V Current 1	`scBCurrt`	(graphable) Current level 1 for the +3.3 VDC power

System Controller Peripheral

The following table provides a brief description of the properties for a system controller peripheral on Sun Fire high-end systems (TABLE 6-8).

TABLE 6-8 Platform Config Reader System Controller Peripheral

Property	Rule (if any)	Description
SCPER ID		System controller peripheral identifier containing *FRUID*(*SlotID*): `SCPER(SCPER0)` or `SCPER(SCPER1)`
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the power is `ON` or `OFF`
Ambient0 Temp (C)		(graphable) Ambient temperature for probe point 0

TABLE 6-8 Platform Config Reader System Controller Peripheral *(Continued)*

Property	Rule (if any)	Description
Ambient1 Temp (C)		(graphable) Ambient temperature for probe point 1
Ambient2 Temp (C)		(graphable) Ambient temperature for probe point 2
Average Ambient Temp (C)	`scBTemp`	(graphable) *Average* ambient temperature[1] for the three probe points.
+12V Volt	`scBVolt`	(graphable) Voltage level for the board +12 VDC power
+5.0V Volt	`scBVolt`	(graphable) Voltage level for the board +5 VDC power
+3.3HK Volt	`scBVolt`	(graphable) Voltage level for the board +3.3 VDC housekeeping power

1 This value represents the average of two of the ambient temperature values for probe points 0, 1, and 2.The two probe points chosen display temperatures that differ by no more than 6 degrees, so that a faulty probe will not throw off the results of the average.

Fan Tray

The following table provides a brief description of the properties for fan trays on Sun Fire high-end systems (TABLE 6-9).

TABLE 6-9 Platform Config Reader Fan Tray

Property	Rule (if any)	Description
FANTRAY ID		Fan tray identifier containing *FRUID*(*SlotID*): `FT(FT0)` through `FT(FT7)`
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scOnOff`	Indicates whether the fan power is `ON` or `OFF`

TABLE 6-9 Platform Config Reader Fan Tray *(Continued)*

Property	Rule (if any)	Description
Speed		Fan tray speed: `NORMAL`, `HIGH`, or `FAILED`
Fan0 State	`scOkFail`	State of fan 0: `OK` or `FAIL`
Fan1 State	`scOkFail`	State of fan 1: `OK` or `FAIL`
Fan2 State	`scOkFail`	State of fan 2: `OK` or `FAIL`
Fan3 State	`scOkFail`	State of fan 3: `OK` or `FAIL`
Fan4 State	`scOkFail`	State of fan 4: `OK` or `FAIL`
Fan5 State	`scOkFail`	State of fan 5: `OK` or `FAIL`
Fan6 State	`scOkFail`	State of fan 6: `OK` or `FAIL`

Power Supply

The following table provides a brief description of the properties for power supplies on Sun Fire high-end systems (TABLE 6-10).

TABLE 6-10 Platform Config Reader Power Supply

Property	Rule (if any)	Description
PS ID		Power supply identifier containing *FRUID*(*SlotID*): `PS(PS0)` through `PS(PS5)`
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
State	`scOkFail`	Overall state of the entire power supply: `OK` or `FAIL`
Fan0 State	`scOkFail`	State of fan 0: `OK` or `FAIL`
Fan1 State	`scOkFail`	State of fan 1: `OK` or `FAIL`

TABLE 6-10 Platform Config Reader Power Supply *(Continued)*

Property	Rule (if any)	Description
AC0 State	`scOkFail`	State of the alternating current input from the power supply (AC0): `OK` or `FAIL`
AC1 State	`scOkFail`	State of the alternating current input from the power supply (AC1): `OK` or `FAIL`
Breaker0 State	`scBreakr`	State of circuit breaker 0: `OPEN` or `CLOSE`
Breaker1 State	`scBreakr`	State of circuit breaker 1: `OPEN` or `CLOSE`
DC0 Power State	`scOnOff`	State of the direct current from the facility power source DC 0 is `ON` or `OFF`
DC1 Power State	`scOnOff`	Indicates whether the direct current from the facility power source DC 1 is `ON` or `OFF`
Current0		(graphable) Current 0 level
Current1		(graphable) Current 1 level
+48V Volt		(graphable) Voltage level for the +48 VDC power
+3.3HK Volt		(graphable) Voltage level for the +3.3 VDC housekeeping power

CPU Board

The following table provides a brief description of the properties for CPU boards on Sun Fire high-end systems (TABLE 6-11):

TABLE 6-11 Platform Config Reader CPU Board

Property	Rule (if any)	Description
CPU ID		CPU board identifier containing *FRUID*(*SlotID*): `CPU(SB`*x*`)` or `V3CPU(SB`*x*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`) and `V3` indicates an UltraSPARC IV CPU board.
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit

TABLE 6-11 Platform Config Reader CPU Board *(Continued)*

Property	Rule (if any)	Description
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the CPU board power is `ON` or `OFF`
DR State	`scDrStat`	Indicates whether the dynamic reconfiguration state of the CPU board is `UNKNOWN`, `FREE`, `ASSIGNED`, or `ACTIVE`
Test Status	`scBTest`	Indicates whether the test status of the CPU is `UNKNOWN`, `IPOST` (in POST), `PASSED`, `DEGRADED`, or `FAILED`
POST Status	`scPOST`	Indicates whether the POST status of the CPU board is `UNKNOWN`, `OK`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, or `REDLISTED`
Test Level		(graphable) POST test level for this board
Domain Assigned		Domain to which this board is assigned: `A`–`R` or `UNASSIGNED`
Domain ACL		Domain access control list–comma-separated list of domains to which this board is available: `A`–`R` or `NONE`
COD Enable		Indicates whether board is a COD board (`COD`), not a COD board (`NONCOD`), or unable to be determined (`UNKNOWN`) if SMS is in the initialization process.
DX0 Temp (C)	`scBTemp`	(graphable) Temperature of the DX0 ASIC on this board
DX1 Temp (C)	`scBTemp`	(graphable) Temperature of the DX1 ASIC on this board
DX2 Temp (C)	`scBTemp`	(graphable) Temperature of the DX2 ASIC on this board
DX3 Temp (C)	`scBTemp`	(graphable) Temperature of the DX3 ASIC on this board
SDC Temp (C)	`scBTemp`	(graphable) Temperature of the SDC ASIC on this board
SBBC0 Temp (C)	`scBTemp`	(graphable) Temperature of the SBBC0 ASIC on this board

TABLE 6-11 Platform Config Reader CPU Board *(Continued)*

Property	Rule (if any)	Description
SBBC1 Temp (C)	`scBTemp`	(graphable) Temperature of the SBBC1 ASIC on this board
AR Temp (C)	`scBTemp`	(graphable) Temperature of the AR ASIC on this board
+3.3V Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC power
+1.5V Volt	`scBVolt`	(graphable) Voltage level for the +1.5 VDC power

HPCI Board

The following table provides a brief description of the properties for hot-swap PCI (HPCI) boards on Sun Fire high-end systems (TABLE 6-12):

TABLE 6-12 Platform Config Reader HPCI Board

Property	Rule (if any)	Description
HPCI ID		HPCI board identifier containing *FRUID*(*SlotID*): `HPCI(IO`*x*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the HPCI board power is `ON` or `OFF`
DR State	`scDrStat`	Indicates whether the dynamic reconfiguration state of the HPCI board is `UNKNOWN`, `FREE`, `ASSIGNED`, or `ACTIVE`

TABLE 6-12 Platform Config Reader HPCI Board *(Continued)*

Property	Rule (if any)	Description
Test Status	scBTest	Indicates whether the test status of the HPCI board is UNKNOWN, IPOST (in POST), PASSED, DEGRADED, or FAILED
POST Status	scPOST	Indicates whether the POST status of the HPCI board is UNKNOWN, OK, DISABLED, UNDEFINED, MISCONFIGURED, FAIL-OBP, FAIL, BLACKLISTED, or REDLISTED
Test Level		(graphable) POST test level for this board
Domain Assigned		Domain to which this board is assigned: A–R or UNASSIGNED
Domain ACL		Domain access control list–comma-separated list of domains to which this board is available: A–R or NONE
PS0 Temp (C)	scBTemp	(graphable) Temperature of power supply 0
PS1 Temp (C)	scBTemp	(graphable) Temperature of power supply 1
IOA0 Temp (C)	scBTemp	(graphable) Temperature of the IOA0 ASIC on this board
IOA1 Temp (C)	scBTemp	(graphable) Temperature of the IOA1 ASIC on this board
DX0 Temp (C)	scBTemp	(graphable) Temperature of the DX0 ASIC on this board
DX1 Temp (C)	scBTemp	(graphable) Temperature of the DX1 ASIC on this board
SDC Temp (C)	scBTemp	(graphable) Temperature of the SDC ASIC on this board
SBBC Temp (C)	scBTemp	(graphable) Temperature of the SBBC ASIC on this board
AR Temp (C)	scBTemp	(graphable) Temperature of the AR ASIC on this board
+12V Volt	scBVolt	(graphable) Voltage level for the +12 VDC power
-12V Volt	scBVolt	(graphable) Voltage level for the -12 VDC power
+3.3V Volt	scBVolt	(graphable) Voltage level for the +3.3 VDC power
+3.3HK Volt	scBVolt	(graphable) Voltage level for the +3.3 VDC housekeeping power
+1.5V Volt	scBVolt	(graphable) Voltage level for the +1.5 VDC power
+1.5V Converter 0	scBCurrt	(graphable) Voltage level for the +1.5 VDC converter 0
+1.5V Converter 1	scBCurrt	(graphable) Voltage level for the +1.5 VDC converter 1

TABLE 6-12 Platform Config Reader HPCI Board *(Continued)*

Property	Rule (if any)	Description
+5.0V Volt	`scBVolt`	(graphable) Voltage level for the +5 VDC power
+5V Current 0	`scBCurrt`	(graphable) Current level 0 for the +5 VDC power
+5V Current 1	`scBCurrt`	(graphable) Current level 1 for the +5 VDC power
+3.3V Current 0	`scBCurrt`	(graphable) Current level 0 for the +3.3 VDC power
+3.3V Current 1	`scBCurrt`	(graphable) Current level 1 for the +3.3 VDC power

HPCI+ Board

The following table provides a brief description of the properties for hot-swap PCI plus (HPCI+) boards on Sun Fire high-end systems (TABLE 6-13):

TABLE 6-13 Platform Config Reader HPCI+ Board

Property	Rule (if any)	Description
HPCI+ ID		HPCI+ board identifier containing *FRUID*(*SlotID*): `HPCI+(IO`*x*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the HPCI+ board power is `ON` or `OFF`
DR State	`scDrStat`	Indicates whether the dynamic reconfiguration state of the HPCI+ board is `UNKNOWN`, `FREE`, `ASSIGNED`, or `ACTIVE`

TABLE 6-13 Platform Config Reader HPCI+ Board *(Continued)*

Property	Rule (if any)	Description
Test Status	scBTest	Indicates whether the test status of the HPCI+ board is UNKNOWN, IPOST (in POST), PASSED, DEGRADED, or FAILED
POST Status	scPOST	Indicates whether the POST status of the HPCI+ board is UNKNOWN, OK, DISABLED, UNDEFINED, MISCONFIGURED, FAIL-OBP, FAIL, BLACKLISTED, or REDLISTED
Test Level		(graphable) POST test level for this board
Domain Assigned		Domain to which this board is assigned: A–R or UNASSIGNED
Domain ACL		Domain access control list–comma-separated list of domains to which this board is available: A–R or NONE
PS0 Temp0 (C)	scBTemp	(graphable) Temperature 0 of power supply 0
PS0 Temp1 (C)	scBTemp	(graphable) Temperature 1 of power supply 0
PS0 Temp2 (C)	scBTemp	(graphable) Temperature 2 of power supply 0
PS1 Temp0 (C)	scBTemp	(graphable) Temperature 0 of power supply 1
PS1 Temp1 (C)	scBTemp	(graphable) Temperature 1 of power supply 1
PS1 Temp2 (C)	scBTemp	(graphable) Temperature 2 of power supply 1
IOA0 Temp (C)	scBTemp	(graphable) Temperature of the IOA0 ASIC on this board
IOA1 Temp (C)	scBTemp	(graphable) Temperature of the IOA1 ASIC on this board
DX0 Temp (C)	scBTemp	(graphable) Temperature of the DX0 ASIC on this board
DX1 Temp (C)	scBTemp	(graphable) Temperature of the DX1 ASIC on this board
SDC Temp (C)	scBTemp	(graphable) Temperature of the SDC ASIC on this board
SBBC Temp (C)	scBTemp	(graphable) Temperature of the SBBC ASIC on this board
AR Temp (C)	scBTemp	(graphable) Temperature of the AR ASIC on this board
+12V Volt PS0	scBVolt	(graphable) Voltage level for the +12 VDC on power supply 0
+12V Volt PS1	scBVolt	(graphable) Voltage level for the +12 VDC on power supply 1

TABLE 6-13 Platform Config Reader HPCI+ Board *(Continued)*

Property	Rule (if any)	Description
-12V Volt PS0	scBVolt	(graphable) Voltage level for the -12 VDC on power supply 0
-12V Volt PS1	scBVolt	(graphable) Voltage level for the -12 VDC on power supply 1
+3.3V Volt PS0	scBVolt	(graphable) Voltage level for the +3.3 VDC on power supply 0
+3.3V Volt PS1	scBVolt	(graphable) Voltage level for the +3.3 VDC on power supply 1
+3.3HK Volt PS0	scBVolt	(graphable) Voltage level for the +3.3 VDC housekeeping on power supply 0
+3.3HK Volt PS1	scBVolt	(graphable) Voltage level for the +3.3 VDC housekeeping on power supply 1
+1.5V Volt PS0	scBVolt	(graphable) Voltage level for the +1.5 VDC on power supply 0
+1.5V Volt PS1	scBVolt	(graphable) Voltage level for the +1.5 VDC on power supply 1
+5.0 Volt PS0	scBVolt	(graphable) Voltage level for the +5 VDC on power supply 0
+5.0 Volt PS1	scBVolt	(graphable) Voltage level for the +5 VDC on power supply 1
+1.5 or +2.5 Volt PS0	scBVolt	(graphable) Voltage level for the +1.5 or +2.5 VDC on power supply 0
+1.5 or +2.5 Volt PS1	scBVolt	(graphable) Voltage level for the +1.5 or +2.5 VDC on power supply 1
+12 Volt PS0 OK	scOkFail	Power supply 0 to +12 Volt is OK or FAIL
+12 Volt PS1 OK	scOkFail	Power supply 1 to +12 Volt is OK or FAIL
-12 Volt PS0 OK	scOkFail	Power supply 0 to -12 Volt is OK or FAIL
-12 Volt PS1 OK	scOkFail	Power supply 1 to -12 Volt is OK or FAIL
+5 Volt PS0 OK	scOkFail	Power supply 0 to +5 Volt is OK or FAIL
+5 Volt PS1 OK	scOkFail	Power supply 1 to +5 Volt is OK or FAIL
+3.3 Volt PS0 OK	scOkFail	Power supply 0 to +3.3 Volt is OK or FAIL
+3.3 Volt PS1 OK	scOkFail	Power supply 1 to +3.3 Volt is OK or FAIL
+1-2.5 Volt PS0 OK	scOkFail	Power supply 0 to +1-2.5 Volt is OK or FAIL
+1-2.5 Volt PS1 OK	scOkFail	Power supply 1 to +1-2.5 Volt is OK or FAIL
+1.5 Volt PS0 OK	scOkFail	Power supply 0 to +1.5 Volt is OK or FAIL

TABLE 6-13 Platform Config Reader HPCI+ Board *(Continued)*

Property	Rule (if any)	Description
+1.5 Volt PS1 OK	`scOkFail`	Power supply 1 to +1.5 Volt is `OK` or `FAIL`
+3.3HK Volt PS0 OK	`scOkFail`	Power supply 0 to +3.3HK Volt is `OK` or `FAIL`
+3.3HK Volt PS1 OK	`scOkFail`	Power supply 1 to +3.3HK Volt is `OK` or `FAIL`
PS0 OK	`scOkFail`	Power supply 0 is `OK` or `FAIL`
PS1 OK	`scOkFail`	Power supply 1 is `OK` or `FAIL`

WPCI Board

The following table provides a brief description of the properties for Sun Fire Link PCI (WPCI) boards on Sun Fire high-end systems (TABLE 6-14). Refer to the *Sun Fire Link Fabric Administrator's Guide* for more information about Sun Fire Link systems.

TABLE 6-14 Platform Config Reader WPCI Board

Property	Rule (if any)	Description
WPCI ID		WPCI board identifier containing *FRUID*(*SlotID*): `WPCI(IO`*x*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the WPCI board power is `ON` or `OFF`

TABLE 6-14 Platform Config Reader WPCI Board *(Continued)*

Property	Rule (if any)	Description
DR State	scDrStat	Indicates whether the dynamic reconfiguration state of the WPCI board is UNKNOWN, FREE, ASSIGNED, or ACTIVE
Test Status	scBTest	Indicates whether the test status of the WPCI board is UNKNOWN, IPOST (in POST), PASSED, DEGRADED, or FAILED
POST Status	scPOST	Indicates whether the POST status of the WPCI board is UNKNOWN, OK, DISABLED, UNDEFINED, MISCONFIGURED, FAIL-OBP, FAIL, BLACKLISTED, or REDLISTED
Test Level		(graphable) POST test level for this board
Domain Assigned		Domain to which this board is assigned: A–R or UNASSIGNED
Domain ACL		Domain access control list–comma-separated list of domains to which this board is available: A–R or NONE
+1.5 Converter 0 OK	scOkFail	Converter status is OK or FAIL
+1.5 Converter 1 OK	scOkFail	Converter status is OK or FAIL
+1.5 Converter 0 PS Status	scOkFail	Converter power supply status is OK or FAIL
+1.5 Converter 1 PS Status	scOkFail	Converter power supply status is OK or FAIL
+2.5 Converter 0 OK	scOkFail	Converter status is OK or FAIL
+2.5 Converter 1 OK	scOkFail	Converter status is OK or FAIL
+2.5 Converter 0 PS Status	scOkFail	Converter power supply status is OK or FAIL
+2.5 Converter 1 PS Status	scOkFail	Converter power supply status is OK or FAIL
+3.3 Converter 0 OK	scOkFail	Converter status is OK or FAIL
+3.3 Converter 1 OK	scOkFail	Converter status is OK or FAIL
+3.3 Converter 2 OK	scOkFail	Converter status is OK or FAIL
+3.3 Converter 0 PS Status	scOkFail	Converter power supply status is OK or FAIL
+3.3 Converter 1 PS Status	scOkFail	Converter power supply status is OK or FAIL
+3.3 Converter 2 PS Status	scOkFail	Converter power supply status is OK or FAIL
+5.0 Converter 0 OK	scOkFail	Converter status is OK or FAIL
+5.0 Converter 1 OK	scOkFail	Converter status is OK or FAIL
+5.0 Converter 0 PS Status	scOkFail	Converter power supply status is OK or FAIL
+5.0 Converter 1 PS Status	scOkFail	Converter power supply status is OK or FAIL

TABLE 6-14 Platform Config Reader WPCI Board *(Continued)*

Property	Rule (if any)	Description
IOA Temp (C)	`scBTemp`	(graphable) Temperature of the IOA ASIC on this board
DX0 Temp (C)	`scBTemp`	(graphable) Temperature of the DX0 ASIC on this board
DX1 Temp (C)	`scBTemp`	(graphable) Temperature of the DX1 ASIC on this board
SDC Temp (C)	`scBTemp`	(graphable) Temperature of the SDC ASIC on this board
SBBC Temp (C)	`scBTemp`	(graphable) Temperature of the SBBC ASIC on this board
AR Temp (C)	`scBTemp`	(graphable) Temperature of the AR ASIC on this board
WCI0 Temp (C)	`scBTemp`	(graphable) Temperature of the WCI0 ASIC on this board
WCI1 Temp (C)	`scBTemp`	(graphable) Temperature of the WCI1 ASIC on this board
+12V Volt	`scBVolt`	(graphable) Voltage level for the +12 VDC power
-12V Volt	`scBVolt`	(graphable) Voltage level for the -12 VDC power
+3.3HK Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC housekeeping power
+3.3V Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC power
+1.5V Volt	`scBVolt`	(graphable) Voltage level for the +1.5 VDC power
+2.5V Volt	`scBVolt`	(graphable) Voltage level for the +2.5 VDC power
+5.0V Volt	`scBVolt`	(graphable) Voltage level for the +5 VDC power

MaxCPU Board

The following table provides a brief description of the properties for MaxCPU boards on Sun Fire high-end systems (TABLE 6-15).

TABLE 6-15 Platform Config Reader MaxCPU Board

Property	Rule (if any)	Description
MCPU ID		MaxCPU board identifier containing *FRUID*(*SlotID*): `MCPU(IO`*x*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Power State	`scBPower`	Indicates whether the MaxCPU board power is `ON` or `OFF`
DR State	`scDrStat`	Indicates whether the dynamic reconfiguration state of the MaxCPU board is `UNKNOWN`, `FREE`, `ASSIGNED`, or `ACTIVE`
Test Status	`scBTest`	Indicates whether the test status of the MaxCPU board is `UNKNOWN`, `IPOST` (in POST), `PASSED`, `DEGRADED`, or `FAILED`
POST Status	`scPOST`	Indicates whether the POST status of the MaxCPU board is `UNKNOWN`, `OK`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, or `REDLISTED`
Test Level		POST test level for this board
Domain Assigned		Domain to which this board is assigned: `A–R` or `UNASSIGNED`
Domain ACL		Domain access control list– comma-separated list of the domains to which this board is available: `A–R` or `NONE`

TABLE 6-15 Platform Config Reader MaxCPU Board *(Continued)*

Property	Rule (if any)	Description
COD Enable		Indicates whether board is a COD board (`COD`), not a COD board (`NONCOD`), or unable to be determined (`UNKNOWN`) if SMS is in the initialization process.
Core 0 Power 0 Status	`scOkFail`	Power supply 0 to PROC 0 is `OK` or `FAIL`
Core 0 Power 1 Status	`scOkFail`	Power supply 1 to PROC 0 is `OK` or `FAIL`
Core 0 Power 2 Status	`scOkFail`	Power supply 2 to PROC 0 is `OK` or `FAIL`
Core 1 Power 0 Status	`scOkFail`	Power supply 0 to PROC 1 is `OK` or `FAIL`
Core 1 Power 1 Status	`scOkFail`	Power supply 1 to PROC 1 is `OK` or `FAIL`
Core 1 Power 2 Status	`scOkFail`	Power supply 2 to PROC 1 is `OK` or `FAIL`
+3.3V Power 0 Status	`scOkFail`	Power supply 0 to +3.3V is `OK` or `FAIL`
+3.3V Power 1 Status	`scOkFail`	Power supply 1 to +3.3V is `OK` or `FAIL`
+1.5V Power 0 Status	`scOkFail`	Power supply 0 to +1.5V is `OK` or `FAIL`
+1.5V Power 1 Status	`scOkFail`	Power supply 1 to +1.5V is `OK` or `FAIL`
DX0 Temp (C)	`scBTemp`	(graphable) Temperature of the DX0 ASIC on this board
DX1 Temp (C)	`scBTemp`	(graphable) Temperature of the DX1 ASIC on this board
DX2 Temp (C)	`scBTemp`	(graphable) Temperature of the DX2 ASIC on this board
DX3 Temp (C)	`scBTemp`	(graphable) Temperature of the DX3 ASIC on this board
SDC Temp (C)	`scBTemp`	(graphable) Temperature of the SDC ASIC on this board
SBBC Temp (C)	`scBTemp`	(graphable) Temperature of the SBBC ASIC on this board
AR Temp (C)	`scBTemp`	(graphable) Temperature of the AR ASIC on this board
+3.3V Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC power
+3.3HK Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC housekeeping power
+1.5V Volt	`scBVolt`	(graphable) Voltage level for the +1.5 VDC power

HPCI Cassette

The following table provides a brief description of the properties for a hot-swap PCI (HPCI) cassette, which can contain two HPCI cards, on Sun Fire high-end systems (TABLE 6-16).

Note – HPCI cassette information is available only when the corresponding HPCI board is powered on. When an HPCI board is powered off, information for the HPCI cassettes on that board is not available.

TABLE 6-16 Platform Config Reader HPCI Cassette

Property	Rule (if any)	Description
Cassette ID		HPCI cassette identifier containing *FRUID*(*SlotID*): FRU ID is either `C3V` for a 3.3-volt card or `C5V` for a 5-volt card. Slot ID is `IO`*x*`/C`*y*`V`*z*, where *x* is the number of the centerplane slot containing the card (`0`–`17`), *y* is the card voltage (`3` or `5`), and *z* is the PCI controller containing the card (`0` or `1`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
Slot Power State	`scOnOff`	Indicates whether the slot power is `ON` or `OFF`
Card Present		`YES` indicates a card is present in the cassette; `NO` indicates no card is present in the cassette
Slot Frequency (MHz)		Indicates the frequency of the slot in megahertz (MHz): `33`, `66`, or `132`

TABLE 6-16 Platform Config Reader HPCI Cassette *(Continued)*

Property	Rule (if any)	Description
Slot Condition	`scHPCIcd`	Indicates whether the condition of the slot is `GOOD`, `UNKNOWN`, `BAD SLOT`, or `BAD CARD`
Slot Power Status	`scOkFail`	Indicates whether or not the power to the slot successfully switched on: `OK` or `FAIL`
Slot Power Fault	`scOkFail`	Indicates whether or not a power fault is detected in the slot: `OK` or `FAIL`

Paroli Card

The following table provides a brief description of the properties for parallel optical link (Paroli) cards on Sun Fire High End Systems (TABLE 6-17). Refer to the *Sun Fire Link Fabric Administrator's Guide* for more information about the Sun Fire Link system.

Note – Paroli card information is available only when the corresponding WPCI board is powered on. When a WPCI board is powered off, information for the Paroli cards on that board is not available.

TABLE 6-17 Platform Config Reader Paroli Card

Property	Rule (if any)	Description
Paroli ID		Paroli card identifier containing *FRUID*(*SlotID*): `PARS(IO`*x*`/PAR`*y*`)`, where *x* is the number of the centerplane slot containing the card (`0`–`17`), and *y* is the Paroli card number (`0` or `1`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit

TABLE 6-17 Platform Config Reader Paroli Card *(Continued)*

Property	Rule (if any)	Description
Power State	`scOnOff`	Indicates whether the Paroli card power is `ON` or `OFF`
+1.5V Volt	`scBVolt`	(graphable) Voltage level for the +1.5 VDC power
+3.3V Volt	`scBVolt`	(graphable) Voltage level for the +3.3 VDC power

Processor

The following table provides a brief description of the properties for processors on Sun Fire high-end systems (TABLE 6-18).

Note – Processor information is available only when a domain is up (in OpenBoot™ PROM [OBP]or running the Solaris Operating System). When a domain is down, processor information for that domain is not available.

TABLE 6-18 Platform Config Reader Processor

Property	Rule (if any)	Description
PROC ID		Processor identifier containing *ID*(*SlotID*): `PROC(SB`*x*`/P`*y*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`) and *y* is the processor number (`0–3`)
Power State	`scOnOff`	Power state for this processor: `ON` or `OFF`
POST Status	`scPOST`	Indicates whether the POST status of the processor is `UNKNOWN`, `OK`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, `REDLISTED`, or `NO_LICENSE`
Clock Frequency (MHz)		Processor clock frequency in megahertz (MHz)
Temperature (C)	`scBTemp`	(graphable) Temperature of the processor
Voltage	`scBVolt`	(graphable) Voltage level for the processor
Ecache Size		(graphable) External cache size in megabytes
Memory Bank List		Comma-separated list of memory banks used by this processor (`0,1`)

Memory Bank

The following table provides a brief description of the properties for memory banks on Sun Fire high-end systems (TABLE 6-19).

Note – Memory bank information is available only when a domain is up (in OpenBoot PROM or running the Solaris Operating System). When a domain is down, memory bank information for that domain is not available.

TABLE 6-19 Platform Config Reader Memory Bank

Property	Rule (if any)	Description
MEMBANK ID		Memory bank identifier containing *ID*(*SlotID*): `MEMBANK(SB`*x*`/P`*y*`/B`*z*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`), *y* is the processor number (`0–3`), and *z* is the physical memory bank number (`0` or `1`)
Logical Bank 0 POST Status	`scPOST`	Indicates whether the POST status of logical memory bank 0 is `UNKNOWN`, `OK`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, or `REDLISTED`
Logical Bank 1 POST Status	`scPOST`	Indicates whether the POST status of logical memory bank 1 is `UNKNOWN`, `OK`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, or `REDLISTED`
Memory Size (MB)		(graphable) Memory bank size in megabytes

DIMM

The following table provides a brief description of the properties for the Dual Inline Memory Module (DIMM) on Sun Fire high-end systems (TABLE 6-20).

Note – DIMM information is available only when a domain is up (in OpenBoot PROM or running the Solaris Operating System). When a domain is down, DIMM information for that domain is not available.

TABLE 6-20 Platform Config Reader DIMM

Property	Rule (if any)	Description
DIMM ID		DIMM identifier containing *FRUID*(*SlotID*): `DIMM(SB`*w*`/P`*x*`/B`*y*`/D`*z*`)`, where *w* is the number of the centerplane slot containing the board (`0–17`), *x* is the processor number (`0–3`), *y* is the physical memory bank number (`0` or `1`), and *z* is the DIMM number (`0–3`)
FRU Part Number		Part number of the field-replaceable unit
FRU Serial Number		Serial number of the field-replaceable unit
Dash Level		Dash level of the field-replaceable unit
Rev Level		Revision level of the field-replaceable unit
Short Name		Short name of the field-replaceable unit
Description		Description of the field-replaceable unit
Manufacturer Location		Location of the manufacturer of the field-replaceable unit
Date of Manufacture		Date and time the field-replaceable unit was manufactured
Vendor Name		Vendor name for the field-replaceable unit
POST Status	`scPOST`	Indicates whether the POST status of the DIMM is `UNKNOWN`, `OK`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, or `REDLISTED`

Domain

The following table provides a brief description of the properties for domains on Sun Fire high-end systems (TABLE 6-21).

TABLE 6-21 Platform Config Reader Domain

Property	Rule (if any)	Description
DOMAIN ID		Sun Fire high-end systems domain identifier: `A–R`
Status	`scDmnSt`	Domain status as output from the SMS `showplatform` command, such as `Running Solaris`, `Running Domain POST`, or `Powered Off`. Refer to `showplatform`(1M) in the *System Management Services (SMS) Reference Manual* for more information.
Domain Stop	`scStop`	Number of domain stops for this domain after the platform agent restarted or the alarm is acknowledged
Record Stop	`scStop`	Number of record stops for this domain after the platform agent restarted or the alarm is acknowledged
OS Version		Version of operating environment running in this domain, such as `Solaris 2.8`
OS Type		Type of operating environment running in this domain, such as `Solaris, Trusted`
Domain Tag		Tag name of the domain, such as `domainA` through `domainR`
External Host Name		External host name of the domain
Internal Host Name		Internal host name of the domain
Internal IP Address		Internal IP address of the domain
Slot0 Available Boards		Comma-separated list of slot 0 boards available to this domain (`0–17`) or `NONE`
Slot1 Available Boards		Comma-separated list of slot 1 boards available to this domain (`0–17`) or `NONE`
Slot0 Assigned Boards		Comma-separated list of slot 0 boards assigned to this domain (`0–17`) or `NONE`
Slot1 Assigned Boards		Comma-separated list of slot 1 boards assigned to this domain (`0–17`) or `NONE`
Slot0 Active Boards		Comma-separated list of slot 0 boards active on this domain (`0–17`) or `NONE`
Slot1 Active Boards		Comma-separated list of slot 1 boards active on this domain (`0–17`) or `NONE`

TABLE 6-21 Platform Config Reader Domain *(Continued)*

Property	Rule (if any)	Description
Primary I/O Board		Identifier of the primary I/O board used for communication between the domain and the system controller: `HPCI(IO`*x*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`)
Keyswitch		Virtual keyswitch position: `ON`, `STANDBY`, `OFF`, `DIAG`, `SECURE`, or `UNKNOWN`
Address Bus Config	`scBusCfg`	Address bus not configured (`UNCONFIGURED`), in degraded mode using CSB0 only (`CSB0`), in degraded mode using CSB1 only (`CSB1`), or fully functional using both centerplane support boards (`BOTH`)
Data Bus Config	`scBusCfg`	Data bus not configured (`UNCONFIGURED`), in degraded mode using CSB0 only (`CSB0`), in degraded mode using CSB1 only (`CSB1`), or fully functional using both centerplane support boards (`BOTH`)
Response Bus Config	`scBusCfg`	Response bus not configured (`UNCONFIGURED`), in degraded mode using CSB0 only (`CSB0`), in degraded mode using CSB1 only (`CSB1`), or fully functional using both centerplane support boards (`BOTH`)
Active Ethernet Board		Identifier of the I/O board that contains the active Ethernet controller: `HPCI(IO`*x*`)`, where *x* is the number of the centerplane slot containing the board (`0–17`)
Admin Group		Administrative group identifier for the domain, such as `dmn`*x*`admn`, where *x* is `a–r`
Reconfigure Group		Reconfigure group identifier for the domain, such as `dmn`*x*`rcfg`, where *x* is `a–r`
Creation Time		Date and time the domain was created or `UNKNOWN`

Unknown Component

The following table indicates that there is a component that the Platform Config Reader for Sun Fire high-end systems does not recognize in a specific slot (TABLE 6-22).

TABLE 6-22 Platform Config Reader Unknown Component

Slot ID
Slot identifier of unknown system board (EXB*x*.SLOT*y*), where *x* is the expander board number (0-17) and *y* is the slot number (0-1).

Fault Event Table

The following table contains fault events generated by the automatic fault event notification system (TABLE 6-23). The same information appears in the Alarms Table. When you acknowledge the alarm in the Alarms Table, the fault event is automatically removed from this Fault Event Table. For more information about the Alarms Table and Managing and Controlling Alarms, refer to Chapter 12 of the *Sun Management Center User's Guide*.

TABLE 6-23 Platform Config Reader Fault Event Table

Fault Event
The fault event contains the fault event code, the time stamp, and the chassis serial number (CSN) preceded by a yellow alert alarm indicating a warning.

Discovery Object Table

The Discovery Object table provides information used by the Discovery Manager and the Create Topology Object GUI to create Sun Fire high-end systems composites. This information is presented largely for diagnostics purposes and contains information not directly relevant to the Sun Management Center software user. This information consists of a table identifier (the Magic Number), followed by a table containing information for each topology object created as part of the Sun Fire high-end systems composite. A Magic Number value of 53444f54 identifies the following table as a valid Discovery Object Table.

The following table provides a brief description of the properties for Discovery Objects on Sun Fire high-end systems (TABLE 6-24).

TABLE 6-24 Platform Config Reader Discovery Object Table

Property	Rule (if any)	Description
TOPOLOGY ID		Encoded topology identifier
Topology Parent		Topology identifier of the parent of this object
Discovery Type		Encoded discovery type
IP Address		IP address for this topology object
Agent Port		Network port number for this topology object
Family Type		Topology object family type
Label		Object label displayed in the Sun Management Center topology
Description		Optional description of the object

Note – A value of `-1` for the Agent Port indicates that the object is a Platform Group object.

Platform Config Reader Alarm Rules

This section describes the alarm rules for the Platform Config Reader module. You cannot change the limits for these rules. The system provides a message with the alarms telling what the current property is and what the limit is.

Board Current Rule (`scBCurrt`)

The board current rule generates a critical alarm when a current probe point is not within *x* percent of the average of all like components (TABLE 6-25). SMS software will take appropriate automatic system recovery (ASR) actions. Refer to the *System Management Services (SMS) Administrator Guide*.

TABLE 6-25 Platform Config Reader Board Current Rule

Current Threshold	Alarm Level	Meaning
`Good`		Current is within *x* percent of the average of all like components, where *x* is set by Sun service personnel.
`Error`	Critical	Current is *not* within *x* percent of the average of all like components, where *x* is set by Sun service personnel.

Action: Use the SMS `showenvironment`(1M) command to check whether the `showenvironment` command output is consistent with the value shown in the Sun Management Center table.

Board Power Rule (`scBPower`)

The board power rule generates an alarm when the board power state is `OFF` (TABLE 6-26). A caution alarm is for information only and is not an error.

TABLE 6-26 Platform Config Reader Board Power Rule

Power State	Alarm Level	Meaning
`ON`		Board power is on.
`OFF`	Caution	Board power is off.

Action: Use the SMS `poweron`(1M) command to power on a board. Use the SMS `showboards`(1M) command to check whether the `showboards` command output is consistent with the value shown in the Sun Management Center table.

Board Temperature Rule (`scBTemp`)

The board temperature rule generates a caution, alert, or critical alarm when the temperature falls within a certain temperature threshold range shown in TABLE 6-27. Temperature alarms are *not* generated when the board is powered off.

TABLE 6-27 Platform Config Reader Board Temperature Rule

Temperature Threshold	Alarm Level	Meaning
`Low Critical`	Critical	Temperature is in the low critical range as set by Sun service personnel.
`Low Warning`	Alert	Temperature is in the low warning range as set by Sun service personnel.
`High Warning`	Caution	Temperature is in the high warning range as set by Sun service personnel.
`High Critical`	Alert	Temperature is in the high critical range as set by Sun service personnel.
`Over Limit`	Critical	Temperature is in the over limit range as set by Sun Service personnel.

Actions:

- For the Low Critical, High Critical, and Over Limit alarms, SMS will take appropriate automatic system recovery (ASR) actions. Refer to the *System Management Services (SMS) Administrator Guide*.
- For the Low Warning and High Warning alarms, contact your Sun service personnel for information about bringing the temperature within limits.

Use the SMS `showenvironment`(1M) command to check whether the `showenvironment` command output is consistent with the value shown in the Sun Management Center table.

Board Voltage Rule (`scBVolt`)

The board voltage rule generates a critical alarm when the voltage falls within a certain voltage threshold range shown in TABLE 6-28. The voltage alarms are *not* generated when the board is powered off.

TABLE 6-28 Platform Config Reader Board Voltage Rule

Voltage Threshold	Alarm Level	Meaning
`Low Minimum`	Critical	Voltage is in the low minimum range as set by Sun service personnel.
`High Maximum`	Critical	Voltage is in the high maximum range as set by Sun service personnel.

Actions: For the Low Minimum and High Maximum alarms, SMS will take appropriate automatic system recovery (ASR) actions. Refer to the *System Management Services (SMS) Administrator Guide*. Use the SMS `showenvironment`(1M) command to check whether the `showenvironment` command output is consistent with the value shown in the Sun Management Center table.

Domain Stop and Record Stop Rule (`scStop`)

The domain stop and record stop rule checks for domain stops and record stops on a domain. The rule generates an alarm when either of the counts is greater than zero (TABLE 6-29). The domain stop and record stop counts are set to zero when the platform agent is restarted or when the alarm is acknowledged.

TABLE 6-29 Platform Config Reader Domain Stop and Record Stop Rule

Number of Stops	Alarm Level	Meaning
0		Either or both the domain stops and record stops are zero.
>0	Caution	Number of record stops is greater than zero.
>0	Critical	Number of domain stops is greater than zero.

Actions:

- The caution alarm when the record stop count is greater than zero is for information only and is not an error. The domain is still up and running. If necessary, provide your Sun service personnel with the appropriate record stop dump for analysis. The record stop dump is located in `/var/opt/SUNSWSMS/adm/[A-R]/dump`. Refer to the *System Management Services (SMS) Administrator Guide*.
- When a domain stop error occurs and the critical alarm is generated, SMS software will take appropriate automatic system recovery (ASR) actions. Provide your Sun service personnel with a domain stop dump for analysis. The domain stop dump is located in `/var/opt/SUNWSMS/adm/[A-R]/dump`. Refer to the *System Management Services (SMS) Administrator Guide*.

HPCI Cassette Rule (`scHPCIcd`)

The hot-swap PCI (HPCI) cassette rule generates a caution or critical alarm when the condition of the PCI slot is `UNKNOWN`, `BAD SLOT`, or `BAD CARD` (TABLE 6-30). Alarms are *not* generated if the HPCI cassette is powered off.

TABLE 6-30 Platform Config Reader HPCI Cassette Rule

OK/BAD/UNKNOWN State	Alarm Level	Meaning
`GOOD`		Slot condition is good.
`UNKNOWN`	Caution	Slot condition is unknown.
`BAD SLOT`	Critical	Slot condition is bad.
`BAD CARD`	Critical	Card is bad.

Actions:

- The caution alarm is for information only and is not an error. If necessary, contact your Sun service personnel to see why the condition is `UNKNOWN`.
- For the critical alarm, contact your Sun service personnel.

Failover State Rule (scFoStat)

The failover state rule generates a caution or critical alarm when the current failover state is not ACTIVE (TABLE 6-31).

TABLE 6-31 Platform Config Reader Failover State Rule

Failover State	Alarm Level	Meaning
ACTIVATING		Failover has started to become enabled.
ACTIVE		Failover is enabled.
DISABLED	Caution	Failover is disabled.
FAILED	Critical	Problem prevents failover from occurring.

Actions:

- The caution alarm is for information only and is not an error. You can enable failover by using the SMS setfailover(1M) command.
- The critical alarm means that at least one fault has occurred, which will prevent the failover mechanism from working. You can get more information about the faults by using the SMS showfailover(1M) command. You can also look at the SMS platform log file located in /var/opt/SUNWSMS/adm/platform/messages for messages from the SMS fomd process.

OK/BAD/UNKNOWN State Rule (scOBURul)

The OK/BAD/UNKNOWN state rule generates a critical or caution alarm when a component is in a BAD or UNKNOWN state (TABLE 6-32). Alarms are *not* generated if the containing component is powered off.

TABLE 6-32 Platform Config Reader OK/BAD/UNKNOWN State Rule

OK/BAD/UNKNOWN State	Alarm Level	Meaning
OK		Component is in normal operational state.
BAD	Critical	Component is in a nonoperational state.
UNKNOWN	Caution	System is not able to determine the component's operational state.

Actions:

- The caution alarm is for information only and is not an error. If necessary, contact your Sun service personnel to see why the condition is UNKNOWN.

- For a critical alarm, contact your Sun service personnel.

OK/FAIL Rule (`scOkFail`)

The OK/FAIL rule generates a critical alarm when a component is found to have failed (TABLE 6-33). Alarms are *not* generated if the containing component is either powered off or in a `FAIL` state.

TABLE 6-33 Platform Config Reader OK/FAIL Rule

OK/FAIL State	Alarm Level	Meaning
`OK`		Component is okay.
`FAIL`	Critical	Component has failed.

Action: For the critical alarm, contact your Sun service personnel.

ON/OFF Rule (`scOnOff`)

The ON/OFF Rule generates a caution alarm when the system detects a component is off (TABLE 6-34). Alarms are not generated if the containing component is either powered off or in the `FAIL` state.

TABLE 6-34 Platform Config Reader ON/OFF Rule

ON/OFF State	Alarm Level	Meaning
`ON`		Component is on.
`OFF`	Caution	Component is off.

Actions: The caution alarm is for information only and is not an error. The reasons for the alarm and the actions you can take depend on the type of component:

- If the component is a fan try or power supply, you can use the SMS `poweron`(1M) command to power on the component.
- If the component is a processor, the board could be powered off or the processor has been powered off by SMS software because of automatic system recovery (ASR) actions.
- If the component is an HPCI cassette, the board could be powered off or the cassette is empty (does not contain a card).

POST Status Rule (scPOST)

The power-on self-test (POST) Status Rule generates a caution, alert, or critical alarm when the POST status is not OK (TABLE 6-35).

TABLE 6-35 Platform Config Reader POST Status Rule

POST Status	Alarm Level	Meaning
OK		POST status is okay.
UNKNOWN	Caution	POST status is unknown.
BLACKLISTED	Caution	Component is blacklisted.
REDLISTED	Caution	Component is redlisted.
NO_LICENSE	Caution	Component does not have a COD license.
DISABLED	Alert	Component is disabled.
UNDEFINED	Alert	Component is undefined.
MISCONFIGURED	Alert	Component is misconfigured.
FAIL-OBP	Critical	Component has failed in OBP.
FAIL	Critical	Component has failed POST.

Actions:

- A caution alarm is for information only and is not an error. Refer to the *System Management Services (SMS) Administrator Guide.*
- An alert alarm does not always indicate a problem, but you should inform your system administrator or Sun service personnel of a possible problem.
- A critical alarm indicates a problem. Contact your Sun service personnel.

For more information, look at the POST log file on the system controller. The POST log file is located in /var/opt/SUNWSMS/adm/[A-R]/post.

Power Supply Breaker Rule (scBreakr)

The Power Supply Breaker Rule generates a caution alarm when the power supply circuit breaker is OPEN (TABLE 6-36). The caution alarm is for information only and is not an error.

TABLE 6-36 Platform Config Reader Power Supply Breaker Rule

Power Supply Breaker State	Alarm Level	Meaning
CLOSE		Circuit breaker is closed.
OPEN	Caution	Circuit breaker is open.

System Board DR State Rule (scDrStat)

The system board DR state rule generates a caution alarm when the dynamic reconfiguration (DR) state is UNKNOWN (TABLE 6-37).

TABLE 6-37 Platform Config Reader System Board DR State Rule

DR State	Alarm Level	Meaning
FREE		Board is free.
ASSIGNED		Board is assigned to a domain.
ACTIVE		Board is active in a domain.
UNKNOWN	Caution	Dynamic reconfiguration state is unknown.

Action: The caution alarm is for information only and is not an error. The UNKNOWN state is equivalent to the board being free. If you issue the SMS showboards(1M) command, you will see that the UNKNOWN boards are marked as available.

System Board Test Status Rule (scBTest)

The system board test status rule generates a caution alarm when the status is DEGRADED and a critical alarm when the status is FAILED (TABLE 6-38). SMS software automatically sets test status to UNKNOWN whenever a board is powered on or off. It also implies that the board is not configured into any domain. When a board is configured into a domain, POST is run and gives the appropriate test status.

TABLE 6-38 Platform Config Reader System Board Test Status Rule

Test Status	Alarm Level	Meaning
PASSED		POST passed.
UNKNOWN		POST status is unknown.

TABLE 6-38 Platform Config Reader System Board Test Status Rule *(Continued)*

Test Status	Alarm Level	Meaning
IPOST (in POST)		POST is in progress.
DEGRADED	Caution	POST status is degraded.
FAILED	Critical	POST failed.

Actions: The reasons for the alarms and the actions to take depend on the test status.

- When the test status is DEGRADED and a caution alarm is generated, it is for your information only and is not an error.
- When the test status is FAILED and a critical alarm is generated, there is something wrong with the board. Contact your Sun service personnel.

For more information, look at the POST log file. The POST log file is located in /var/opt/SUNWSMS/adm/[A-R]/post.

Domain Status Alarm Rule (scDmnSt)

The domain status alarm rule generates an alarm depending on the domain's status during domain boot, normal operations, and error recovery (TABLE 6-39).

TABLE 6-39 Platform Config Reader Domain Status Alarm Rule

Domain Status	Alarm Level	Meaning
Booting OBP		OpenBoot PROM for the domain is booting.
Booting Solaris		Domain is booting Solaris Operating System software.
Keyswitch Standby		Keyswitch for the domain is in STANDBY position.
Loading OBP		OpenBoot PROM for the domain is being loaded.
Loading Solaris		OpenBoot PROM is loading Solaris Operating System software.
Powered Off		Domain is powered off.
Running Domain POST		Domain power-on self-test is running.
Running OBP		OpenBoot PROM for the domain is running.
Running Solaris		Solaris Operating System software is running on the domain.
Solaris Quiesce In-progress		Solaris Operating System software quiesce is in progress.
Solaris Quiesced		Solaris Operating System software has quiesced.

TABLE 6-39 Platform Config Reader Domain Status Alarm Rule *(Continued)*

Domain Status	Alarm Level	Meaning
`Debugging Solaris`	Caution	Debugging Solaris Operating System software; this is not a hung condition.
`Domain Exited OBP`	Caution	Domain OpenBoot PROM exited.
`Exited OBP`	Caution	OpenBoot PROM has exited.
`In OBP Callback`	Caution	Domain has been halted and has returned to the OpenBoot PROM.
`OBP Debugging`	Caution	OpenBoot PROM is being used as a debugger.
`OBP in sync Callback to OS`	Caution	OpenBoot PROM is in sync callback to the Solaris Operating System software.
`Solaris Halt`	Caution	Solaris Operating System software is halted.
`Solaris Halted, in OBP`	Caution	Solaris Operating System software is halted and the domain is in OpenBoot PROM.
`Solaris Resume In-progress`	Caution	Solaris Operating System software resume is in progress.
`Domain Down`	Alert	Domain is down, and `setkeyswitch` is in the `ON`, `DIAG`, or `SECURE` position.
`In Recovery`	Alert	Domain is in the midst of an automatic system recovery.
`Solaris Exited`	Alert	Solaris Operating System software has exited.
`Solaris Panic`	Alert	Solaris Operating System software has panicked; panic flow has started.
`Solaris Panic Continue`	Alert	Exited debugger mode and continuing panic flow.
`Solaris Panic Debug`	Alert	Solaris Operating System software panicked, and is entering debugger mode.
`Solaris Panic Dump`	Alert	Panic dump has started.
`Solaris Panic Exit`	Alert	Solaris Operating System software exited as a result of a panic.
`Booting Solaris Failed`	Critical	OpenBoot PROM running; boot attempt failed.
`Environmental Domain Halt`	Critical	Domain was shut down due to an environmental emergency.
`Environmental Emergency`	Critical	Environmental emergency has been detected.
`In OBP Error Reset`	Critical	Domain is in Open Boot PROM due to an error `reset` condition.

TABLE 6-39 Platform Config Reader Domain Status Alarm Rule *(Continued)*

Domain Status	Alarm Level	Meaning
`Loading Solaris Failed`	Critical	OpenBoot PROM running; loading attempt failed.
`OBP Failed`	Critical	Domain OpenBoot PROM failed.
`Unknown`	Critical	Domain state could not be determined; for Ethernet addresses, the domain `idprom` image file does not exist. Contact your Sun service personnel.

Actions: When an error occurs and an alarm is generated, SMS software takes appropriate automatic system recovery (ASR) actions. However, sometimes the domain hardware does not meet the requirements for safe and correct operation and is unable to recover. In this event. refer to the *System Management Services (SMS) Administrator Guide*. This details the immediate actions to take and where to obtain the event log file. Then contact your Sun service personnel and provide the needed log file information.

Domain Bus Configuration Rule (`scBusCfg`)

The domain bus configuration rule generates an alert alarm when the address, data, or response bus is unconfigured (`UNCONFIGURED`) or in a degraded mode (`CSB0` or `CSB1`). In other words, the rule generates an alarm when the bus is not configured to use both CSBs (TABLE 6-40).

TABLE 6-40 Platform Config Reader Domain Bus Configuration Rule

Bus Configuration	Alarm Level	Meaning
`BOTH`		Bus is using both CSBs.
`CSB0`	Alert	Bus is in a degraded mode.
`CSB1`	Alert	Bus is in a degraded mode.
`UNCONFIGURED`	Alert	Bus is unconfigured.

Action: Contact your Sun service personnel to properly configure the bus.

Fault Event Rule (`faultEventRuleProc`)

The fault event rule generates an alert alarm as soon as an entry is inserted in the Fault Event Table (TABLE 6-23). The same entry appears in the Alarms Table. When you acknowledge the alarm in the Alarms Table, the fault event is automatically

removed from the Fault Event Table. For more information about the Alarms Table and Managing and Controlling Alarms, refer to Chapter 12 of the *Sun Management Center User's Guide*.

Domain Config Reader Module

The Domain Config Reader module provides the hardware configuration for a Sun Fire high-end systems domain. During Sun Fire high-end systems domain agent setup, this module is automatically loaded, and you *can* unload it.

FIGURE 6-2 shows the icon for the module—Config Reader (Sun Fire High-End Systems Domain)—as it is displayed in the host Details window on a domain under the Module Browser tab and Hardware icon.

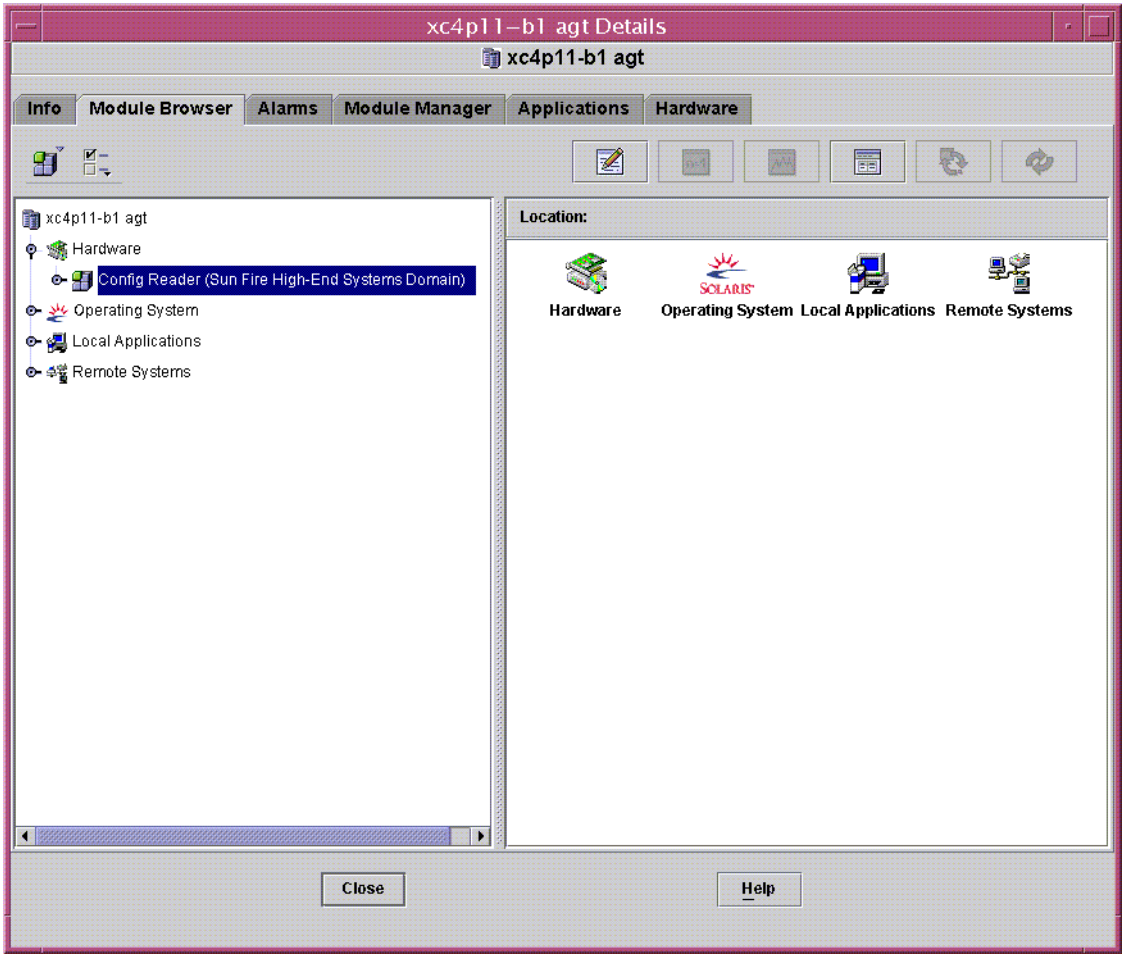


FIGURE 6-2 Domain Config Reader Module

Domain Agent Might Not Start on a Configuration With Many External Disks

On a configuration with many external disks attached—for example, over 5,000 disks—you must make modifications to the `agent-stats-d.def` file to start the domain agent on the domain. Then you must modify the attributes to the alarms that are generated. Once you do this you will receive an Alert alarm (yellow) instead of a Critical alarm (red), and you will be able to monitor the domain.

Two procedures are then required on the Sun Fire high-end systems domain:

1. Modifying the `agent-stats-d.def` file
2. Modifying two alarm attributes in the Sun Management Center graphical user interface (GUI) for the domain.

▼ To Modify the `agent-stats-d.def` File

In the `/var/opt/SUNWsymon/cfg/agent-stats-d.def` file:

1. **Change the** `procstats:size:alarmlimit:error-gt` **to** `500000`
2. **Change the** `procstats:size:alarmlimit:warning-gt` **to** `250000`
3. **Change the** `procstats:rss:alarmlimit:warning-gt` **to** `250000`

▼ To Modify Alarm Attributes for the Domain

1. **Double-click on the domain you want to change in the hierarchical view of the Sun Management Center GUI.**
2. **Double-click on Local Applications.**
3. **Double-click on Agent Statistics.**
4. **Double-click on Sun Management Center Total Process Statistics.**
5. **In the Sun Management Center Total Process Statistics table, right-click on the value for the property Total Virtual Size (KB) and Total Res Set Size.**
6. **Choose the Attribute Editor from the pull-down menu.**
7. **Click on the Alarms tab.**
8. **In the Critical Threshold text box, change the size to** `500000`**.**
9. **In the Alert Threshold text box, change the size to** `250000`**.**
10. **Click on the Apply button.**
11. **In the Sun Management Center Total Process Statistics table, right-click on the value for the property Total Res Set Size (KB).**
12. **Choose the Attribute Editor from the pull-down menu.**
13. **Click on the Alarms tab.**
14. **In the Critical Threshold text box, change the size to** `500000`**.**

15. **In the Alert Threshold text box, change the size to** `250000`**.**

16. **Click on the Apply button.**

Domain Config Reader Module Refresh Intervals

The Domain Config Reader module performs a complete refresh of all tables every 30 minutes.

The Domain Config Reader module also stores domain information in an internal cache. It gathers and refreshes this information in two ways:

- At two-minute intervals, the Domain Config Reader checks for changes to the disk hardware, software, and transport error count and processor status (online or offline). You cannot change the value of the refresh interval for the Sun Fire high-end systems Domain Config Reader.
- The events module informs the Domain Config Reader whenever a dynamic reconfiguration operation has occurred, which means that a board or a component has changed, and that information is stored in the internal cache.

When viewing the module data from the Browser, you can request an immediate refresh of the module data from the internal cache.

▼ To Refresh Domain Config Reader Data

1. **Open the domain Details window and choose the Module Browser tab.**

2. **Select any property within the System folder and refresh that data.**

   This causes the Domain Config Reader to refresh data from the internal cache.

3. **If you want to view information not contained in the System folder, select that property in the Browser and refresh the data.**

   This updates the Browser with the latest value of that property from the internal cache.

Domain Config Reader Properties

The tables in this section describe each of the visible properties for each Sun Fire high-end systems Domain Config Reader object. If a property has a value of --, the Domain Config Reader is unable to get data for that property.

System

The following table provides a brief description of the properties for the Sun Fire high-end systems Domain Config Reader system (TABLE 6-41):

TABLE 6-41 Domain Config Reader System

Property	Rule (if any)	Description
Node Name		`system`
Hostname		Sun Fire high-end systems domain host name
Host ID		Host identification number
Operating System		Operating environment running in the Sun Fire high-end systems domain
OS Version		Version of the operating environment running
Architecture		Machine architecture
Last Update		Date and time the configuration information was last updated
Total Disks		Number of disks present in the domain
Total Memory		Total memory in megabytes
Total Processors		Number of processors, which includes all processors allocated to the domain
Total Tape Devices		Number of tape devices present in the domain

CPU/Memory Board

The following table provides a brief description of the properties for a Sun Fire high-end systems Domain Config Reader CPU/memory board (TABLE 6-42):

TABLE 6-42 Domain Config Reader CPU/Memory Board

Property	Rule (if any)	Description
CPU ID		CPU/memory board identifier containing FRU ID(Slot ID): `CPU(SB`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)
Board Type		CPU board type identifier: `CPU`
Memory Size		Total memory for all CPUs on this board

TABLE 6-42 Domain Config Reader CPU/Memory Board *(Continued)*

Property	Rule (if any)	Description
Memory Controllers		Comma-separated list of identifiers for the memory controllers on this CPU/memory board: `SB`*x*`/P`*y*, where *x* is the number of the expander slot containing the board (`0–17`) and *y* is the processor number (`0–3`)
Memory Banks		Comma-separated list of identifiers for the memory banks on this CPU/memory board: `SB`*x*`/P`*y*`/B`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the processor number (`0–3`), and *z* is the memory bank number (`0` or `1`)
Processor List		Comma-separated list of identifiers for the processors on this CPU/memory board: `SB`*x*`/P`*y*, where *x* is the number of the expander slot containing the board (`0–17`) and *y* is the processor number (`0–3`)
Condition	`scStateCheck`	Attachment point condition of the CPU/memory board from `cfgadm`: `OK`, `FAIL`, or `UNKNOWN`
Last Change		Date and time of the last change or `UNKNOWN`

IO Board

The following table provides a brief description of the properties for a Sun Fire high-end systems Domain Config Reader hot-swap PCI (HPCI) board or hot-swap PCI+ (HPCI+) board (TABLE 6-43):

TABLE 6-43 Domain Config Reader IO Board

Property	Rule (if any)	Description
IO ID		HPCI board identifier containing FRU ID(Slot ID): `HPCI(IO`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)
Board Type		HPCI board type identifier: `HPCI` or `HPCI+`

TABLE 6-43 Domain Config Reader IO Board *(Continued)*

Property	Rule (if any)	Description
Condition	`scStateCheck`	Attachment point condition of the HPCI board from `cfgadm`: `OK`, `FAIL`, or `UNKNOWN`
Last Change		Date and time of the last change or `UNKNOWN`
HPCI Cards		Comma-separated list of identifiers for HPCI cards connected to this board: `IO`*x*`/C`*y*`V`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the card voltage (`3` or `5`), and *z* is the PCI controller number (`0` or `1`)

WPCI Board

The following table provides a brief description of the properties for a Sun Fire high-end systems Domain Config Reader Sun Fire Link PCI (WPCI) board (TABLE 6-44). Refer to the *Sun Fire Link Fabric Administrator's Guide* for more information about the Sun Fire Link system.

TABLE 6-44 Domain Config Reader WPCI Board

Property	Rule (if any)	Description
WPCI ID		WPCI board identifier containing FRU ID(Slot ID): `WPCI(IO`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)
Board Type		WPCI board type identifier: `WPCI`
Condition	`scStateCheck`	Attachment point condition of the WPCI board from `cfgadm`: `OK`, `FAIL`, or `UNKNOWN`
Last Change		Date and time of the last change or `UNKNOWN`
HPCI/Paroli Cards		Comma-separated list of identifiers for HPCI cards and Paroli cards on this WPCI board. The HPCI card identifier is `IO`*x*`/C`*y*`V`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the card voltage (`3` or `5`), and *z* is the PCI controller number (`0` or `1`). The Paroli card identifier is `IO`*x*`/PAR`*y*, where *x* is the number of the expander slot containing the board (`0-17`) and *y* is the number of the Paroli card (`0,1`).

MaxCPU Board

The following table provides a brief description of the properties for Sun Fire high-end systems Domain Config Reader MaxCPU board (TABLE 6-45):

TABLE 6-45 Domain Config Reader MaxCPU Board

Property	Rule (if any)	Description
MCPU ID		MaxCPU board identifier containing FRU ID(Slot ID): `MCPU(IO`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)
Board Type		Board type identifier: `MCPU`
Processor List		Comma-separated list of identifiers for processors on the MaxCPU board: `CPU(SB`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)
Condition	`scStateCheck`	Attachment point condition of the MaxCPU board from `cfgadm`: `OK`, `FAIL`, or `UNKNOWN`
Last Change		Date and time of the last change or `UNKNOWN`

HPCI Card

The following table provides a brief description of the properties for a Sun Fire high-end systems Domain Config Reader hot-swap PCI (HPCI) card (TABLE 6-46). An HPCI cassette can contain two HPCI cards.

TABLE 6-46 Domain Config Reader HPCI Card

Property	Rule (if any)	Description
CARD ID		HPCI card identifier containing FRU ID(Slot ID): FRU ID is either `C3V` for a 3.3-volt card or `C5V` for a 5-volt card. Slot ID is `IO`*x*`/C`*y*`V`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the card voltage (`3` or `5`), and *z* is the PCI controller number (`0` or `1`)
Device Type		Device type identifier for the HPCI card, such as `network`, `scsi-fcp`, or `fcal`
Device Class		Device class for the HPCI card, such as `Mass Storage Controller,SCSI`; `Network Controller,Ethernet`; `Network Controller,FDDI`; or `Network Controller,ATM`
Condition	`scStateCheck`	Attachment point condition of the HPCI card from `cfgadm`: `OK`, `FAIL`, or `UNKNOWN`
Last Change		Date and time of the last change or `UNKNOWN`
Name		Sun name for this HPCI card, such as `SUNW,qlc`; `SUNW,qfe`; `SUNW,hme`; or `network`

TABLE 6-46 Domain Config Reader HPCI Card *(Continued)*

Property	Rule (if any)	Description
Manufacturer		Manufacturer of this HPCI card
Model		Model identifier of this HPCI card
Version		Version of this HPCI card
Revision ID		Revision identifier of this HPCI card
Vendor ID		Vendor identifier of this HPCI card

Paroli Card

The following table provides a brief description of the properties for a Sun Fire high-end systems Domain Config Reader parallel optical link (Paroli) card (TABLE 6-47). Refer to the *Sun Fire Link Fabric Administrator's Guide* for more information about the Sun Fire Link system.

Note – Paroli card presence can be determined only if the domain is part of a configured Sun Fire Link cluster. If the domain is not part of a configured Sun Fire Link cluster, the Paroli card table will be empty; however, this is not an indication that there is no Paroli card in the domain.

TABLE 6-47 Domain Config Reader Paroli Card

Property	Rule (if any)	Description
CARD ID		Paroli card identifier containing FRU ID(Slot ID): `PARS(IO`*x*`/PAR`*y*`)`, where *x* is the number of the expander slot containing the board (`0–17`) and *y* is the number of the Paroli card (`0` or `1`)
Type		Type identifier for the Paroli card: `DUAL` or `SINGLE`
Link Number		Link number of the Paroli card: `0`, `1`, or `2`
Link Validity	`scLnkVld`	Validity of the Paroli card link: `VALID` or `INVALID`
Link Status	`scLnkSt`	Status of the Paroli card link: `LINK UP`, `LINK DOWN`, `LINK NOT PRESENT`, `WAIT FOR SC LINK TAKEDOWN`, `WAIT FOR SC LINK UP`, `SC ERROR WAIT FOR LINK DOWN`, or `UNKNOWN`

TABLE 6-47 Domain Config Reader Paroli Card *(Continued)*

Property	Rule (if any)	Description
Remote Link Number		Number of the remote link
Remote Port ID		Port identifier on the remote end of the link
Remote Cluster Member		Host name of the domain on the remote end of the link.

Processor

The following table provides a brief description of the properties for a Sun Fire high-end systems Domain Config Reader Processor (TABLE 6-48):

TABLE 6-48 Domain Config Reader Processor

Property	Rule (if any)	Description
PROC ID		Processor identifier containing ID(Slot ID): `PROC(SB`*x*`/P`*y*`)`, where *x* is the number of the expander slot containing the board (`0–17`) and *y* is the processor number (0–3)
Processor Number		Processor number or port ID assigned to this processor
Module Revision		Processor module revision number
Module Type		Processor module type identifier
Manufacturer		Processor manufacturer identifier
SPARC® Version		SPARC version identifier
Clock Frequency (MHz)		Processor clock frequency in megahertz (MHz), with values rounded up to the next integer.
Icache Size (KB)		Instruction cache size in kilobytes (KB)
Dcache Size (KB)		Data cache size in kilobytes (KB)
Ecache Size (KB)		External cache size in kilobytes (KB)
Status	`scCPUStatus`	Current status of the processor: `ONLINE`, `OFFLINE`, `POWEROFF`, or `UNKNOWN`
Condition	`scStateCheck`	Attachment point condition of the processor from `cfgadm`: `OK`, `FAIL`, or `UNKNOWN`
Last Change		Date and time of last change or `UNKNOWN`

Memory Controller

The following table provides a brief description of the properties for Sun Fire high-end systems Domain Config Reader memory controller (TABLE 6-49):

TABLE 6-49 Domain Config Reader Memory Controller

Property	Rule (if any)	Description
Memory Controller ID		Memory controller identifier containing ID(Slot ID): `MEMCTRL(SB`*x*`/P`*y*`)`, where *x* is the number of the expander slot containing the board (`0–17`) and *y* is the processor number (0–3)
Memory Bank List		Comma-separated list of slot IDs for the memory banks: `SB`*x*`/P`*y*`/B`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the processor number (`0–3`), and *z* is the physical memory bank number (`0` or `1`)
Condition	`scStateCheck`	Attachment point condition of the memory controller from `cfgadm`: `OK`, `FAIL`, or `UNKNOWN`
Last Change		Date and time of last change or `UNKNOWN`

Memory Bank

The following table provides a brief description of the properties for a Sun Fire high-end systems Domain Config Reader memory bank (TABLE 6-50).

Note – It is possible to have an entry for a non-existing memory bank in this table. The entry will have `DISABLED` in the POST Status property.

TABLE 6-50 Domain Config Reader Memory Bank

Property	Rule (if any)	Description
Memory Bank ID		Memory bank identifier containing ID(Slot ID): `MEMBANK(SBx/Py/Bz)`, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the processor number (`0–3`), and *z* is the physical memory bank number (`0` or `1`)
Memory Size		Memory size in megabytes of this memory bank
DIMM List		Comma-separated list of slot IDs for the DIMMS on this memory bank: `SBw/Px/By/Dz`, where *w* is the number of the expander slot containing the board (`0–17`), *x* is the processor number (`0–3`), *y* is the physical memory bank number (`0` or `1`), and *z* is the DIMM number (`0–3`)
Logical Bank 0 POST Status	`scPOSTStatus`	Indicates whether the POST status of logical memory bank 0 is `UNKNOWN`, `OKAY`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, `REDLISTED`, or `MISSING`
Logical Bank 1 POST Status	`scPOSTStatus`	Indicates whether the POST status of logical memory bank 1 is `UNKNOWN`, `OKAY`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, `REDLISTED`, `MISSING`
Processor ID		Processor identifier for this memory bank: `SBx/Py`, where *x* is the number of the expander slot containing the board (`0–17`) and *y* is the processor number (`0–3`)
SEEPROM ID		Identifier of the SEEPROM; currently `--`

DIMM

The following table provides a brief description of the properties for Sun Fire high-end systems Domain Config Reader dual inline memory module (DIMM) (TABLE 6-51).

Note – It is possible to have an entry for a nonexistent DIMM in this table. The entry will have `DISABLED` in the POST Status property.

TABLE 6-51 Domain Config Reader DIMM

Property	Rule (if any)	Description
DIMM ID		DIMM identifier containing FRU ID(Slot ID): `DIMM(SB`*w*`/P`*x*`/B`*y*`/D`*z*`)`, where *w* is the number of the expander slot containing the board (`0–17`), *x* is the processor number (`0–3`), *y* is the physical memory bank number (`0` or `1`), and *z* is the DIMM number (`0–3`)
Memory Size		Size of the memory for the DIMM in kilobytes (KB)
SEEPROM ID		Identifier of the SEEPROM; currently `--`
POST Status	`scPOSTStatus`	Indicates whether the POST status of the DIMM is `UNKNOWN`, `OKAY`, `DISABLED`, `UNDEFINED`, `MISCONFIGURED`, `FAIL-OBP`, `FAIL`, `BLACKLISTED`, `REDLISTED`, or `MISSING`
ECC Memory Errors	`scDimmErrCnt`	Number of error-correcting code (ECC) memory errors for the DIMM

Disk Devices

The following table provides a brief description of the properties for Sun Fire high-end systems Domain Config Reader disk devices (TABLE 6-52):

TABLE 6-52 Domain Config Reader Disk Devices

Property	Rule (if any)	Description
Disk ID		Disk device identifier: `disk(c`*x*`t`*y*`d`*z*`)` where *x* is the PCI controller number (`0` or `1`), *y* is the target number, and *z* is the logical unit number; such as `c0t64d0`. If the disk is dual ported, two disk device identifiers will be separated by a comma.
Card ID		Card identifier: `IO`*x*`/C`*y*`V`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the card voltage (`3` or `5`), and *z* is the PCI controller number (`0` or `1`)
Enclosure Name		Enclosure identifier from `luxadm` or `--`. Refer to *Platform Notes: Using luxadm Software* for more information.
Path		Physical path to the disk device
Block Size		Block size established when the disk was partitioned

TABLE 6-52 Domain Config Reader Disk Devices *(Continued)*

Property	Rule (if any)	Description
Block Count		Number of blocks allocated for the file system
Blocks Available		Number of unused blocks for the file system
File Count		Number of files existing on the file system
Files Available		Number of unused files available for the file system
Status		Status of this disk: `OK` or a message describing the problem encountered
Hardware Errors	`scDskErrCnt`	Number of hardware-related errors
Software Errors	`scDskErrCnt`	Number of software-related errors
Transport Errors	`scDskErrCnt`	Number of transport-related errors

Tape Devices

The following table provides a brief description of the properties for Sun Fire high-end systems Domain Config Reader tape devices (TABLE 6-53).

TABLE 6-53 Domain Config Reader Tape Devices

Property	Rule (if any)	Description
Tape ID		Tape device identifier, following the standard naming convention for tape devices
Card ID		Card identifier: `IO`*x*`/C`*y*`V`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the card voltage (`3` or `5`), and *z* is the PCI controller containing the card (`0` or `1`)
Path		Physical path to the tape device
Device Name		Name that identifies the tape device, such as `Exabyte 4mm` or `QIC 8mm archive`. Can be up to 64 characters.
Status		Status of this tape device: OK or a message describing the problem encountered
Tape Errors	`scTpeErrCnt`	Number of tape errors as recorded in the `syslog` file

Network Interfaces

The following table provides a brief description of the properties for Sun Fire high-end systems Domain Config Reader network interfaces (TABLE 6-54):

TABLE 6-54 Domain Config Reader Network Interfaces

Property	Rule (if any)	Description
Network ID		Network interface identifier, such as `network(dman0)` or `network(qfe0)`
Card ID		Card identifier: `IO`*x*`/C`*y*`V`*z*, where *x* is the number of the expander slot containing the board (`0–17`), *y* is the card voltage (`3` or `5`), and *z* is the PCI controller number (`0` or `1`)
Symbolic Name		Host name of the host computer associated with this network interface
Ethernet Address		Ethernet address for the network interface
IP Address		IP address for the network interface
Status		Status of this network interface: `OK` or blank
Network Error		If the system cannot obtain information for any network interface property, or obtains an error code, that message is shown here.

WCI

The following table provides a brief description of the properties for Sun Fire high-end systems Domain Config Reader Sun Fire Link interface (WCI) (TABLE 6-55). Refer to the *Sun Fire Link Fabric Administrator's Guide* for more information about the Sun Fire Link system.

TABLE 6-55 Domain Config Reader WCI

Property	Rule (if any)	Description
WCI ID		Sun Fire Link interface identifier containing FRU ID(Slot ID):: `WCI(IO`*x*`/WCI)`, where *x* is the number of the expander slot containing the WCI
Name		Driver or device name: `SUNW,wci`
Compatible		Drivers compatible with the WCI: `wrsm` or `wssm`
Number of Parolis		Number of parallel optical links

Domain Config Reader Alarm Rules

This section describes the alarm rules for the Domain Config Reader module. You cannot change the limits for these rules. The system provides a message with the alarms telling what the current property is and what the limit is.

CPU Status Rule (`scCPUStatus`)

The CPU status rule generates a caution alarm if the processor is `OFFLINE` (TABLE 6-56). This alarm is for information only and is not an error.

TABLE 6-56 Domain Config Reader CPU Status Rule

CPU Status	Alarm Level	Meaning
`ONLINE`		CPU is online.
`OFFLINE`	Caution	CPU is offline.
`POWEROFF`		CPU is powered off.
`UNKNOWN`		CPU status is unknown.

Action: You can use `psradm`(1M) to change the operational status of processors if necessary.

DIMM Error Count Rule (`scDimmErrCnt`)

The DIMM error count rule generates a caution, alert, or critical alarm depending on the number of error-correcting code (ECC) errors that have occurred in the memory module (TABLE 6-57).

TABLE 6-57 Domain Config Reader DIMM Error Count Rule

Number of Errors	Alarm Level	Meaning
`5`	Caution	ECC memory error count exceeds 5.
`10`	Alert	ECC memory error count exceeds 10.
`15`	Critical	ECC memory error count exceeds 15.

Action: Dispatch a technician to test the memory module. Refer to the `syslog` file for the error descriptions.

Disk Error Count Rule (scDskErrCnt)

The disk error count rule generates a caution, alert, or critical alarm depending on the number of hardware, software, or transport errors that have occurred on a disk. (TABLE 6-58).

TABLE 6-58 Domain Config Reader Disk Error Count Rule

Number of Errors	Alarm Level	Meaning
5	Caution	Hardware, software, or transport error count exceeds 5.
10	Alert	Hardware, software, or transport error count exceeds 10.
15	Critical	Hardware, software, or transport error count exceeds 15.

Action: Dispatch a technician to test the disk.

POST Status Rule (scPOSTStatus)

The power-on self-test (POST) Status Rule generates a caution, alert, or critical alarm when the POST status is not OKAY (TABLE 6-59).

TABLE 6-59 Domain Config Reader POST Status Rule

POST Status	Alarm Level	Meaning
OKAY		POST status is okay.
UNKNOWN	Caution	POST status is unknown.
BLACKLISTED	Caution	Component is blacklisted.
REDLISTED	Caution	Component is redlisted.
DISABLED	Alert	Component is disabled.
UNDEFINED	Alert	Component is undefined.
MISCONFIGURED	Alert	Component is misconfigured.
FAIL-OBP	Critical	Component failed in OBP.
FAIL	Critical	Component failed POST.

Actions:

- A caution alarm is for information only and is not an error. Refer to the *System Management Services (SMS) Administrator Guide* for more information.
- An alert alarm does not always indicate a problem, but you should inform your system administrator or Sun service personnel of a possible problem.

- A critical alarm indicates a problem. Contact your Sun service personnel.

For more information, look at the POST log file on the system controller. The POST log file is located in `/var/opt/SUNWSMS/adm/[A-R]/post`.

State Check Rule (`scStateCheck`)

The state check rule generates a caution alarm if any of the board, CPU, or memory controller attachment point conditions are not `OK` as reported from `cfgadm`(1M) (TABLE 6-60).

TABLE 6-60 Domain Config Reader State Check Rule

State	Alarm Level	Meaning
`OK`		Attachment point condition from `cfgadm` is okay.
`UNKNOWN`	Caution	Attachment point condition from `cfgadm` is unknown.
`FAIL`	Caution	Attachment point condition from `cfgadm` is fail.

Action: If the condition is not OK, run `cfgadm`(1M) to double-check the condition of the attachment point. Contact your systems administrator.

Tape Error Count Rule (`scTpeErrCnt`)

The tape error count rule generates a caution, alert, or critical alarm depending on the number of errors that have occurred on a tape drive (TABLE 6-61).

TABLE 6-61 Domain Config Reader Tape Error Count Rule

Number of Errors	Alarm Level	Meaning
`10`	Caution	Tape error count exceeds 10.
`20`	Alert	Tape error count exceeds 20.
`30`	Critical	Tape error count exceeds 30.

Action: Dispatch a technician to test the tape drive. Refer to the `syslog` file for the error descriptions.

Link Status Rule (`scLnkSt`)

The link status rule generates an alarm if the Link Status is not `LINK UP` (TABLE 6-62).

TABLE 6-62 Domain Config Reader Link Status Rule

Link Status	Alarm Level	Meaning
LINK UP		Link is up.
LINK DOWN	Critical	Link is down.
LINK NOT PRESENT	Caution	Link is not present.
WAIT FOR SC LINK TAKEDOWN	Alert	Wait for the SC LINK TAKEDOWN status.
WAIT FOR SC LINK UP	Alert	Wait for the SC LINK UP status.
SC ERROR WAIT FOR LINK DOWN	Alert	SC error, wait for LINK DOWN status.
UNKNOWN	Critical	Link status is unknown.

Action: Dispatch a technician to analyze and fix the problem. The technician can look in the `syslog` file for more information.

Link Valid Rule (`scLnkVld`)

The link valid rule generates an alert alarm when the Link Validity is `INVALID` (TABLE 6-63).

TABLE 6-63 Domain Config Reader Link Valid Rule

Link Validity	Alarm Level	Meaning
VALID		Link configuration is valid.
INVALID	Alert	Link configuration is invalid.

Action: The configuration problem could be in the striping, switch nodes, compute nodes, or partitions, depending on the installation topology. Dispatch a technician to analyze and fix the problem. The technician can look in the `syslog` file for more information.

SC Config Reader Module

The Sun Fire high-end systems SC Config Reader module provides the hardware configuration for a CP1500 or CP2140 system controller board on a Sun Fire high-end system. During Sun Fire high-end systems agent setup, this module is automatically loaded, but can be unloaded later.

FIGURE 6-3 shows the icon for the module—Config Reader (Sun Fire High-End Systems SC)—as it is displayed in the host (SC) Details window under the Module Browser tab and Hardware icon.

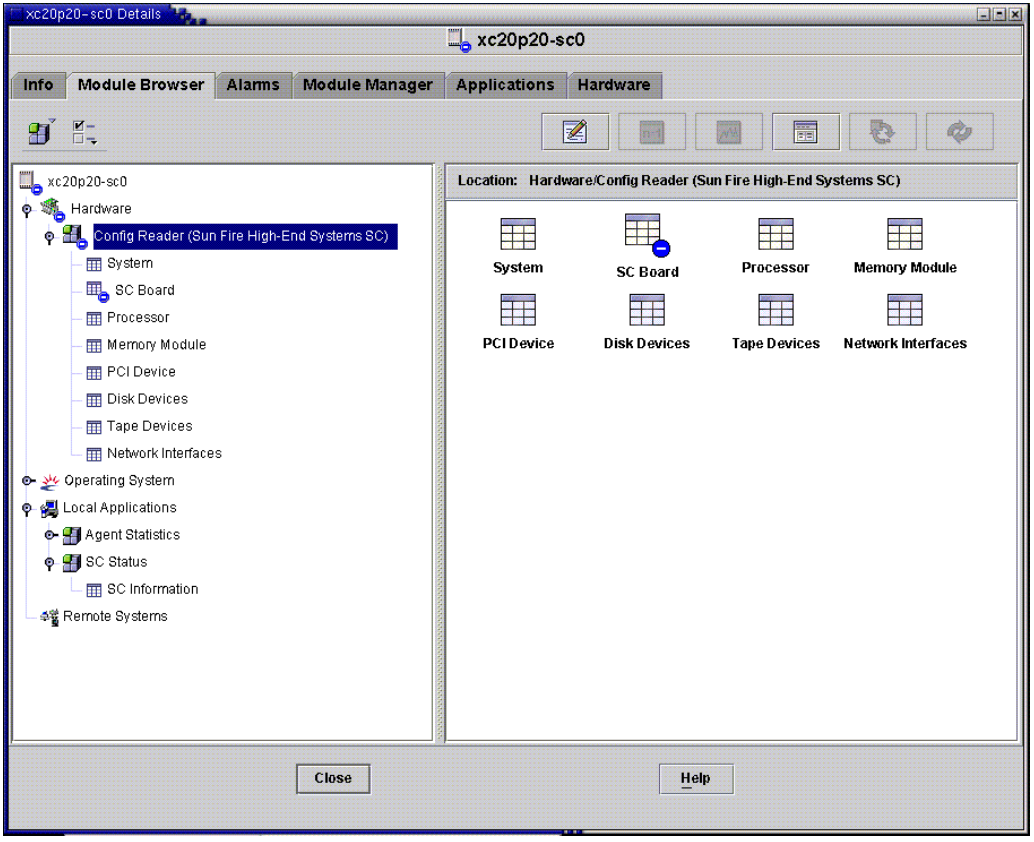


FIGURE 6-3 SC Config Reader Module

SC Config Reader Properties

The tables in this section describe each of the visible properties for each Sun Fire high-end systems SC Config Reader object. If a property has a value of --, the SC Config Reader is unable to get data for that property.

System

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader System (TABLE 6-64):

TABLE 6-64 SC Config Reader System

Property	Rule (if any)	Description
Node Name		`system`
Hostname		System controller host name
Host ID		System controller serial number
Operating System		Operating environment running on the system controller
OS Version		Version of the operating environment running
System Clock Frequency (MHz)		Frequency in megahertz (MHz) of the clock that provides system timing
Architecture		Machine architecture
Last Update		Date and time of the last update
Total Disks		Number of disks present for this system controller
Total Memory		Total memory in megabytes (MB) from the memory modules on this system controller
Total Processors		Number of processors for this system controller: `1`
Total Tape Devices		Number of tape devices attached to this system controller.

SC Board

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader CP1500 or CP2140 board, which is a system controller (TABLE 6-65):

TABLE 6-65 SC Config Reader CP1500 or CP2140 Board

Property	Rule (if any)	Description
SC ID		System controller board identifier containing FRU ID(Board ID); for example, `CP1500(CP31)` or `CP2140(CP31)`
Board Type		`CP1500` or `CP2140`
Voltage Status	`cpBrdVolt`	Status of input voltage to CP1500 board: `OK`, `FAIL`, or `UNKNOWN`. Status of input voltage to CP2140 board is `UNKNOWN`.
Memory Module List		Identifiers of the one or two memory modules for this board; for example `CP31/P0/MM0`
Processor List		Identifier of the processor for this board; for example, `CP31/P0`
Reset Reason		Reset type from the last hardware reset; for example, `S-POR`
POST Results		Results of power-on self-test; also indicates whether POST ran during the last reset.

Processor

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader processor (TABLE 6-66):

TABLE 6-66 SC Config Reader Processor

Property	Rule (if any)	Description
PROC ID		Identifier of the processor containing FRU ID(CPU ID); for example, `PROC(CP31/P0)`
Processor Number		UltraSPARC Port Architecture (UPA) port ID for the processor
Temperature (C)	`cpCPUTemp`	Temperature of the processor. Displays `-1` if the temperature cannot be determined.
Module Revision		Revision number of this module type
Module Type		Type of processor, such as `SUNW,UltraSPARC-III`
Manufacturer		Manufacturer number
SPARC Version		Version number of this SPARC processor architecture

TABLE 6-66 SC Config Reader Processor *(Continued)*

Property	Rule (if any)	Description
Clock Frequency (MHz)		Clock frequency in megahertz (MHz) of this processor
Icache Size (KB)		Size of the processor's instruction cache in kilobytes (KB)
Dcache Size (KB)		Size of the processor's data cache in kilobytes (KB)
Ecache Size (KB)		Size of the processor's external cache in kilobytes (KB)
Status	`cpCPUStatus`	Current processor status: `ONLINE` or `OFFLINE`

Memory Module

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader memory module (TABLE 6-67):

TABLE 6-67 SC Config Reader Memory Module

Property	Rule (if any)	Description
MEMMOD ID		Identifier of the memory module containing FRU ID(Memory Module ID); for example, `MEMMOD(CP31/P0/MM0)`
Memory Size (MB)		Size of memory in the memory module in megabytes (MB)

PCI Device

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader PCI device (TABLE 6-68):

TABLE 6-68 SC Config Reader PCI Device

Property	Rule (if any)	Description
DEVICE ID		Identifier of the PCI device containing FRU ID(Device Driver ID): `PCI(xxx)`, where *xxx* is `eri`, `glm`, `hci 1394`, `hme`, or `usb`
Device Type		Device I/O protocol type used, such as `pci`, `sbus`, `network`, or `scsi-2`
Device Class		Required PCI class code, such as `Network Controller,Ethernet; Mass Storage Controller,SCSI; Serial Bus Controller`
Clock Frequency (MHz)		Clock frequency in megahertz (MHz)
Name		Device driver common or symbolic name, such as `network`, `scsi`, `firewire`, or `usb`
Manufacturer		Manufacturer number
Model		Device driver model number, such as `SUNW,pci-eri`; or `Symbios,53C875`
Version		Version of the driver
Revision ID		Driver revision
Vendor ID		Vendor number

Disk Device

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader disk device (TABLE 6-69):

TABLE 6-69 SC Config Reader Disk Device

Property	Rule (if any)	Description
Disk ID		Disk device identifier: `disk(cxtydz)` where *x* is the PCI controller number (`0` or `1`), *y* is the target number, and *z* is the logical unit number; such as `c0t4d0`. If the disk is dual ported, two disk device identifiers will be separated by a comma.
Path		Physical path to the disk device; such as `/pci@1f,0/pci@1,1/scsi@2/sd@0,0;...1,0`; or `6,0`
Block Size		Block size established when the disk was partitioned

TABLE 6-69 SC Config Reader Disk Device *(Continued)*

Property	Rule (if any)	Description
Block Count		Number of blocks allocated for the file system
Blocks Available		Number of unused blocks for the file system
File Count		Number of files existing on the file system
Files Available		Number of unused files available for the file system
Status		Status of this disk: `OK` or a message describing the problem encountered
Hardware Errors	`cpDskErrCnt`	Number of hardware-related errors
Software Errors	`cpDskErrCnt`	Number of software-related errors
Transport Errors	`cpDskErrCnt`	Number of transport-related errors

Tape Device

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader tape device (TABLE 6-70):

TABLE 6-70 SC Config Reader Tape Device

Property	Rule (if any)	Description
Tape ID		Tape device identifier, following the standard naming convention for tape devices, such as `tape (0)`
Path		Physical path to the tape device, such as `/devices/pci@1f,0/pci@1,1/scsi@2/st@4,0`
Device Name		Name that identifies the tape device, such as `HP DDS-3 4MM DAT`
Status		Status of this tape device: `OK` or a message describing the problem encountered
Tape Errors	`cpTpeErrCnt`	Number of tape errors as recorded in the `syslog` file

Network Interface

The following table provides a brief description of the properties for a Sun Fire high-end systems SC Config Reader network interface (TABLE 6-71):

TABLE 6-71 SC Config Reader Network Interface

Property	Rule (if any)	Description
Network ID		Network interface identifier, such as `network(hme0)`, `network(scman1)`, or `network(scman1:1)`
Symbolic Name		Host name of the host computer associated with this network interface
Ethernet Address		Ethernet address for the network interface
IP Address		IP address for the network interface
Status		Status of this network interface: `OK` or blank
Network Error		If the system cannot obtain information for any network interface property, or obtains an error code, that message is shown here.

SC Config Reader Alarm Rules

This section describes the alarm rules for the SC Config Reader module. You cannot change the limits for some of these rules. The system provides a message with the alarms telling what the current property is and what the limit is.

Board Voltage Rule (`cpBrdVolt`)

The board voltage rule generates an alarm when the voltage is not within 5 percent of the nominal value of 5 volts (TABLE 6-72). A voltage alarm is *not* generated when the board is powered off.

TABLE 6-72 SC Config Reader Board Voltage Rule

Voltage Threshold	Alarm Level	Meaning
`OK`		Voltage is in range.
`UNKNOWN`	Caution	Unable to determine voltage. This is the only response for a CP2140 system controller.
`FAIL`	Critical	Voltage is out of range.

Actions:

- Contact your Sun service personnel for a critical alarm.

Caution – Shut down the system controller if the voltage is not within 5 percent of the nominal value. If the voltage is not within 10 percent of the nominal value, the system performs a power-on reset (POR).

Refer to the *SPARCengine ASM Reference Manual* for more information.

- A caution alarm for a CP2140 SC is normal, and you do not need to take any action. A caution alarm for a CP1500 SC indicates that one or more i2c device drivers are not loaded and the module is unable to take voltage readings. Rerun the system controller agent setup to load the needed i2c device drivers. See "Setting Up the Sun Fire High-End Systems Add-On Software Using the Sun Management Center Setup Wizard" on page 15 for more information.

CPU Status Rule (`cpCPUStatus`)

The CPU status rule generates a caution alarm if the processor is `OFFLINE` (TABLE 6-73).

TABLE 6-73 SC Config Reader CPU Status Rule

CPU Status	Alarm Level	Meaning
`ONLINE`		CPU is online.
`OFFLINE`	Caution	CPU is offline.
`POWERED OFF`		CPU is powered off.

Action: The caution alarm is for information only and is not an error. Use `psradm`(1M) to change the operational status of processors if necessary.

CPU Temperature Rule (`cpCPUTemp`)

The CPU temperature rule generates an alarm when the temperature is above certain default threshold values (TABLE 6-74). A temperature alarm is *not* generated when the board is powered off.

TABLE 6-74 SC Config Reader CPU Temperature Rule

Temperature Threshold	Alarm Level	Meaning
`Warning`	Alert	Temperature is over the default limit of 69 degrees Celsius.
	Caution	Temperature cannot be determined. (Temperature property in the Processor table displays `-1`.)
`Error`	Critical	Temperature is over the default limit of 74 degrees Celsius.

Action: Contact your Sun service personnel for an alert or a critical alarm.

Note – The default threshold values are specified in the OpenBoot PROM setup. Refer to the *SPARCengine ASM Reference Manual* for a complete description. If these thresholds are changed, they also must be changed in the `ruleinit` file.

Disk Error Count Rule (`cpDskErrCnt`)

The disk error count rule generates a caution, alert, or critical alarm depending on the number of hardware, software, or transport errors that have occurred on a disk (TABLE 6-75).

TABLE 6-75 SC Config Reader Disk Error Count Rule

Error Counts	Alarm Level	Meaning
`5`	Caution	Hardware, software, or transport error count exceeds 5.
`10`	Alert	Hardware, software, or transport error count exceeds 10.
`15`	Critical	Hardware, software, or transport error count exceeds 15.

Action: Dispatch a technician to test the disk.

Tape Error Count Rule (`cpTpeErrCnt`)

The tape error count rule generates a caution, alert, or critical alarm depending on the numbers of errors that have occurred on a tape drive (TABLE 6-76).

TABLE 6-76 SC Config Reader Tape Error Count Rule

Tape Errors	Alarm Level	Meaning
10	Caution	Tape error count exceeds 10.
20	Alert	Tape error count exceeds 20.
30	Critical	Tape error count exceeds 30.

Action: Dispatch a technician to test the tape drive. Refer to the `syslog` file for error descriptions.

Platform/Domain State Management Module

The Platform/Domain State Management (PDSM) module enables an administrator to perform platform and domain management, and dynamic reconfiguration of system boards in the same manner that you would with the command-line interface (CLI) commands in SMS, only with the Sun Management Center GUI.

During the software installation, this module is automatically installed. You must load this module to use it the first time. You must load it from the platform Details window (where the Platform Config Reader is automatically loaded.) You can unload the module, but you might want to keep it loaded as long as it is being used. For specific information about loading and unloading Sun Management Center modules, refer to the *Sun Management Center User's Guide*.

FIGURE 6-4 shows the icon for the module—PDSM (Sun Fire high-end systems)—as it is displayed in the platform Details window under the Module Browser tab and Hardware icon.

Note – The PDSM module does *not* show any unknown board slots. However, the Platform Config Reader (PCR) module does show unknown board slots (see "Unknown Component" on page 120).

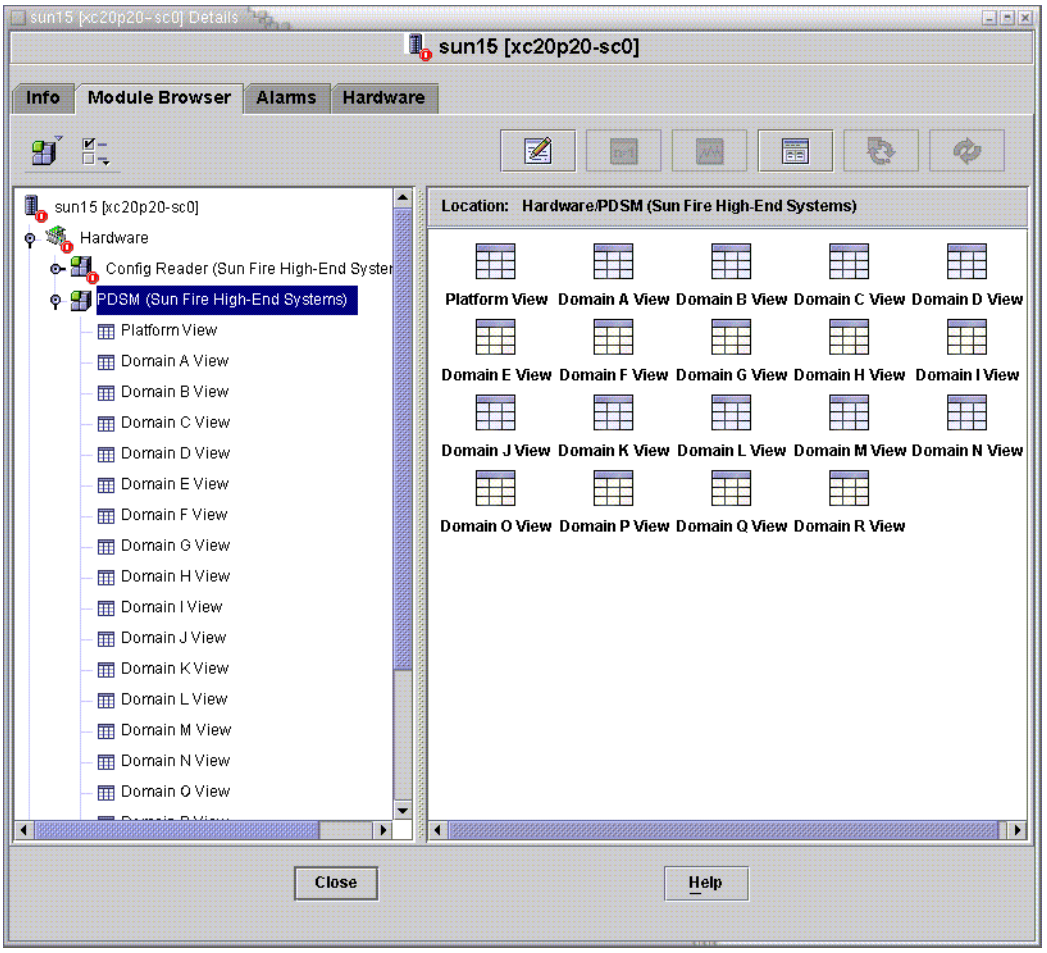


FIGURE 6-4 Platform/Domain State Management (PDSM) Module

The PDSM module has two types of views:

- Platform View
- Domain Views (one for each domain A through R)

Platform View

The Platform View contains the following tables:

- Platform Info
- Platform Slot 0 Boards
- Platform Slot 1 Boards

- Platform Empty Slots
- Platform Expander Boards
- Power Supplies
- Fan Trays

Platform Info

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module platform info (TABLE 6-77):

TABLE 6-77 PDSM Module Platform Info

Property	Rule (if any)	Description
Platform ID		Platform identifier
Platform Type		Platform type
Max Domains		Maximum number of domains (18)
Active Domains		Number of active domains on this Sun Fire high-end system
SC Power		Power state of the system controller: `ON` or `OFF`

Platform Slot 0 Boards

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module platform slot 0 boards (TABLE 6-78):

TABLE 6-78 PDSM Module Platform Slot 0 Boards

Property	Rule (if any)	Description
Board ID		Board identifier in slot 0 containing FRU ID(Slot ID): `CPU(SB`*x*`)`, `V2CPU`(SB*x*), or `V3CPU(SB`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`) and `V3` indicates an UltraSPARC IV or UltraSPARC IV+ CPU board
Board State		State of the board in slot 0: `ACTIVE`, `ASSIGNED`, or `FREE`
Power State		Indicates whether the power state of the board in slot 0 is `ON` or `OFF`

TABLE 6-78 PDSM Module Platform Slot 0 Boards *(Continued)*

Property	Rule (if any)	Description
Test Status		Indicates whether the test status of the CPU is `UNKNOWN_TEST_STATUS`, `IPOST` (in POST), `PASSED`, `DEGRADED`, or `FAILED`
Test Level		POST test level for this board in slot 0
Domain ID		Identifier of the domain assigned to this board in slot 0: `A–R` or `UNASSIGNED`

Platform Slot 1 Boards

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module platform slot 1 boards (TABLE 6-79):

TABLE 6-79 PDSM Module Platform Slot 1 Boards

Property	Rule (if any)	Description
Board ID		Board identifier in slot 1 containing FRU ID(Slot ID): `HPCI(IO`*x*`)`, `MCPU(IO`*x*`)`, or `WPCI(IO`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)
Board State		State of the board in slot 1: `ACTIVE`, `ASSIGNED`, or `FREE`
Power State		Indicates whether the power state of the board in slot 1 is `ON` or `OFF`
Test Status		Indicates whether the test status of the board is `UNKNOWN_TEST_STATUS`, `IPOST` (in POST), `PASSED`, `DEGRADED`, or `FAILED`
Test Level		POST test level for this board in slot 1
Domain ID		Identifier of the domain assigned to this board in slot 1: `A–R` or `UNASSIGNED`

Platform Empty Slots

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module platform empty slots (TABLE 6-80):

TABLE 6-80 PDSM Module Platform Empty Slots

Property	Rule (if any)	Description
Board ID		Available board identifier: Input/output card number (IO*x*) or system board number (SB*x*), where *x* is the number of the expander slot containing the board (0–17)
Board State		State of the available board: FREE or ASSIGNED
Power State		Indicates whether the power state of the available board is OFF or --
Test Status		Indicates whether the test status of the available board is UNKNOWN or --
Test Level		POST test level for this available board
Domain ID		Identifier of the domain assigned to this available board: A–R or UNASSIGNED

Expander Boards

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module expander boards (TABLE 6-81).

TABLE 6-81 PDSM Module Expander Boards

Property	Rule (if any)	Description
EXB ID		Expander board identifier containing FRU ID(Slot ID): EXB(EX*x*), where *x* is the expander board number (0–17)
Power State		Indicates whether the expander board power is ON or OFF
Slot 0		Identifier of the system board that occupies slot 0: CPU(SB*x*), V2CPU(SB*x*), V3CPU(SB*x*), or NOT_PRESENT, where *x* is the number of the centerplane slot containing the board (0–17) and V3 indicates an UltraSPARC IV or UltraSPARC IV+ CPU board.
Slot 1		Identifier of the system board that occupies slot 1: HPCI(IO*x*), MCPU(IO*x*), or NOT_PRESENT, where *x* is 0–17

Power Supplies

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module power supplies (TABLE 6-82):

TABLE 6-82 PDSM Module Power Supplies

Property	Rule (if any)	Description
Power Supply ID		Power supply identifier containing FRU ID(SlotID): `PS(PS`*x*`)`, where *x* is the power supply number (`0`–`5`)
Power State		If either DC 0 or DC 1 is on, the power state indicates `ON`. If both DC 0 and DC 1 are off, the power state indicates `OFF`.

Fan Trays

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module fan trays (TABLE 6-83):

TABLE 6-83 PDSM Module Fan Trays

Property	Rule (if any)	Description
Fan Tray ID		Fan tray identifier containing FRU ID(SlotID): `FT(FT`*x*`)`, where *x* is the fan tray number (`0`–`7`)
Power State		Power state of the fan tray: `ON` or `OFF`
Fan Speed		Speed of the fan: `OFF`, `NORMAL`, or `HIGH`

Domain *X* View

The Domain *X* View, where *X* is the domain identifier A through R, contains the following tables for each domain.

- Domain *X* Info
- Domain *X* Slot 0 Boards
- Domain *X* Slot 1 Boards
- Domain *X* Empty Slots

Domain *X* Info

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module domain *X* info (TABLE 6-84):

TABLE 6-84 PDSM Module Domain *X* Info

Property	Rule (if any)	Description
Domain ID		Domain identifier: `A–R`
Domain Tag		Domain tag: `domain`*X*, where *X* is `A–R`
Domain State		Domain status as output from the SMS showplatform command, such as `Running Solaris` or `Powered Off`. Refer to `showplatform`(1M) in the *System Management Services SMS Reference Manual* for more information.
Solaris Node Name		Host name of the Solaris Operating System node
Keyswitch		Virtual keyswitch position: `ON`, `STANDBY`, `OFF`, `DIAG`, `SECURE`, or `UNKNOWN`
Domain ACL		Domain access control list–space-separated input/output card numbers (`IO`*x*) and system board numbers (`SB`*x*), where *x* is the number of the expander slot containing the board (`0–17`)
Primary IO Board		Identifier of the primary input/output board used for communication between the domain and the system controller: `HPCI(IO`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)
Internal Ethernet Board		Identifier of the I/O board that contains the active Ethernet controller: `HPCI(IO`*x*`)`, where *x* is the number of the expander slot containing the board (`0–17`)

Domain *X* Slot 0 Boards

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module domain *X* slot 0 boards (TABLE 6-85):

TABLE 6-85 PDSM Module Domain *X* Slot 0 Boards

Property	Rule (if any)	Description
Board ID		Board identifier in slot 0: `CPU(SBx)`, `V2CPU(SBx)`, or `V3CPU(SBx)`, where *x* is the number of the expander slot containing the board (`0–17`) and `V3` indicates an UltraSPARC IV or UltraSPARC IV+ CPU board
Board State		State of the board in slot 0: `ACTIVE`, `ASSIGNED`, or `FREE`
Power State		Indicates whether the power state of the board in slot 0 is `ON` or `OFF`
Test Status		Indicates whether the test status of the CPU is `UNKNOWN_TEST_STATUS`, `IPOST` (in POST), `PASSED`, `DEGRADED`, or `FAILED`
Test Level		POST test level for this board in slot 0
Domain ID		Identifier of the domain assigned to this board in slot 0: `A–R` or `UNASSIGNED`

Domain *X* Slot 1 Boards

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module domain *X* slot 1 boards (TABLE 6-86):

TABLE 6-86 PDSM Module Domain *X* Slot 1 Boards

Property	Rule (if any)	Description
Board ID		Board identifier in slot 1: `HPCI(IOx)`, `MCPU(IOx)`, or `WPCI(IOx)`, where *x* is the number of the expander slot containing the board (`0–17`)
Board State		State of the board in slot 1: `ACTIVE`, `ASSIGNED`, `FREE`
Power State		Indicates whether the power state of the board in slot 1 is `ON` or `OFF`
Test Status		Indicates whether the test status of the CPU is `UNKNOWN_TEST_STATUS`, `IPOST` (in POST), `PASSED`, `DEGRADED`, or `FAILED`
Test Level		POST test level for this board in slot 1
Domain ID		Identifier of the domain assigned to this board in slot 1: `A–R` or `UNASSIGNED`

Domain *X* Empty Slots

The following table provides a brief description of the properties for the Sun Fire high-end systems PDSM module domain *X* empty slots (TABLE 6-87):

TABLE 6-87 PDSM Module Domain *X* Empty Slots

Property	Rule (if any)	Description
Board ID		Available board identifier: Input/output card number (IO*x*) or system board number (SB*x*), where *x* is the number of the expander slot containing the board (`0–17`)
Board State		State of the available board: `FREE` or `ASSIGNED`
Power State		Indicates whether the power state of the available board is `OFF` or `--`
Test Status		Indicates whether the test status of the available board is `UNKNOWN` or `--`
Test Level		POST test level for this available board
Domain ID		Identifier of the domain assigned to this available board: `A–R` or `UNASSIGNED`

Dynamic Reconfiguration Module

See Chapter 8 for all information about the Dynamic Reconfiguration module.

SC Monitoring Module

The SC Monitoring module monitors the System Management Services (SMS) daemons on the active, or main, system controller. The Sun Fire high-end systems SC Monitoring Module table is automatically loaded when the agent is installed on the system controller. If desired, you can unload it later.

FIGURE 6-5 shows the icon for the module—SC Monitoring (Sun Fire high-end systems)—as it is displayed in the platform Details window under the Module Browser tab and Local Applications icon.

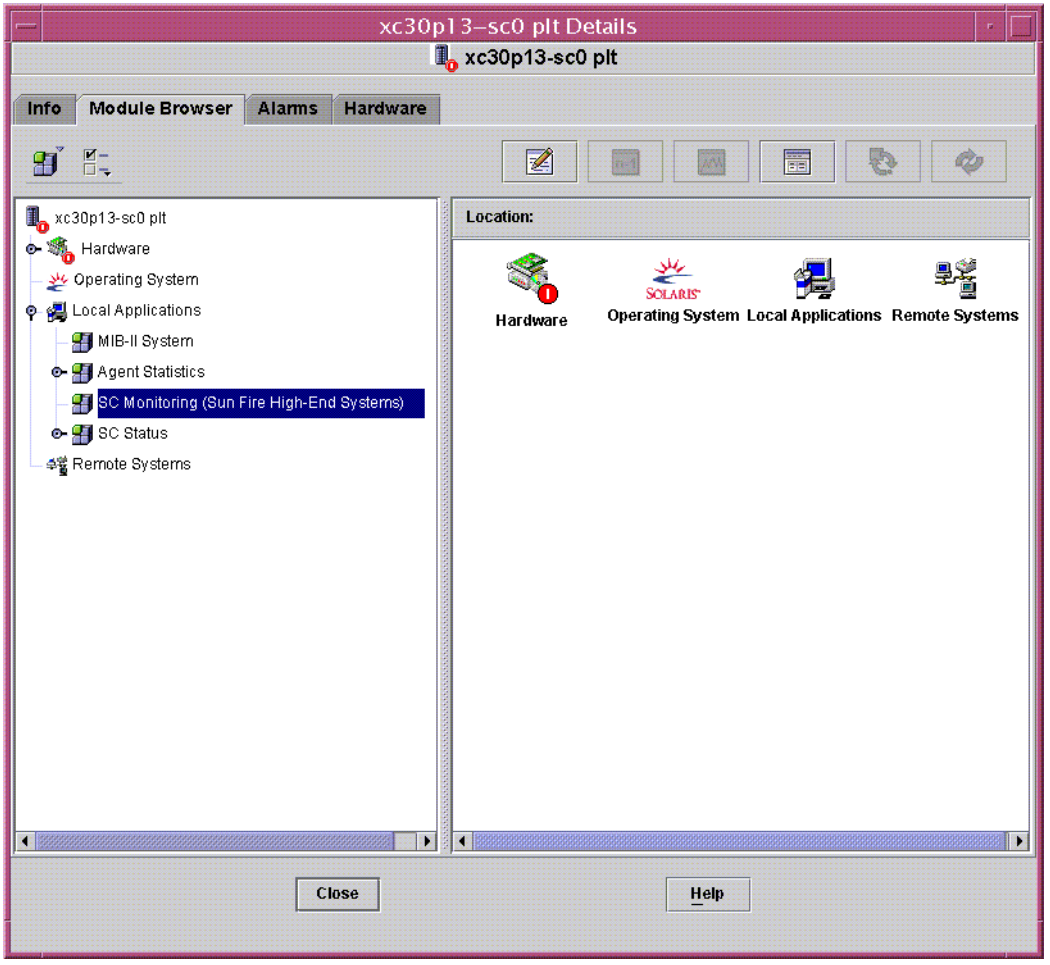


FIGURE 6-5 SC Monitoring Module

Many of the SMS daemons are critical to the operation of Sun Fire high-end systems, and this module generates an alarm according to the assigned priority when any of the SMS daemons fails, even if it restarts. Refer to the *System Management Services (SMS) Administrator Guide* for more information about the SMS daemons. Refer to the `ps`(1) command for more information about displaying the status of current processes.

This module monitors the following SMS daemons:

- Capacity-on-Demand Daemon (`codd`)
- Domain Configuration Administration (`dca`) – One per domain
- Domain Services Monitoring Daemon (`dsmd`)
- Domain X Server (*x*`/dxs`), where *x* is domain `a–r`

- Event Front-end Daemon (`efe`)
- Error and Fault handling Daemon (`efhd`)
- Event Log Access Daemon (`elad`)
- Event Reporting Daemon (`erd`)
- Environmental Status Monitoring Daemon (`esmd`)
- Failover Management Daemon (`fomd`)
- FRU Access Daemon (`frad`)
- Hardware Access Daemon (`hwad`)
- Key Management Daemon (`kmd`)
- Management Network Daemon (`mand`)
- Message Logging Daemon (`mld`)
- OpenBoot PROM Support Daemon (`osd`)
- Platform Configuration Daemon (`pcd`)
- SMS Startup Daemon (`ssd`)
- Task Manager Daemon (`tmd`)

SC Monitoring Properties—SC Daemon Process

The following table provides a brief description of the properties for a Sun Fire high-end systems SC daemon process (TABLE 6-88):

TABLE 6-88 SC Daemon Process

Property	Rule (if any)	Description
Command		Command name for this daemon
Process ID		Process identifier number for the daemon
Parent Process ID		Parent process identifier number for the daemon
User ID		User identifier under which the daemon is running
User Name		Name of the user associated with the User ID
Effective User ID		Effective user identifier
Group ID		Group identifier for the user
Effective Group ID		Effective group identifier for the user
Session ID		Process identifier of the session leader
Process Group ID		Process identifier of the process group leader
TTY		Controlling terminal for the daemon; should always be blank
Start Time		Time (within 24 hours) or date (after 24 hours) when the process was started

TABLE 6-88 SC Daemon Process *(Continued)*

Property	Rule (if any)	Description
CPU Time		CPU time this process has run
State		State of the daemon, such as `R` for running or `S` for sleeping
Wait Channel		Address of an event on which the process is sleeping. If blank, the process is running.
Schedule Class		Scheduling class name for the process, which indicates three possible scheduling algorithms: • `SYS` - System process owned by the kernel, which has the highest priority • `RT` - Real-time process, which has a fixed priority that is not changed by the scheduler • `TS` - Time-sharing process, which has a dynamic priority that is set lower if it takes too much CPU time and higher if it is not getting enough CPU time
Address		Memory address for the process
Size		Size (in pages) in main memory for the image of the swappable process
Priority		Process priority
Nice		Decimal value of the system scheduling priority of the process, if applicable
Percent CPU Time		Current CPU usage for the daemon expressed as a percentage of CPU time available
Percent Memory		Current memory usage for the daemon expressed as a percentage of the physical memory on the machine
Command Line	`rDownProc`	Full command string used to start the daemon

SC Monitoring Alarm Rule—Process Down Rule (`rDownProc`)

This section describes the alarm rule for the SC Monitoring module. You cannot change the limits for this rule. The system provides a message with the alarm telling what the current property is and what the limit is.

The process down rule generates a critical alarm when any SMS daemon other than `dca` or `dxs` is down. If the Command Line column of the SC Monitoring Module table is `--`, the system considers the process down.

Action: Contact your systems administrator for a critical alarm.

SC Status Module

The SC Status module monitors the main or spare status of the system controller. The module enables the user to see at a glance which system controller is the active, or main, system controller. For further information about the status of the system controller, see the SC Config Reader tables.

The Sun Fire high-end systems SC Status module is automatically loaded when the agent is installed on the system controller. If desired, you can unload it later.

To find the module, first open the SC Details Window. (For more information about finding the SC Details Window, see "SC Config Reader Module" on page 152.)

FIGURE 6-6 shows the icon for the module—SC Status—as it is displayed in the host (SC) Details window under the Module Browser tab and Local Applications icon. FIGURE 6-6 also shows the SC Information icon, under the SC Status icon, which you click to view the SC Information table.

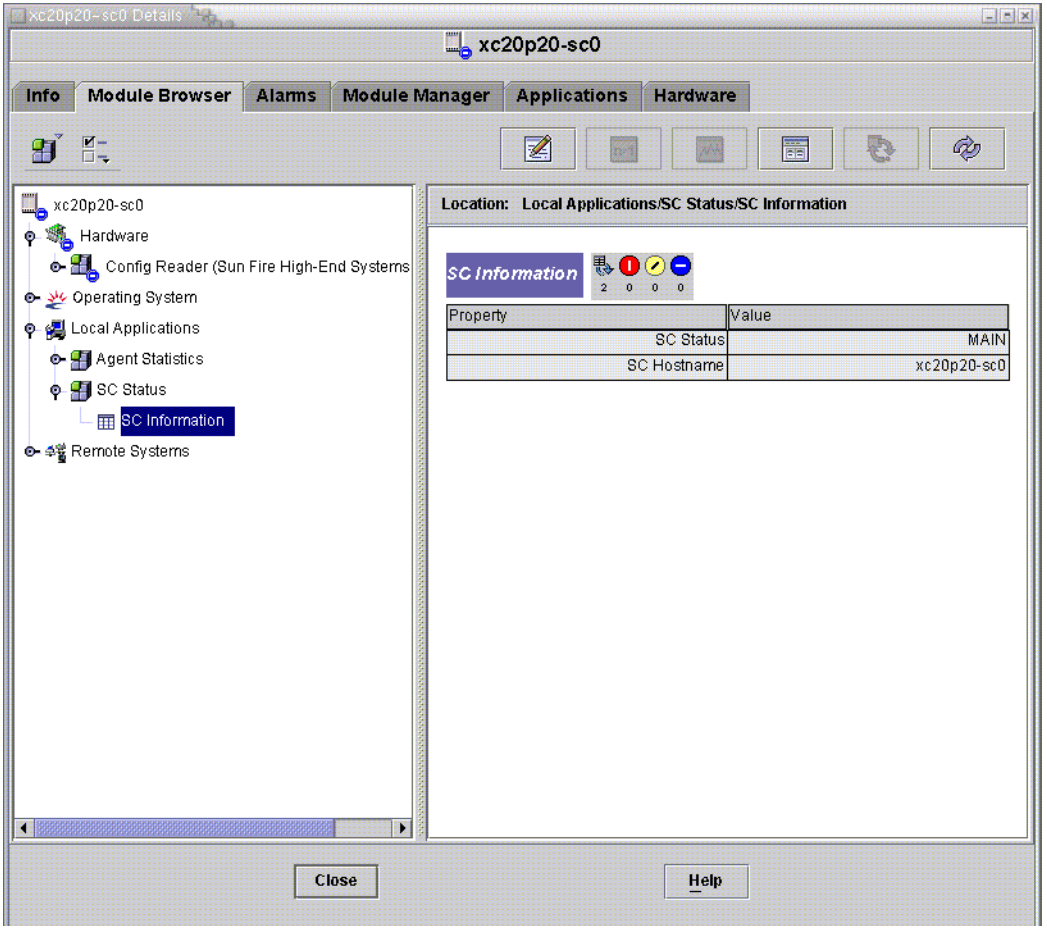


FIGURE 6-6 SC Information Showing `MAIN` Status

SC Status Properties

The SC Status property has three possible values:

- `MAIN` – This system controller is acting as the main system controller (FIGURE 6-6).
- `SPARE` – This system controller is acting as the spare system controller.
- `UNKNOWN` –The role of this system controller could not be determined.

SC Status Alarm Rule (`rscstatus`)

The SC status alarm rule generates a disabled alarm when the status of the system controller is not `MAIN`.

Displaying Platform and Domain Log Files

To display platform and domain log files for diagnosing errors, type these commands:

```
# /opt/SUNWsymon/sbin/es-run ccat /var/opt/SUNWsymon/log/platform.log
# /opt/SUNWsymon/sbin/es-run ccat /var/opt/SUNWsymon/log/agent.log
```

CHAPTER 7

Platform/Domain State Management From the System Controller

This chapter describes how to perform dynamic reconfiguration (DR) and other management operations for Sun Fire high-end systems using the Sun Management Center console and the PDSM module. The dynamic reconfiguration operations include such operations as adding a board to a Sun Fire high-end systems domain, removing a board from a Sun Fire high-end systems domain, and moving a board between Sun Fire high-end systems domains. Some other management operations that you might want to perform either as part of a dynamic reconfiguration operation or as part of another operation are testing a board, updating the ACL, and powering a board off or on.

Two Sun Fire high-end systems system–specific modules contain functionality for managing the Sun Fire high-end systems platform and domains:

- Platform/Domain State Management (PDSM), which runs on the system controller and is described in this chapter.
- Dynamic Reconfiguration (DR), which runs on a Sun Fire high-end systems domain. (See Chapter 8 for information about using this module.)

The PDSM monitoring and management capabilities from the Sun Management Center console are organized into one platform view and up to 18 domain views. See "Platform/Domain State Management Module" on page 161 for information about where this module is located and what tables you can view.

Prerequisites

You must be familiar with dynamic reconfiguration operations before you use the Sun Management Center GUI to perform DR operations. Refer to the following documents to learn more about dynamic reconfiguration operations on Sun Fire high-end systems:

- *Sun Fire High-End and Midrange Systems Dynamic Reconfiguration User Guide*
- `cfgadm` man page (underlying command for the domain DR module, which is discussed in Chapter 8)

For the latest general issues, known limitations, and known bugs about dynamic reconfiguration operations, refer to the *System Management Services (SMS) Release Notes.*

Supported Components

Currently, the PDSM module supports DR operations on the following hardware components:

- Slot 0 boards
- Slot 1 boards
- Empty slots
- Expander boards
- Power supplies
- Fan trays

SMS Commands Supported by PDSM

Some of the System Management Services (SMS) command-line interface (CLI) commands are supported by the Platform/Domain State Management module. In other words, you can use the Sun Management Center graphical user interface (GUI) to monitor and manage the system components rather than using the SMS CLI commands that do the same thing. Refer to the *System Management Services (SMS) Reference Manual* for more information about the SMS commands.

TABLE 7-1 lists the SMS CLI commands that are supported by PDSM.

TABLE 7-1 SMS CLI Commands Supported by PDSM

SMS CLI Command	Sun Management Center GUI Menu Item	Description
`addboard`	Add Board	Assign, connect, and configure a board to a domain
`addtag`	Add Tag	Assign a domain name (tag) to a domain
`deleteboard`	Delete Board	Unconfigure, disconnect, and unassign a board from a domain
`deletetag`	Delete Tag	Remove the domain name (tag) associated with the domain
`moveboard`	Move Board	Move a board from one domain to another
`poweroff`	Power Off	Control power off
`poweron`	Power On	Control power on
`rcfgadm -t`	Test Board	Test a board
`reset`	Reset Domain	Send reset to all CPU ports of a specified domain
`setkeyswitch`	Keyswitch	Change the position of the virtual keyswitch
`setupplatform -a|-r`	Access Control List	Add or remove boards from the existing ACL

Platform Management Operations From the System Controller

This section contains procedures that describe how to perform platform-wide management operations from the system controller. The following dynamic reconfiguration procedures are described:

- Adding a board
- Deleting a board
- Moving a board

The following additional management procedures are described:

- Powering off a board or peripheral

- Powering on a board or peripheral
- Showing status

Note – Aborting a DR operation might not always halt the operation. Depending on when you click the Abort button, the DR operation might have progressed to the point where it really cannot be aborted. Choosing to abort the DR operation kills the process ID associated with that operation, but does not guarantee the component retains its previous state.

Showing Platform Information

Before you attempt to perform any of the platform-wide management operations from the system controller, look at the Platform View tables in the PDSM module under Hardware. See "Platform View" on page 162 for more information about Platform View tables.

Adding a Board

This operation assigns, connects, or configures a board to a domain on the platform. Refer to the `addboard`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about adding a board.

▼ To Add a Board

Note – Only empty slots can be assigned.

---

1. **Log in to the Sun Management Center console as a member of the `platadmn` group.**
2. **Right-click on the board you want to add in the Platform Slot 0 or 1 Boards or Empty Slots table.**

   The system displays a menu of board operations.
3. **Choose Add Board from the menu.**

   The system displays the Add Board panel.
4. **After ensuring that you have chosen the board you want to add, choose the domain to which to add the board from the drop-down list.**

5. **Select the appropriate radio button for the state in which you want the board to be after the board is added.**
6. **Left-click on the Add Board button.**

   You can see the progress of the Add Board operation in the panel.
7. **If you want to abort the operation after it has started, left-click on the Abort button.**

   You can see the progress of the Abort operation in the panel.

Deleting a Board

This operation unconfigures, disconnects, or unassigns a system board from a domain on the platform. Refer to the `deleteboard`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about deleting a board.

▼ To Delete a Board

1. **Log in to the Sun Management Center console as a member of the `platadmn` group.**
2. **Right-click on the board you want to delete in the Platform Slot 0 or 1 Boards table.**

   The system displays a menu of board operations.
3. **Choose Delete Board from the menu.**

   The system displays the Delete Board panel.
4. **Ensure that you have chosen the board you want to delete.**
5. **Select the appropriate radio button for the state in which you want the board to be after the board is deleted.**
6. **Left-click on the Delete Board button.**

   You can see the progress of the Delete Board operation in the panel.
7. **If you want to abort the operation after it has started, left-click on the Abort button.**

   You can see the progress of the Abort operation in the panel.

Moving a Board

This operation moves a board from one domain to another on the platform. The board you are moving must be in the ACL of both affected domains. Refer to the `moveboard`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about moving a board.

▼ To Move a Board

1. **Log in to the Sun Management Center console as a member of the `platadmn` group.**
2. **Right-click on the board you want to move in the Platform Slot 0 or 1 Boards table.**

   The system displays a menu of board operations.
3. **Choose Move Board from the menu.**

   The system displays the Move Board panel.
4. **After ensuring that you have chosen the board you want to move, choose the domain to which you want to move the board from the drop-down list.**
5. **Select the appropriate radio button for the state in which you want the board to be after the board is moved.**
6. **Left-click on the Move Board button.**

   You can see the progress of the Move Board operation in the panel.
7. **If you want to abort the operation after it has started, left-click on the Abort button.**

   You can see the progress of the Abort operation in the panel.

Powering on a Board or Peripheral

This operation powers on a board, power supply, or fan tray on the platform. Refer to the `poweron`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about powering on a board or peripheral.

▼ To Power on a Board or Peripheral

1. **Log in to the Sun Management Center console as a member of the `platadmn` or `platoper` group.**
2. **Right-click on the board, power supply, or fan tray you want to power on in the corresponding Platform View table.**

   The system displays a menu of operations.
3. **Choose Power On from the menu.**

   The system displays the Power On panel.
4. **After ensuring that you have chosen the correct board or peripheral to power on, left-click on the OK button.**

Powering off a Board or Peripheral

This operation powers off a board, power supply, or fan tray on the platform. Refer to the `poweroff`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about powering off a board or peripheral.

▼ To Power off a Board or Peripheral

1. **Log in to the Sun Management Center console as a member of the `platadmn` or `platoper` group.**
2. **Right-click on the board, power supply, or fan tray you want to power off in the corresponding Platform View table.**

   The system displays a menu of operations.
3. **Choose Power Off from the menu.**

   The system displays the Power Off panel.

- If you have selected a CPU or I/O board that is active in a domain, you will see the following message:

  ```
  This board is active in a domain. Powering down this board
  might crash the domain. Are you sure you want to power off?
  ```

- If you have selected an expander board that is not empty, you will see the following message:

  ```
  This expander is not empty and might contain components that
  are active in a domain. Powering down this expander might
  crash the domain(s). Are you sure you want to power off?
  ```

4. **After ensuring that you have chosen the correct board or peripheral to power off, left-click on the OK button.**

Showing Status

This operation shows the status of the last dynamic reconfiguration command executed for that board or slot. The status display is dynamically updated with the status of the command currently being executed. If the command being executed halts on an error, an error message is displayed. The message "`No status from the agent`" is displayed if no command has been executed, or if a command finishes execution without errors.

Note – You receive a status message if you attempt a dynamic reconfiguration operation that is not permitted. Refer to the *System Management Services (SMS) Release Notes* for any known limitations on dynamic reconfiguration operations in this release.

▼ To Show Status

1. **Log in as a member of the `platadmn` or `platoper` group.**
2. **Right-click on the system board or slot for which you want to show status in the appropriate board table.**

   The system displays a menu of board or slot operations.

3. **Choose Show status from the menu.**

   The system displays the Status box showing the execution status of the most current dynamic reconfiguration command, if any. There can be a slight delay (up to a minute) before you receive the most current status.

   For example, if an operation fails, the status shows the type of message in FIGURE 8-6 on page 223.

   After the configure operation finishes successfully—or if no command has been executed—the status shows the type of message in FIGURE 8-7.

4. **Left-click on the OK button when you are finished looking at the status.**

Domain Management Operations From the System Controller

This section contains procedures that describe how to perform Sun Fire high-end systems domain management operations from the system controller. The following dynamic reconfiguration procedures are described:

- Adding a board
- Deleting a board
- Moving a board

The following additional management procedures are described:

- Powering on a board
- Powering off a board
- Testing a board
- Adding a tag
- Deleting a tag
- Changing the position of the keyswitch
- Updating the Access Control List
- Resetting a domain
- Showing status

Showing Domain Information From the System Controller

Before you perform Sun Fire high-end systems domain management operations from the system controller, look at the Domain View tables in the PDSM modules under Hardware. See "Domain X View" on page 166 for more information about the Domain View tables.

Adding a Board

This operation adds a board to a specific domain. Refer to the `addboard`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about adding a board.

▼ To Add a Board

1. **Log in to the Sun Management Center console as a member of the `platadmn`, `dmn`*x*`admn`, or `dmn`*x*`rcfg` group, where *x* is the domain where you want to add a board.**
2. **Right-click on the board you want to add in the Domain *X* Slot 0 or Slot 1 Boards table.**

   The system displays a menu of board operations.
3. **Choose Add Board from the menu.**

   The system displays the Add Board panel.
4. **After ensuring that you have chosen the board you want to add, choose the domain to which to add the board.**
5. **Select the appropriate radio button for the state in which you want the board to be after the board is added.**
6. **Left-click on the Add Board button.**

   You can see the progress of the Add Board operation in the panel.
7. **If you want to abort the operation after it has started, left-click on the Abort button.**

   You can see the progress of the Abort operation in the panel.

Deleting a Board

This operation unconfigures, disconnects, and unassigns a system board from a specific domain. Refer to the `deleteboard`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about deleting a board.

▼ To Delete a Board

1. **Log in to the Sun Management Center console as a member of the `platadmn`, `dmn`*x*`admn`, or `dmn`*x*`rcfg` group, where *x* is the domain where you want to delete a board.**
2. **Right-click on the board you want to delete in the Domain *X* Slot 0 or Slot 1 Boards table.**

   The system displays a menu of board operations.
3. **Choose Delete Board from the menu.**

   The system displays the Delete Board panel.
4. **Ensure that you have chosen the board you want to delete.**
5. **Select the appropriate radio button for the state in which you want the board to be after the board is deleted.**
6. **Left-click on the Delete Board button.**

   You can see the progress of the Delete Board operation in the panel.
7. **If you want to abort the operation after it has started, left-click on the Abort button.**

   You can see the progress of the Abort operation in the panel.

Moving a Board

This operation moves a board from one domain to another. The board you are moving must be in the ACL of both affected domains. Refer to the `moveboard`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about moving a board.

▼ To Move a Board

1. **Log in to the Sun Management Center console.**

   If you log in as a member of the `platadmn` group, you do not need additional access privileges. If you log in as a member of the `dmn`*x*`admn` or `dmn`*x*`rcfg` group, where *x* is the domain, you must have access to both affected domains.

2. **Right-click on the board you want to move in the Domain *X* Slot 0 or Slot 1 Boards table.**

   The system displays a menu of board operations.

3. **Choose Move Board from the menu.**

   The system displays the Move Board panel.

4. **After ensuring that you have chosen the board you want to move, choose the domain to which to move the board.**

5. **Select the appropriate radio button for the state in which you want the board to be after the board is moved.**

6. **Left-click on the Move Board button.**

   You can see the progress of the Move Board operation in the panel.

7. **If you want to abort the operation after it has started, left-click on the Abort button.**

   You can see the progress of the Abort operation in the panel.

Powering on a Board

This operation powers on a board for a specific domain. Refer to the `poweron`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about powering on a board.

▼ To Power on a Board

Before you power on a board, the power state must be `OFF`.

1. **Log in to the Sun Management Center console as a member of the `platadmn`, `platoper`, `dmn`*x*`admn`, or `dmn`*x*`rcfg` group, where *x* is the domain where you want to power on a board.**

2. **Right-click on the board you want to power on in the one of the Domain *X* View tables.**

   The system displays a menu of board operations.

3. **Choose Power On from the menu.**

   The system displays the Power On panel.

4. **After ensuring that you have chosen the correct board to power on, left-click on the OK button.**

Powering off a Board

This operation powers off a board for a specific domain. Refer to the `poweroff`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about powering off a board.

▼ To Power off a Board

Before you power off a board, the power state must be `ON`.

1. **Log in to the Sun Management Center console as a member of the `platadmn`, `platoper`, `dmn`*x*`admn`, or `dmn`*x*`rcfg` group, where *x* is the domain where you want to power off a board.**

2. **Right-click on the board you want to power off in the Domain *X* Slot 0 or 1 Boards table.**

   The system displays a menu of board operations.

3. **Choose Power Off from the menu.**

   The system displays the Power Off panel.

4. **After ensuring that you have chosen the correct board to power off, left-click on the OK button.**

Testing a Board

This operation tests a board in a specific domain. Refer to the `rcfgadm`(1M) command, option `-t`, in the *System Management Services (SMS) Reference Manual* for more information about testing a board.

▼ To Test a Board

1. **Log in to the Sun Management Center console as a member of the `dmn`*x*`admn` group, where *x* is the domain where you want to test a board.**
2. **Right-click on the board you want to test in the Domain *X* View table.**

   The system displays a menu of board operations.
3. **Choose Test Board from the menu.**

   The system displays the Test Board panel.
4. **Select the radio button beside the test option you want.**
5. **(Optional) If you want to force the test, select the Use Force Option check box.**

   If you do choose this option, note the caution on the menu. If you do not want to force the test, be sure that the Use Force Option check box is left unchecked.
6. **After ensuring that you have chosen the correct board to test and have the correct options checked, left-click on the Start Test button.**

   You can see the progress of the Test Board operation in the panel.
7. **If you want to abort the operation after it has started, left-click on the Abort button.**

   You can see the progress of the Abort operation in the panel.

Adding or Changing a Domain Tag

This operation adds the specified domain tag name to a domain or changes the domain tag name. Only one name tag can be assigned to a domain, and it must be unique across all domains. Refer to the `addtag`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about adding or changing a domain tag.

▼ To Add or Change a Domain Tag

1. **Log in to the Sun Management Center console as a member of the `platadmn` group.**
2. **Right-click on the Domain (`A`–`R`) in the Domain *X* Info table for which you want to add or change a tag.**

   The system displays a menu of domain operations.

3. **Choose Add Tag from the menu.**

   The system displays the Add Tag panel.

4. **After ensuring that you have chosen the correct domain for which you want to add a tag, type the new domain tag name in the text box under Set new tag:**

5. **Left-click on the OK button.**

Deleting a Tag

This operation removes the domain tag name associated with the domain. Refer to the `deletetag`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about deleting a tag.

▼ To Delete a Domain Tag

1. **Log in to the Sun Management Center console as a member of the `platadmn` group.**

2. **Right-click on the Domain (`A`–`R`) in the Domain *X* Info table for which you want to delete a tag.**

   The system displays a menu of domain operations.

3. **Choose Delete Tag from the menu.**

   The system displays the Delete Tag panel.

4. **After ensuring that you have chosen the correct domain for which you want to delete a tag, left-click on the OK button.**

Changing the Keyswitch Position

This operation changes the position of the virtual keyswitch for a domain to one of these specified values:

- On
- Off
- Diagnostics
- Secure
- Standby

Refer to the `setkeyswitch`(1M) command in *System Management Services (SMS) Reference Manual* for more information about the virtual keyswitch and definitions of the positions.

▼ To Change the Keyswitch Position

1. **Log in to the Sun Management Center console as a member of the `dmn`*x*`admn` group, where *x* is the domain for which you want to change the keyswitch position.**
2. **Right-click on the Domain (`A`–`R`) in the Domain *X* Info table for which you want to change the keyswitch position.**

   The system displays a menu of domain operations.
3. **Choose Keyswitch from the menu.**

   The system displays the Keyswitch panel.
4. **Select the radio button next to the position you want to set for the domain.**

Caution – If you attempt to change a keyswitch position directly from On to Off, the operation fails, and you do *not* receive a message that it fails. If you want to change a keyswitch position from On to Off, go through Standby first. In other words, go from On to Standby andthen from Standby to Off.

5. **Left-click on the OK button.**

Setting Up or Changing the Access Control List

This operation sets up or changes the Access Control List (ACL) for the domain. The default for an ACL for a domain is empty. You must set up the ACL list for a domain initially and put in all boards you want to assign to the domain. You cannot assign a board to a domain if the board is not in the domain's ACL. Refer to the `setupplatform`(1M) command in *System Management Services (SMS) Reference Manual* for more information about setting up or changing the ACL.

Note – The Access Control List in the Sun Management Center GUI is the same list that is called the Available Component List in the Systems Management Services (SMS) `setupplatform`(1M) command.

▼ To Set Up or Change the Access Control List

1. **Log in to the Sun Management Center console as a member of the `platadmn` group.**
2. **Right-click on the Domain (`A`–`R`) in the Domain *X* Info table for which you want to set up or change the Access Control List.**

   The system displays a menu of domain operations.
3. **Choose Access Control List from the menu.**

   The system displays the Access Control List panel.
4. **Perform one of these steps:**
   - **If you want to add a slot to the ACL for a domain, choose the slot from the left list box (Add To ACL List:), and click Add.**
   - **If you want to remove a slot from the ACL for a domain, choose the slot from the right list box (Slots in ACL:), and click Remove.**
5. **When you have finished making your changes, click the OK button.**

Resetting a Domain

This operation resets all the CPU ports of a specified domain; in other words, it resets the hardware to a clean state. Refer to the `reset`(1M) command in the *System Management Services (SMS) Reference Manual* for more information about resetting a domain.

▼ To Reset a Domain

To reset a domain, the virtual keyswitch must *not* be in the `secure` position. If the keyswitch is in the `secure` position and you attempt to reset the domain, you receive an error message. See "Changing the Keyswitch Position" on page 191 for instructions on changing the keyswitch position.

1. **Log in to the Sun Management Center console as a member of the `dmn`*x*`admn` group, where *x* is the domain you want to reset.**
2. **Right-click on the Domain (`A`–`R`) in the Domain *X* Info table that you want to reset.**

   The system displays a menu of domain operations.

3. **Choose Reset Domain from the menu.**

   The system displays the Reset Domain panel.

4. **If you are sure this is the domain you want to reset, left-click on the OK button.**

Showing Status

This operation shows the status of the last dynamic reconfiguration command executed for that board or slot. The status display is dynamically updated with the status of the command currently being executed. If the command being executed halts on an error, an error message is displayed. The message "`No status from the agent`" is displayed if no command has been executed, or if a command finishes execution without errors.

Note – You receive a status message if you attempt a dynamic reconfiguration operation that is not permitted. Refer to the *System Management Services (SMS) Release Notes* for any known limitations on dynamic reconfiguration operations in this release.

▼ To Show Status

1. **Log in as a member of the `platadmn`, `platoper`, `dmn`*x*`admn`, or `dmn`*x*`rcfg` group, where *x* is the domain in which you want to show status for a system board or slot.**

2. **Right-click on the system board or slot for which you want to show status in the appropriate board table.**

   The system displays a menu of board or slot operations.

3. **Choose Show Status from the menu.**

   The system displays the Status box showing the execution status of the most current dynamic reconfiguration command, if any. There can be a slight delay (up to a minute) before you receive the most current status.

   For example, if an operation fails, the status shows the type of message in FIGURE 8-6.

   After the configure operation finishes successfully—or if no command has been executed—the status shows the type of message in FIGURE 8-7.

4. **Left-click on the OK button when you are finished looking at the status.**

Possible Reasons for DR Operation Attempts Failing

There are a number of reasons why a dynamic reconfiguration operation attempt might fail:

- User does not have permission to do the operation. In most cases, these operations are disallowed at the console level. However, there are cases (most notably with move board operations) where the operation privilege cannot be determined without the console being queried. In these cases, the user can attempt the operation, but it fails with an error message stating `Generic data request error`.
- User does not have proper authorization for the operation, either because of an inconsistency in group settings between the Sun Management server and agent, or because of problems exceeding the 16-group limit. The operation fails with an error message stating `Insufficient security privilege` or `Not writable error`. See Chapter 3 for more information about security access. Specifically, see "Limit of 16 Group IDs for a User ID" on page 52 for more information about the 16-group limit.
- Network connection to the platform agent is down. The operation fails with an error message stating `Timeout error`.

When you receive any of these messages other than `Timeout error`, refer to the following files for more information:

- `platform.log` and `pdsm.log` files in `/var/opt/SUNWsymon/log`
- `/tmp/pdsm.log` file
- console log file
- `/var/opt/SUNWSMS/`*SMS_version*`/adm/platform/messages`, where *SMS_version* is the running version of SMS, such as `SMS1.4.1`

CHAPTER 8

Dynamic Reconfiguration From the Domain

This chapter describes how to perform dynamic reconfiguration (DR) operations from a Sun Fire high-end or midrange systems domain using the Sun Management Center console and the Dynamic Reconfiguration module. The dynamic reconfiguration operations include such operations as attaching a board to a Sun Fire domain, detaching a board from a Sun Fire domain, and configuring a board on a Sun Fire domain. Some other management operations that you might want to perform either as part of a dynamic reconfiguration operation or as part of another operation are testing a board and powering a board off or on.

Prerequisites

You must be familiar with dynamic reconfiguration operations before you use the Sun Management Center GUI to perform DR operations. Refer to the following documents to learn more about dynamic reconfiguration operations on Sun Fire systems:

- *Sun Fire High-End and Midrange Systems Dynamic Reconfiguration User Guide*, which describes the underlying Sun Fire high-end systems operations for the DR module. For the latest general issues, known limitations, and known bugs about dynamic reconfiguration operations for Sun Fire high-end systems, refer to the *System Management Services (SMS) Release Notes*.
- `cfgadm`(1M) man page, which describes the underlying command for the DR module.

Dynamic Reconfiguration Module

The Dynamic Reconfiguration module enables you to perform dynamic reconfiguration operations on the domain through the attachment points listed in the domain's tables. You can perform the operations in the same manner that you would with the `cfgadm`(1M) command, only using the Sun Management Center console. This module works on Sun Fire high-end and midrange systems.

During the software installation, this module is automatically installed. You must load this module to use it the first time. You can unload the module, if desired. For specific information about loading and unloading Sun Management Center modules, refer to the *Sun Management Center User's Guide*.

FIGURE 8-1 shows the icon for the module—Dynamic Reconfiguration Sun Fire High-End and Midrange Systems—as it is displayed in the host Details window on a domain under the Module Browser tab and Hardware icon. FIGURE 8-1 also shows a sample of a DR data table and the DR commands you can use.

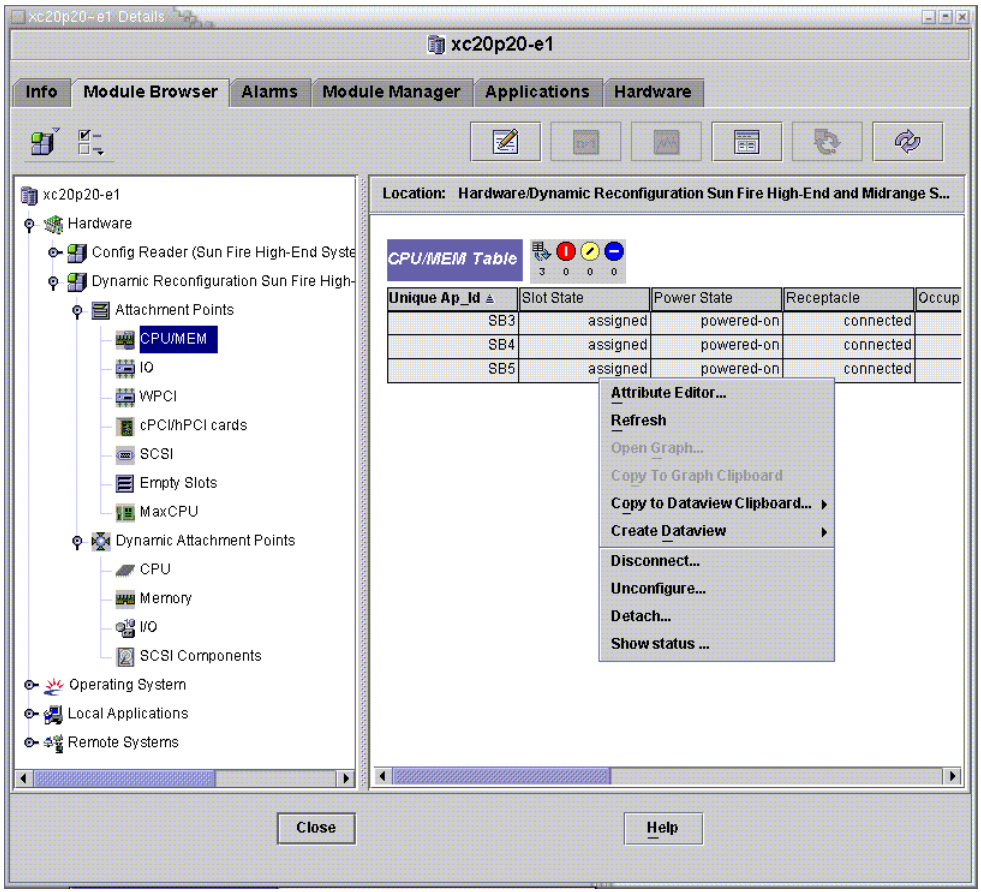


FIGURE 8-1 Dynamic Reconfiguration Features

Dynamic Reconfiguration Properties

Use the dynamic reconfiguration data tables in the right half of a Details window to find the last-known state of a dynamically reconfigurable board or device.

There are two sections of tables:

- Attachment Points – single attachment points for larger assemblies such as system boards and I/O boards
- Dynamic Attachment Points – dynamic attachment points for individual devices and components such as CPU modules, DIMMs, and SCSI drives

Attachment Points

An attachment point is a collective term for a board and its slot. The Attachment Points tables show information about the following types of board slots:

- CPU/MEM
- I/O
- WPCI
- cPCI/hPCI Cards
- SCSI
- Empty Slots
- MaxCPU (Sun Fire high-end systems only)

CPU/MEM

The following table provides a brief description of the attachment point properties for a CPU/memory board (TABLE 8-1):

TABLE 8-1 Attachment Point Properties for a CPU/MEM Board

Property	Description
Unique Ap_Id	Unique logical attachment point ID from `cfgadm`: `SB`*x*, where *x* is the number of the centerplane slot containing the board (`0–17`)
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`, `disconnected`, or `empty`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Board type: `CPU`
Condition	Board condition: `ok`, `unknown`, `failed`, or `unusable`
Information	General board type information; for example, `powered-on`, `assigned`

TABLE 8-1 Attachment Point Properties for a CPU/MEM Board *(Continued)*

Property	Description
When	Date and time when the board was configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID: `/devices/pseudo/dr@0:SB`*x*, where *x* is the number of the centerplane slot containing the board (`0–17`)

I/O

The following table provides a brief description of the attachment point properties for I/O boards (TABLE 8-2). For Sun Fire high-end systems, the table shows properties *only* for hPCI and hPCI+ I/O boards.

TABLE 8-2 Attachment Point Properties for I/O Boards

Property	Description
Unique Ap_Id	Unique logical attachment point ID from `cfgadm`: `IO`*x*, where *x* is the number of the centerplane slot containing the board (`0–17`)
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`, `disconnected`, or `empty`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Board type, such as `PCI_I/O_Boa`, `PCI+_I/O_Bo`, `HPCI`, or `HPCI+`
Condition	Board condition: `ok`, `unknown`, `failed`, or `unusable`
Information	General board type information; for example, `powered-on`, `assigned`

TABLE 8-2 Attachment Point Properties for I/O Boards *(Continued)*

Property	Description
When	Date and time when the board was configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID: `/devices/pseudo/dr/@0:IO`*x*, where *x* is the number of the centerplane slot containing the board (`0–17`)

WPCI

The following table provides a brief description of the attachment point properties for a WPCI board (TABLE 8-3). Refer to the *Sun Fire Link Fabric Administrator's Guide* for more information about the Sun Fire Link system.

TABLE 8-3 Attachment Point Properties for a WPCI Board

Property	Description
Unique Ap_Id	Unique logical attachment point ID from `cfgadm`: `IO`*x*, where *x* is the number of the centerplane slot containing the board (`0–17`)
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`, `disconnected`, or `empty`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Board type: `WPCI`
Condition	Board condition: `ok`, `unknown`, `failed`, or `unusable`
Information	General board type information; for example, `powered-on`, `assigned`

TABLE 8-3 Attachment Point Properties for a WPCI Board *(Continued)*

Property	Description
When	Date and time when the board was configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID: `/devices/pseudo/dr/@0:IO`*x*, where *x* is the number of the centerplane slot containing the board (`0–17`)

cPCI/hPCI Cards

The following table provides a brief description of the attachment point properties for the cPCI/hPCI card (TABLE 8-4). For Sun Fire high-end systems, the table shows properties *only* for hPCI cards.

Note – A SCSI card is also considered to be a cPCI/hPCI card by the system. Configured SCSI cards appear in two tables in the DR module: the SCSI table and the cPCI/hPCI table. When the SCSI card is unconfigured, it only appears in the cPCI/hPCI table, because at that point the card type is unknown to the system.

TABLE 8-4 Attachment Point Properties for a cPCI/hPCI Card

Property	Description
Unique Ap_Id	Unique logical attachment point ID from `cfgadm`, such as `pci_pci0:e05b1slot0` or `pcisch2:e04b1slot3`
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`, `disconnected`, or `empty`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Type, such as `pci-pci/hp`
Condition	Board condition: `ok`, `unknown`, `failed`, or `unusable`

TABLE 8-4 Attachment Point Properties for a cPCI/hPCI Card *(Continued)*

Property	Description
Information	General information; for example, `unknown`
When	Date and time when the board was configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID, such as `/devices/pci@9d,7000000:e04b1slot3`

SCSI

TABLE 8-5 provides a brief description of the attachment point properties for a SCSI.

Note – When you unconfigure a SCSI card from this SCSI table, you no longer see the card entry in the table. A SCSI card is also considered to be a cPCI/hPCI card by the system, and configured SCSI cards appear in two tables in the DR module: the SCSI table and the cPCI/hPCI table. When the card is unconfigured, it only appears in the cPCI/hPCI table, because at that point the card type is unknown to the system.

TABLE 8-5 Attachment Point Properties for a SCSI

Property	Description
Unique Ap_Id	Unique logical attachment point ID from `cfgadm`, such as `pcisch3:e04b1slot2`
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`, `disconnected`, or `empty`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Type, such as `scsi/hp`
Condition	Component condition: `ok`, `unknown`, `failed`, or `unusable`

TABLE 8-5 Attachment Point Properties for a SCSI *(Continued)*

Property	Description
Information	General component information, such as `unknown`
When	Date and time when the component was configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID, such as `/devices/pci@9d,600000:e04b1slot2`

Empty Slots

The following table provides a brief description of the attachment point properties for empty slots (TABLE 8-6):

TABLE 8-6 Attachment Point Properties for Empty Slots

Property	Description
Unique Ap_Id	Unique logical attachment point ID from `cfgadm`, such as `pcisch0:e17b1slot1`
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`, `disconnected`, or `empty`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Board type: `unknown`
Condition	Component condition: `ok`, `unknown`, `failed`, or `unusable`
Information	General board type information: `assigned` or `unknown`

TABLE 8-6 Attachment Point Properties for Empty Slots *(Continued)*

Property	Description
When	Date and time when the slot was configured into the domain
Busy	`n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID, such as `/devices/pci@9d,6000000:e17b1slot1`

MaxCPU

The following table provides a brief description of the attachment point properties for a MaxCPU board (TABLE 8-7). This table appears *only* for Sun Fire high-end systems.

TABLE 8-7 Attachment Point Properties for MaxCPU Board on Sun Fire High-End Systems

Property	Description
Unique Ap_Id	Unique logical attachment point ID from `cfgadm` for the MaxCPU board
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`, `disconnected`, or `empty`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Board type: `MCPU`
Condition	Board condition: `ok`, `unknown`, `failed`, or `unusable`
Information	General board type information; for example, `powered-on`, `assigned`
When	Date and time when the board was configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID for the MaxCPU board

Dynamic Attachment Points

Dynamic attachment points refer to components on the system boards, such as CPUs, memory, and I/O devices. The dynamic attachment points are created by the DR driver. Refer to the `dr`(7D) man page in the Sun Solaris Reference Manual Collection for more details about the DR driver. The Dynamic Attachment Point tables show information about the following types of components:

- CPU
- Memory
- I/O
- SCSI Components

CPU Components

The following table provides a brief description of the dynamic attachment point properties for CPU components (TABLE 8-8):

TABLE 8-8 Dynamic Attachment Point Properties for CPU Components

Property	Description
Unique Ap_Id	Unique logical attachment point identifier from `cfgadm`: `SB`*x*`::cpu`*y*, where *x* is the number of the centerplane slot containing the board (`0–17`) and *y* is the CPU number (0–3)
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Component type: `cpu`
Condition	Component condition: `ok`, `unknown`, or `failed`
Information	General CPU type information: for example, `cpuid 2`, `speed 750 MHz`, `ecache 8 MBytes`. Refer to the `cfgadm_sbd`(1M) man page in the Solaris Reference Manual Collection for descriptions of the fields.

TABLE 8-8 Dynamic Attachment Point Properties for CPU Components *(Continued)*

Property	Description
When	Date and time when the components were configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID: `/devices/pseudo/dr@0:SB`*x*`::cpu`*y*, where *x* is the number of the centerplane slot containing the board (`0–17`), and *y* is the CPU number (0–3)

Memory Components

The following table provides a brief description of the dynamic attachment point properties for memory components (TABLE 8-9):

TABLE 8-9 Dynamic Attachment Point Properties for Memory Components

Property	Description
Unique Ap_Id	Unique logical attachment point identifier from `cfgadm`: such as `SB`*x*`::memory`, where *x* is the number of the centerplane slot containing the board (`0–17`)
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `unconfigured` or `configured`
Type	Component type: `memory`
Condition	Component condition: `ok`, `unknown`, or `failed`
Information	General information for the memory type, as appropriate; for example, `base address 0x0, 2097 152 KBytes total, 420920 KBytes permanent`. Refer to the `cfgadm_sbd`(1M) man page in the Solaris Reference Manual Collection for descriptions of the fields.

TABLE 8-9 Dynamic Attachment Point Properties for Memory Components *(Continued)*

Property	Description
When	Date and time when the components were configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID: `/devices/pseudo/dr@0:SB`*x*`::memory`, where *x* is the number of the centerplane slot containing the board (`0–17`)

I/O Components

The following table provides a brief description of the dynamic attachment point properties for I/O components (TABLE 8-10):

TABLE 8-10 Dynamic Attachment Point Properties for I/O Components

Property	Description
Unique Ap_Id	Unique logical attachment point identifier from `cfgadm`: `NO.IB`*x*`::pci`*y*, where *x* is the number of the centerplane slot containing the board (`0–17`) and *y* is the PCI number (`0–3`)
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Component type: `io`
Condition	Component condition: `ok`, `unknown`, or `failed`
Information	General information for the `io` type; for example, `device/pci@23d,700000 referenced`. Refer to the `cfgadm_sbd`(1M) man page in the Solaris Reference Manual Collection for descriptions of the fields.

TABLE 8-10 Dynamic Attachment Point Properties for I/O Components *(Continued)*

Property	Description
When	Date and time when the components were configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID: `/devices/pseudo/dr@0:IO`*x*`::pci`*y*, where *x* is the number of the centerplane slot containing the board (`0–17`) and *y* is the PCI number (`0–3`)

SCSI Components

The following table provides a brief description of the dynamic attachment point properties for SCSI components (TABLE 8-11):

TABLE 8-11 Dynamic Attachment Point Properties for SCSI Components

Property	Description
Unique Ap_Id	Unique logical attachment point identifier from `cfgadm` for the SCSI component
Slot State	Slot availability state: `assigned` or `unassigned`
Power State	Power state: `powered-on` or `powered-off`
Receptacle	Receptacle state: `connected`
Occupant	State of the occupant, which is the combination of the board and its attached devices: `configured` or `unconfigured`
Type	Component type: `disk`, `CD-ROM`, or `tape`
Condition	Component condition: `ok`, `unknown`, or `failed`
Information	General information for the type
When	Date and time when the components were configured into the domain
Busy	`y` (yes) indicates a state, availability, or condition change operation is in progress; `n` (no) indicates *no* state, availability, or condition change operation is in progress
Phys_Id	Physical attachment point ID for the SCSI component

Dynamic Reconfiguration Operations From the Domain

This section describes how to perform dynamic reconfiguration operations from the domain from a Sun Fire domain using the Sun Management Center Dynamic Reconfiguration module. The dynamic reconfiguration operations from the domain are based on the `cfgadm`(1M) command. Refer to the `cfgadm`(1M) command in the Sun Solaris Reference Manual Collection for more information about the various `cfgadm` options.

There are both logical and physical aspects of Sun Fire domains:

- The *logical* domain is the set of slots—either containing or not containing system boards—grouped as belonging to a specific domain.
- The *physical* domain is the set of boards in the logical domain that are physically interconnected.

A slot—whether occupied or empty—can be a member of a logical domain, while not being part of a physical domain. After boot, a board or empty slot can be assigned to or unassigned from a logical domain. A board becomes part of a physical domain when the Solaris Operating System requests it. An empty slot is never part of a physical domain.

The following dynamic reconfiguration and other management operations from the domain are described in this section of the supplement:

- Assigning a board
- Unassigning a board
- Attaching a board
- Detaching a board
- Connecting a board
- Disconnecting a board
- Configuring a board or components
- Unconfiguring a board, components, or memory
- Powering on a board
- Powering off a board
- Testing a board
- Showing status

cfgadm Options Supported

TABLE 8-12 describes the cfgadm(1M) options that are supported by the Dynamic Reconfiguration module. Refer to the cfgadm(1M) command in the Sun Solaris Reference Manual Collection for more information about the various cfgadm options.

TABLE 8-12 cfgadm Options Supported by Dynamic Reconfiguration

cfgadm Option	Sun Management Center GUI Menu Item	Description
-c configure	Attach	Attach a board
-c disconnect	Detach	Detach a board
-x assign	Assign	Assign a board
-c disconnect -x unassign	Unassign	Unassign a board
-c connect	Connect	Connect a board
-c disconnect	Disconnect	Disconnect a board
-c configure	Configure	Configure a board or another component
-c unconfigure	Unconfigure	Unconfigure a board or another component
-x poweron	Power On	Power on a board
-x poweroff	Power Off	Power off a board
-t	Test	Test a board

Showing Domain Information From the Domain

Before you perform any dynamic reconfiguration operations from a Sun Fire domain, look at the Attachment Points and Dynamic Attachment Points tables in the Dynamic Reconfiguration module under Hardware.

Ensure Boards Are in a Domain's ACL

Before you can perform certain dynamic reconfiguration operations on a system board from a domain, the board must be in the domain's ACL.

Assigning a Board

This operation adds a system board to the logical domain.

▼ To Assign a Board

1. **Log in as a member of the `esadm` group to the domain to which you want to assign a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to assign in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Assign from the menu.**

   The system displays the Assign confirmation box with this message:

```
Assign a slot.
Are you sure you want to assign?
```

4. **Left-click on the OK button to assign the chosen board. Otherwise, left-click on the Cancel button to cancel the assign operation.**

Unassigning a Board

This operation removes a system board from the logical domain.

▼ To Unassign a Board

1. **Log in as a member of the `esadm` group to the domain from which you want to unassign a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to unassign in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Unassign from the menu.**

   The system displays the Unassign confirmation box with this message:

```
Unassign.
Are you sure you want to unassign?
```

4. **Left-click on the OK button to unassign the chosen board. Otherwise, left-click on the Cancel button to cancel the unassign operation.**

Attaching a System Board

This operation attaches the specified system board to the Solaris Operating System running in the specified domain. The process of attaching a system board involves a series of automatic steps performed by the Dynamic Reconfiguration module:

- Assigning the system board to the logical domain.
- Powering on the system board.
- Testing the system board.
- Connecting the system board to the domain physically through the system controller.
- Configuring the components on the system board in the Solaris Operating System running on the domain, so that applications running on the domain can use the components.

Some of the automatic steps are not performed, depending on the initial state of the system board and other components or whether hardware problems prohibit the successful completion of the attach operation.

▼ To Attach a System Board

1. **Log in as a member of the `esadm` group to the domain to which you want to attach a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to attach in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Attach from the menu.**

   The system displays the Attach Confirmation box with this message:

```
Attach a board.
Attach will connect and configure the selected board.
Are you sure you want to attach?
```

4. **Left-click on the OK button to connect and configure the chosen board. Otherwise, left-click on the Cancel button to cancel the attach operation.**

Detaching a System Board

This operation detaches the specified system board from the Solaris Operating System running in the specified domain. The process of detaching a system board involves a series of automatic steps performed by the Dynamic Reconfiguration module:

- Unconfiguring the components on the system board from the Solaris Operating System running on the domain, so that applications running on the domain can no longer use the components.
- Communicating with the system controller to physically disconnect the system board from the domain. After this step, the system board is no longer part of the physical domain, although it is still part of the logical domain.
- Powering off the system board.

Some of the automatic steps are not performed, depending on the initial state of the system board and other components or whether hardware problems prohibit the successful completion of the detach operation.

▼ To Detach a System Board

1. **Log in as a member of the `esadm` group to the domain from which you want to detach a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to detach in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Detach from the menu.**

   The system displays the Detach confirmation box (FIGURE 8-2).

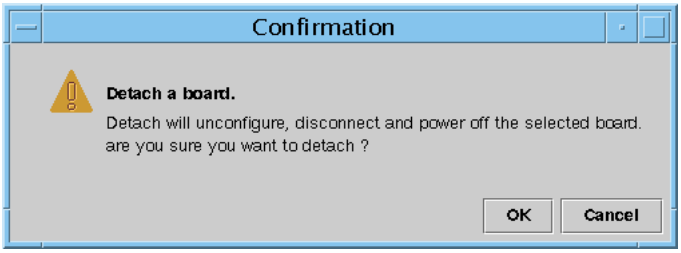


FIGURE 8-2 Detach Confirmation Box

4. **Left-click on the OK button to unconfigure, disconnect, and power off the chosen board. Otherwise, left-click on the Cancel button to cancel the detach operation.**

Connecting a Board

This operation performs the following steps:

- Assigns the system board to a logical domain if the board is available and is not part of the logical domain
- Powers on the system board
- Tests the system board
- Connects the system board to the physical domain

▼ To Connect a System Board

1. **Log in as a member of the `esadm` group to the domain in which you want to connect a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to connect in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Connect from the menu.**

   The system displays the Connect confirmation box with this message:

```
Connect
Are you sure you want to connect?
```

4. **Left-click on the OK button to connect the chosen board. Otherwise, left-click on the Cancel button to cancel the connect operation.**

Note – Sun Fire high-end systems allow you to click on an Abort button to stop the operation prematurely.

Disconnecting a Board

This operation performs the following steps:

- Unconfigures the system board, if necessary
- Disconnects the system board from the physical domain

▼ To Disconnect a System Board Other Than a SCSI Board

1. **Log in as a member of the `esadm` group to the domain in which you want to disconnect a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to disconnect in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Disconnect from the menu.**

   The system displays the Disconnect panel (FIGURE 8-3).

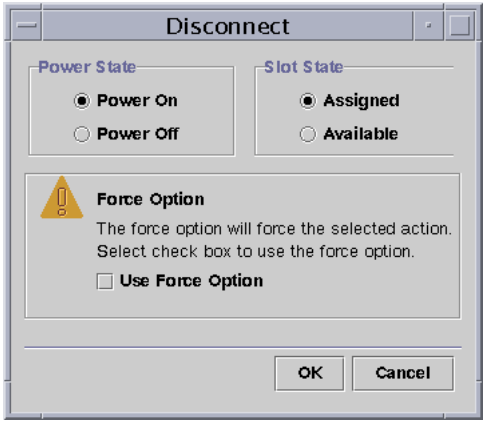


FIGURE 8-3 Disconnect Panel

4. **Select the radio button for the Power State option you want the board to be in *after* it is disconnected.**
5. **Select the radio button for the Slot State option you want the board to be in *after* it is disconnected.**
6. **Select Use Force Option to force the disconnect operation. Otherwise, leave the Use Force Option check box unselected.**
7. **Left-click on the OK button to disconnect the chosen board. Otherwise, left-click on the Cancel button to cancel the disconnect operation.**

Note – Sun Fire high-end systems allow you to click on an Abort button to stop the operation prematurely.

▼ To Disconnect a SCSI Board

Log in as a member of the `esadm` group to the domain in which you want to disconnect a SCSI board.

8. **Right-click on the Unique Ap_Id for the SCSI board you want to disconnect in the appropriate board table.**

   The system displays a menu of board operations.

9. **Choose Disconnect from the menu.**

   The system displays the Disconnect panel with this message:

```
Disconnect
Are you sure you want to continue?
```

10. **Left-click on the OK button to disconnect the SCSI board. Otherwise, left-click on the Cancel button to cancel the disconnect operation.**

Configuring a Board, a Component, or Memory

This operation performs the following steps:

- Connects the system board, if necessary.
- Configures a system board or a component or memory on a board into the Solaris Operating System running in the domain, so that applications running on the domain can use the board or the component or memory on the board.

▼ To Configure a System Board, a Component, or Memory

1. **Log in as a member of the `esadm` group to the domain in which you want to configure a system board, a component, or memory.**
2. **Right-click on the Unique Ap_Id for the system board, component, or memory you want to configure in the appropriate board table.**

   The system displays a menu of board, component, or memory operations.
3. **Choose Configure from the menu.**

   The system displays the Configure confirmation box with this message:

```
Configure
Are you sure you want to configure?
```

4. **Left-click on the OK button to configure the chosen board, component, or memory. Otherwise, left-click on the Cancel button to cancel the configure operation.**

Note – Sun Fire high-end systems allow you to click on an Abort button to stop the operation prematurely.

Unconfiguring a Board, a Component, or Memory

This operation unconfigures a system board, a component on a board, or memory so that applications running on the domain can no longer use the board, component, or memory.

▼ To Unconfigure a System Board or a Component

1. **Log in as a member of the `esadm` group to the domain in which you want to unconfigure a system board or component.**
2. **Right-click on the Unique Ap_Id for the system board or component you want to unconfigure in the appropriate board table.**

   The system displays a menu of board or component operations.
3. **Choose Unconfigure from the menu.**

   The system displays the Unconfigure panel with this message:

```
Select Force Option
The force option will force the selected action.
Select check box to use the force option.
```

4. **Select Use Force Option to force the unconfigure operation. Otherwise, leave the Use Force Option check box unselected.**
5. **Left-click on the OK button to unconfigure the chosen board or component. Otherwise, left-click on the Cancel button to cancel the unconfigure operation.**

Note – Sun Fire high-end systems allow you to click on an Abort button to stop the operation prematurely.

▼ To Unconfigure Memory

1. **Log in as a member of the `esadm` group to the domain in which you want to unconfigure memory.**
2. **Right-click on the Unique Ap_Id for the memory component you want to unconfigure in the Memory component table.**

   The system displays a menu of memory component operations.
3. **Choose Unconfigure from the menu.**

   The system displays the Unconfigure Memory panel (FIGURE 8-4).

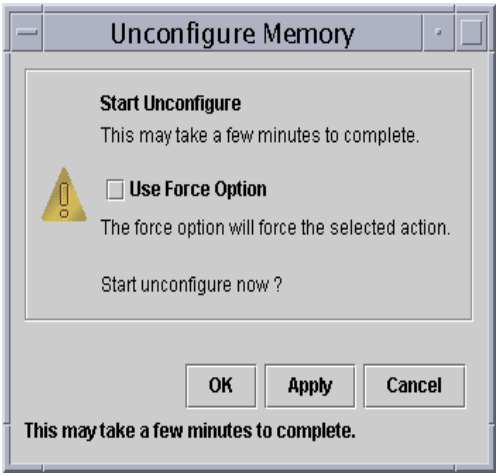


FIGURE 8-4 Unconfigure Memory Panel

4. **Choose Use Force Option to force the unconfigure operation. Otherwise, leave the Use Force Option check box unselected.**
5. **Left-click on the OK button to start unconfiguring memory. Otherwise, left-click on the Cancel button to cancel the unconfigure operation.**

Powering on a Board

This operation powers on a system board. The board must be assigned to the logical domain, but *not* be in the physical domain.

▼ To Power on a Board

1. **Log in as a member of the `esadm` group to the domain in which you want to power on a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to power on in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Power On from the menu.**

   The system displays the Power On confirmation box with this message:

```
Power On a board.
Are you sure you want to power on?
```

4. **Left-click on the OK button to power on a system board. Otherwise, left-click on the Cancel button to cancel the power on operation.**

Powering off a Board

This operation powers off a system board. The board must be assigned to the logical domain, but *not* be in the physical domain.

▼ To Power off a Board

1. **Log in as a member of the `esadm` group to the domain in which you want to power off a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to power off in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Power Off from the menu.**

   The system displays the Power Off confirmation box with this message:

```
Power Off a board.
Are you sure you want to power off?
```

4. **Left-click on the OK button to power off a system board. Otherwise, left-click on the Cancel button to cancel the power off operation.**

Testing a Board

This operation tests system boards. The board must be assigned to the logical domain and powered on, but *not* be in the physical domain.

▼ To Test a Board

1. **Log in as a member of the `esadm` group to the domain in which you want to test a system board.**
2. **Right-click on the Unique Ap_Id for the system board you want to test in the appropriate board table.**

   The system displays a menu of board operations.
3. **Choose Test from the menu.**

   The system displays the Test Board panel (FIGURE 8-5).

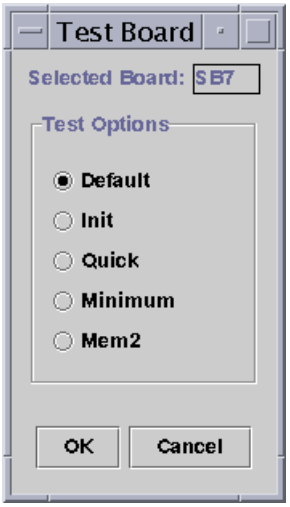


FIGURE 8-5 Test Board Panel

4. **Select the radio button for the Test Option you want.**
5. **After ensuring that you have chosen the correct board to test and have the correct option checked, left-click on the OK button to start the test. Otherwise, left-click on the Cancel button to cancel the test.**

Note – Sun Fire high-end systems allow you to click on an Abort button to stop the operation prematurely.

Showing Status

This operation shows the status of the last dynamic reconfiguration command executed for that board or slot. The status display is dynamically updated with the status of the command currently being executed. If the command being executed halts on an error, an error message from the `cfgadm`(1M) program is displayed. The message "`No status from the agent`" is displayed if no command has been executed, or if a command finishes execution without errors.

▼ To Show Status

1. **Log in as a member of the `esadm` group to the domain in which you want to show status for a system board or slot.**
2. **Right-click on the Unique Ap_Id for the system board or slot for which you want to show status in the appropriate board table.**

   The system displays a menu of board or slot operations.
3. **Choose Show Status from the menu.**

   The system displays the Status box showing the execution status of the most current dynamic reconfiguration command, if any.

   For example, if an operation fails, the status shows this type of message (FIGURE 8-6):

FIGURE 8-6 Unsuccessful Domain DR Operation in Show Status

After the configure operation finishes successfully—or if no command has been executed—the status shows this message (FIGURE 8-7):

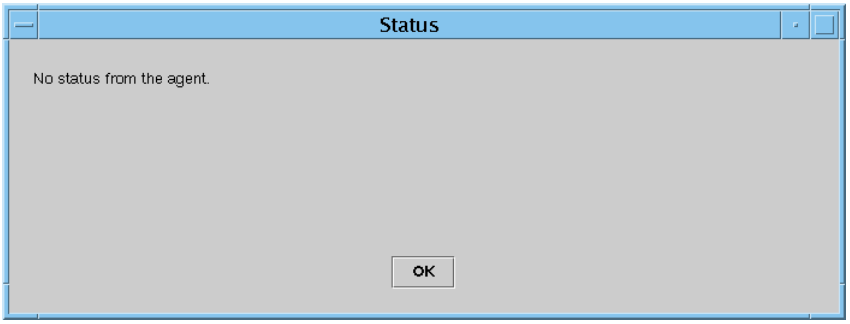


FIGURE 8-7 Successful Domain DR Operation in Show Status

4. **Left-click on the OK button when you are finished looking at the status.**

APPENDIX **A**

Installation and Setup Using the CLI

Installing the Sun Fire High-End Systems Add-On Software Using the CLI

Install the Sun Management Center base software and Sun Fire high-end systems add-on software on the Sun Management Center Server, the system controllers, the Sun Fire high-end systems domains, and the console.

Caution – If your system controller is a CP2140 board, you must reinstall system controller agent software on both the system controllers *and* the Sun Management Center server to support the CP2140 board.

For detailed instructions about installing the software, refer to "Installing on the Solaris Platform Using `es-inst`" in Appendix B of the *Sun Management Center Installation and Configuration Guide*.

You come to a place in the install process where it lists each add-on product, and asks if you want to install the product. The two products that are specific to Sun Fire high-end systems are:

- Sun Fire High-End Systems Monitoring
- Dynamic Reconfiguration for Sun Fire High-End and Midrange Systems platforms (if you want to use dynamic reconfiguration on a domain)

When the installation process completes, a list of installed products is displayed. You are asked whether you want to set up the Sun Management Center components.

You can install the Sun Fire high-end or midrange systems Platform Agents on any machine where you have Sun Management Center software running.

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

Setting Up the Sun Fire High-End Systems Add-On Software Using the CLI

Set up the Sun Management Center base software and Sun Fire high-end systems add-on software on the Sun Management Center Server, the system controllers, the Sun Fire high-end systems domains, and the console.

For detailed instructions about setting up the base software, refer to "Setting Up on the Solaris Platform Using `es-setup`" in Appendix B of the *Sun Management Center Installation and Configuration Guide*.

If the base product setup succeeded and you chose any add-on products during installation, the setup process runs the setup script for each add-on product you chose. No extra setup is required for Sun Fire high-end systems add-on software for the Sun Management Center server or the console. Extra setup *is* required, however, for Sun Fire high-end systems add-on software on system controllers and Sun Fire high-end systems domains.

Setting Up System Controllers

This section describes how to install and set up the Sun Management Center software on a system controller. You must install and set up this software on both system controllers; the procedure is the same for both. If you are reinstalling software on a system controller, be sure to uninstall the Sun Management Center software on the system controller, before you reinstall (see "Uninstalling Software Using the CLI" on page 33).

When the Sun Fire high-end systems Platform Setup starts, the system displays this message.

```
------------------------------------------------------------------------
Starting Sun Management Center Sun Fire High-End Systems Platform Setup
------------------------------------------------------------------------

....

Is this Sun Fire High-End Systems platform configured with a spare SC? [y|n|q]
```

1. **Type `y` for yes if your Sun Fire high-end system is configured with a spare system controller, or type `n` for no if there is no spare system controller.**

   If you choose yes, the system displays this message.

```
Enter the alternate SC hostname (not main_hostname) for this platform.
Alternate SC hostname: alternate_hostname
```

2. **If you have a spare system controller, type in the host name for the spare (or alternative) system controller.**

   The system displays this message.

```
The Platform agent will create a composite object that includes Sun Management
Center agents loaded on Sun Fire High-End Systems domains.

The default port to be checked for Sun Fire High-End Systems Domains is: 161.

Do you want to change the port that will be checked? [y|n|q]
```

Caution – Specify the *same* port number that you specify when setting up the domain agents on *all* Sun Fire high-end systems domains. Otherwise, the Sun Fire high-end systems composite will *not* work.

3. **Type `n` to *not* change the default port or `y` to change the default port. If you type `y`, you are prompted to specify a new default port number; type in the port number.**

   The Sun Management Center Sun Fire High-End Systems System Controller Agent Setup starts when you see this message:

```
--------------------------------------------------------------------------
Starting Sun Management Center Sun Fire High-End Systems System Controller Agent
Setup
--------------------------------------------------------------------------
```

The system displays one of the following messages depending on the machine you are using for an SC.

- If the system detects you are using a CP1500, you receive this message:

```
Proper setup requires loading the drivers i2c, i2cadc, i2cgpio.
This will enable us to collect voltage and temperature data for the CP1500.
Please refer to the SPARCengine ASM Reference Manual for more information.

Would you like to continue? [y|n|q]
```

Note – The `es-startup` script loads the drivers automatically on the CP1500 if you type **`y`** for yes to continue**.**

- If the system detects you are using a CP2140, you receive this message:

```
Proper setup requires loading the Solaris Management Console software and
patches for CP2140 support.
This will enable us to collect temperature data for the CP2140.

Would you like to continue? [y|n|q]
```

- If the system does *not* detect that you are using a CP1500 or a CP2140, you receive this message:

```
Error, an unsupported SC type has been detected.
SC is neither CP1500 nor CP2140.

Would you like to continue? [y|n|q]
```

4. **Type `y` to continue the system controller agent setup. Type n to not continue or q to quit.**

   If you answer **`y`** to continue, the system completes the system controller agent setup and displays this message.

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

5. **Type `y` to start the Sun Management Center base agent, Sun Fire high-end systems platform agent and system controller agent now. Type `n` to *not* start this software now.**

Setting Up Sun Fire High-End Systems Domains

This section describes how to set up the Sun Fire high-end systems domain agents. The procedure is the same for setting up each domain you want to monitor. If you are reinstalling Sun Management Center software on a domain, be sure you uninstall the Sun Management Center software on a domain, before you reinstall (see "Uninstalling Software Using the CLI" on page 33).

When the Sun Fire High-End Systems Domain Setup starts, the system displays this message.

```
------------------------------------------------------------------
Starting Sun Management Center Sun Fire High-End Systems Domain Setup
------------------------------------------------------------------

....

The Domain Config Reader for Sun Fire High-End Systems will collect
configuration and status information for your tape drives at regular polling
intervals. This can be disruptive to tape drive controllers that do not allow
concurrent access.

Would you like to disable this feature? [y|n|q]
```

1. **Type `y` to disable polling for your tape drives, or type `n` to *not* disable tape drive polling.**

   If your tape drive controllers do not allow concurrent access, you will want to disable this feature.

   Either way, the system displays this message.

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

2. **Type `y` for yes to start the Sun Management Center base agent and Sun Fire high-end systems domain agent now. Type `n` to *not* start this software now.**

Glossary

This list defines abbreviations and acronyms in this document and in the Sun Management Center console for Sun Fire high-end system–specific modules.

A

ABUS address bus

AC alternating current input from the power supply

ACL Access Control List *in the Sun Management Center GUI, is the same as* Available Component List *in System Management Services (SMS)*

AMX address multiplexer ASIC

AR address register ASIC

ASIC application-specific integrated circuit

ASM Advanced System Monitoring

ASR Automatic System Recovery

AXQ system address controller ASIC

C

C Celsius

CBH console bus hub

CLI command-line interface

COD Capacity-on-Demand option

`codd` Capacity-on-Demand Daemon

CP centerplane (Sun Fireplane interconnect)

CPU central processing unit

CS or CSB centerplane support board

CSN chassis serial number

D

DARB data arbiter ASIC

DAT digital audio tape

DBUS data bus

DC direct current from the facility power source

`dca` Domain Configuration Administration

DCR Domain Config Reader

Dcache data cache

DDS digital data storage

DIMM dual inline memory module

DMX data multiplexer ASIC

DNS Domain Name Service

DR dynamic reconfiguration

`dsmd` Domain Service Monitoring Daemon

DX data extract ASIC

x`/dxs` Domain X Server, where *x* is domain a–r

E

Ecache external cache

ECC error-correcting code

`efe` Event Front-end Daemon

`efhd` Error and Fault Handling Daemon

`elad` Event Log Access Daemon

`erd` Event Reporting Daemon

`esmd` Environmental Status Monitoring Daemon

EX or EXB expander board

F

`fomd` Failover Management Daemon

`frad` FRU Access Daemon

FRU field-replaceable unit

FT fan tray

G

GUI graphical user interface

H

HK housekeeping

HPCI, hPCI, or hsPCI hot-swap PCI assembly

HPCI+, hPCI+, or hsPCI+ hot-swap PCI plus assembly

HUP hang-up signal

`hwad` Hardware Access Daemon

I

Icache instruction cache

ICMP Internet Control Message Protocol

ID identifier

IO input/output board, such as MaxCPU board or hsPCI board

IOA input/output adapter

IP Internet Protocol

J

JDK Java Development Kit

K

`kmd` Key Management Daemon

M

`mand` Management Network Daemon

MB megabyte

MCPU MaxCPU board

MHz megahertz

MIB management information base

`mld` Message Logging Daemon

N

NIC network interface card

NIS Network Information Services

O

OBP OpenBoot PROM

OID object identifier

`osd` OpenBoot PROM Support Daemon

P

Paroli parallel optical link

`pcd` Platform Configuration Daemon

PCI peripheral component interconnect

PCR Platform Config Reader

PDSM Platform/Domain State Management

PFA predictive failure analysis

POR power-on reset

POST power-on self-test

PROC processor

PROM programmable read-only memory

PS power supply

R

RBUS response bus

RIO read input/output ASIC

RMX response multiplexer ASIC

RSM remote shared memory

RT real-time process

S

SAN storage area network

SB system board, such as CPU board

SBBC Sun Fire boot bus controller

SC system controller

SCM System Controller Monitoring

SCSI small computer system interface

SDC Sun Fire data controller ASIC

SDI system data interface ASIC, which has six copies on the expander board

SDI0 system data interface master ASIC; master of five copies of the system data interface ASIC

SDI3 third of five copies of the system data interface ASIC

SDI5 fifth of six copies of the system data interface ASIC

SEEPROM serially electrically erasable PROM

SIMM single inline memory module

SMS System Management Services

SNMP Simple Network Management Protocol

`ssd` SMS Startup Daemon

SSM scalable shared memory

SYS system process

T

`tmd` Task Manager Daemon

TNG the next generation

TS time-sharing process

U

UPA UltraSPARC™ port architecture

V

V volts or voltage

VDC volts direct current

W

WCI Sun Fire Link interface ASIC

WcApp Sun Fire Link and Sun Fire high-end SMS interface daemon

WPCI Sun Fire Link PCI

wrsm Sun Fire Link Remote Shared Memory driver

wssm Sun Fire Link Scalable Shared Memory driver

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