



# Sun™ Management Center 3.6 Supplement for the Sun Fire™, Sun Blade™, and Netra™ Systems

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# Preface

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The *Sun™ Management Center 3.6 Supplement for Sun Fire™, Sun Blade™, and Netra™ Systems* provides instructions on how to install, configure, and use Sun Management Center software on the supported platforms. The document is intended for system administrators who install and use Sun Management Center 3.6 software to monitor and manage these servers and workstations.

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## How This Book Is Organized

[Chapter 1](#) introduces Sun Management Center software for the supported platforms.

[Chapter 2](#) provides a general procedure for installing and setting up Sun Management Center software on the supported platforms. Use this chapter in conjunction with the *Sun Management Center Installation and Configuration Guide*.

[Chapter 3](#) describes the data that is shown in the Details window.

[Chapter 4](#) describes the alarm rules used by the supported platforms components.

[Appendix A](#) describes the level of support provided by this product for PCI cards.

[Appendix B](#) contains information concerning platform-specific packages and documentation.

---

# Using UNIX Commands

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

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

<http://docs.sun.com>

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## Shell Prompts

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

---

# Typographic Conventions

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

\* The settings on your browser might differ from these settings.

---

## Related Documentation

Application	Title
Late-breaking news	<i>Sun Management Center Release Notes</i>
Installing and configuring Sun Management Center software	<i>Sun Management Center Installation and Configuration Guide</i>
Using Sun Management Center software	<i>Sun Management Center User's Guide</i>
Sun Fire V210 and V240 platform	<i>Sun Fire V210 and V240 Servers Installation Guide</i> <i>Sun Fire V210 and V240 Servers Administration Guide</i>
Sun Fire V250 platform	<i>Sun Fire V250 Server Installation Guide</i> <i>Sun Fire V250 Server Administration Guide</i>
Sun Fire V440 platform	<i>Sun Fire V440 Server Installation Guide</i> <i>Sun Fire V440 Server Administration Guide</i> <i>Sun Fire V440 Server Diagnostics and Troubleshooting Guide</i>

<b>Application</b>	<b>Title</b>
Netra 240 platform	<i>Netra 240 Server Release Notes</i>
	<i>Netra 240 Server Quick Start Guide</i>
	<i>Netra 240 Server Installation Guide</i>
	<i>Netra 240 Server System Administration Guide</i>
Netra 440 platform	<i>Netra 440 Server Release Notes</i>
	<i>Netra 440 Server Quick Start Guide</i>
	<i>Netra 440 Server Installation Guide</i>
	<i>Netra 440 Server System Administration Guide</i>
Sun Blade 2500 and 1500 platforms (Silver)	<i>Sun Blade 2500 Getting Started Guide (Silver)</i>
	<i>Sun Blade 2500 Service, Diagnostics and Troubleshooting Manual (Silver)</i>
	<i>Sun Blade 1500 Getting Started Guide (Silver)</i>
	<i>Sun Blade 1500 Service, Diagnostics and Troubleshooting Manual (Silver)</i>
Sun Blade 2500 and 1500 platforms (Red)	<i>Sun Blade 2500 Getting Started Guide (Red)</i>
	<i>Sun Blade 2500 Service, Diagnostics and Troubleshooting Manual (Red)</i>
	<i>Sun Blade 1500 Getting Started Guide (Red)</i>
	<i>Sun Blade 1500 Service, Diagnostics and Troubleshooting Manual (Red)</i>
Sun Fire T2000 platform	<i>Sun Fire T2000 Server Overview</i>
	<i>Sun Fire T2000 Server Getting Started Guide</i>
	<i>Sun Fire T2000 Server Administration Guide</i>

## Documentation, Support, and Training

<b>URL</b>	<b>Description</b>
<a href="http://www.sun.com/documentation/">http://www.sun.com/documentation/</a>	Download PDF and HTML documents and order printed documents
<a href="http://www.sun.com/support/">http://www.sun.com/support/</a>	Obtain technical support and download patches
<a href="http://www.sun.com/training/">http://www.sun.com/training/</a>	Learn about Sun courses

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*Sun Management Center 3.6 Supplement for Sun Fire, Sun Blade, and Netra Systems*, part number 819-1153-10





# Introduction

---

This chapter provides an introduction to the Sun Management Center add-on software for the supported platforms.

The chapter contains the following sections:

- [“Sun Management Center” on page 1](#)
- [“Supported Platforms” on page 2](#)
- [“Platform Icons” on page 2](#)
- [“Hardware Platform Module” on page 4](#)
- [“Alarms” on page 9](#)

---

## Sun Management Center

Sun Management Center is an open, extensible system-monitoring and -management solution that uses Java™ and a variant of the Simple Network Management Protocol (SNMP) to provide integrated and comprehensive enterprise-wide management of Sun products and their subsystem, component, 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.

Support for hardware monitoring within the Sun Management Center environment is achieved through the use of appropriate hardware platform module add-on software, which presents hardware-configuration and fault-reporting information to the Sun Management Center management server and console.

---

# Supported Platforms

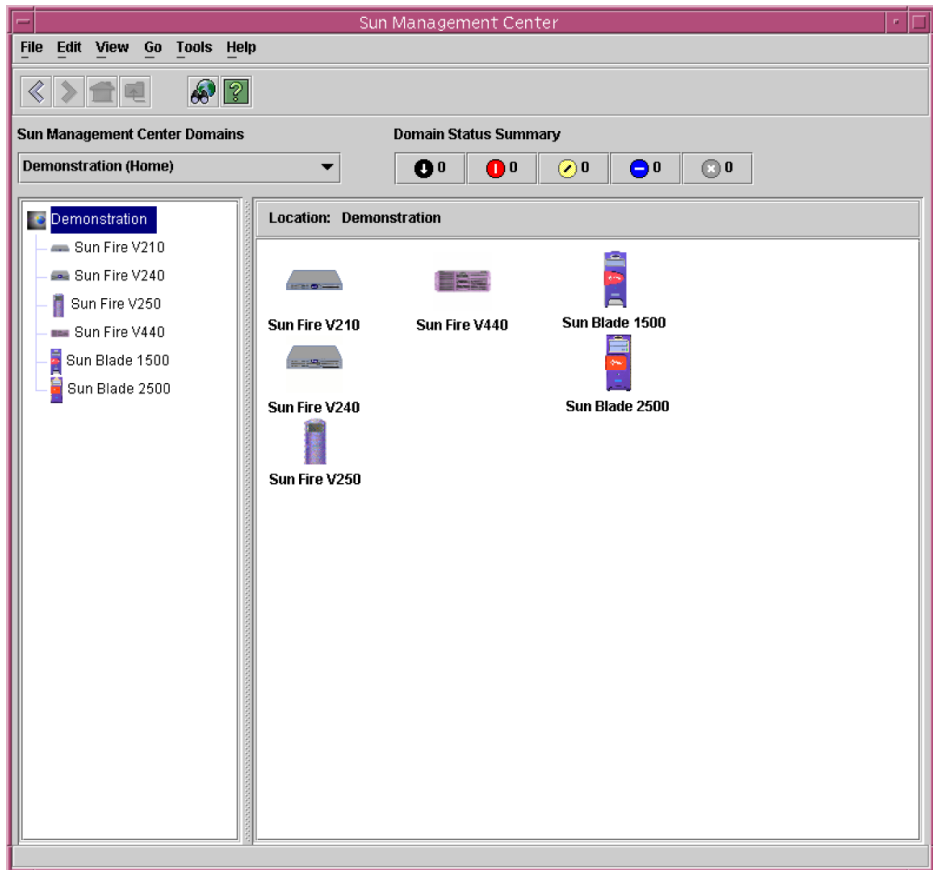
This document relates to the Sun Management Center add-on software for Sun Fire, Sun Blade, and Netra Systems, the hardware platform module that currently supports the following platforms:

- Netra 440 server
- Netra 240 server
- Sun Fire V210 server
- Sun Fire V240 server
- Sun Fire V250 server
- Sun Fire V440 server
- Sun Fire T2000 server
- Sun Blade 1500 workstation
- Sun Blade 2500 workstation

---

# Platform Icons

The Sun Management Center graphical user interface (GUI) presents platforms as icons. For each monitored platform, an icon represents the platform agent.



**FIGURE 1-1** Domain View Showing Icons for Some Supported Platforms

You can expand these icons to provide detailed views of the platform(s). Sun Management Center launches a detail viewer in which the hardware platform module is displayed, in addition to any other Sun Management Center monitoring and control modules.

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# Hardware Platform Module

The hardware platform module represents the monitored hardware, and presents the following views:

- Browser view
- Logical view
- Physical view

---

**Note** – The hardware platform module is also referred to as a *Config Reader* or as *platform add-on software*.

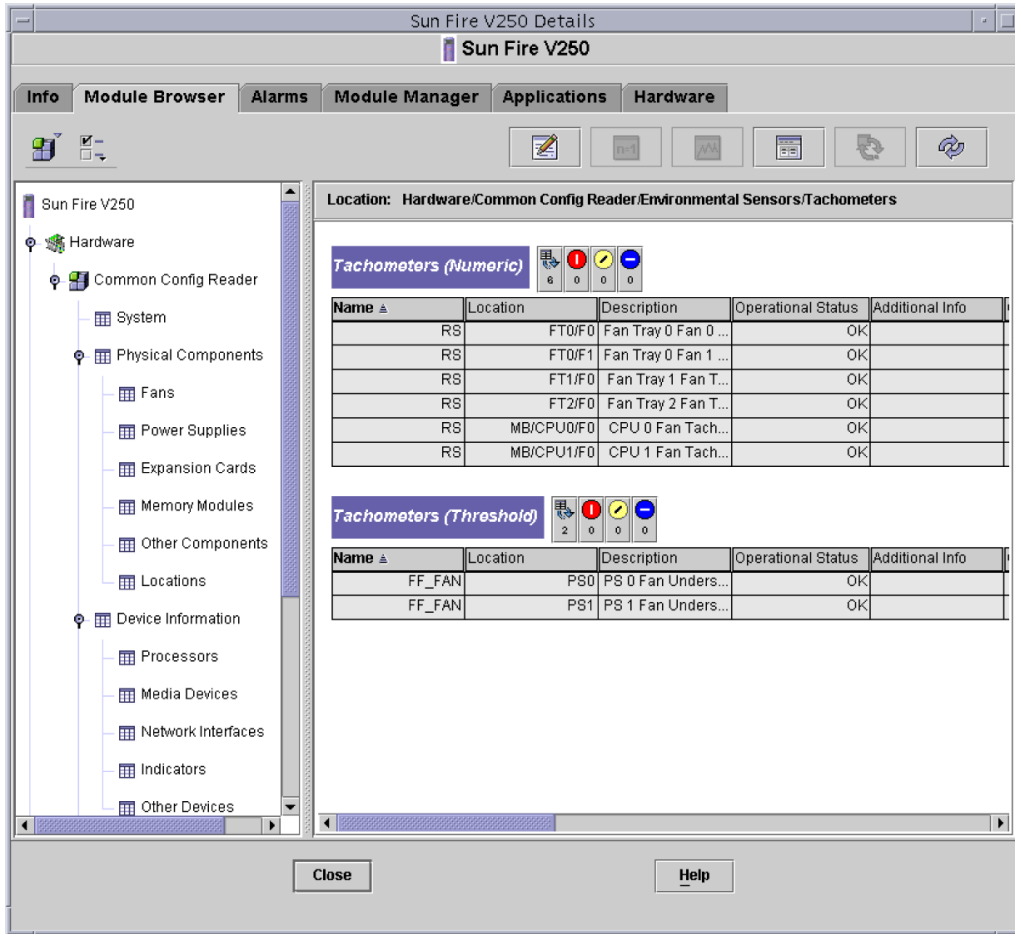
---

## Browser View

The Browser view displays information representing the platform hardware in the form of tables representing the various physical and logical components.

The Browser view represents the hardware configuration in terms of three primary categories:

- Physical components
- Device information
- Environmental sensors



**FIGURE 1-2** Browser View for Sun Fire V250 Showing Physical Components, Device Information, and Environmental Sensors

## Physical Components

Physical components occupy physical space and include fans, power supply units, the chassis, and so on. The Browser view represents each physical component using a fundamental set of properties common to all physical components (for example, part number, serial number) with additional properties defined as appropriate.

## Device Information

Devices represent the logical devices comprising the platform. For example, a CPU module could contain one or more processing cores. In this case, the CPU module would be represented by the browser as a physical component, but the processing cores would be represented by the Browser view as separate devices.

The Browser view represents each device using a fundamental set of properties common to all devices. Additional properties are defined to extend the common set as appropriate. For example, *speed* is an additional property defined for network interfaces.

## Environmental Sensors

The Browser view represents the various environmental sensors of the platform as a discrete category. Environmental sensors include those for voltage, current, temperature, and fan speed. Two classes of sensor are supported:

- Numeric sensors
- Non-numeric sensors

[“Environmental Sensor Properties” on page 35](#) describes the various tables and columns in more detail.

## Logical View

The Logical view is a tree structure with each node in the tree corresponding to a single row in one table of the Browser view. At the top of the tree is the system object. Using parent-child relationships to represent the physical containment hierarchy of the platform, the children of the system object are a set of locations, each containing one physical component. The children of the physical components are either further locations for the physical or logical devices that they realize, or the environmental sensors for monitoring them.

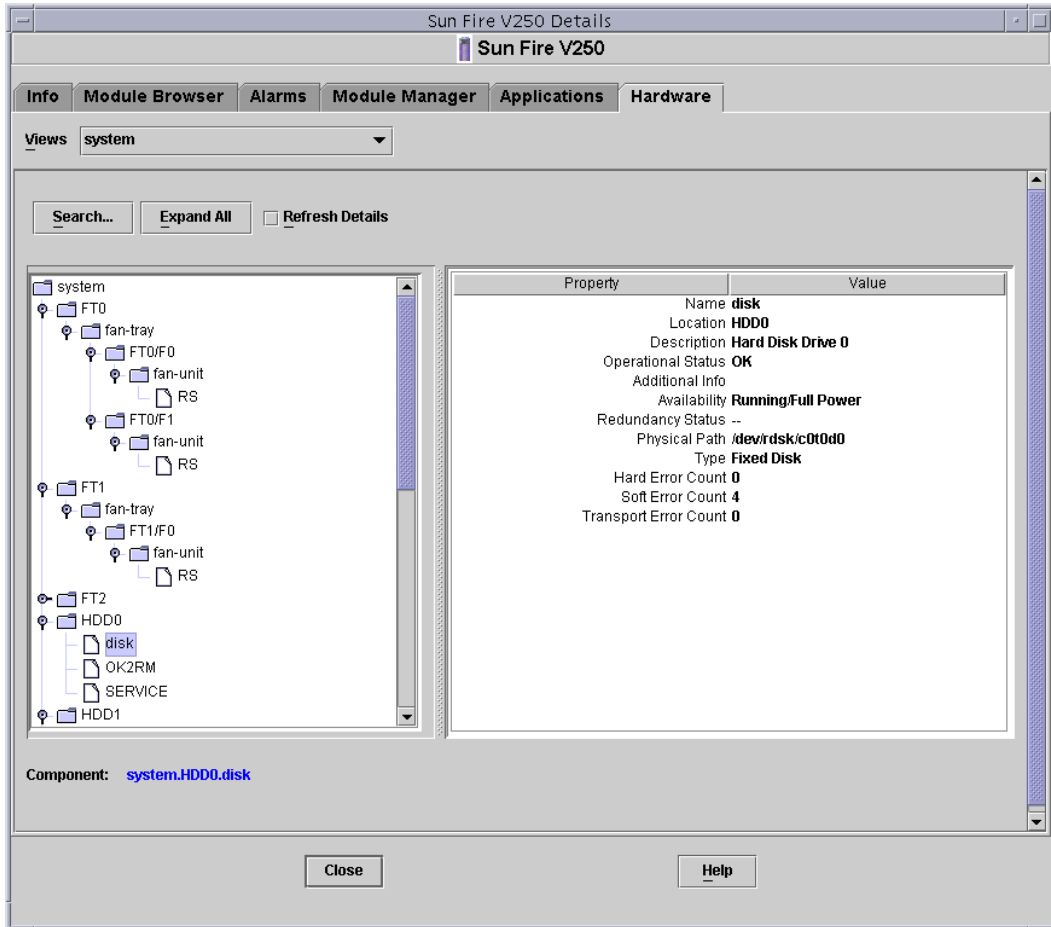


FIGURE 1-3 Section of the Sun Fire V250 Logical View

## Physical View

The Physical view is represented by projections of the platform (such as front, rear, and top views). The projections enable you to select the individual physical or logical components modeled in the physical or logical components tables, and any LEDs that are visible. You can move the mouse over the physical image to display node information in a panel to the right of the physical image.

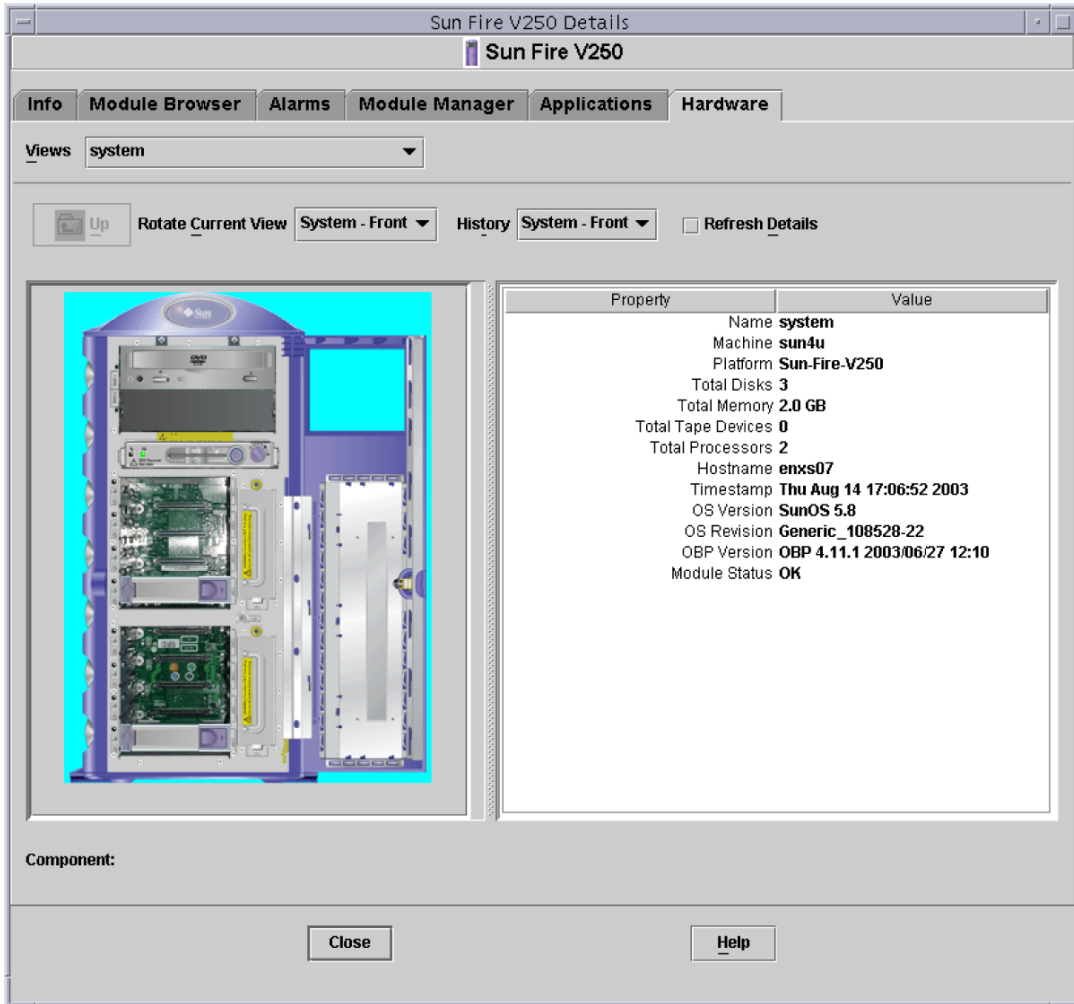


FIGURE 1-4 Sun Fire V250 Physical View—Front



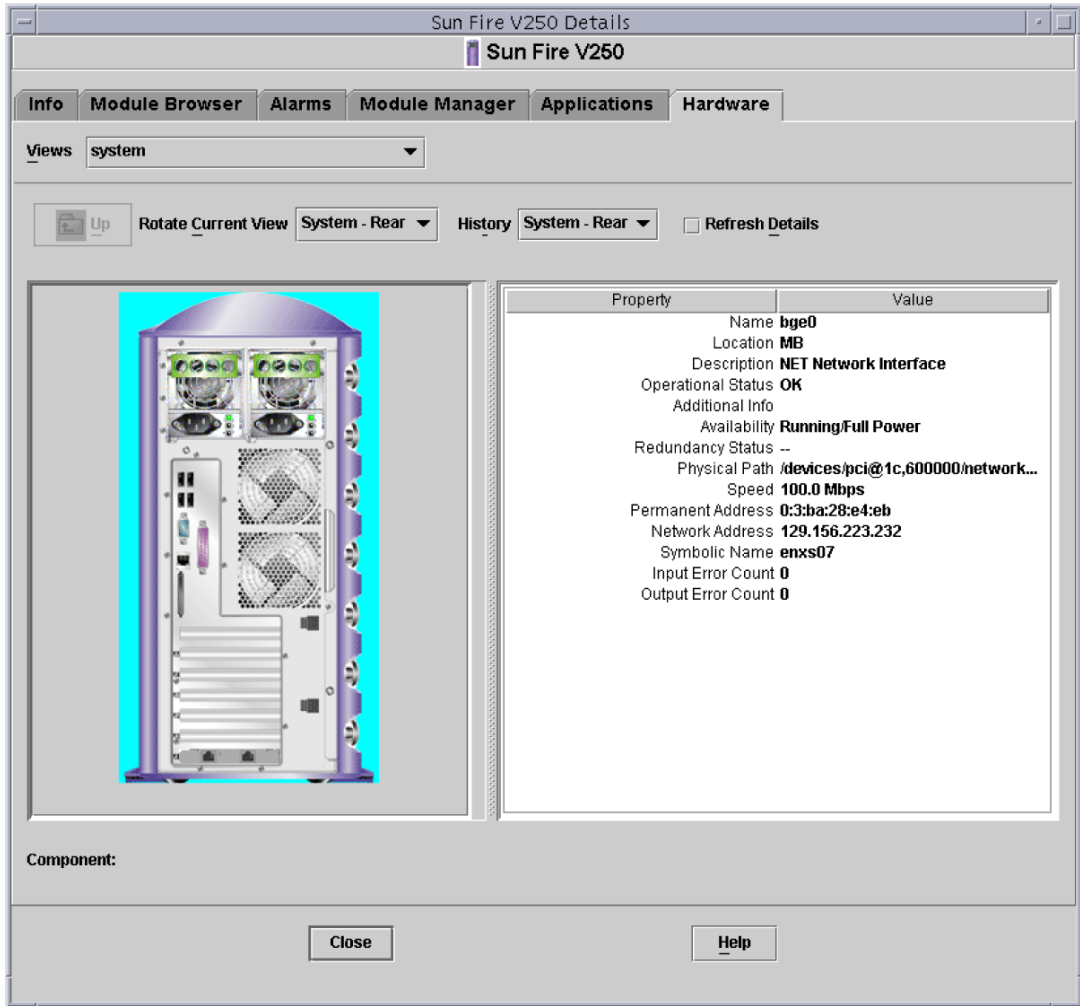


FIGURE 1-5 Sun Fire V250 Physical View—Rear

## Alarms

The hardware platform module includes a number of alarm rules that are used by the system to determine the status of the various components. Each alarm rule is applied to a specific property of a table in the hardware platform module. [Chapter 4](#) describes the various alarms in more detail.



## Installation

---

This chapter describes how to install and set up Sun Management Center software on the platforms listed in “Supported Platforms” on page 2.

The chapter contains the following sections:

- “Sun Management Center Software” on page 11
- “Obtaining the Software” on page 12
- “Installing and Configuring the Software” on page 13
- “Removing Existing Add-On Software” on page 15
- “Creating and Installing an Agent Update Image” on page 19

---

## Sun Management Center Software

The Sun Management Center software is composed of the following:

- Core Sun Management Center components
- Value-added software
- Hardware platform modules
- Integration adapters

The *Sun Management Center Installation and Configuration Guide* provides basic information about installing and setting up the Sun Management Center core components and starting and stopping the software. For information about the value-added software and integration adapters, refer to the Sun Management Center web site:

<http://www.sun.com/software/solaris/sunmanagementcenter>

Support for each platform requires both the core Sun Management Center software and the add-on software for the monitored platform.

TABLE 2-1 lists the specific software revisions required to install Sun Management Center on the monitored platform.

Your Sun Management Center installation and setup scripts might not display the same messages in exactly the same sequence as the examples in this chapter. However, these examples show the basic messages you will see and the approximate sequence in which you will see them.

Specific installation and setup scripts depend on the additional components you install and other choices you make.

**TABLE 2-1** Required Software Versions

Host	Required Software	Version
Sun Management Center Server	Solaris Operating System	8, 9, 10
	Sun Management Center hardware platform module packages	3.6 Platform-specific, see <a href="#">Appendix B</a>
Monitored Platform	Solaris Operating System	*
	Sun Management Center	3.6
	Hardware Platform Module packages	Platform-specific, see <a href="#">Appendix B</a>

\* The Solaris operating environment is dependent on the supported platform. Refer to the platform documentation for details of the Solaris version(s) supported by your platform.

The installation procedure described in this chapter installs the common packages and platform-specific packages automatically.

---

## Obtaining the Software

The add-on software for the Sun Fire, Sun Blade, and Netra systems is included as part of the core Sun Management Center 3.6 software. It is available on CD-ROM and as a download from the Web. You can obtain the software at:

<http://www.sun.com/software/download/>

---

# Installing and Configuring the Software

---

**Note** – If you are extending an existing Sun Management Center 3.6 installation to provide support for the supported platforms, it is not necessary to re-install the core Sun Management Center packages.

---

This document does not describe the installation and setup process for the core Sun Management Center product. Refer to the *Sun Management Center Installation and Configuration Guide* for information about installing and setting up the core software.

## ▼ To Prepare for Installation

Your environment must meet certain requirements before you can install the management software.

### 1. Determine which server is to be the Sun Management Center server.

The available memory in the server must meet the requirements described in the *Sun Management Center Installation and Configuration Guide*.

---

**Note** – 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 requirements.

---

### 2. To simplify the installation procedure, make sure you have the following information at hand before starting your installation:

- Name of the Sun Management Center server
- Name and agent port number of the monitored systems

There are two ways to run the installation script. You can use either the traditional installation script, `es-inst`, or the GUI Install feature, `es-guiinst`. The installation method you choose determines which setup script automatically runs afterward. For example, if you used the GUI Install program for installation, `es-guisetup` runs by default.

---

**Note** – Core Sun Management Center packages are treated differently from platform-specific packages. This installation program does not automatically update core packages. To update core packages, you must apply the appropriate patches as discussed in release notes specific to the supported platforms in question.

---

For complete Sun Management Center core software installation instructions, refer to the current Sun Management Center release notes and to the *Sun Management Center Installation and Configuration Guide*.

## Using the GUI Setup

The GUI Setup application enables you to set up the add-on software for the supported platforms through the GUI. For more information about the GUI Setup application, refer to the *Sun Management Center User's Guide* and the *Sun Management Center Installation and Configuration Guide*.

### ▼ To Install the Software

1. **If necessary, install or upgrade to version 3.6 the core Sun Management Center software on the Sun Management Center server, agent, and console.**

For details, refer to the *Sun Management Center Installation and Configuration Guide*.

During the course of installation, you will be prompted to check boxes for all the add-on products you want to install. Check the box for

ELP Config-Reader Monitoring

2. **If you have already installed core Sun Management Center 3.6 but have not yet installed this version of the add-on software, perform the following steps.**

- a. **Install the Sun Management Center 3.6 add-on server software on the Sun Management Center server.**

For details, refer to the *Sun Management Center Installation and Configuration Guide*.

During the course of installation, you will be prompted to check boxes for all the add-on products you want to install. Check the box for

ELP Config-Reader Monitoring

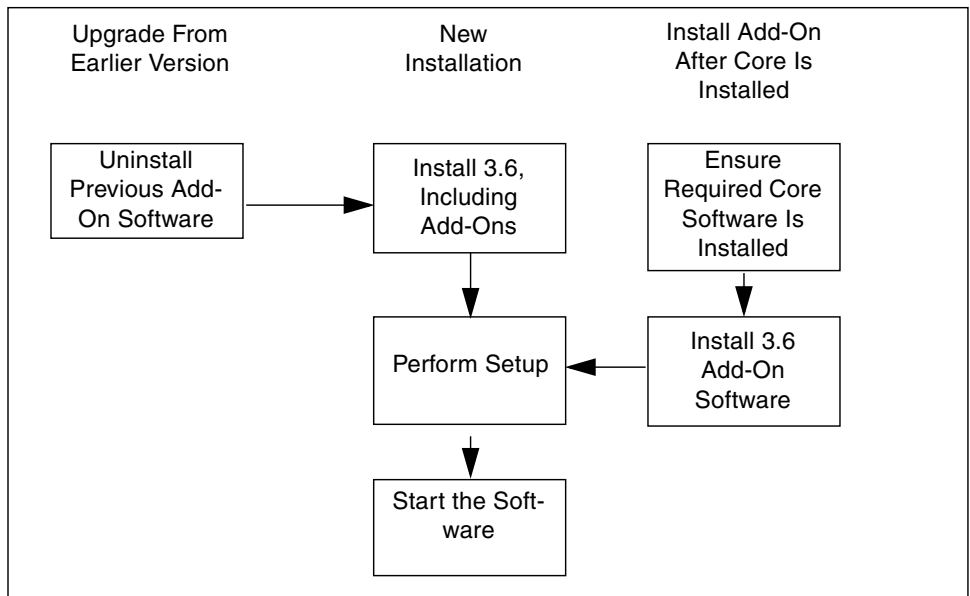
**b. Install Sun Management Center 3.6 agent software and the add-on agent software on the platform(s) to be monitored.**

For details, refer to the *Sun Management Center Installation and Configuration Guide*.

During the course of installation, you will be prompted to check boxes for all the add-on products you want to install. Check the box for

ELP Config-Reader Monitoring

See [FIGURE 2-1](#) for high-level details of the installation process.



**FIGURE 2-1** Installation Process Flow

---

## Removing Existing Add-On Software

This section describes removing this release of the add-on software from the server and agent. To remove earlier versions of the add-on software, refer to the version of this document that pertains to that version.

Refer to [“Platform-Specific Information” on page 53](#) for information about which Sun Management Center 3.6 platform-specific packages apply to your hardware.

## ▼ To Remove Existing 3.6 Add-On Software From the Server

1. Remove all platform-specific Sun Management Center server packages that are already installed using the `es-uninst` command.

**CODE EXAMPLE 2-1** Using the `es-uninst` Command to Remove Existing 3.6 Server Packages

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

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 Platform Administration        None
ELP Config-Reader Monitoring           None

Do you want to uninstall Production Environment (y|n|q) n
Do you want to uninstall Sun Fire Platform Administration (y|n|q) n
Do you want to uninstall ELP Config-Reader Monitoring (y|n|q) y

The following product[s] will be removed:
  ELP Config-Reader Monitoring.

Do you want to change selection (y|n|q) n

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) n
```



**CODE EXAMPLE 2-1** Using the es-uninst Command to Remove Existing 3.6 Server Packages (Continued)

```
Proceed with uninstall (y|n|q) y

java server is not running

Calling Uninstall script of ELP Config-Reader Monitoring...
Making list of packages to uninstall...
Sorting list of packages according to reverse timestamp...

Removing package : SUNWescws...

Removal of <SUNWescws> was successful.

Removing package : SUNWescps...

Removal of <SUNWescps> was successful.

[truncated]

Status of uninstallation:
-----
PRODUCT                                STATUS
-----
ELP Config-Reader Monitoring           Removed

Uninstall logfile is :
/var/opt/SUNWsymon/install/uninstall_reboot.030701153157.3517
#
```

## ▼ To Remove Existing 3.6 Add-On Software From the Agent

1. Remove all platform-specific agent packages using the es-uninst command.

**CODE EXAMPLE 2-2** Using the es-uninst Command to Remove Existing 3.6 Agent Packages

```
# /opt/SUNWsymon/sbin/es-uninst
This script will help you to uninstall the Sun Management Center software.

Following Sun Management Center Products are installed:
-----
PRODUCT                                DEPENDENT PRODUCTS
```

**CODE EXAMPLE 2-2** Using the es-uninst Command to Remove Existing 3.6 Agent Packages (Continued)

```
-----  
Production Environment                All Addons  
Sun Fire Platform Administration      None  
ELP Config-Reader Monitoring         None  
  
Do you want to uninstall Production Environment (y|n|q) n  
Do you want to uninstall Sun Fire Platform Administration (y|n|q) n  
Do you want to uninstall ELP Config-Reader Monitoring (y|n|q) y  
  
The following product[s] will be removed:  
  ELP Config-Reader Monitoring.  
  
Do you want to change selection (y|n|q) n  
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) n  
  
Proceed with uninstall (y|n|q) y  
  
chown: unknown group id smcorag  
Stopping all Sun Management Center processes.  This may take a few moments...  
agent component is not running  
platform component is not running  
Calling Uninstall script of ELP Config-Reader Monitoring...  
Making list of packages to uninstall...  
Sorting list of packages according to reverse timestamp...  
  
Removing package : SUNWescwa...  
  
Removal of <SUNWescwa> was successful.  
  
Removing package : SUNWescpl...  
  
Removal of <SUNWescpl> was successful.  
  
[truncated]  
  
Status of uninstallation:  
-----  
PRODUCT                                STATUS  
-----  
ELP Config-Reader Monitoring           Removed  
  
Uninstall logfile is :  
/var/opt/SUNWsymon/install/uninstall_enxs07.030701160035.8064
```

---

# Creating and Installing an Agent Update Image

The add-on for Sun Fire, Sun Blade, and Netra Systems supports the agent update feature. See “Creating Agent Installation and Update Images” in Chapter 6 of the *Sun Management Center Installation and Configuration Guide* for instructions.

## ▼ To Create an Agent Update Image Containing the Add-On

1. **Type the path to the `disk1/image` directory of the add-on when prompted to provide the name of a valid Sun Management Center source directory.**

For example, if you installed the add-on using the instructions in this chapter, the installation source directory would be:

```
/var/tmp/temp_directory/disk1/image
```

2. **See “Applying Agent Installation, Update, and Patch-Only Images” in Chapter 6 of the *Sun Management Center Installation and Configuration Guide* for instructions on how to apply the agent update image.**



## Physical and Logical Properties

---

The Sun Management Center console presents hardware information for the supported platforms using a common set of tables and fields. This chapter provides a summary of the classes and properties by table. Descriptions of those tables are included in the following sections:

- “System Properties” on page 22
  - *System Information table* – TABLE 3-1
- “Physical Component Properties” on page 23
  - *Fan table* – TABLE 3-3
  - *Power Supply table* – TABLE 3-4
  - *Expansion Card table* – TABLE 3-5
  - *Memory Modules table* – TABLE 3-6
  - *Other Physical Components table* – TABLE 3-7
  - *Locations table* – TABLE 3-8
- “Logical Device Properties” on page 29
  - *Processors table* – TABLE 3-9
  - *Media Devices table* – TABLE 3-10
  - *Network Interfaces table* – TABLE 3-11
  - *Indicators table* – TABLE 3-12
  - *Other Devices table* – TABLE 3-13
- “Environmental Sensor Properties” on page 35
  - *Numeric Sensors table* – TABLE 3-14
  - *Non-Numeric Sensors table* – TABLE 3-15

### *The -- Value and Blank Values*

In the tables described in this chapter, fields can have the value -- (double dash) or be blank in the following circumstances:

- The table or field is not currently used.

For example, a serial number is not available for many physical components. In this case, the Serial Number field of the corresponding table contains --. This can also occur with other common properties.

- The field contains data only under certain conditions.

For example, the Additional Info field contains textual information only when an alarm condition exists.

---

## System Properties

The System Information table provides a top-level view of the system hardware. [TABLE 3-1](#) describes its properties.

**TABLE 3-1** System Information Table Properties

<b>Property</b>	<b>Description</b>
Name	Fixed value of System
Machine	CPU architecture (such as sun4v)
Platform	Platform type
Total Disks	Total of all hard disks managed directly through the platform
Total Memory	Total of all DIMM memory capacity
Total Tape Devices	Total of all tape devices managed directly through the platform
Total Processors	Total number of CPU processors
Hostname	System IP host name
Timestamp	Date and time that the Agent was started
OS Version	System OS version
OS Revision	OS revision
OBP Version	OpenBoot™ PROM Version
Module Status	Module Status

---

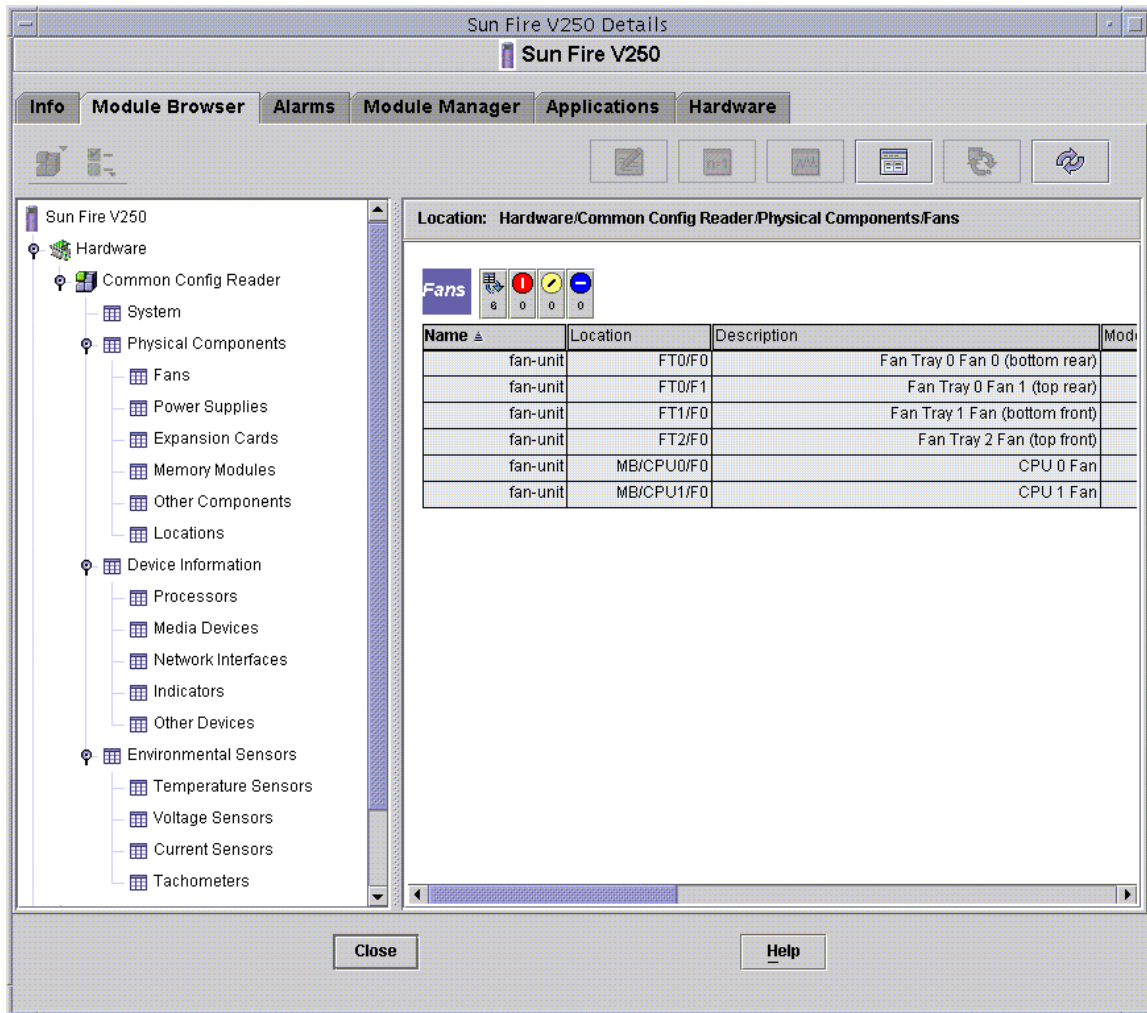
# Physical Component Properties

The tables in this section represent instances of physical components within the system.

## Common Properties

All physical components (except the Locations table) share a common set of properties:

- Name
- Location
- Description
- Model Name
- Operational Status
- Additional Information
- Part Number
- Version
- Serial Number
- Manufacturer
- Hot Swappable
- Removable



**FIGURE 3-1** Physical Components Showing Location and Description Columns (Sun Fire V250 Shown)

The Operational Status property can take the values shown in [TABLE 3-2](#).

**TABLE 3-2** Operational Status Values

Value	Description
OK	The component is operating normally.
Error	The component has a detected error.
Degraded	The component is providing service, but operating in a degraded state.



**TABLE 3-2** Operational Status Values (*Continued*)

Value	Description
Unknown	The current operational status is unknown.
Failure Predicted	The component is functioning correctly but a failure in the near future is predicted.
Starting	The component is starting up but is not yet online.
Stopping	The component is shutting down.
Service	The component is being configured, maintained, cleaned, or otherwise administered.
Stressed	The component is operating but needs attention. Examples of stressed states include <i>overloaded</i> , <i>overheated</i> , and so forth.
Non Recoverable	A nonrecoverable error has occurred.
No Contact	The current instance of the monitoring system has knowledge of this component but has never been able to establish communication with it.
Lost Comms	The component is known to exist and has been contacted successfully in the past, but is currently unreachable.
Stopped	The component is known to exist and has not failed, but is not operational and is unable to provide service to users. That is, the component has been purposely made nonoperational.
Not Present	The component is not present in the system. (Sun Fire T2000 only)
-- or empty value	See <a href="#">“The -- Value and Blank Values” on page 21</a> for a description.

## Fans

[TABLE 3-3](#) describes the properties in the Fan table.

**TABLE 3-3** Fan Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Model Name	Sun Microsystems model name
Operational Status	Current component state. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status

**TABLE 3-3** Fan Table Properties (*Continued*)

Property	Description
Part Number	Sun Microsystems or other part number
Version	Part version number
Serial Number	Part serial number
Manufacturer	Vendor name
HotSwappable	Boolean: specifies whether the component is hot-swappable*
Removable	Boolean: specifies whether the component is removable†

\* A component is hot-swappable if it can be replaced without shutting down the system.

† A component is removable when the component itself is removable, rather than being contained in a removable group. For example, a fan in a fan tray might not individually be removable, although the fan tray itself might be removable. All field replaceable units (FRUs) are removable.

## Power Supplies

[TABLE 3-4](#) lists the properties in the Power Supplies table.

**TABLE 3-4** Power Supply Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Model Name	Sun Microsystems model
Operational Status	Current component status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Part Number	Sun Microsystems or other part number
Version	Part version number
Serial Number	Part serial number
Manufacturer	Vendor name
HotSwappable	Boolean: specifies whether the component is hot-swappable
Removable	Boolean: specifies whether the component is removable

# Expansion Cards

[TABLE 3-5](#) identifies other expansion cards that have been attached to the system.

**TABLE 3-5** Expansion Card Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Model Name	Sun Microsystems model
Operational Status	Current component status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Part Number	Sun Microsystems or other part number
Version	Part version number
Serial Number	Part serial number
Manufacturer	Vendor name
HotSwappable	Boolean: specifies whether the component is hot-swappable
Removable	Boolean: specifies whether the component is removable
Bus Type	Identifies card as PCI, cPCI, SCSI, and so forth

The Expansion Card table contains rows corresponding to PCI cards that are installed in your system. The hardware platform module can present a textual description of the card together with the Sun<sup>SM</sup> Store optional component code and Sun Microsystems part number as values for the Description, Model Name, and Part Number properties, respectively.

Appendix A contains a list of cards for which this information is currently available. Additional cards will be added in subsequent updates of the software as they become available.

Cards for which the add-on software is not configured to provide this information, display the value -- for the Description, Model Name, and Part Number properties.

# Memory Modules

[TABLE 3-6](#) identifies physical memory components such as DIMMs.

**TABLE 3-6** Memory Modules Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Model Name	Sun Microsystems model
Operational Status	Current component status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Part Number	Sun Microsystems or other part number
Version	Part version number
Serial Number	Part serial number
Manufacturer	Vendor name
HotSwappable	Boolean: specifies whether the component is hot-swappable
Removable	Boolean: specifies whether the component is removable
Size	DIMM size
Blank Label	The physical label associated with this component <sup>*</sup>
ECC Error Count	The number of ECC error counts recorded for this component

\* This string relates to the physical labeling of the memory location rather than the Solaris logical bank numbering.

## Other Physical Components

[TABLE 3-7](#) is used for all physical components other than those already listed.

**TABLE 3-7** Other Physical Components Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Model Name	Sun Microsystems model
Operational Status	Current component status. See <a href="#">TABLE 3-2</a> for possible values.

**TABLE 3-7** Other Physical Components Table Properties (*Continued*)

Property	Description
Additional Info	Supporting textual information for the current Operational Status
Part Number	Sun Microsystems or other part number
Version	Part version number
Serial Number	Part serial number
Manufacturer	Vendor name
HotSwappable	Boolean: specifies whether the component is hot swappable
Removable	Boolean: specifies whether the component is removable

## Locations

[TABLE 3-8](#) describes properties for locations, which represent slots into which components can be (hot) plugged.

**TABLE 3-8** Locations Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Location Type	Specifies the type of component occupying the location
Occupancy	Permitted values are unknown, occupied, or empty

## Logical Device Properties

Devices represent the logical devices. For example, a CPU module could contain one or more processors, hence the CPU module would be represented as a *physical* component, whereas the processors within it would be represented here as *logical* devices. The following tables enumerate the logical devices included in the common model.

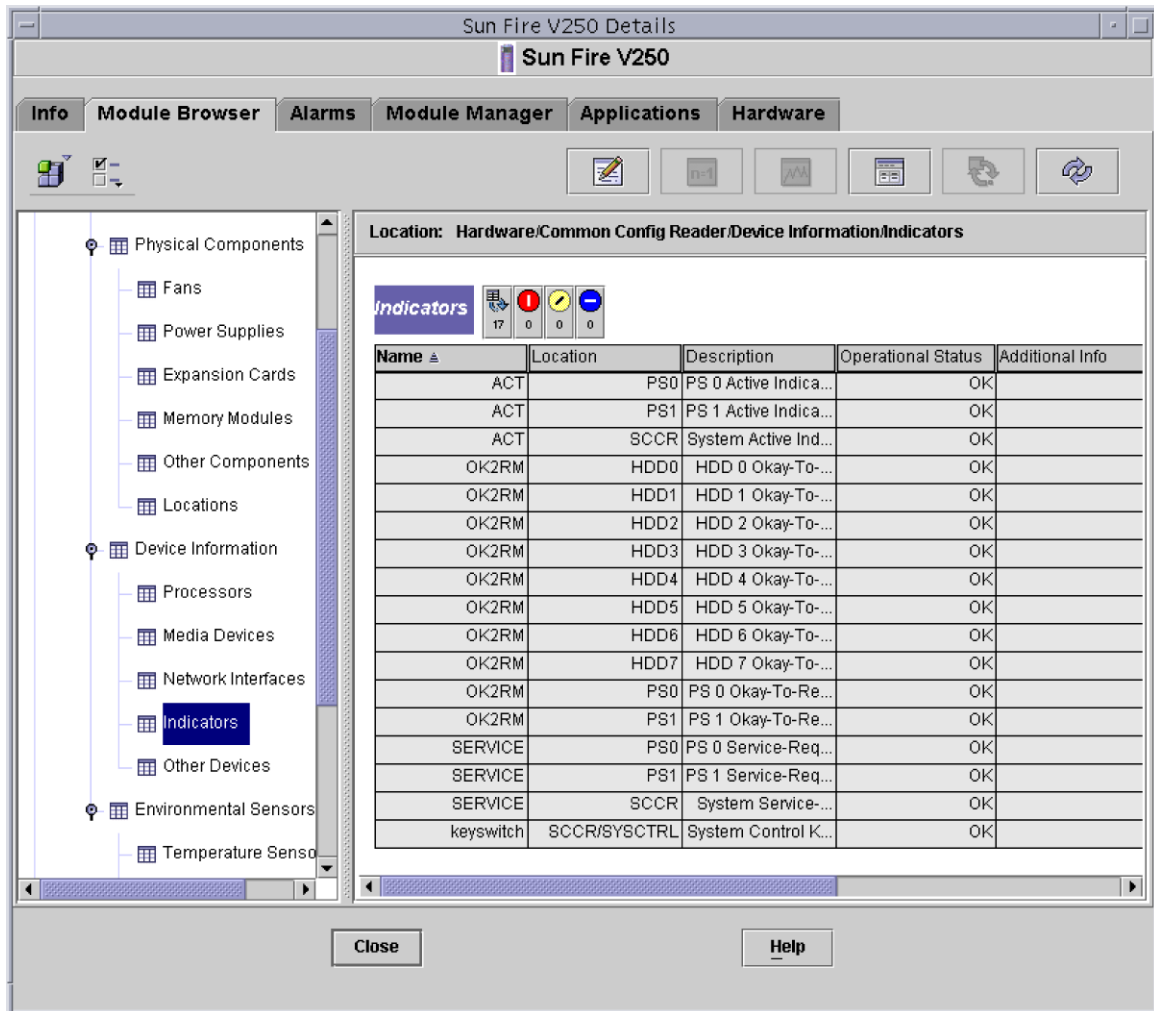


FIGURE 3-2 Part of the Logical Device Table Showing Indicators (Sun Fire V250 Shown)

## Availability Property Values

Logical devices introduce an Availability property. The Availability values are:

- Running/Full Power
- OK
- Warning
- In Test
- Not Applicable

- Power Off
- Off Line
- Off Duty
- Degraded
- Not Installed
- Install Error
- Power Save - Unknown
- Power Save - Low Power Mode
- Power Save - Standby
- Power Cycle
- Power Save - Warning
- Paused
- Not Ready
- Not Configured
- Not Present (Sun Fire T2000 only)
- Quiesced
- Unknown
- Other
- --

## Redundancy Status Property Values

Also introduced with logical devices is the Redundancy Status property. For devices that are part of a redundancy group, this indicates the current role played by this component. For example, a service processor might be operating in an active/standby pairing with another service processor. Similarly a network interface might be the primary or secondary member of a redundant network pair. Valid values for Redundancy Status are:

- Not Applicable
- Unknown
- Active
- Standby
- Primary
- Secondary
- Other

## Processors

[TABLE 3-9](#) describes the properties in the Processor table.

**TABLE 3-9** Processor Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal device description
Operational Status	Current device status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Availability	The device availability. See <a href="#">“Availability Property Values” on page 30</a> for possible values.
Redundancy Status	Device status as part of a redundancy group. See <a href="#">“Redundancy Status Property Values” on page 31</a> for possible values.
Device ID	Numeric ID as used by various Solaris commands
Clock Frequency	Processor clock speed
Family	Processor family, for example, <code>sparcv9</code>
Data Cache Size	Primary data cache size
Instruction Cache Size	Primary instruction cache size
Level 2 Cache Size	Size of level 2 cache

## Media Devices

[TABLE 3-10](#) represents all media devices: disks, CD-ROM, DVD-ROM, tapes, and so forth.

**TABLE 3-10** Media Device Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal device description
Operational Status	Current device status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Availability	The device availability. See <a href="#">“Availability Property Values” on page 30</a> for possible values.



**TABLE 3-10** Media Device Table Properties (*Continued*)

Property	Description
Redundancy Status	Device status as part of a redundancy group. See <a href="#">“Redundancy Status Property Values”</a> on page 31 for possible values.
Physical Path	Media access device path under <code>/dev/rdisk</code> or <code>/dev/rmt</code>
Type	Disk, CD-ROM, DVD-ROM, Tape
Hard Error Count	The count of <i>hard</i> device errors, as available through <code>iostat -e</code>
Soft Error Count	As available through <code>iostat -e</code>
Transport Error Count	As available through <code>iostat -e</code>

## Network Interfaces

[TABLE 3-11](#) describes the properties in the Network Interface table.

**TABLE 3-11** Network Interface Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal device description
Operational Status	Current device status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Availability	The device availability. See <a href="#">“Availability Property Values”</a> on page 30 for possible values.
Redundancy Status	Device status as part of a redundancy group. See <a href="#">“Redundancy Status Property Values”</a> on page 31 for possible values.
Device ID	Network device path under <code>/devices</code>
Speed	Speed in bps
Permanent Address	MAC address
Network Address	IP address
Symbolic Name	Symbolic network or hostname associated with this IP address
Input Error Count	Input error count as available through <code>kstat</code>
Output Error Count	Output error count as available through <code>kstat</code>

# Indicators

[TABLE 3-12](#) describes the properties in the Indicator table.

**TABLE 3-12** Indicator Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Operational Status	Current device status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Indicator State	STEADY, OFF, ALTERNATING, or UNKNOWN
Expected State	STEADY, OFF, or ALTERNATING
Color	Indicator color

# Other Devices

[TABLE 3-13](#) is used for all logical devices other than those already listed.

**TABLE 3-13** Other Device Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Operational Status	Current device status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting textual information for the current Operational Status
Availability	The device availability. See <a href="#">“Availability Property Values” on page 30</a> for possible values.
Redundancy Status	Device status as part of a redundancy group. See <a href="#">“Redundancy Status Property Values” on page 31</a> for possible values.
Device ID	Device path under <code>/devices</code>

# Environmental Sensor Properties

Environmental sensors are modeled for fan speed (tachometer), temperature, current, and voltage. Two types of sensor are supported:

- Numeric
- Non-numeric

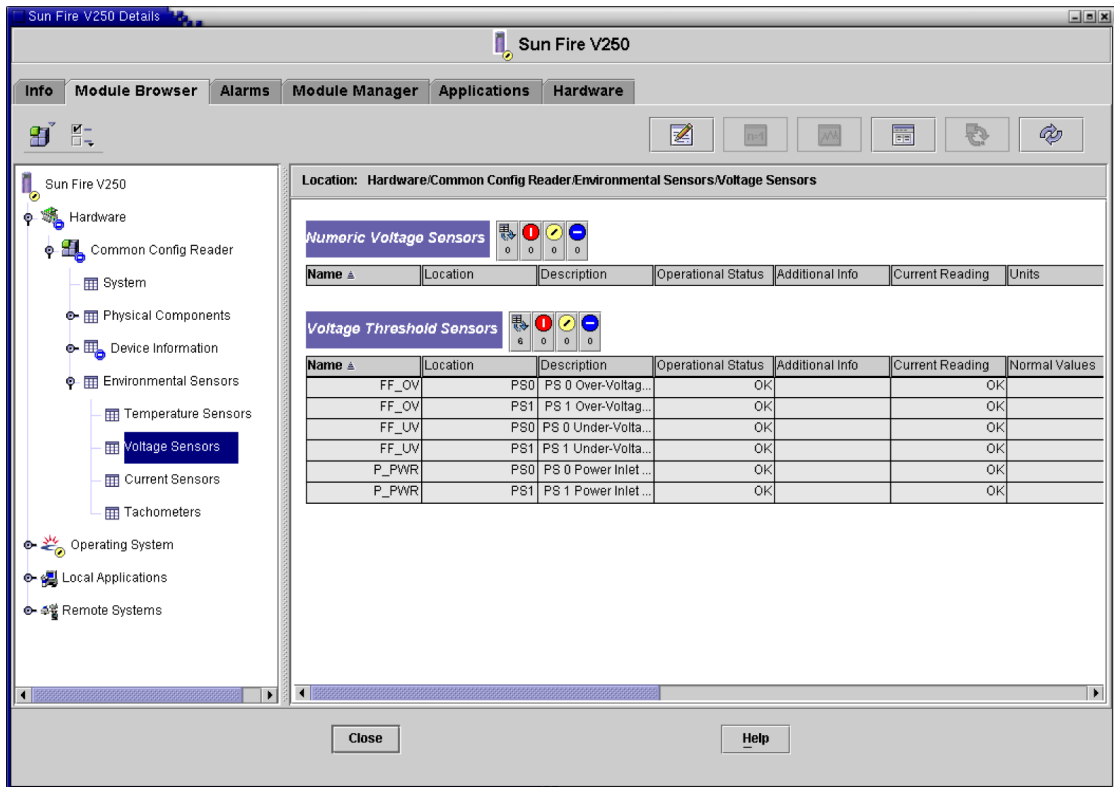


FIGURE 3-3 Numeric Voltage Sensors and Voltage Threshold Sensors Tables (Sun Fire V250 Shown)

## Numeric Sensors

TABLE 3-14 shows the properties for numeric sensors for temperature, voltage, current, and fan speed (tachometer).

**TABLE 3-14** Numeric Sensor Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Operational Status	Current component status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting information for Operational Status
Current Reading	Current sensor reading
Units	Reading units
Lower Non Critical Threshold	Lower first warning threshold
Upper Non Critical Threshold	Upper first warning threshold
Lower Critical Threshold	Lower second warning threshold
Upper Critical Threshold	Upper second warning threshold
Lower Fatal Threshold	Lower final warning threshold
Upper Fatal Threshold	Upper final warning threshold

## Non-Numeric Sensors

[TABLE 3-15](#) shows the properties for non-numeric sensors for temperature, voltage, and current.

**TABLE 3-15** Non-Numeric Sensor Table Properties

Property	Description
Name	Unique name
Location	Path to the device location
Description	Informal component description
Operational Status	Current component status. See <a href="#">TABLE 3-2</a> for possible values.
Additional Info	Supporting information for Operational Status
Current Reading	Current sensor reading
Normal Values	A list of values considered <i>normal</i> for this sensor

# Alarms

---

This chapter summarizes the Alarm Rules that are specific to the supported platform components.

The chapter contains the following sections:

- [“Alarm Rules” on page 37](#)
- [“Operational State Rule” on page 38](#)
- [“Availability Rule” on page 39](#)
- [“Non-Numeric Sensor Rule” on page 41](#)
- [“Numeric Sensor Threshold Rule” on page 42](#)
- [“Occupancy Rule” on page 44](#)
- [“Rate or Count Rule” on page 45](#)
- [“Module Status Rule” on page 46](#)
- [“Indicator Status Rule” on page 47](#)

Each section provides information about error classes, default alarm levels, and recommended action to take when the alarms are triggered.

---

## Alarm Rules

The hardware common config reader contains a number of alarm rules used by the system to determine the state of various components. Each alarm rule instance is applied to a specific property of a table in the config reader. A single rule can be applied to multiple properties and tables.

An alarm rule takes input from three main sources:

- Object properties within the config reader
- User-specifiable values
- Data stored by the rule itself

All three of these sources can be modified on a per-object and property basis. You can change user-specifiable values, while the rule programmer specifies which object properties and stored data are used.

You can assign actions to rule states and state transitions through the Sun Management Center console. Refer to the *Sun Management Center User's Guide* for more information. You can also modify the values mentioned in this chapter by editing the file `ELP-base_ruleinit-d.x` directly.

---

## Operational State Rule

This rule is applied to any node that contains an Operational Status property. It generates an alarm if the operational state is anything other than `OK`, `Starting`, `Stopping`, or double dash (`--`). The error string incorporates the value of the Additional Information property to provide additional information to the end user.

**TABLE 4-1** Operational Status Rule

---

<b>Applicable tables</b>	Any that contain Operational Status property
<b>Properties read</b>	Operational Status, Additional Information
<b>Alarm trigger</b>	Operational Status is not <code>OK</code> , <code>Starting</code> , <code>Stopping</code> , or <code>--</code>
<b>Editable parameters</b>	Alarm Severity for the error class associated with the value of Operational Status.

---

## Error Classes and Default Alarm Levels

This rule associates specific values of the Operational Status property with specific error classes. Those error classes in turn determine the level of alarm that is generated for the associated values. [TABLE 4-2](#) lists the possible Operational Status values with their associated error classes and default alarm levels.

**TABLE 4-2** Operational Status Values, Error Classes, and Default Alarm Levels

---

<b>Operational Status Value</b>	<b>Error Class</b>	<b>Default Alarm Level</b>
<code>OK</code>	None	None
<code>Starting</code>	None	None
<code>Stopping</code>	None	None

---

**TABLE 4-2** Operational Status Values, Error Classes, and Default Alarm Levels  
(Continued)

Operational Status Value	Error Class	Default Alarm Level
--	None	None
Error	Critical	Critical
Non-Recoverable	Critical	Critical
Degraded	Degraded	Alert
Predicted Failure	Degraded	Alert
Stressed	Degraded	Alert
Service	Service	None
Stopped	Service	None
All Others	Unknown	Caution

You can edit the alarm levels associated with each error class. [TABLE 4-3](#) lists the error classes for the Operational Status rule and their default alarm levels.

**TABLE 4-3** Default Alarm Levels for Operational Status Rule Error Classes

Error Class	Default Alarm Level
Critical	3 Critical
Degraded	2 Alert
Unknown	1 Caution
Service	0 None

## Action

If an Alert or Critical alarm is generated, contact your Sun service representative.

The Caution alarm is for information only and is not an error. If necessary, contact your Sun service representative to help determine why the operations status is Unknown.

---

## Availability Rule

This rule is applied to any table with an Availability property.

**TABLE 4-4** Availability Rule

<b>Applicable tables</b>	Any that contain the Availability property
<b>Properties read</b>	Availability
<b>Alarm trigger</b>	Availability is not OK, Running, Not Applicable, or --
<b>Editable parameters</b>	Alarm Severity for the error class associated with the value of Availability.

## Error Classes and Default Alarm Levels

This rule associates specific values of the Availability property with specific error classes. Those error classes in turn determine the level of alarm that is generated for the associated values. [TABLE 4-5](#) lists the possible Availability values with their associated error classes and default alarm levels.

**TABLE 4-5** Availability Values, Error Classes, and Default Alarm Levels

<b>Availability Value</b>	<b>Error Class</b>	<b>Default Alarm Level</b>
OK	None	None
Running	None	None
Not Applicable	None	None
-- (double dash)	None	None
Degraded	Degraded	Alert
Warning	Degraded	Alert
PowerSave - Warning	Degraded	Alert
Install Error	Degraded	Alert
Not Configured	Uninstalled	None
Not Installed	Uninstalled	None
Not Ready	Uninstalled	None
All Others	Default	None

You can edit the alarm levels associated with each error class. [TABLE 4-6](#) lists the error classes for the Availability rule and their default alarm levels.



**TABLE 4-6** Default Alarm Levels for Availability Rule Error Classes

<b>Error Class</b>	<b>Default Alarm Level</b>
Degraded	2 Alert
Uninstalled	None
Default	None

## Action

Contact your Sun service representative for information about correcting the problem.

---

# Non-Numeric Sensor Rule

This rule is applied to any non-numeric sensor. It uses the Current Reading in the error message.

**TABLE 4-7** Non-Numeric Sensor Rule

<b>Applicable tables</b>	Non-Numeric Temperature, Voltage, and Current sensors
<b>Properties read</b>	Current Value, Normal Values
<b>Alarm trigger</b>	Current Value is not one of the Normal Values
<b>Editable parameters</b>	Alarm Severity

## Error Classes and Default Alarm Levels

This rule generates an alarm if the value of Current Reading does not match one of the values for the Normal Values property. In this case, an alarm is generated. The default alarm level associated with this error is Critical. [TABLE 4-8](#) describes the property value, along with its associated error class and default alarm level.

**TABLE 4-8** Current Reading Property Value, Error Class, and Default Alarm Level

Current Reading Value	Error Class	Default Alarm Level
Does not match any of the values of the Normal Values property	Alarm	Critical

You can change the alarm level associated with this Alarm error class.

## Action

Contact your Sun service representative for information about correcting the problem.

---

# Numeric Sensor Threshold Rule

This rule is applied to any numeric sensor. It reads the various thresholds presented in the sensor, and generates an alarm if the current value is outside the specified ranges.

**TABLE 4-9** Numeric Sensor Threshold Rule

<b>Applicable tables</b>	Numeric Temperature, Voltage, and Current Sensors, Tachometers
<b>Properties read</b>	Current Value, Threshold Values
<b>Alarm trigger</b>	Current Value is outside Threshold ranges
<b>Editable parameters</b>	Alarm Severity for the error class associated with the Threshold above or below which the value of Current Reading lies

## Error Classes and Default Alarm Levels

This rule generates an alarm when the value of Current Reading falls below any of the Lower Threshold values or rises above any of the Upper Threshold values. The level of alarm generated is determined by the error class associated with the threshold. [TABLE 4-10](#) lists the possible threshold property values with their associated error classes and default alarm levels.

---

**Note** – When a Threshold is set to -- (double dash), this rule does not compare the value of Current Reading with it.

---

**TABLE 4-10** Current Reading Property Values, Error Classes, and Default Alarm Levels

Current Reading Value	Error Class	Default Alarm Level
< Lower Non-Critical Threshold	Non-Critical	Caution
> Upper Non-Critical Threshold	Non-Critical	Caution
< Lower Critical Threshold	Critical	Alert
> Upper Critical Threshold	Critical	Alert
< Lower Fatal Threshold	Fatal	Critical
> Upper Fatal Threshold	Fatal	Critical

You can edit the alarm levels associated with each error class. [TABLE 4-11](#) lists the error classes for the Availability rule and their default alarm levels.

**TABLE 4-11** Default Alarm Levels for Numeric Sensor Threshold Rule Error Classes

Error Class	Default Alarm Level
Non-Critical	Caution
Critical	Alert
Fatal	Critical

## Action

Contact your Sun service representative for information about correcting the problem.

---

# Occupancy Rule

This rule generates an alarm when the occupancy of a location changes.

**TABLE 4-12** Occupancy Rule

<b>Applicable tables</b>	Location
<b>Properties read</b>	Name, Occupancy
<b>Alarm trigger</b>	The occupancy changes
<b>Editable parameters</b>	Alarm Severity

---

**Note** – You can clear this alarm by acknowledging the alarm in the Sun Management Center console. All other alarms are cleared by a change of state.

---

## Error Classes and Default Alarm Levels

This rule generates an alarm if the value of Occupancy has changed since the last time it was checked. In this case, an alarm is generated. The default alarm level associated with this error is Caution. [TABLE 4-13](#) describes the occupancy property value, along with its associated error class and default alarm level.

**TABLE 4-13** Occupancy Property Value, Error Class, and Default Alarm Level

<b>Occupancy Value</b>	<b>Error Class</b>	<b>Default Alarm Level</b>
Does not match the previous value reported for this property.	Alarm	Caution

You can change the alarm level associated with this Alarm error class.

## Action

The Caution alarm is for information only and is not an error. If necessary, contact your Sun service representative to obtain more information about the value of the Occupancy property.

---

# Rate or Count Rule

This rule enables you to specify a rate or count for any integer property. If the rate or count exceeds the specified values, an alarm is generated. Apply the rule to all properties that count a number of errors, so that you can generate such alarms as required.

**TABLE 4-14** Rate or Count Rule

---

<b>Applicable tables</b>	<ul style="list-style-type: none"><li>• Memory Modules table – ECC Error Count</li><li>• Media Devices table – Hard Error Count, Soft Error Count, Transport Error Count</li><li>• Network Interfaces table – Output Error Count</li></ul>
<b>Properties read</b>	Error Counts and similar integer properties
<b>Alarm trigger</b>	Rate or Count exceeds user-specified value
<b>Editable parameters</b>	Rate, Count, and Alarm Severity

---

## Error Count, Error Rate, and Default Alarm Levels

This rule generates an alarm when one or both of the following is true for one of the properties:

- The value of the total error count property exceeds the specified value.
- The error rate, in terms of errors per minute, exceeds the specified value.

---

**Note** – When the specified error count or error rate is set to less than zero, the rule does not check the error count or rate. If the alarm level is not greater than zero, no alarm will be generated.

---

By default, the values are set to  $-1$ , so the rule does not check the error count or rate until you set it. You can change the values of the Error Count, Error Rate, and Alarm Level parameters. [TABLE 4-15](#) describes these parameters and lists their default values.

**TABLE 4-15** Rate or Count Rule Parameters

Parameter	Units	Default	Meaning
Error Count	Integer	-1	Total number of errors
Error Rate	Float	-1	Number of errors per minute
Alarm Level	Unsigned Integer	2 Alert	0 = None 1 = Caution 2 = Alert 3 = Critical

## Action

Contact your Sun service representative for information about correcting the problem.

## Module Status Rule

This rule applies only to the Module Status property in the system object. It is primarily used to report module data acquisition problems.

**TABLE 4-16** Module Status Rule

<b>Applicable tables</b>	System
<b>Properties read</b>	Module Status, Module Status Severity
<b>Alarm trigger</b>	Status is not OK
<b>Editable parameters</b>	Alarm Severity for the error class associated with the value of Module Status.

## Error Classes and Default Alarm Levels

This rule generates an alarm of a certain level when a problem is encountered during data acquisition. The rule associates specific values of the Module Status property with specific error classes. Those error classes in turn determine the level of alarm that is generated for the associated values. [TABLE 4-17](#) lists possible Module Status values with their associated error classes and default alarm levels.

**TABLE 4-17** Module Status Values, Error Classes, and Default Alarm Levels

Module Status Value	Error Class	Default Alarm Level
DAQ Failure	Critical	Critical
Memory Allocation	Warning	Alert
Internal Error	Info	Caution
OK	None	None

You can edit the alarm levels associated with each error class. [TABLE 4-18](#) lists the error classes for the Module Status rule and their default alarm levels.

**TABLE 4-18** Default Alarm Levels for Module Status Rule Error Classes

Error Class	Default Alarm Level
Critical	3 Critical
Warning	2 Alert
Info	1 Caution
None	0 None

## Action

If an Alert or Critical alarm is generated, contact your Sun service representative.

A Caution alarm might not be an error. Check the console data and contact your Sun service representative if data is missing or unexpected.

---

## Indicator Status Rule

This rule applies only to the Indicator State property in the Indicator object.

**TABLE 4-19** Indicator Status Rule

---

<b>Applicable tables</b>	Indicator
<b>Properties read</b>	Indicator State, Expected State
<b>Alarm trigger</b>	State does not equal Expected State
<b>Editable parameters</b>	Alarm Severity

---

## Error Classes and Default Alarm Levels

This rule generates an alarm when the value of Indicator State does not match the Expected State. The default alarm level associated with this error is Caution.

[TABLE 4-20](#) describes the property value, along with its associated error class and default alarm level.

---

**Note** – When the value of Expected State is -- (double dash), this rule does not compare the value of Indicator State with it.

---

**TABLE 4-20** Indicator State Property Value, Error Class, and Default Alarm Level

---

<b>Indicator State Value</b>	<b>Error Class</b>	<b>Default Alarm Level</b>
Does not match value of Expected State value	Alarm	1 Caution

---

You can change the alarm level associated with this Alarm error class.

## Action

Contact your Sun service representative for information about correcting the problem.



## PCI Cards

The Expansion Card table contains rows corresponding to PCI cards that are installed in your system. The hardware platform module can present a textual description of the card together with the Sun Store optional component code and Sun Microsystems part number in the Description, Model Name, and Part Number fields, respectively.

Cards for which the add-on software is not configured to provide this information, display the text -- in the Description, Model Name, and Part Number fields.

**TABLE A-1** lists the cards for which the textual description, Sun Store optional component code and Sun Microsystems part number are available. Refer to the documentation supplied with your platform for details of which of these PCI cards are available for your system.

**TABLE A-1** Supported PCI Cards

PCI Card	Sun Part Number	Optional Component Number
Dual-Channel Differential UltraSCSI PCI Host Adapter	375-0006	X6541A
Dual-Channel Ultra3 Differential SCSI PCI Host Adapter	375-3057	X6758A
Sun High-Speed Serial Interface PCI Adapter 2.0	370-2728	X1155A
Sun Serial Asynchronous Interface PCI Adapter 3.0	375-0100	X2156A
Sun FastEthernet 10/100BaseT PCI Adapter 2.0	501-5019	X1033A
Sun Quad FastEthernet PCI Card (QFE)	501-5406	X1034A
Sun GigaSwift Ethernet UTP PCI Adapter	501-5902	X1150A
Sun GigaSwift Ethernet MMF PCI Adapter	501-5524	X1151A
SunATM 155/MFiber PCI Adapter 4.0	501-3028	X1157A
SunATM 155/UTP PCI Adapter 4.0	501-3027	X1158A

**TABLE A-1** Supported PCI Cards (*Continued*)

<b>PCI Card</b>	<b>Sun Part Number</b>	<b>Optional Component Number</b>
SunATM 622/MFiber PCI Adapter 4.0	501-3029	X1159A
Single Fibre Channel PCI Network Adapter	375-3019	X6799A
Dual Fibre Channel PCI Network Adapter	375-3030	X6727A
SunSwift 10/100BaseT Fast/Wide UltraSCSI PCI Adapter	501-5656	X1032A
Dual Fast Ethernet + Dual SCSI PCI Adapter	501-5727	X2222A
Sun XVR-100 Graphics Accelerator	375-3126	X3769A
Sun XVR-600 Graphics Accelerator	375-3153	X3780A
Sun XVR-500 Graphics Accelerator	375-3069	X3685A
Sun XVR-1200 Graphics Accelerator	375-3101	X3689A
Sun PGX64 Graphics Accelerator PGX64	370-4362	X3768A
Dual Fibre Channel 2 Gb PCI Network Adapter	375-3108	X6768A
SunPCi II Pro Co-Processor Card	375-3051	X2132A
Sun PCi III Pro Co-Processor Card	605-4654	X2134A
Sun Crypto Accelerator 1000 Card	375-3089	X6762A
Sun Gigabit Ethernet PCI Adapter	501-4373	X1141A

## Platform-Specific Information

**TABLE B-1** lists the common packages that you install on the monitored system and the Sun Management Center server.

The following sections contain platform-specific information about the software packages for this product and the related system documentation for each supported platform:

- [“Sun Fire V210, Sun Fire V240, and Netra 240 Servers” on page 52](#)
- [“Netra 440 Servers” on page 52](#)
- [“Sun Fire V250 Server” on page 53](#)
- [“Sun Fire V440 Server” on page 53](#)
- [“Sun Blade 1500 and Sun Blade 2500 Workstations” on page 54](#)
- [“Sun Fire T2000 System” on page 54](#)

For information about related system documentation, see [“Related Documentation” on page xiii](#). For information about general Sun Management Center prerequisites, including minimum disk space requirements, refer to the *Sun Management Center Installation and Configuration Guide*.

**TABLE B-1** Common Hardware Platform Module Packages

Package	Description	Layer
SUNWescci	Sun Management Center Common Config Reader Module Initialization	Server and agent
SUNWesccs	Sun Management Center Common Config Reader Module Server Core Component	Server
SUNWescca	Sun Management Center Common Config Reader Module Agent Core Component	Agent
SUNWescda	Sun Management Center Common Config Reader Module DAQ Component	Agent
SUNWescdl	Sun Management Center Common Config Reader DAQ Library	Agent

---

# Sun Fire V210, Sun Fire V240, and Netra 240 Servers

TABLE B-2 contains a list of the server and agent components for the Sun Fire V210, Sun Fire V240, and Netra 240 servers.

**TABLE B-2** Platform-Specific Packages for Sun Fire V210, V240, and Netra 240

Package	Description	Layer
SUNWescps	Sun Management Center Common Config Reader Module Sun Fire V210/V240 and Netra 240 Server Component	Server
SUNWescpa	Sun Management Center Common Config Reader Module Sun Fire V210/V240 and Netra 240 Agent Component	Agent
SUNWescpl	Common Config Reader Module Sun Fire V210/V240 and Netra 240 platform support	Agent

---

# Netra 440 Servers

TABLE B-3 contains a list of the server and agent components for the Netra 440 servers.

**TABLE B-3** Platform-Specific Packages Netra 440

Package	Description	Layer
SUNWescns	Sun Management Center Common Config Reader Module Server Netra 440 Platform Component	Server
SUNWescna	Sun Management Center Common Config Reader Module Netra 440 Agent Component	Agent
SUNWescn1	Common Config Reader Netra 440 Platform Support	Agent

---

# Sun Fire V250 Server

TABLE B-4 contains a list of the server and agent components for the Sun Fire V250 server.

**TABLE B-4** Platform-Specific Packages for Sun Fire V250 Server

Package	Description	Layer
SUNWescfs	Sun Management Center Common Config Reader Module Sun Fire V250 Server Component	Server
SUNWescfa	Sun Management Center Common Config Reader Module Sun Fire V250 Agent Component	Agent
SUNWescf1	Common Config Reader Module Sun Fire V250 platform support	Agent

---

# Sun Fire V440 Server

TABLE B-5 contains a list of the server and agent components for the Sun Fire V440 server.

**TABLE B-5** Platform-Specific Packages for Sun Fire V440 Server

Package	Description	Layer
SUNWeschs	Sun Management Center Common Config Reader Module Sun Fire V440 Server Component	Server
SUNWescha	Sun Management Center Common Config Reader Module Sun Fire V440 Agent Component	Agent
SUNWesch1	Common Config Reader Module Sun Fire V440 platform support	Agent

---

# Sun Blade 1500 and Sun Blade 2500 Workstations

[TABLE B-6](#) contains a list of the server and agent components for Sun Blade 1500 and Sun Blade 2500 workstations.

**TABLE B-6** Platform-Specific Packages for Sun Blade 1500 and 2500

Package	Description	Layer
SUNWescws	Sun Management Center Common Config Reader Module Sun Blade 1500/2500 Server Platform Component	Server
SUNWescwa	Sun Management Center Common Config Reader Module Sun Blade 1500/2500 Agent Platform Component	Agent

---

# Sun Fire T2000 System

[TABLE B-7](#) contains a list of the server and agent components for Sun Fire T2000 system.

**TABLE B-7** Platform-Specific Packages for Sun Fire T2000 System

Package	Description	Layer
SUNWesona	Sun Management Center Common Config Reader Module Sun Fire T2000 Agent Component	Agent
SUNWesonl	Sun Management Center Common Config Reader Sun Fire T2000 Platform Support	Agent
SUNWesons	Sun Management Center Common Config Reader Module Sun Fire T2000 Platform Component	Server

[TABLE B-8](#) contains a list of server and agent components specific to PCPdaq.

**TABLE B-8** Packages for PCPdaq

<b>Package</b>	<b>Description</b>	<b>Layer</b>
SUNWespda	Sun Management Center Common Config Reader Module Agent PCPDAQ Component	Agent
SUNWespd1	Sun Management Center Common Config Reader PCPDAQ Library	Agent





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