

**Oracle® Hardware Management  
Connector 3.2 for Microsoft System  
Center Operations Manager**

**ORACLE®**

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## Using This Documentation

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- **Overview** – Oracle Hardware Management Connector (Oracle HMC) for Microsoft System Center Operations Manager (Operations Manager) enables you to integrate Sun servers and blade modules into your Microsoft System Center Operations Manager environment.
- **Audience** – This document is intended for experienced IT professionals, field sales representatives and support engineers.
- **Required knowledge** – Experience with installing software on Sun servers and blade modules.

## Product Documentation Library

This guide and other related documentation is available from the Oracle System Management and Diagnostics documentation library at <http://www.oracle.com/technetwork/documentation/sys-mgmt-networking-190072.html>.

## Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

## Feedback

Provide feedback about this documentation at <http://www.oracle.com/goto/docfeedback>.



# Introduction

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The Oracle Hardware Management Connector (Oracle HMC) software extends the capabilities for Microsoft System Center Operations Manager (Operations Manager) by providing specific configuration information, product knowledge, and tasks for Sun x86 servers.

## Getting Started

After you have installed the Oracle HMC for Operations Manager, you can take advantage of the following features in Operations Manager:

- You can monitor your Sun x86 servers in Operations Manager, viewing alerts, events, the server's state, and the state of any hardware.
- You can use tasks, such as launching a remote desktop connection or opening the server's Microsoft Management Console.
- You can view detailed information about each event or alert received from Sun x86 servers.

## Requirements

Oracle HMC for Operations Manager is compatible with Microsoft System Center Operations Manager 2007 and Microsoft System Center Operations Manager 2012. A complete list of the currently supported servers and service processor firmware is available from the ISV HMC tab at the following web site:

<http://www.oracle.com/technetwork/server-storage/servermgmt/tech/isv-hardware-connectors/hw-mgmt-connectors-support-matrix-1378062.html>

Please consult the list of supported servers at this web site before installing Oracle HMC for Operations Manager.

Each Sun x86 server you want to monitor in Operations Manager must have Oracle Server Management Agents installed. For more information, see [“Configuring Monitoring of Sun x86 Servers” on page 13](#).





# Deploying Oracle HMC for Operations Manager

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This chapter explains how to get and install Oracle HMC for Operations Manager, as well as how to verify its configuration.

## Upgrading From Sun Servers Integration for Microsoft System Center Operations Manager

Oracle Hardware Management Connector for Operations Manager was previously available and known as the Sun Servers Integration for Microsoft System Center Operations Manager. Due to architectural changes to the software, it is not possible to upgrade from previous versions. You can safely install Oracle HMC for Operations Manager in addition to Sun Servers Integration for Microsoft System Center Operations Manager.

## Upgrading From Previous Oracle HMC Versions

You must uninstall any previous version of Oracle Hardware Management Connector (HMC) for Operations Manager prior to installing a later version.

## Getting the Software

You can find software, firmware, and drivers downloads for all Oracle servers and server modules (blades) on the My Oracle Support (MOS) at the following web site:

<http://support.oracle.com>

On the My Oracle Support page, you can find the following types of downloads:

- Software release bundles that are specific to a rackmount server, server module, modular system (blade chassis), or network express module (NEM). These software release bundles

include Oracle Integrated Lights Out Manager (ILOM), Oracle System Assistant, and other platform software and firmware.

- Standalone software common across multiple types of hardware. This includes Oracle Hardware Management Pack and Oracle Hardware Management Connectors.

This procedure explains how to use My Oracle Support to download server firmware and software.

## ▼ Download Firmware and Software Using My Oracle Support

1. **Go to the My Oracle Support site:**

<http://support.oracle.com>

2. **Sign in to My Oracle Support.**

3. **At the top of the page, click the Patches & Updates tab.**

The Patches and Updates page appears.

4. **In the Patching Quick Links panel, click Oracle Servers Tools > Latest Patchsets.**

The Path Search panel displays a link to the Product or Family (Advanced) search option.

5. **In the Search Path panel, click the link for Product or Family (Advanced) .**

The search parameters for Product and Family appear.

6. **In the Product field, type a full or partial product name, until a list of matches appear and select the product of interest. For example:**

- **To search for the latest Hardware Management Connector, type Hardware Management Connector.**
- **To search for firmware for a specific server, type the product name, for example SPARC T5-2 Server.**

7. **In the Release field, select the software release check box in the drop-down list. For example:**

- To locate Oracle Hardware Management Connector patches for Microsoft products, select the HMC for Operations Manager check box.
- To locate the SPARC T5-2 firmware patch for version 9.0, select the SPARC T5-2 Sun System Firmware 9.0 check box.

**8. Click Search.**

The Path Search Results page appears display a list of available patches in a table format.

**9. To select a single Patch, click a Patch Name in the table.**

A popup action panel appears with these actions: Readme, Add to Plan, or Download.

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**Note** - To select multiple patches, hold-down the Control key while selecting additional patch names in the table.

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**10. To download a single patch (or multiple patches), click the Download action in the popup panel, then in the File Download dialog, select the file(s) to download.**

The download process begins automatically.

## Installing Oracle HMC for Operations Manager

After you have downloaded and uncompressed the Oracle HMC for Operations Manager files, you can import the .mp management pack file to Operations Manager. For more information on importing management packs, see the Operations Manager documentation.



# Monitoring Sun x86 Servers in Operations Manager

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This chapter explains the features available in Operations Manager after installing Oracle HMC for Operations Manager and how to use them to monitor your Sun x86 servers. An overview of the various views and how they apply to Sun x86 servers is also provided.

## Configuring Monitoring of Sun x86 Servers

To configure Sun x86 servers so that they can be monitored using the Oracle HMC for Operations Manager, Oracle Server Management Agents must be installed and running on each of the Sun x86 servers. The Oracle Server Management Agents component provides flexible in-band management agents that enable you to monitor your Sun x86 server and blade module's hardware. The Oracle Server Management Agents component is available as part of the Oracle Hardware Management Pack. For more information about Oracle Hardware Management Pack, see:

<http://www.oracle.com/goto/ohmp>

For more information about installing Oracle Server Management Agents, refer to the Oracle Server Management Agents User's Guide available from:

<http://www.oracle.com/goto/ohmp/docs>

## Discovering Sun x86 Servers

Once you have installed Oracle HMC for Operations Manager and configured your monitored nodes, you have to discover your Sun x86 servers using the Operations Manager Discovery Wizard. During the process of discovering Sun x86 servers, you should detect your Sun x86 servers as Windows computers. For more information on discovering servers in Operations Manager, please see the Operations Manager documentation.

By default servers are detected every four hours. To modify the frequency in which Operation Manager discovers the servers, see [“Modifying the Frequency for Server Discovery” on page 14](#).

## Modifying the Frequency for Server Discovery

By default the Sun Server Discovery Rules run every four hours. You can modify how frequently the Sun Server Discovery Rules run for supported servers so that your Sun x86 servers can be discovered with less delay. There is one Sun Server Discovery Rule for each supported server.

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**Note** - Change the frequency of discovery only when necessary. Running discovery returns a large amount of data in a production environment with many monitored nodes.

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### ▼ **Modify the Server Discovery Frequency Interval**

- 1. In the Operations Console, click Authoring.**
- 2. In the Authoring pane, under Management Pack Objects, click Object Discoveries.**  
The Object Discoveries list opens.
- 3. Optionally, type Sun into the Look for text box and click Find Now.**  
This filters the Object Discoveries list to only show your Sun x86 servers.
- 4. In the search results list, click the "Sun x86 server discovery" row.**
- 5. In the Actions panel, click Overrides > Override the Object Discovery > For all objects of class: Windows Server.**  
The Override Properties window opens.
- 6. To adjust the discovery frequency (measured in seconds), modify the Interval Seconds parameter.**
- 7. To make the change permanent, click Apply.**

## Modifying the Server State Polling Frequency

By default the monitored server state is polled every ten minutes. You can modify the polling frequency interval using the Interval Seconds parameter. This parameter defines how often polling of the server's state is triggered.

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**Note** - It is not recommended to lower the interval to a value under three minutes.

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### ▼ **Modify Server State Polling Frequency**

1. **In the Operations Console, click Authoring.**
2. **In the Authoring pane, click Rules.**  
The list of rules opens.
3. **Optionally, type Polling into the Look for text box and click Find Now. This filters the Object Rules list to only show your Sun x86 servers.**

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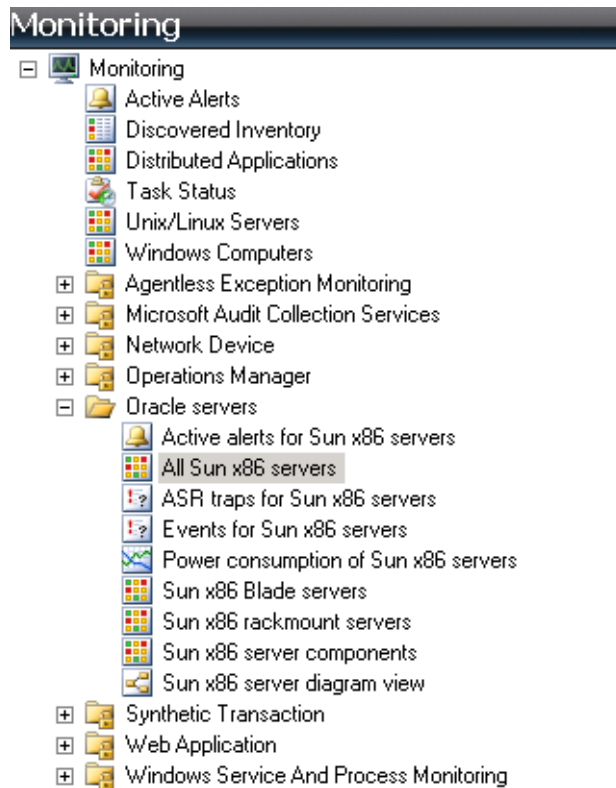
**Note** - Optionally, you can filter the list to only show "rackmounts" or "blades".

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4. **In the list of rules, right click "Polling trigger event to OpsMgr log in the Type: Sun X86 servers".**  
The Override Properties dialog opens.
5. **Click Override in the row Interval Seconds.**  
The Override Value property becomes editable.
6. **Modify the Override Value to the desired number of polling seconds.**
7. **To apply the changes and close the Override Properties dialog, click Apply then click OK.**

## Sun x86 Server Specific Views

Oracle HMC for Operations Manager provides various views that enable you to monitor your discovered Sun x86 servers. The Oracle HMC for Operations Manager views are accessed in the Operations Console Monitoring pane under Oracle servers.



When you open the Oracle servers category you can access the specific views provided by Oracle HMC for Operations Manager. These views provide information about events that have happened, any state alerts, and the health of your Sun x86 servers.

## Server State Views

The All Sun x86 Servers view displays information about all of the servers that you have discovered. The Sun x86 Blade servers view and the Sun x86 rackmount servers view provide



you with information about only the Sun x86 Rackmount Servers or Sun x86 Blade Servers that you have discovered. Each of these views functions similarly, providing an overall view of the status of your discovered Sun x86 servers, together with specific properties such as the State, Name, server component health, and so on.

| State    | Maintenance Mode | Name               | Path               | Sun x86 server component |
|----------|------------------|--------------------|--------------------|--------------------------|
| Healthy  |                  | x4450-02.sg-pra... | x4450-02.sg-pra... | Healthy                  |
| Warning  |                  | x4240-01.sg-pra... | x4240-01.sg-pra... | Healthy                  |
| Critical |                  | X6270-01.sg-pra... | X6270-01.sg-pra... | Healthy                  |

In each of the three server state views, clicking on a server in the list of servers selects the server and displays further information such as the service processor (SP) firmware version, MAC address, and so on in the Detail view at the bottom of the pane.

| Detail View   |                                 |
|---|---------------------------------|
|  <b>Sun x86 server properties of x4450-02.sg-pra.sun.com</b> |                                 |
| Name  | x4450-02.sg-pra.sun.com         |
| Path name   | x4450-02.sg-pra.sun.com x4450   |
| Product name  | SUN FIRE X4450                  |
| Product manufacturer  | Sun Microsystems                |
| Product part number   | 602-4061-01                     |
| Product serial number   | 0QBC023819                      |
| Product UUID  | 080020FFFFFFFFF001E682ED796FFFF |
| Bios version  | S93_3B66                        |
| SP firmware version   | 3.0.6.15                        |
| SP IP address   | 192.0.2.2                       |
| SP IP mode  | Static                          |
| SP manufacturer   |                                 |
| SP default gateway  | 192.0.2.1                       |
| SP network mask   | 255.255.252.0                   |
| SP serial number  | 00:1e:dd:1:68:2e                |
| SP MAC address  | 00:1e:68:1c:2e:dd               |
| URL to access ILOM  | https://10.18.1.190:443         |
| System identifier   | sg-prg-x4450-02-sp0             |
| Sun Server Management Agents version 1.0  |                                 |

You can also launch server tasks for the currently selected server, for more information see [“Sun x86 Server Tasks” on page 18](#).

## Sun x86 Server Tasks

Within the server state views, the following tasks are available for all Sun x86 servers under the Sun servers tasks pane:

- Go to integrations web site — Opens the web page for Integration with Third Party System Management ISV tools. On this web site, you can locate the latest version of Oracle HMC for Operations Manager.
- Launch management console — Launches the Microsoft Management Console for the server currently selected in the Servers state view.
- Launch remote desktop — Launches a remote desktop connection to the server currently selected in the Servers state view.

When using the Management Console task, the task might fail if the Sun x86 server and the management server are not in the same domain and there is no trust between them. The cause might be that additional login credentials need to be provided. If you encounter this problem,

run the `cmdkey` utility on the management server to assign login credentials for the Sun x86 server.

For example:

```
cmdkey /add:ServerName /user:ServerName\Administrator /pass:password
```

assigns the login credentials `Administrator` and `password` for the server `Server Name`. For more information about the `cmdkey` utility, refer to the Microsoft Windows Operating System product documentation.

## Events for Sun x86 Servers View

Oracle HMC for Operations Manager provides an Operations Manager Events view with all of the information related to your discovered Sun x86 servers.

To open the Sun x86 hardware Events view, choose the Monitoring section in the Operations Console, open the Oracle servers folder, and click Events for Sun x86 servers.

| Level                                 | Date and Time         | Source | Name               |
|---------------------------------------|-----------------------|--------|--------------------|
| <b>Logging Computer: X4240-01 (8)</b> |                       |        |                    |
| Information                           | 10/12/2010 4:16:55 PM | hwmgmt | x4240-01.sg-pra... |
| Information                           | 10/12/2010 3:47:29 PM | hwmgmt | x4240-01.sg-pra... |
| Information                           | 10/12/2010 3:47:29 PM | hwmgmt | x4240-01.sg-pra... |
| Information                           | 10/12/2010 3:47:06 PM | hwmgmt | x4240-01.sg-pra... |
| Information                           | 10/12/2010 3:47:05 PM | hwmgmt | x4240-01.sg-pra... |
| Information                           | 10/12/2010 3:47:05 PM | hwmgmt | x4240-01.sg-pra... |
| Information                           | 10/12/2010 3:47:04 PM | hwmgmt | x4240-01.sg-pra... |
| Information                           | 10/12/2010 3:46:32 PM | hwmgmt | x4240-01.sg-pra... |

Every event on your discovered Sun x86 servers is processed by Oracle HMC for Operations Manager and shown in human-readable form in the Events for Sun x86 servers view.

## Active Alerts for Sun x86 Servers View

Oracle HMC for Operations Manager provides an Active alerts view with all of the information related to alerts received from your discovered Sun x86 servers. When the monitor for a particular server part switches to warning or critical state, it generates an alert. The alert is cleared automatically when the state of the monitor has changed back to normal.

To open the Sun x86 servers Active alerts view, open the Monitoring section in the Operations Console. Then open the Oracle servers folder, and select Active Alerts for Sun x86 servers. The hardware alerts view is shown as follows:

| I.                                       | Source              | Name                     | Resolutio... |
|--|---------------------|--------------------------|--------------|
| <b>Severity: Critical (2)</b>            |                     |                          |              |
| <b>Path: X6270-01.sg-pra.sun.com (2)</b> |                     |                          |              |
|  | X6270-01.sg-pra ... | Temperature device alert | New          |
|  | X6270-01.sg-pra ... | Fan device alert         | New          |

When you select an active alert, the Alert Details pane describes the possible cause for the alert. When you double-click an active alert, the Alert Properties dialog provides additional information about the alert, such as product knowledge for troubleshooting the alert, as well as the history of an alert.

## Health Explorer

The Health Explorer view provides information about the state of the components and device types in a server. Analyzing the health status by component provides detailed information about each component in the server, while viewing the health status by device type provides detailed information about the server subsystem health. For example, when a temperature device type and a fan speed device type are not healthy, it means that temperature and fan speeds subsystems are having problems.

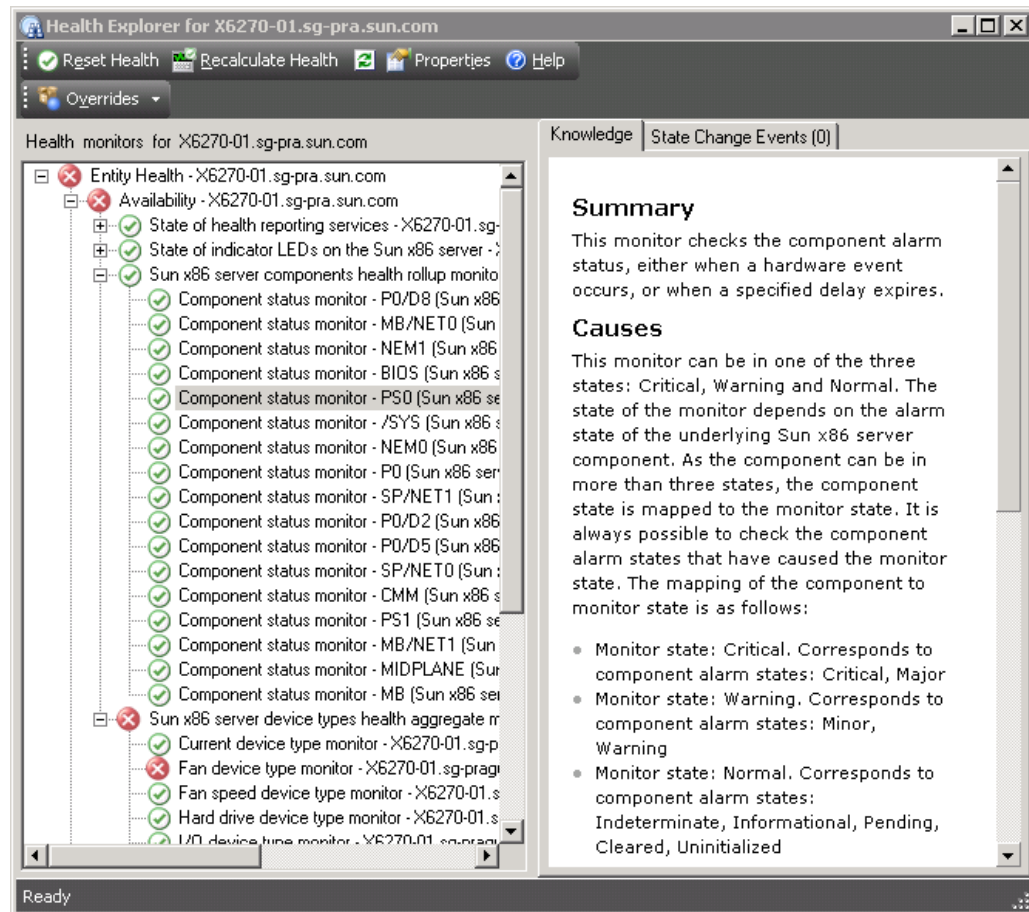
There are different ways of opening the Health Explorer for a particular server. Choose one of the following options to open the Monitoring section of the Operations Console:

- Select the desired server in any of the server state views and click Health Explorer in the Actions panel at the top right of the screen.

- Double-click the desired server in any of the server state views.
- Right-click the desired server in any of the server state views and from the Open menu choose Health explorer.

The Health Explorer window appears.

The Health Explorer consists of a knowledge base that provides health details about a managed component, or device type, as well as information about State Change Events, as seen in the following example:

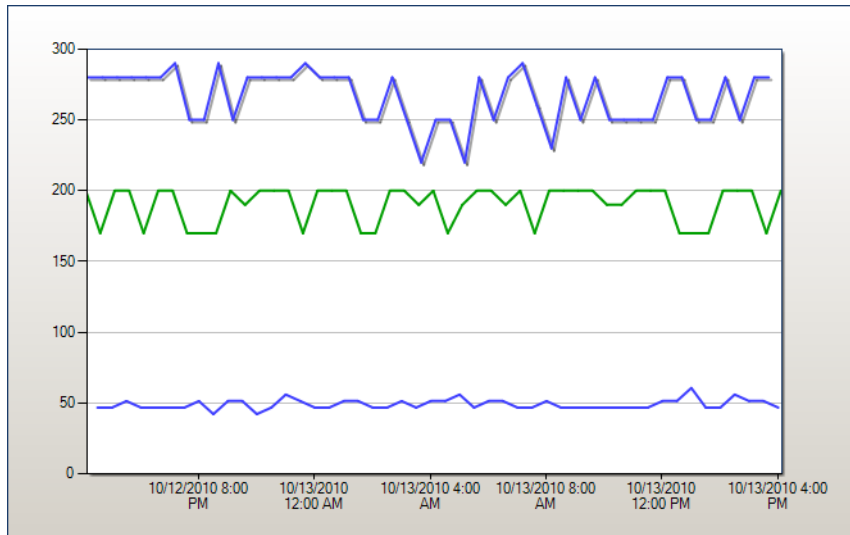


To view information about a component that is being monitored, open Availability and then open Sun x86 server components health rollup monitor. To view information about a device type that is being monitored, open Availability and then open Sun x86 server device types health aggregate monitor.

When a sensor has a critical state, an alert is generated with the corresponding severity. To get information about changes to a sensor's state, select the State Change Events tab.

## Power Consumption View Sun x86 Servers

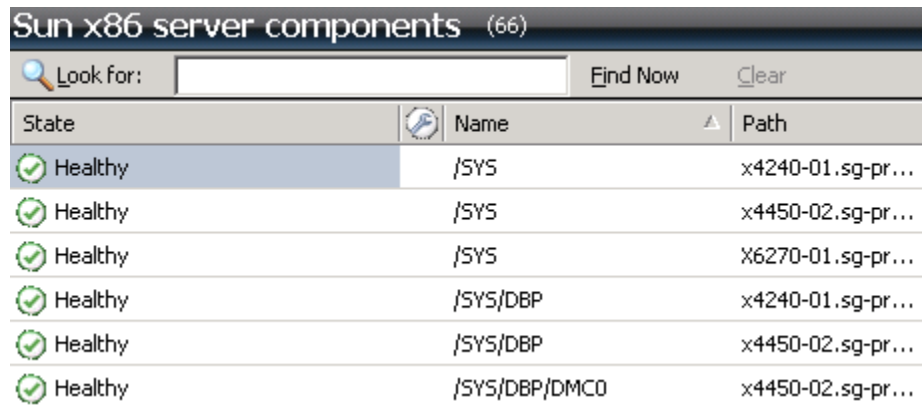
The power consumption view displays a graphical representation of your Sun x86 servers power consumption over time.



You can choose which Sun x86 servers to display from the list of servers at the bottom of the page using the Show check box.

## Sun x86 Server Component View

The Sun x86 server components view provides an overview of the health state of the components of your Sun x86 servers being monitored in Operations Manager.

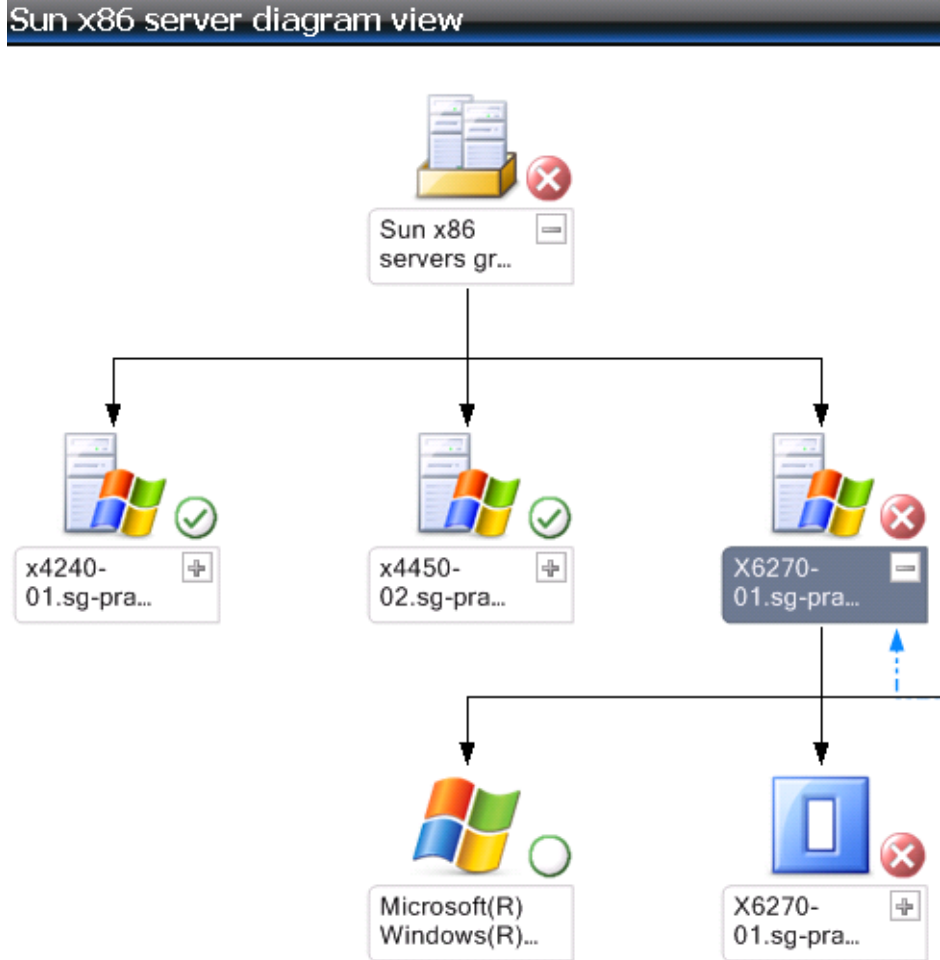


| Sun x86 server components (66) |                      |                   |
|--------------------------------|----------------------|-------------------|
| Look for:                      | <input type="text"/> | Find Now Clear    |
| State                          | Name                 | Path              |
| Healthy                        | /SYS                 | x4240-01.sg-pr... |
| Healthy                        | /SYS                 | x4450-02.sg-pr... |
| Healthy                        | /SYS                 | X6270-01.sg-pr... |
| Healthy                        | /SYS/DBP             | x4240-01.sg-pr... |
| Healthy                        | /SYS/DBP             | x4450-02.sg-pr... |
| Healthy                        | /SYS/DBP/DMCO        | x4450-02.sg-pr... |

Clicking on a component name displays more detailed information about the selected component in the Detail View.

## Sun x86 Server Diagram View

The Sun x86 server diagram view provides a graphical overview of the servers being monitored using Oracle HMC for Operations Manager. As well as information about the operating system and Health Service properties of the server. A green check mark on a component indicates the component's status is healthy. To view the health details of a component, click the desired component shown in the diagram view.



## Configuring Monitoring of ASR

Oracle Auto Service Request (ASR) is a feature of Oracle Premier Support for Systems and Oracle/Sun Limited Warranty that is designed to automatically request Oracle service when specific hardware faults occur. ASR enables auto-case generation when specific hardware faults occur and the traps sent by ASR can be received in Operations Manager. For more information on ASR, see:

<http://www.oracle.com/asr>

To be able to monitor ASR traps in Operations Manager you have to discover your ASR manager using the Operations Manager Discovery Wizard. During the process of discovering



your ASR manager, you should detect your ASR manager as a Network device. For more information on the Discovery Wizard, see the Operations Manager documentation.

## **ASR Traps for Sun x86 Servers View**

The ASR traps for Sun x86 servers view provides information on traps received from your ASR manager. The ASR traps for Sun x86 servers view lists all of the ASR traps received by the Operations Manager management server. You can view the detailed information contained in the trap by clicking on the corresponding row.



# Release Notes

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This chapter contains late-breaking information relating to known issues with Oracle HMC for Operations Manager:

- [“Server Entity Health Status Not Updating” on page 27](#)
- [“Details of a Component or Device Monitor Not Updating” on page 27](#)

## Server Entity Health Status Not Updating

The Operations Manager Health Explorer stops showing the up-to-date health status of a server entity, and an Oracle ILOM connection error is reported. (Bug IDs 15811232 and 15810855)

To solve this issue, log in to the server that is reporting the Oracle ILOM connection error, and restart the Operations Manager agent and Oracle Server Hardware Management agent.

*Update:* This known issue, reported by Bug IDs 5811232 and 5810855, was fixed in Oracle HMC for Operations Manager software version 3.2.

## Details of a Component or Device Monitor Not Updating

Within the Operations Manager Health Explorer, the Details of a component or device monitor might not update. You might encounter this situation, when for example, a new critical sensor is detected or restored to a healthy state. (Bug ID 15810584)

To solve this issue, in the Operations Manager Health Explorer, reset the component or device monitor manually. The Details automatically update.

*Update:* This known issue, reported by Bug ID 15810584, was fixed in Oracle HMC for Operations Manager software version 3.2.



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