Third Party System Management Integration Software

Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005

- Sun Fire x64 Servers

A complete, current list of supported Sun servers, service processors, and service processor firmware is available at the following web site:

```
http://www.sun.com/system-management/tools.jsp
```

Please consult this web site before installing the Sun Management Pack.

Sun Microsystems, Inc.
www.sun.com

Part No. 819-7351-15
August 2008, Revision A

Copyright 2007 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed at http://www.sun.com/patents and one or more additional patents or pending patent applications in the U.S. and in other countries.

This document and the product to which it pertains are distributed under licenses restricting their use, copying, distribution, and recompilation. No part of the product or of this document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any.

Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and in other countries, exclusively licensed through X/Open Company, Ltd.

Sun, Sun Microsystems, the Sun logo, Sun Blade, and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and in other countries.

U.S. Government Rights—Commercial use. Government users are subject to the Sun Microsystems, Inc. standard license agreement and applicable provisions of the FAR and its supplements.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2007 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, États-Unis. Tous droits réservés.

Sun Microsystems, Inc. possède les droits de propriété intellectuels relatifs à la technologie décrite dans ce document. En particulier, et sans limitation, ces droits de propriété intellectuels peuvent inclure un ou plusieurs des brevets américains listés sur le site http://www.sun.com/patents, un ou les plusieurs brevets supplémentaires ainsi que les demandes de brevet en attente aux les États-Unis et dans d'autres pays.

Ce document et le produit auquel il se rapporte sont protégés par un copyright et distribués sous licences, celles-ci en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, par quelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y en a.

Tout logiciel tiers, sa technologie relative aux polices de caractères, comprise, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit peuvent dériver des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux États-Unis et dans d'autres pays, licenciée exclusivement par X/Open Company, Ltd.

Sun, Sun Microsystems, le logo Sun, Sun Blade, et Solaris sont des marques de fabrique ou des marques déposées de Sun Microsystems, Inc. aux États-Unis et dans d'autres pays.

LA DOCUMENTATION EST FOURNIE "EN L'ÉTAT" ET TOUTES AUTRES CONDITIONS, DÉCLARATIONS ET RANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES DANS LA LIMITE DE LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE À LA QUALITÉ MARCHANDE, À L'APTITUDE À UNE UTILISATION PARTICULIÈRE OU À L'ABSENCE DE CONTREFAÇON.

Contents

Introduction 1

This Manual 2

Supported Servers 2

Requirements 2

Managed Nodes (Sun Servers) 2

Related Documentation 4

Installing the Sun Management Pack 5

Installation Overview 5

Planning the Installation 5

Downloading the Sun Management Pack 6

Installing the Sun Management Pack 6

Verifying Installation 13

Administrator Console: Computer Groups Folder 13

Administrator Console: Rule Groups Folder 14

Operator Console: Computers and Groups Views 15

Operator Console: Tasks Pane 16

Configuring Sun Servers for MOM 2005 and the Sun Management Pack 17

Determining the Version of MS Windows Server 2003 Running on a Managed Node 17

Configuring Sun Servers Running MS Windows Server 2003 R2 19

Configuring Sun Servers Running MS Windows Server 2003 SP1 or SP2 22

Installing and Configuring the Sun IPMI Driver 22

Installing and Configuring the Sun-provided ipmievd Service 28

Discovering and Classifying Sun Servers 31

Discovering Sun Servers 32

Discovering Sun Servers Immediately 32

Resetting the MOM 2005 Default Interval for Computer Discovery 33

Discovering Server Attributes and Classifying Sun Servers 35

Viewing the Formula for Sun x64 Server Classifications 35

Option-1: Allowing MOM 2005 to Perform Automatic Classification 37

Option-2: Resetting the Default Interval for Running the Sun Discover Machines Script 37

Option-3: Performing Classification Immediately 40

Option-4: Classifying Servers Manually 44

Verifying Classification 46

Verifying and Troubleshooting Your MOM 2005 Configuration 50

Verifying Successful Configuration 50

About IPMItool 50

Injecting a Simulated Event 50

Troubleshooting Your MOM 2005 Configuration 52

Sun Management Pack Version 52

Server Classification 52

Filter Rules 53

Hardware Event Logging for Windows Server 2003 R2 Managed Servers 53

Hardware Event Logging for Managed Servers Running Windows Server 2003 non-R2 56

Monitoring Sun Servers with the Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005 59

Sun-Specific Event Handling 59

Basic Event Reporting 59

Additional Event Reporting 61

Sun-Specific Events and Rules 63

Sun Alerts 63

Sun Event Rules 64

Sun Event Filters 67

Sun-Specific Tasks 68

Sun-specific Views and Diagrams 69

Computers View 70

Alerts View 70

Diagram View 71

What's New in Sun Servers Management Pack 3.x for Microsoft Operations Manager 2005? 72

Version Management and Discovery 72

Installation and Versioning 72

Server Discovery 73

Sun-specific Rules, Classes, and Views 74

Rule Groups and Rules 74

Sun Classes 76

Enhanced Views 77

Access to Other Sun System Management Resources 77

Access to Sun Service Processor Web Interface 78

Access to Sun Server Resources 80

Glossary 81

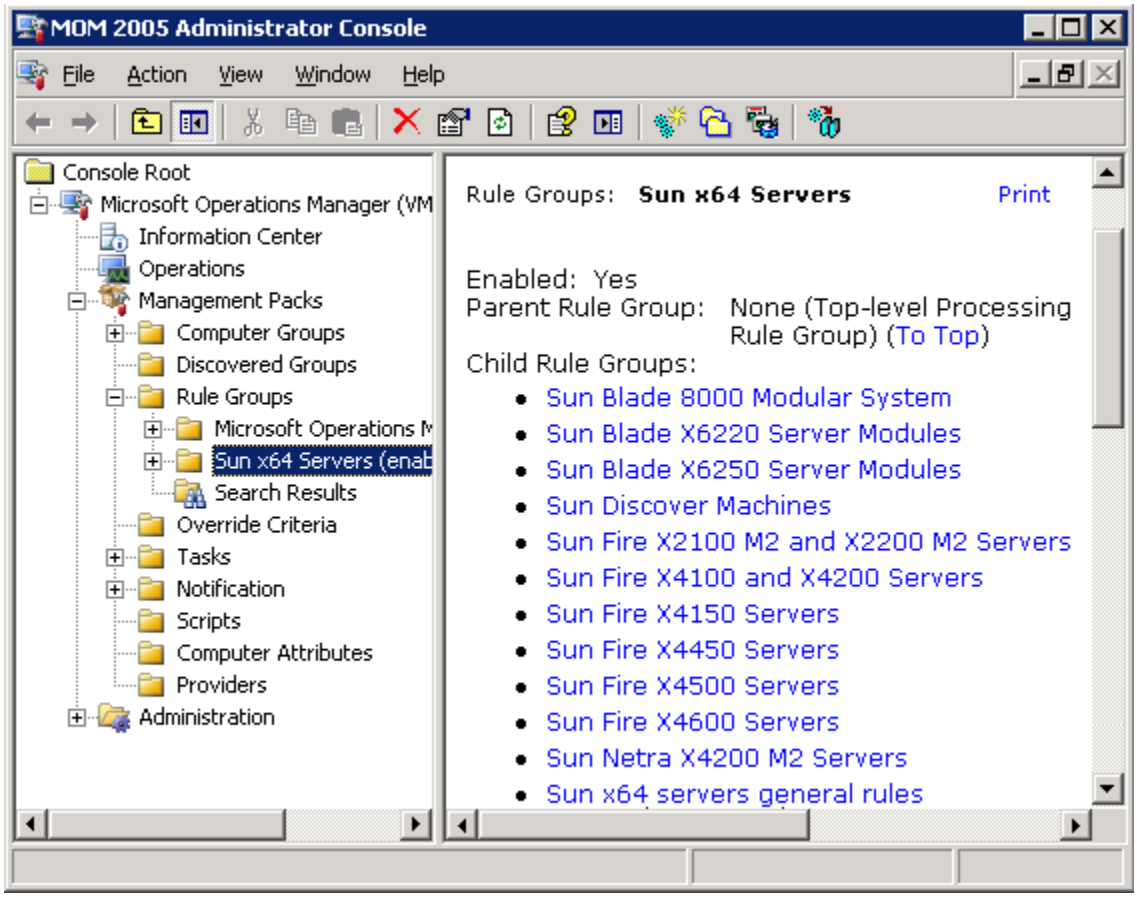
Index 83

CHAPTER 1

Introduction

The Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005 (hereafter Sun Management Pack) provides libraries of system management rules and event definitions that extend the capabilities of the default Microsoft Operations Manager (hereafter MOM 2005) environment. Once you have installed the Sun Management Pack, MOM will assist in performing these tasks:

- Identifying Sun servers on your network
- Recognizing problems with those Sun servers
- Troubleshooting these problems based on detailed descriptions of the underlying events reported about these servers
- Identifying options for resolving problems based on the Sun Management Pack Knowledge Base



This Manual

This manual contains the following chapters:

- Chapter 1 “Introduction”
- Chapter 2 “Installing the Sun Management Pack”
- Chapter 3 “Configuring Sun Servers for MOM 2005 and the Sun Management Pack”
- Chapter 4 “Discovering and Classifying Sun Servers”
- Chapter 5 “Verifying and Troubleshooting Your MOM 2005 Configuration”
- Chapter 6 “Monitoring Sun Servers with the Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005”
- Appendix A “What’s New in Sun Servers Management Pack 3.x for Microsoft Operations Manager 2005?”

This manual is intended for IT professionals experienced with MOM 2005, field sales representatives, and support engineers.

Supported Servers

A complete and current list of supported Sun servers, service processors, and service processor firmware is available at the following web site:

http://www.sun.com/system-management/tools.jsp

Please consult this web site before installing the Sun Management Pack. In general terms, the Sun Management Pack supports the following families of Sun servers:

- Sun Fire x64 Servers

Requirements

The managed nodes (Sun servers) and the MOM server have different software requirements.

Managed Nodes (Sun Servers)

To determine the appropriate drivers and services to install on your managed node, you must know which version of Microsoft Windows Server 2003 is installed on that managed node.

MS Windows Server 2003 OS	Drivers and Modules
W2K3 with Service Pack 1	Sun IPMI Driver for Windows (installed) Sun ipmievd Service for Windows (installed)
W2K3 with Service Pack 2	Sun IPMI Driver for Windows (installed) Sun ipmievd Service for Windows (installed)
W2K3 R2	MS IPMI Driver (installed) MS Hardware Management Module (enabled)
W2K3 R2 with Service Pack 2	MS IPMI Driver (installed) MS Hardware Management Module (enabled)

See Chapter 3 for details about downloading, installing and configuring the Sun IPMI driver and Sun ipmievd service on SP1 and SP2 managed nodes.

A complete and current list of supported Sun servers, service processors, and service processor firmware is available at the following URL:

http://www.sun.com/system-management/tools.jsp

Please consult this web site before installing the Sun Management Pack.

Server Types	Examples in This Manual
Sun Fire x64 servers with Embedded LOM	Sun Fire X2100 M2 Server Sun Blade X6250 Server Module
Sun Fire x64 servers with Integrated Lights Out Manager (ILOM)	Sun Fire X4100 Server Sun Fire X4200 M2 Server Sun Blade X6220 Server Module Sun Blade X8420 Server Module

Consult your Microsoft MOM 2005 documentation for the most current list of the servers, operating systems, and layered software that it supports.

Related Documentation

Consult the following manuals from Microsoft and Sun for additional information about installing, configuring, and using MOM 2005 and Sun solutions.

- *Microsoft Operations Manager (MOM) 2005 Conceptual Guide*
- *Microsoft Operations Manager (MOM) 2005 Deployment Guide*
- *Microsoft Operations Manager (MOM) 2005 Operations Guide*
- *Microsoft Operations Manager (MOM) 2005 Management Pack Development Guide*
- *Microsoft Operations Manager (MOM) 2005 Troubleshooting Guide*
- Microsoft Operations Manager 2005 Product Home Page (`http://www.microsoft.com/mom/default.mspx`)
- *Sun Integrated Lights Out Manager 2.0 User's Guide* (820-1188)

CHAPTER 2

Installing the Sun Management Pack

This chapter describes how to perform a fresh installation of the Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005 and how to verify that it is working correctly.

Note: If you are installing the Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005 over a previous installation of the Sun Management Pack, consult Appendix A "Release Notes" for upgrade information.

Installation Overview

The installation process is straight-forward.

1. **Download the Sun Management Pack from the following web site:**

   `http://www.sun.com/system-management/tools.jsp`

   The ZIP archive for the Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005 is named `SunFire_x64Servers_3.3.zip`.

2. **Review the installation requirements described in Chapter 1 and verify that your MOM 2005 and Microsoft Server 2003 installations meet those requirements.**

3. **Unzip the archive that you have downloaded into a directory on the MOM 2005 server.**

   For example, you could unzip the `SunFire_x64Servers_3.3.zip` archive into a file named `SunFire_x64Servers_3.3.akm` in directory named `C:\INST` on the MOM 2005 server.

4. **Install the Sun Management Pack using the standard "Import Management Pack" option in the MOM 2005 Administrator Console.**

5. **Verify installation.**

Planning the Installation

Before you begin the installation of the Sun Management Pack on your MOM 2005 server, consider the following:

- The Sun Management Pack must be installed on the MOM 2005 management server.
- If you are hosting the MOM 2005 management software on a Sun server and wish to manage that server with the Sun Management Pack, you must manually install the Microsoft or Sun IPMI driver. See Chapter 3 for details about configuring Sun servers for use with the Sun Management Pack.

Downloading the Sun Management Pack

To install the most current version of the Sun Management Pack, download it from the following URL:

```
http://www.sun.com/system-management/tools.jsp
```

Note: As updated versions of the Sun Management Pack get posted to the web, the name of the compressed archive to download will change. For this release, download the following:

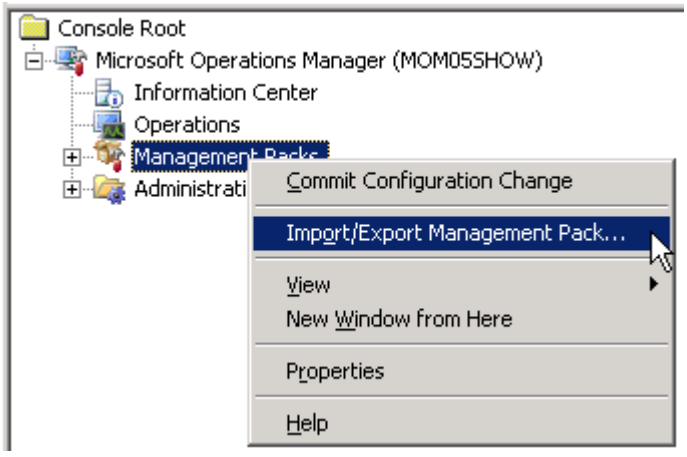
```
SunFire_x64Servers_3.3.zip
```

Save the Sun Management Pack to a working directory on the local system from which you plan to perform the installation and uncompress it.

Installing the Sun Management Pack

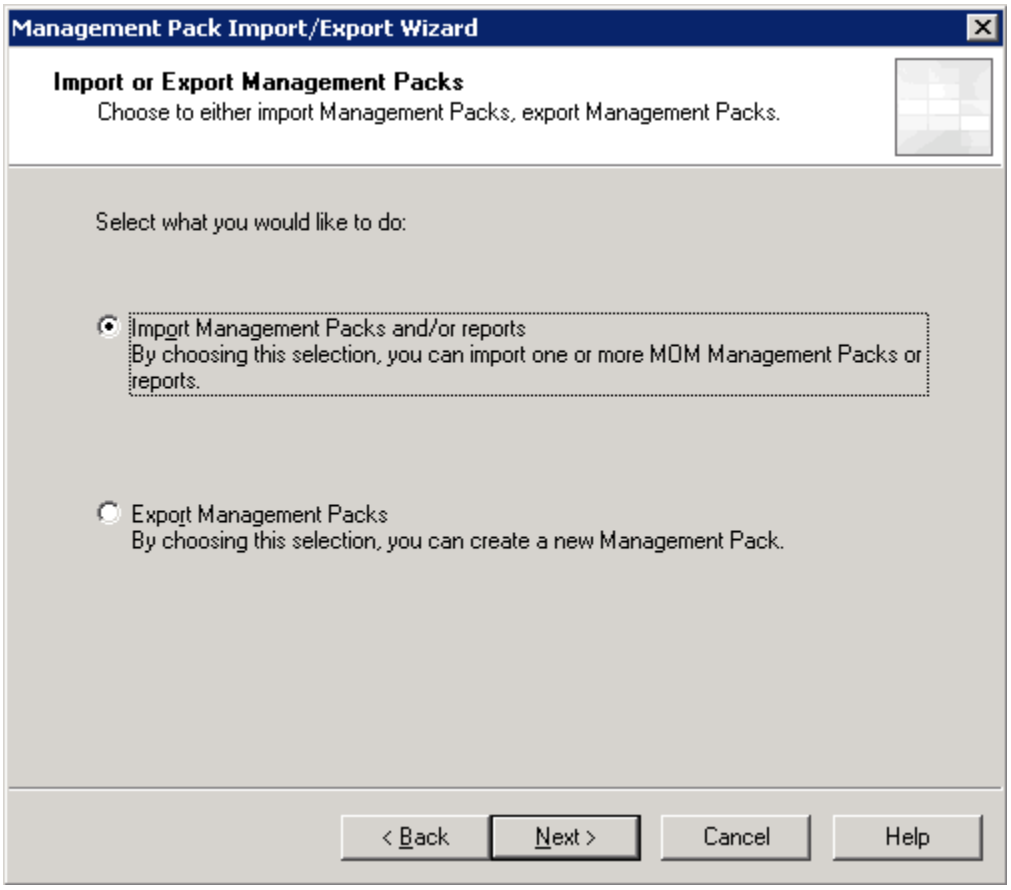
To install the Sun Management Pack on your MOM 2005 management server, do the following:

1. **Launch the MOM 2005 Administrator Console.**
2. **In the Navigation pane, right-click Management Packs to display the following pop-up menu.**

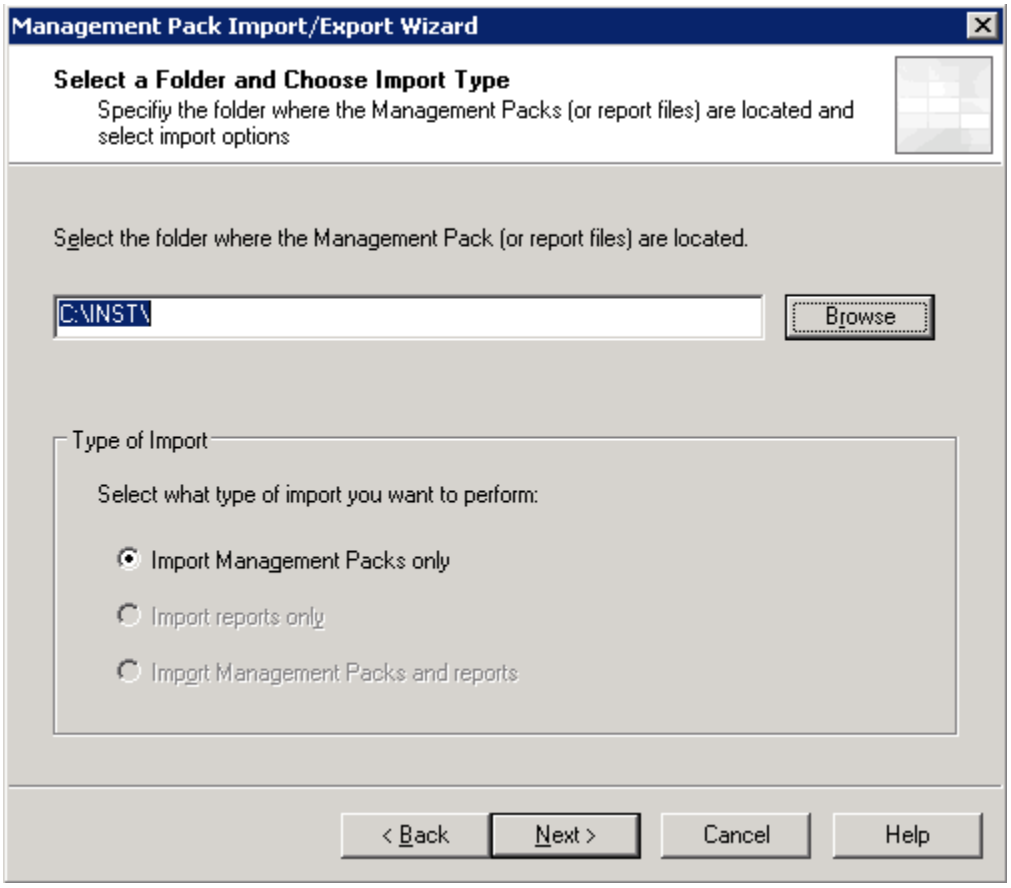


3. **Click Import/Export Management Pack … to launch the installation wizard.**

4. **Click Next to display the following options dialog box.**



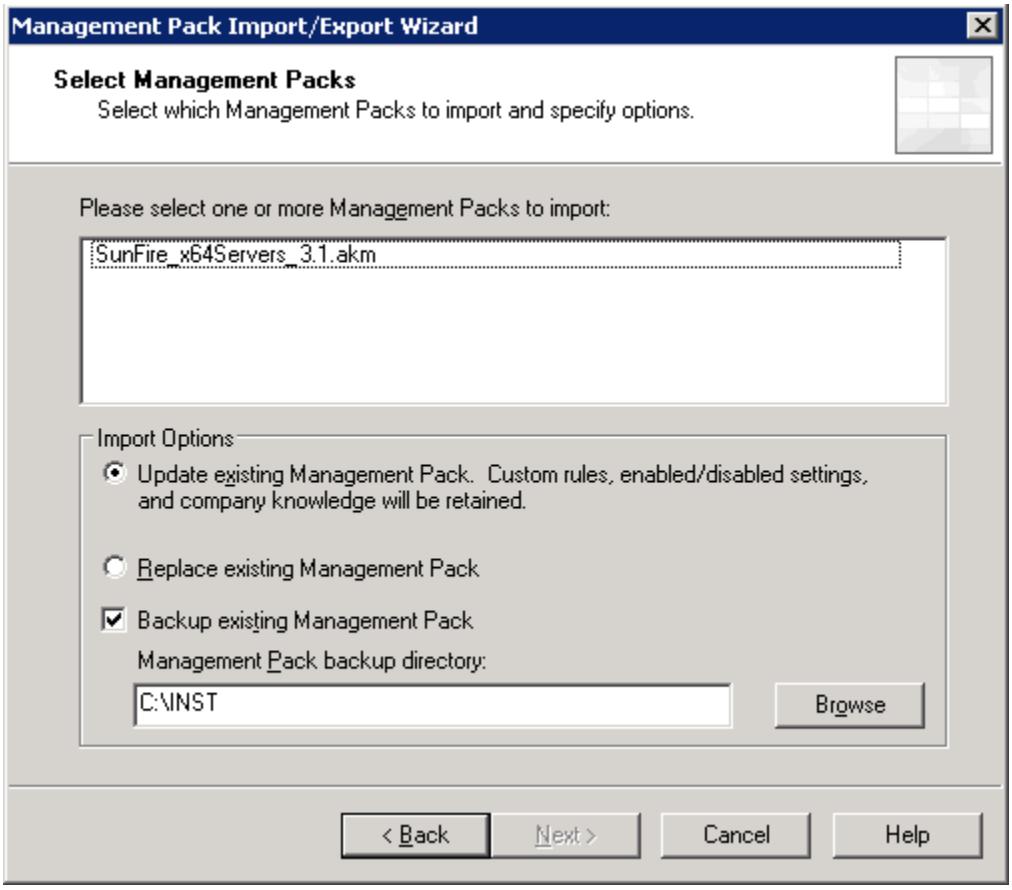
5. **Select Import Management Packs and/or reports and click Next to display the following dialog box.**



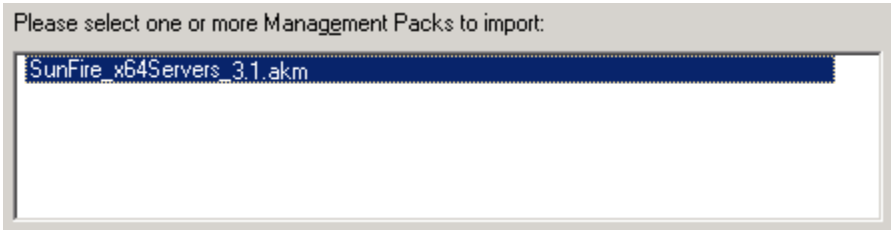
6. **Specify (or browse to) a location on the MOM 2005 management server that contains the files that you unzipped in Step 3.**

7. **Select the Import Management Packs only option and click Next.**

   The Wizard displays the following screen.



8. **Select the Sun Management Pack in the list of Management Packs.**

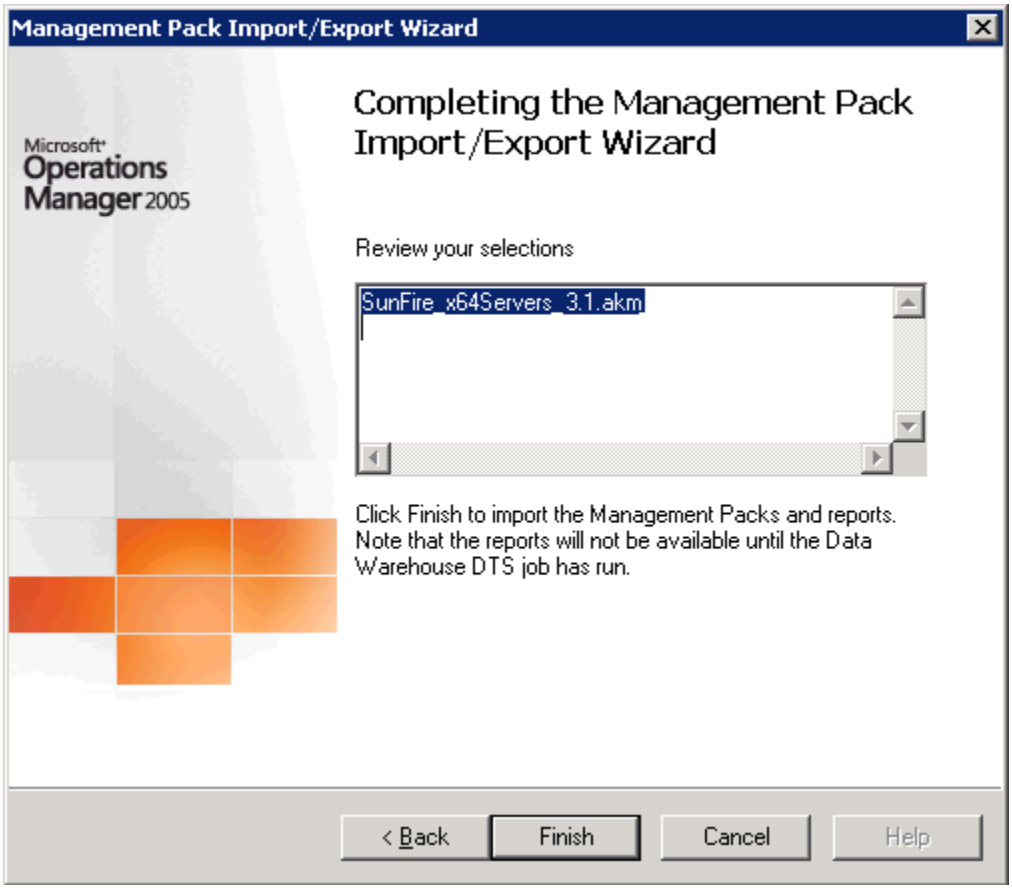


9. **Select one or more of the following Import Options:**

Import Options	Operation
Update existing Management Pack	Default operation. Installs a new management pack or updates an existing management pack. In an upgrade, the custom rules, settings for enabled/disabled features, and acquired knowledge information will not be modified. **Note**: The option to update an existing Sun Management Pack is not currently supported.
Replace existing Management Pack	Replaces an existing management pack.

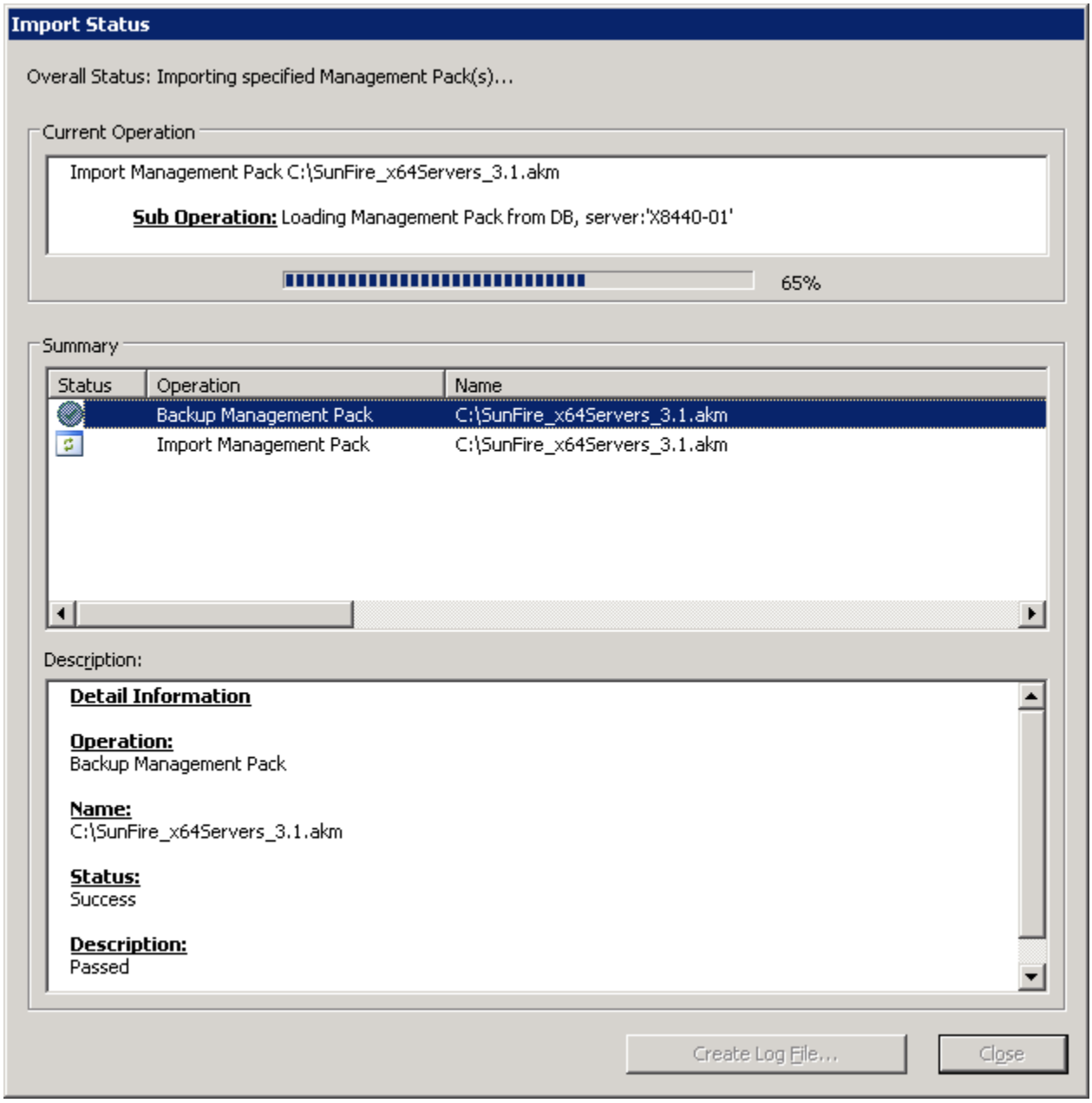
Import Options	Operation
Backup existing Management Pack	Default setting. Backs up an existing management pack so it can be restored. Click Browse to specify an alternate backup directory.

10. **Click Next to confirm your selection(s) and to display the following dialog box.**

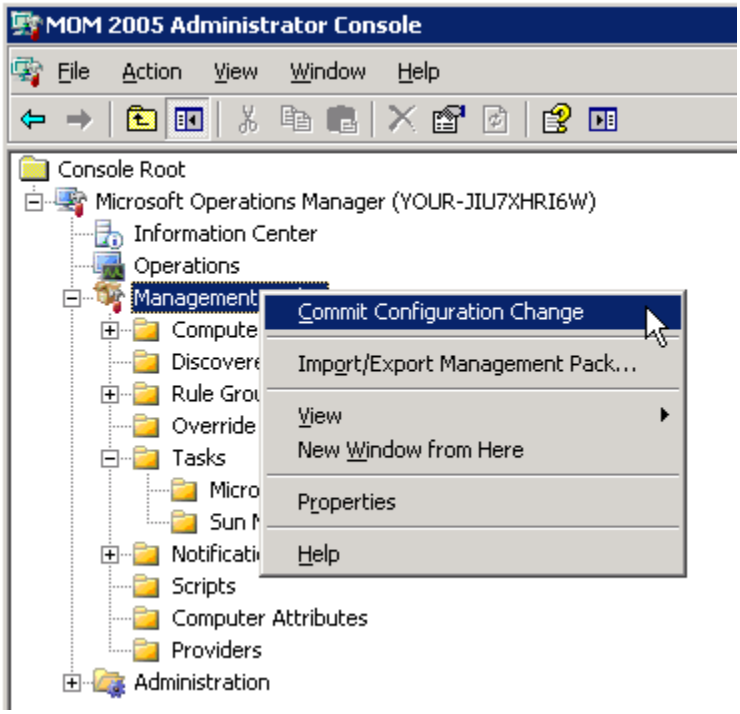


11. **Click Finish to proceed with installation.**

    The Wizard displays a dialog box that provides information on the progress of the installation. Here is a sample dialog box.



12. **When the installation is complete, right-click the Management Packs folder in the MOM Administrator Console to display the following pop-up menu.**



13. **Click Commit Configuration Change to propagate the changes to the MOM 2005 server.**

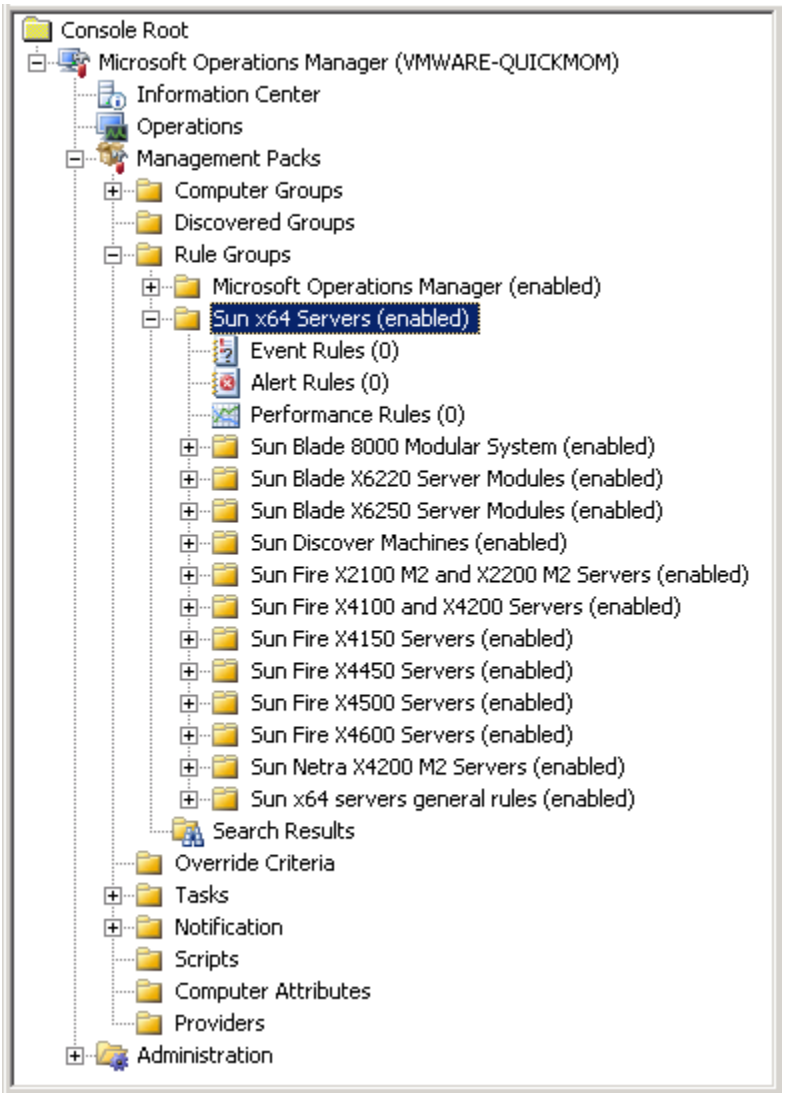
Installation is now complete.

Verifying Installation

If the Sun Management Pack has been installed correctly, you should see entries for the Sun Management Pack in the MOM 2005 Administrator and Operator Consoles.

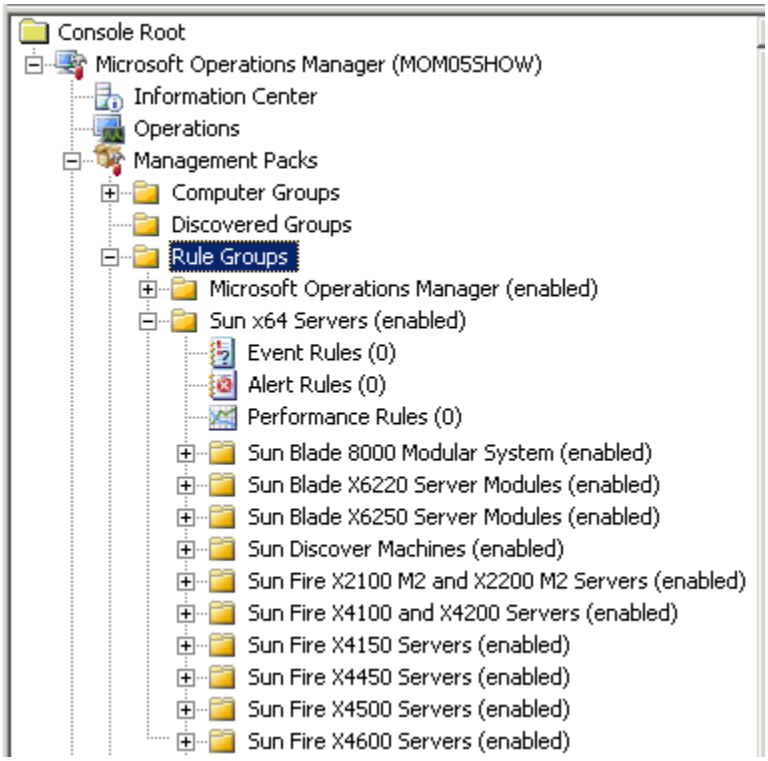
Administrator Console: Computer Groups Folder

The Sun Management Pack installs the following Sun-specific computer groups.

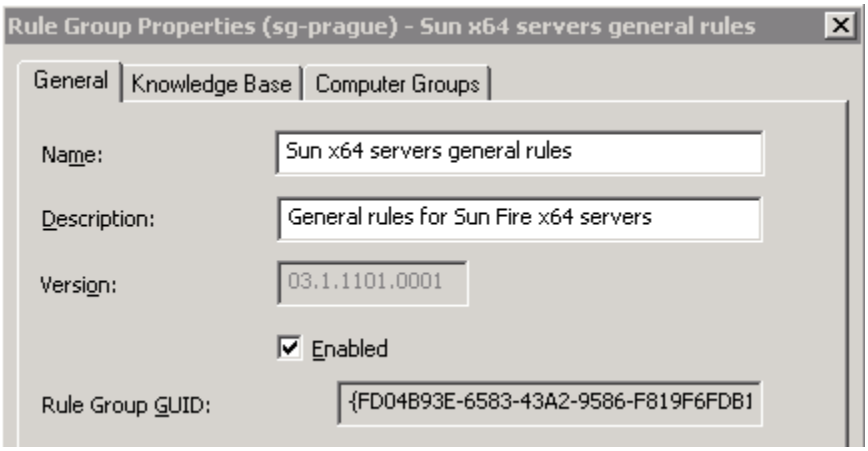


Administrator Console: Rule Groups Folder

The Sun Management Pack also installs an equivalent set of rule groups and automatically binds those Sun rule groups to the Sun computer groups.

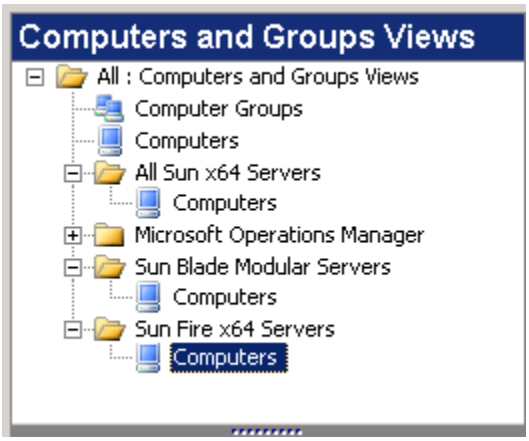


To view the current version of the management pack, right-click Rule Groups – Sun x64 Servers and choose Properties.



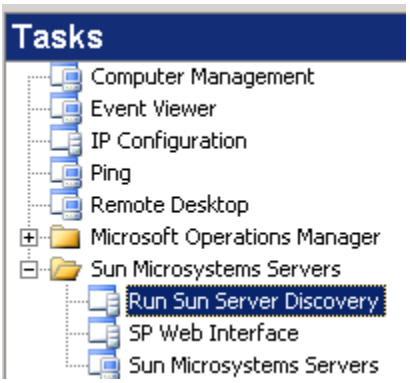
Operator Console: Computers and Groups Views

In the MOM 2005 Operator Console, you should also see three computer groups: All Sun x64 Servers, Sun Blade Modular Servers, and Sun Fire x64 Servers.



Operator Console: Tasks Pane

Three Sun-specific tasks should also appear in the Operator Console Tasks pane.



If these Sun-specific groups and tasks are available to you in MOM 2005, you have successfully installed the Sun Management Pack.

CHAPTER 3

Configuring Sun Servers for MOM 2005 and the Sun Management Pack

Once you have installed the Sun Management Pack on your MOM 2005 management server, you must configure each of the Sun servers that you plan to manage with MOM 2005.

The process that you use to configure managed nodes is dependent on which version of MS Windows Server 2003 is installed on each node. This chapter is organized accordingly:

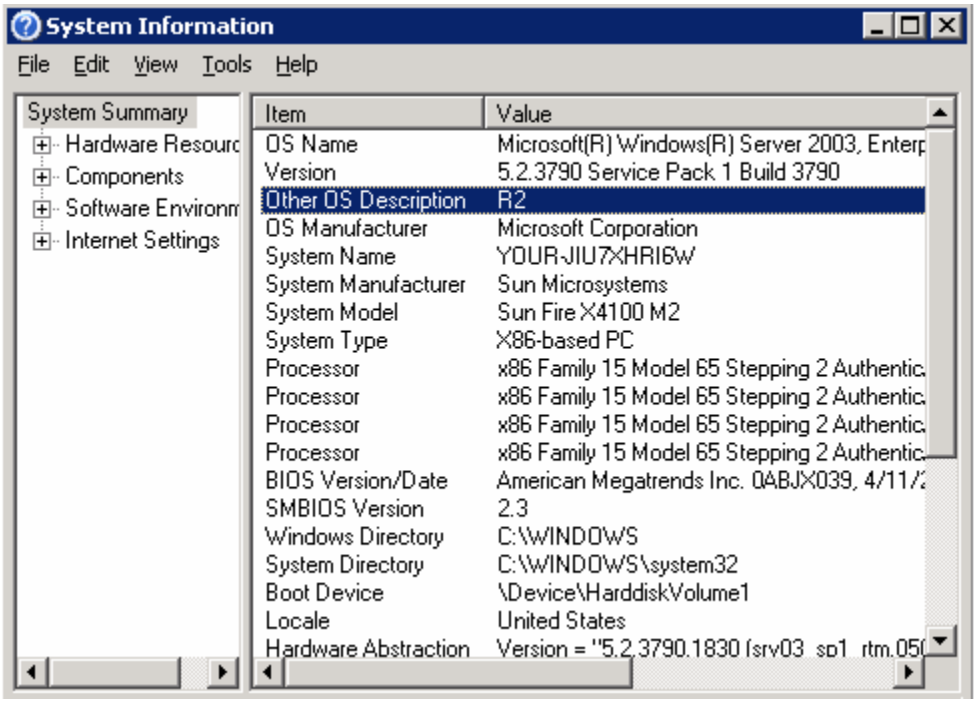
- Determining the version of MS Windows Server 2003 running on a managed node
- Configuring Sun servers running MS Windows Server 2003 R2
- Configuring managed nodes running MS Windows Server 2003 SP1 or SP2

Determining the Version of MS Windows Server 2003 Running on a Managed Node

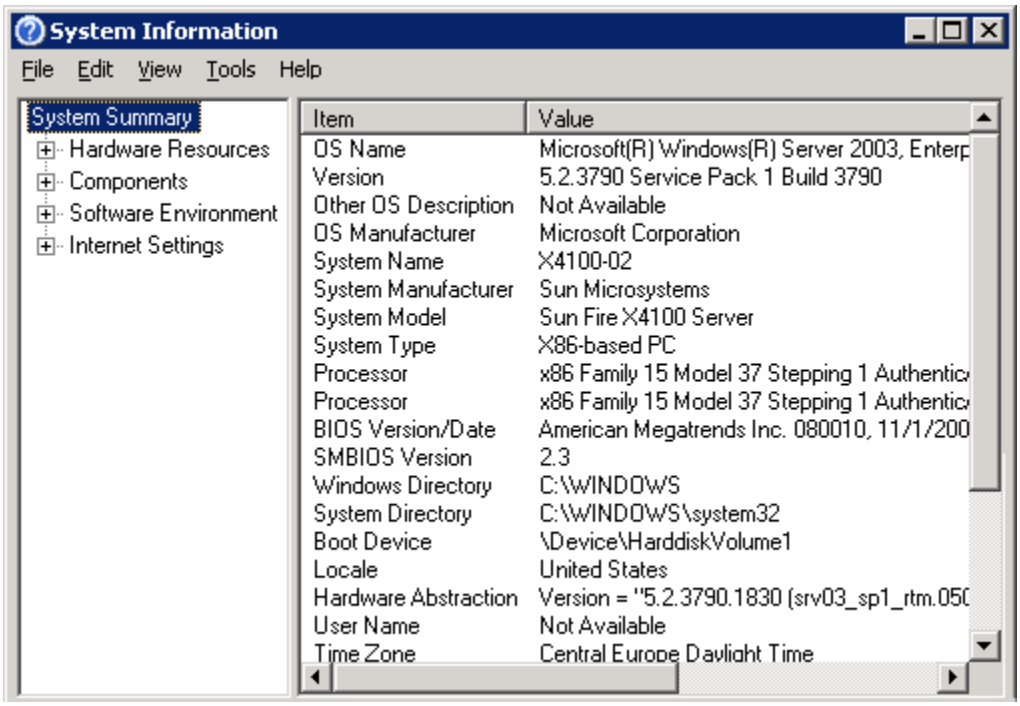
Before performing any configuration tasks on your Sun server, you must determine which version of the MS Windows Server 2003 operating system is currently installed on that Sun server. To determine the version of Windows running on a server, do the following.

1. **Log in to the Sun server that you want to configure for MOM 2005.**
2. **Choose Start – All Programs – Accessories – System Tools – System Information to display information about the version of Windows installed on that Sun Server.**

   For example, this Sun Fire X4100 M2 Server is running Windows Server 2003 R2 and displays the following information.



This Sun Fire X4100 Server does not have R2 installed and displays the following information.



2. Choose File – Exit to close the System Information window.

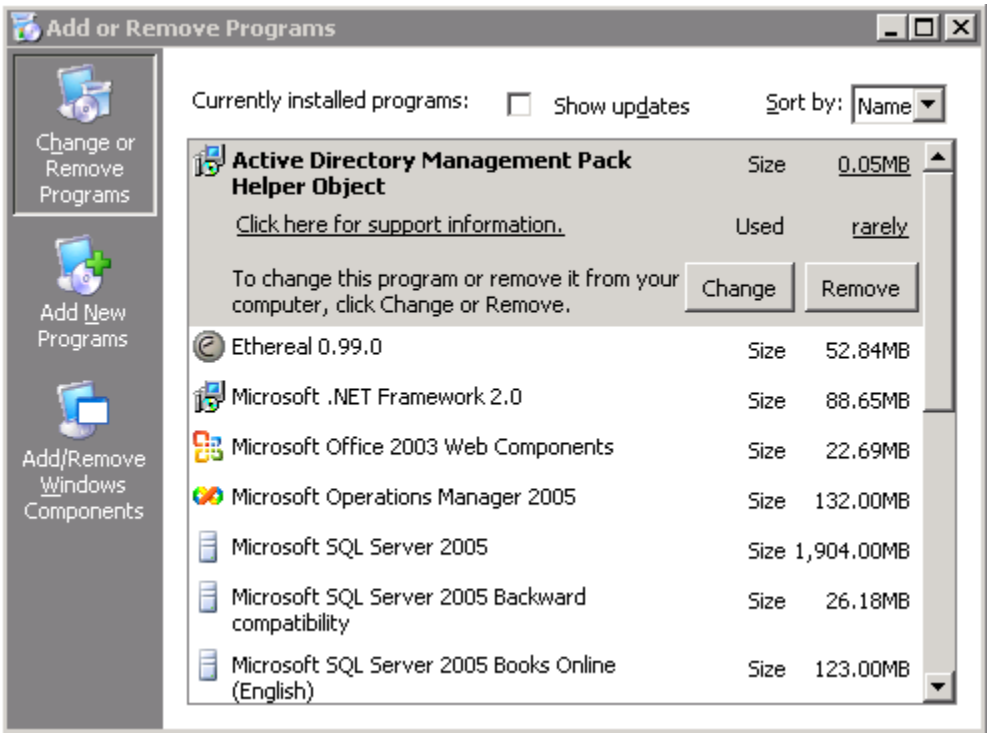
Depending whether the Sun server that you want to configure is running Windows Server 2003 R2 or not, you must perform different configuration tasks.

MS Windows Server 2003 Version	Configuration Tasks
R2 (with our without SP1 or SP2)	See the section “Configuring Sun servers running MS Windows Server 2003 R2” in this chapter to perform the following tasks: - Enable MS Hardware Monitoring - Enable MS IPMI Driver
SP1 or SP2 *without* R2	See the section “Configuring managed nodes running MS Windows Server 2003 SP1 and SP2” in this chapter to perform the following tasks: - Install and enable the Sun IPMI driver - Install and enable the Sun ipmievd service

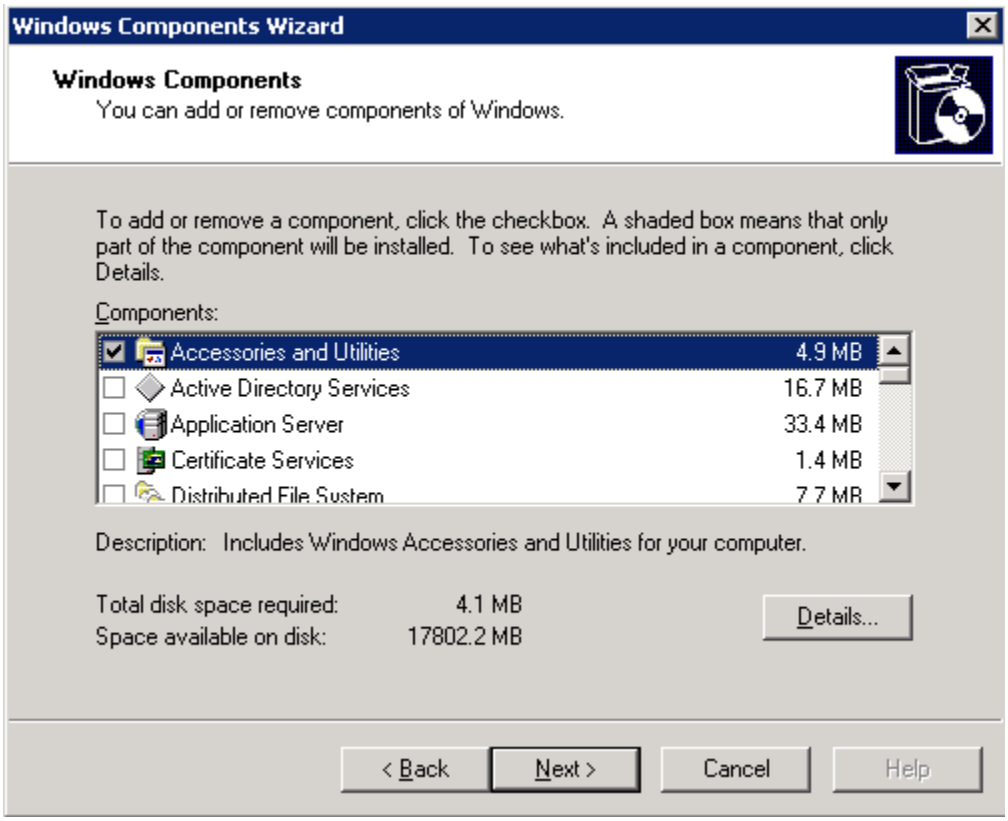
Configuring Sun Servers Running MS Windows Server 2003 R2

To configure your Sun server running Windows Server 2003 R2, do the following:

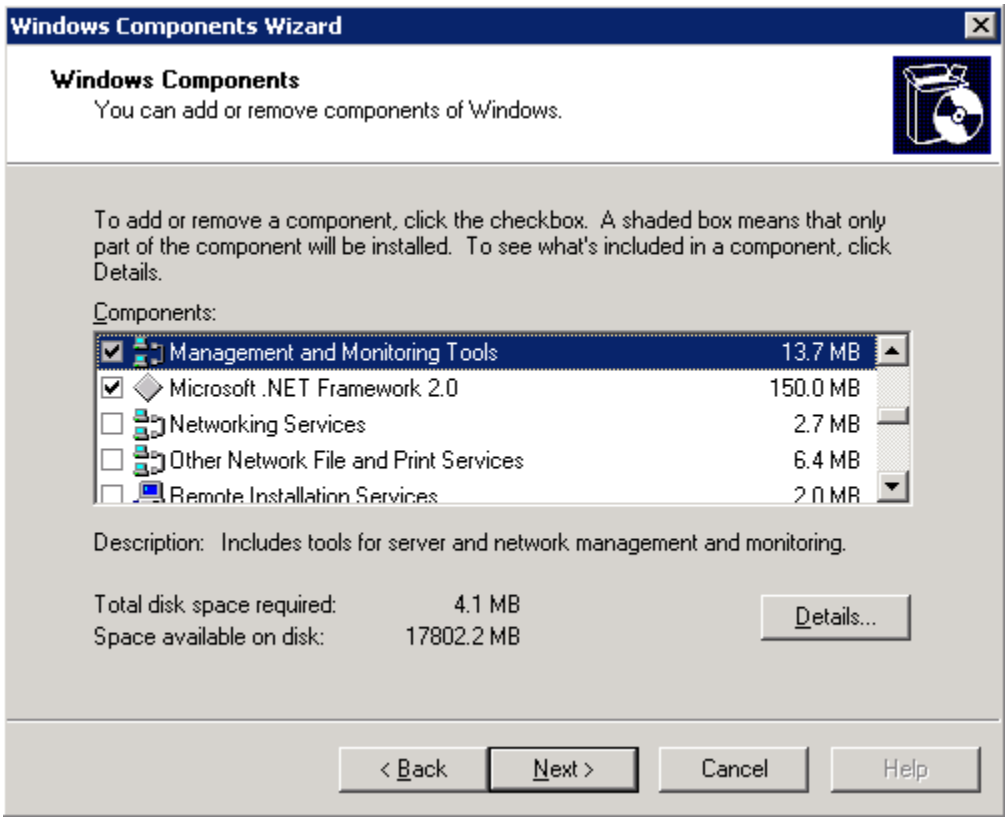
1. **Choose Start – Control Panel – Add or Remove Programs to display the following dialog box.**



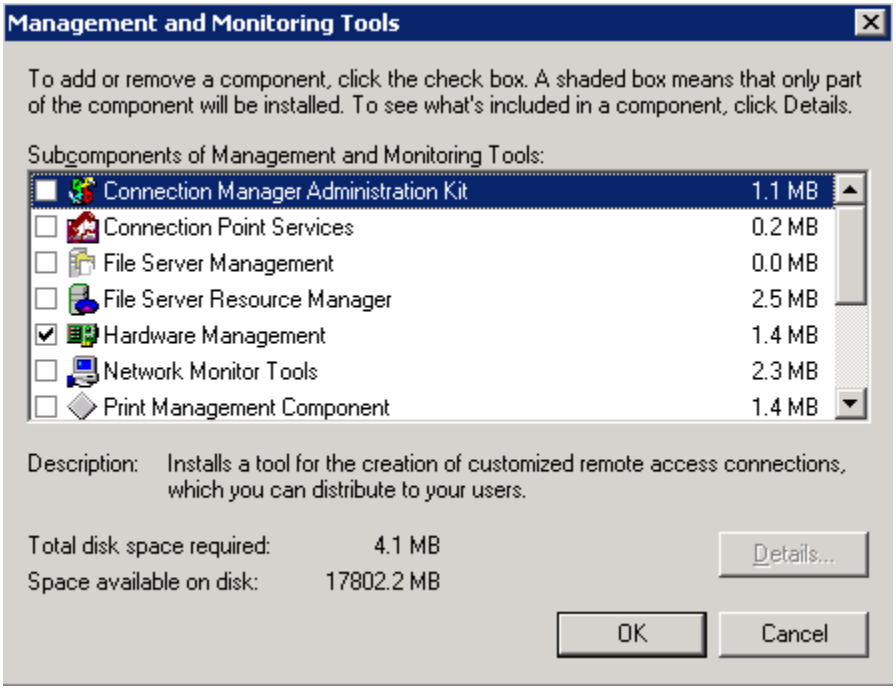
2. **Click the Add/Remove Windows Components button on the left-hand pane of the dialog box to display the following dialog box.**



3. **Click Management and Monitoring Tools.**

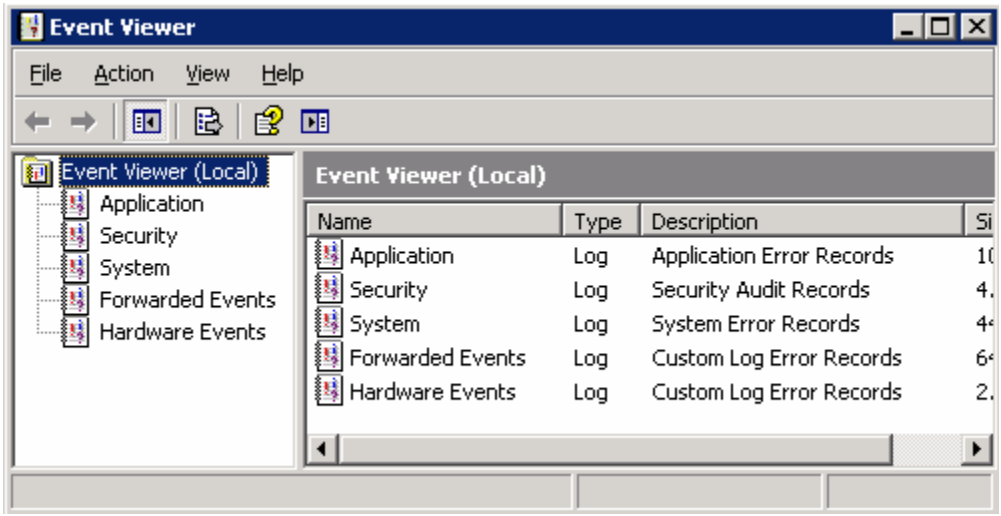


4. **Click the Details button to display the following dialog box.**



5. **Click the Hardware Management checkbox and click the OK button to enable hardware management for your Sun server.**

6. **To verify that Hardware Management has been enabled, choose Start – All Programs – Administrative Tools – Event Viewer to display the following dialog box.**



Once Hardware Management has been enabled on your Sun server, the category Hardware Events appears in the Event Viewer.

7. **Open a Windows Command Prompt Window on the managed node (Sun server).**

8. **Enter the following command to install the Microsoft IPMI device driver:**

```
RunDLL32 ipmisetp.dll AddTheDevice
```

Tip: To verify that the Microsoft IPMI device driver has been installed, check the Computer Device Driver list.

Perform these steps on *each* managed node that is running Windows Server 2003 with R2.

Configuring Sun Servers Running MS Windows Server 2003 SP1 or SP2

For the integration between your Sun server running Windows Server 2003 SP1 or SP2 (without R2) and the Sun Management Pack now running on your MOM 2005 management server to work correctly, you must install and configure on each Sun server both the Sun IPMI Driver and the Sun ipmievd service.

Note: If you have numerous Sun systems on your network, the process of installing and configuring the Sun IPMI Driver and the Sun ipmievd service on each system can be time consuming. For information about unattended installation, consult your ISM driver and ipmievd documentation.

Installing and Configuring the Sun IPMI Driver

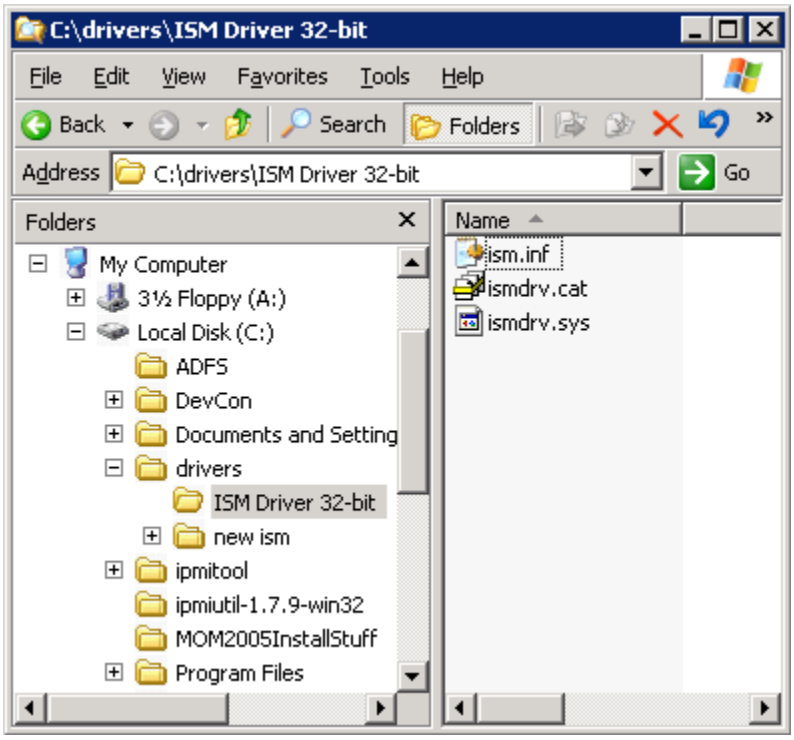
If the Sun server that you want to manage with MOM 2005 and the Sun Management Pack does not have Windows Server 2003 R2 installed but does have SP1 or SP2 installed, you must install the Sun IPMI Driver.

To install and enable the Sun IPMI Driver on each of your managed nodes, do the following:

1. **Verify that the Sun server that you want to configure is running Windows Server 2003 SP1 or SP2 without R2.**

   See the section "Determining the Version of MS Windows Server 2003 Running on a Managed Node" earlier in this chapter.

2. **Locate the local directory into which you have installed Sun resources from the Sun Resource CD that shipped with your server or downloaded from SunSolve.**

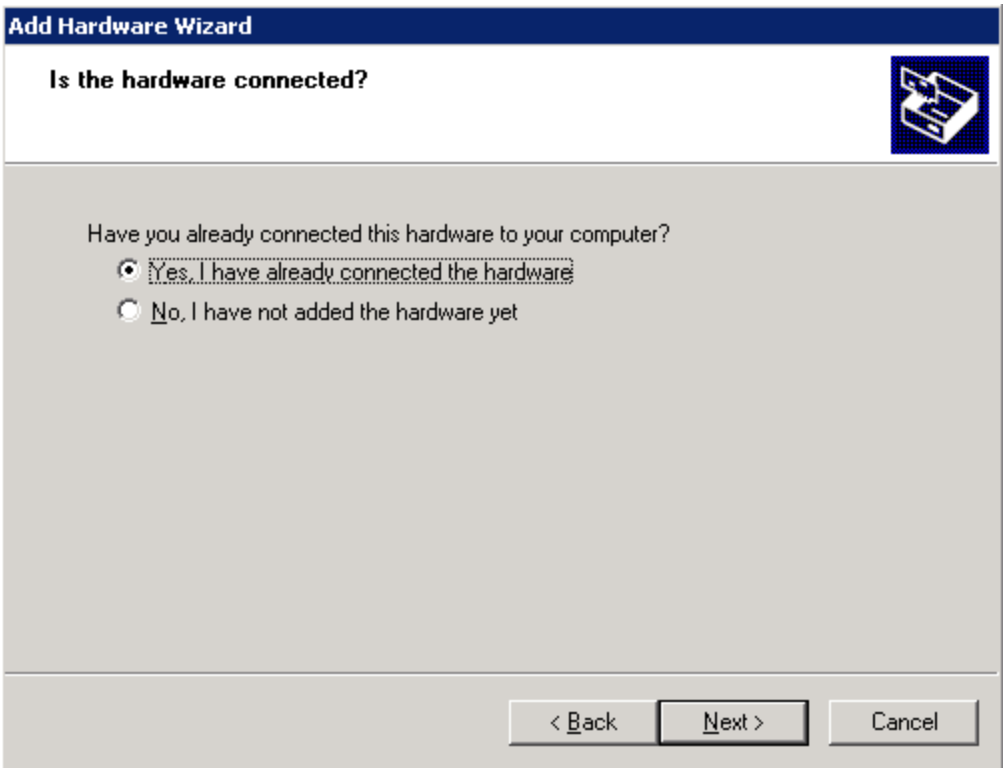


Note: **If the IPMI driver is not included on the resource CD that shipped with your Sun server, download them from the following web site:**

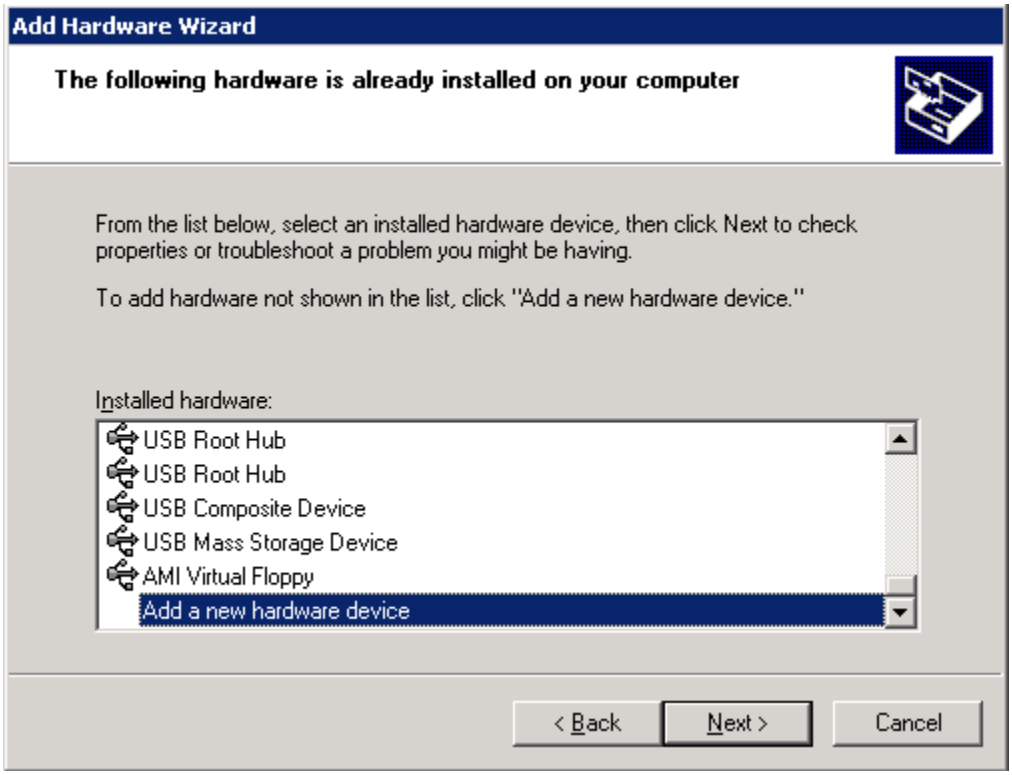
`http://www.sun.com/system-management/tools.jsp`

3. **Choose Control Panel – Add Hardware to display the following wizard.**

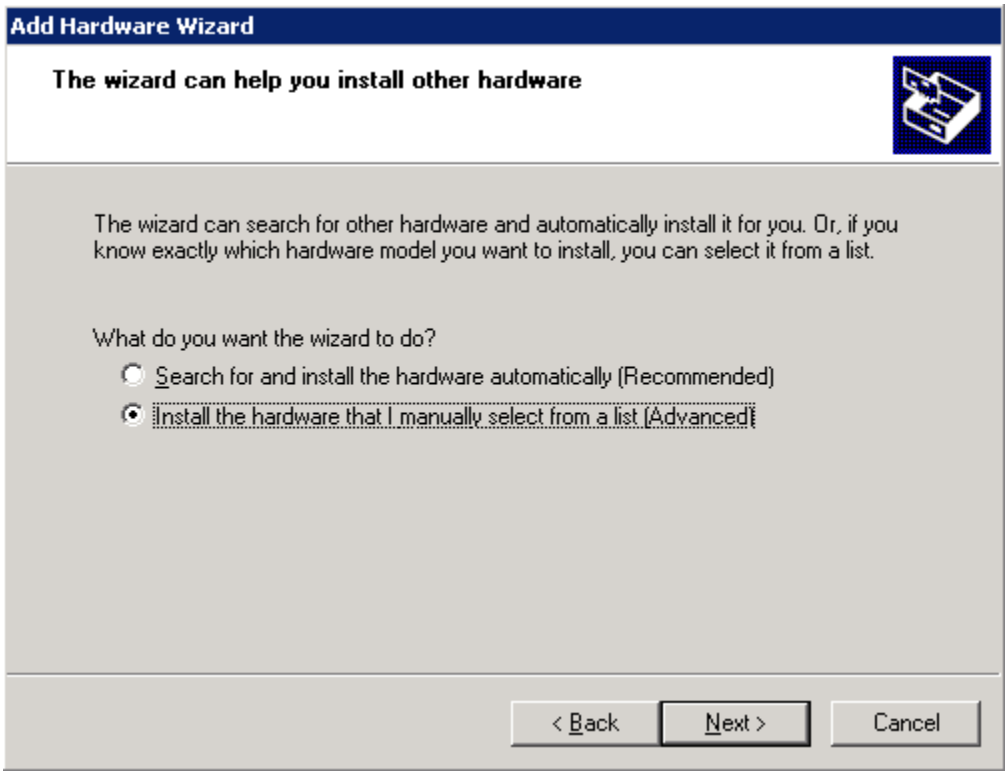
4. **Click the Next button to display the next screen.**



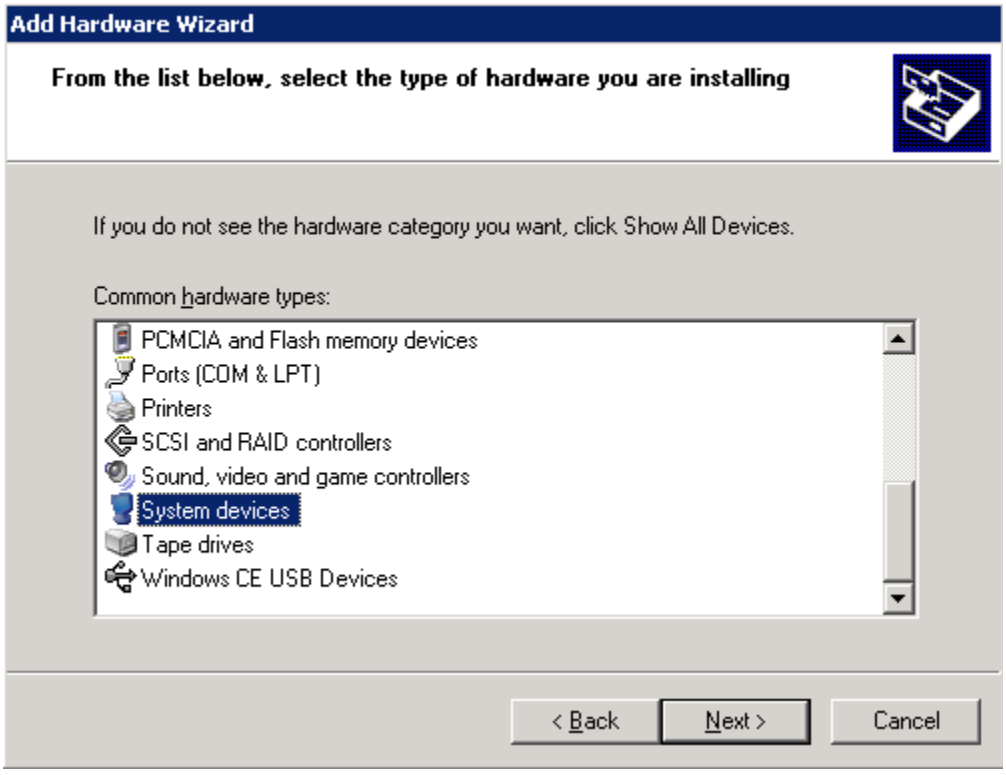
5. **Select Yes, I have already connected the hardware and click the Next button to display the next screen.**



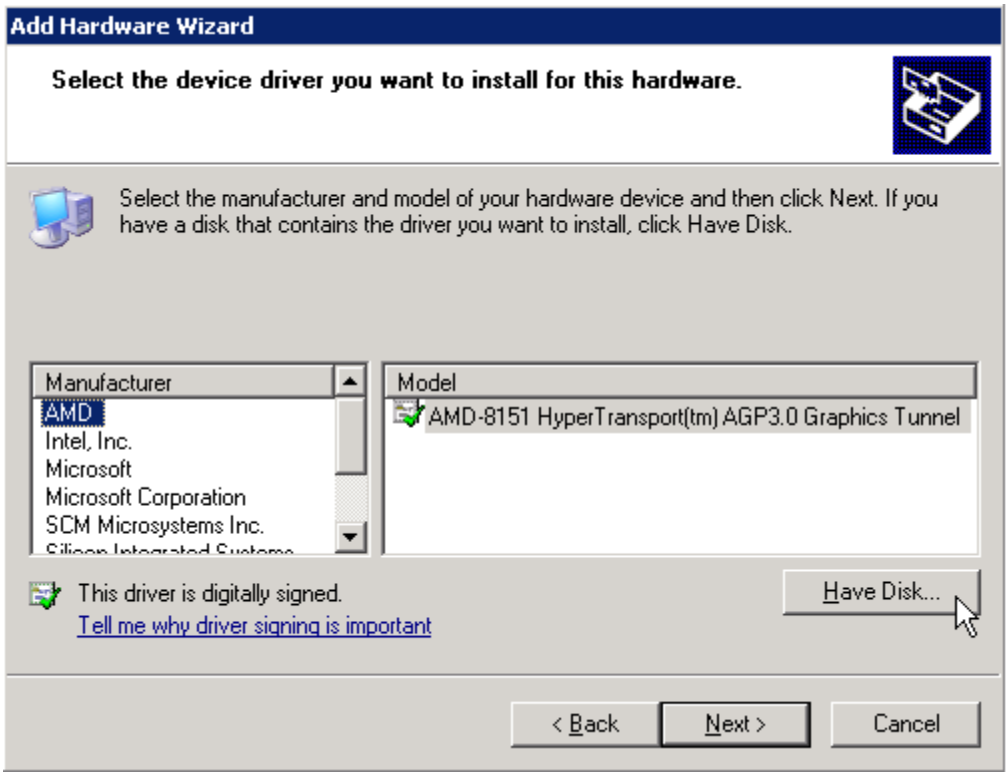
6. **Select Add a new hardware device and click the Next button to display the next screen.**



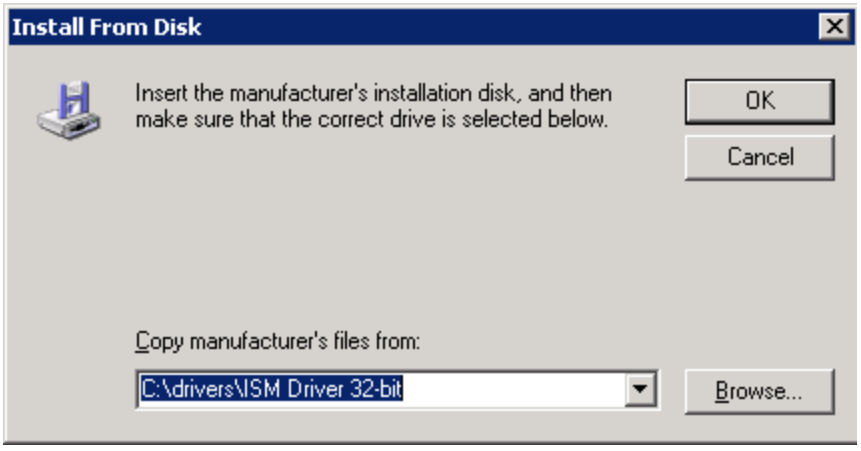
7. **Select Install the hardware that I manually select from the list (Advanced) and click the Next button to display the next screen.**



8. **Click System devices and click the Next button to display the next screen.**



9. **Click the Have Disk … button to display the next screen.**



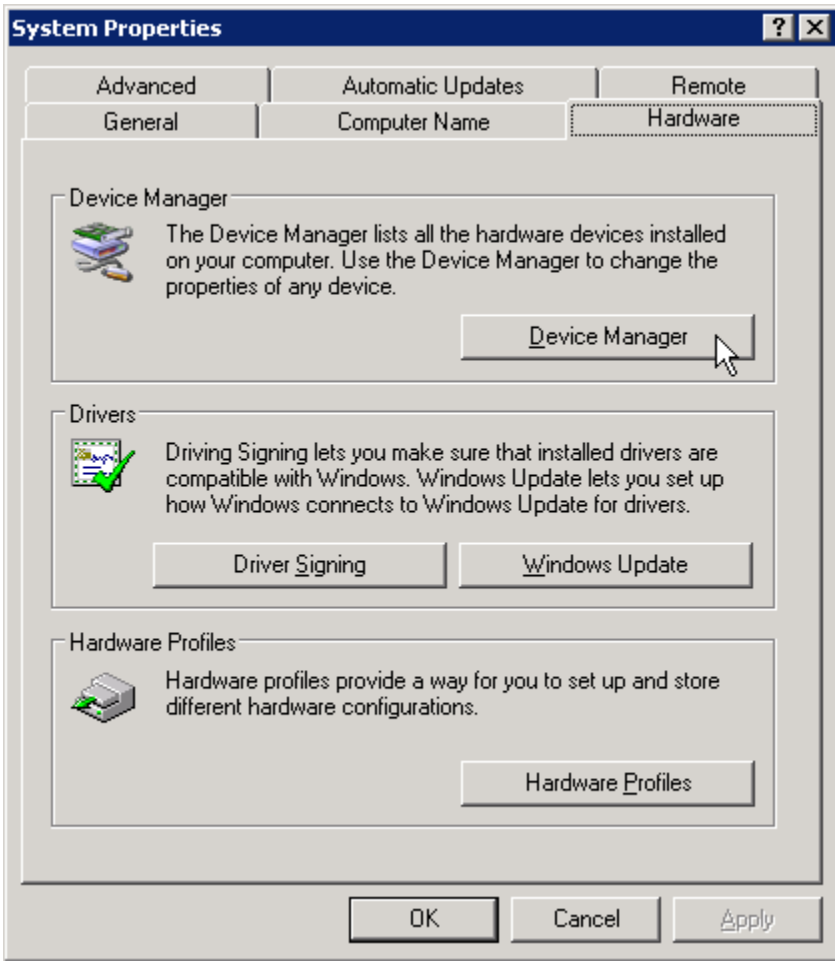
10. **Specify (or browse) to the local directory containing the extracted Sun IPMI Driver files and click the OK button.**

    Windows installs the Sun IPMI Driver.

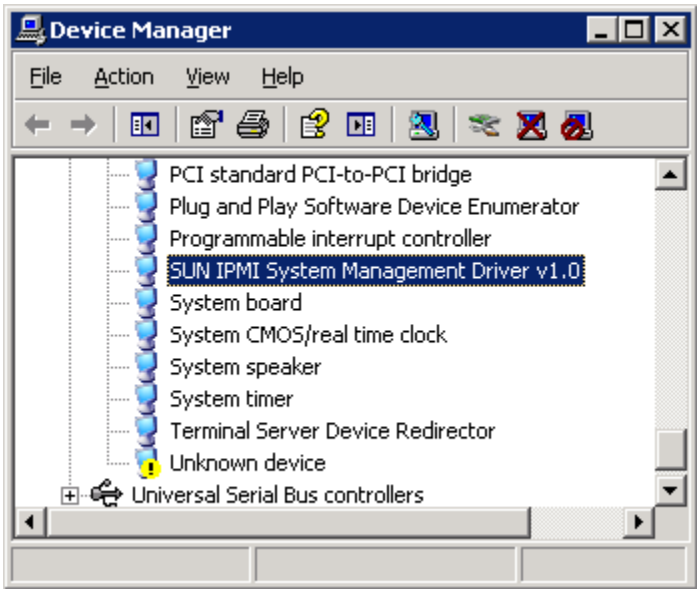
Verifying Sun IMPI Driver Installation

To verify that the Sun IPMI Driver has been installed on the managed node, do the following:

1. **Choose Start – Control Panel – System – Hardware to display the following screen.**



2. **Click the Device Manager button to display the list of installed hardware devices and drivers.**
3. **Click the System Devices entry to expand it.**
4. **Scroll down the list of displayed devices and drivers to verify that the Sun IPMI Driver is installed.**



Note: Only Windows Server 2003 SP1 and SP2 are currently supported. Even if driver installation does not fail on other systems, proper functionality can not be guaranteed.

Installing and Configuring the Sun-provided ipmievd Service

To install and enable this service, do the following on each Sun server running Windows Server 2003 SP1 or SP2 (without R2):

1. **Verify that the Sun server that you want to configure is running Windows Server 2003 SP1 or SP2 without R2.**

   See the section "Determining the Version of MS Windows Server 2003 Running on a Managed Node" earlier in this chapter.

2. **Locate the local directory to which you downloaded and extracted the Sun-provided ipmievd service bundle.**

   For example, let us assume that the Sun ipmievd service bundle has been extracted to the following local directory:

   ```
   C:\INST\Sun_ipmievd
   ```

3. **Choose Start – All Programs – Accessories – Command Prompt to open a Windows command window.**

4. **In that command window, cd to the directory containing the Sun ipmievd service bundle files.**

5. **Enter the following command to install the Sun ipmievd service.**

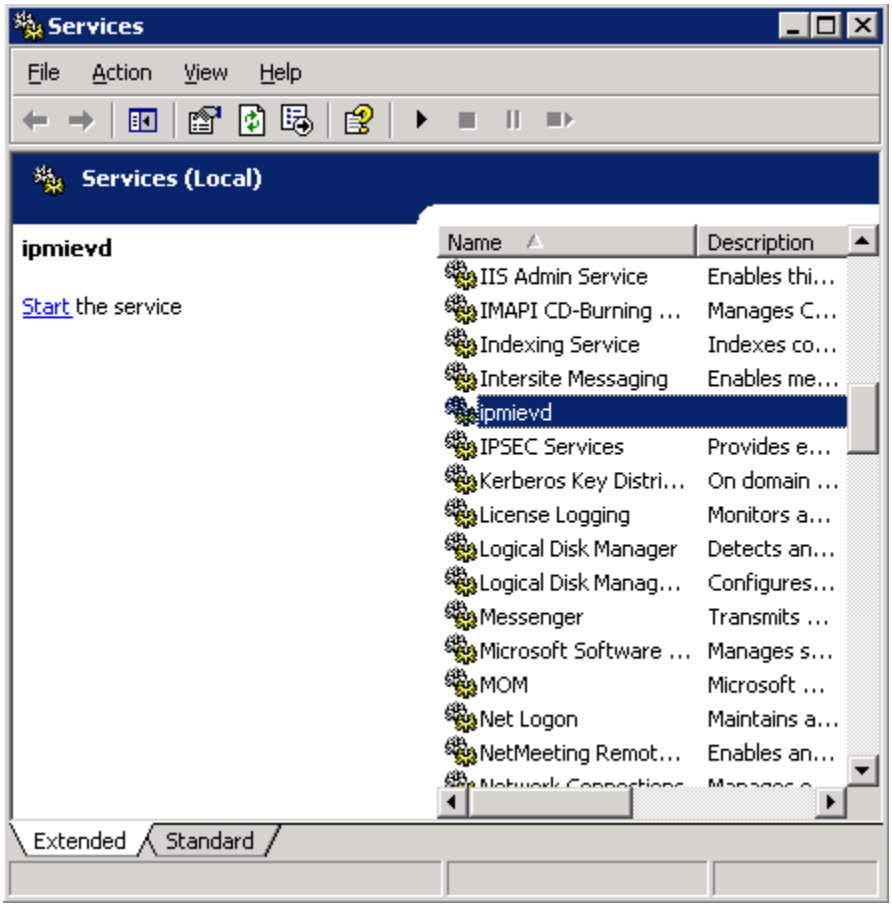
   ```
   ipmievd -i "-I ism sel"
   ```

   Windows displays the following output:

   ```
   Installing ipmievd service
   ```

6. **Choose Start – All Programs – Administrative Tools – Services to display the following screen.**

7. **Scroll down the list to display the ipmievd service.**



8. **Right-click the ipmievd entry and choose Start from the context menu to start the service.**

Verifying Installation of the Sun ipmievd Service

To verify that the Sun IPMI Driver and the ipmievd service has been installed and configured correctly on a managed node, do the following:

1. **Choose Start – All Programs – Accessories – Command Prompt to open a Windows command window.**
2. **In that command window, cd to the directory containing the IPMItool application.**
3. **Enter the following command to install the Sun ipmievd service.**

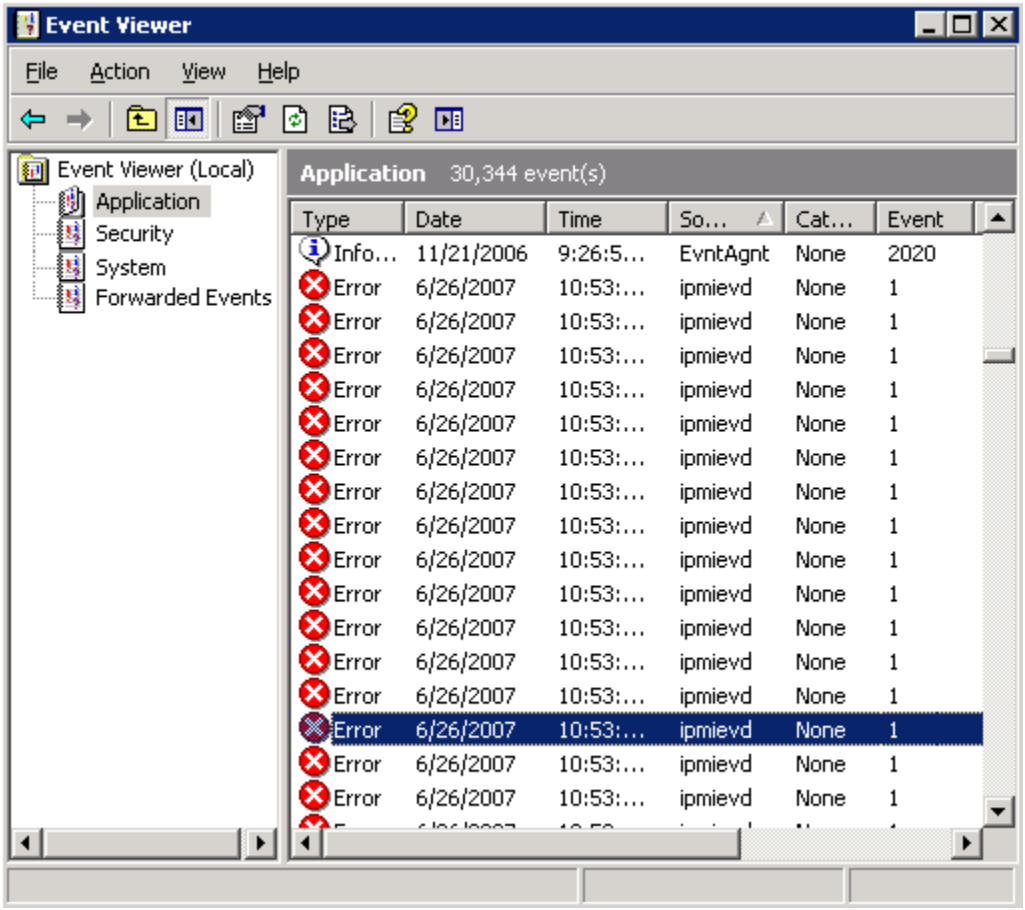
   ```
   ipmitool.exe -I ism event 1
   ```

   Windows displays the following output:

   ```
   Sending SAMPLE event: Temperature - Upper Critical - Going
   High 0 | Pre-Init

   Time-stamp | Temperature #0x30 | Upper Critical going high
   ```

4. **Choose Start – Administrative Tools – Event Viewer to display the Windows Event Viewer.**
5. **Click the Application entry to display application log entries.**
6. **Review the list of entries specifically from the Sun ipmievd service.**



Note: This procedure verifies that the IPMI Driver and the ipmievd service are functioning properly. IPMItool injects test events directly to service processors; it does not generate the sorts of real events that MOM 2005 monitors. For example, the test event that you entered in Step 3 above will not appear in any MOM 2005 console.

The configuration of your Sun server is now complete. Perform this configuration operation on each managed server.

CHAPTER 4

Discovering and Classifying Sun Servers

Once you have installed the Sun Management Pack, MOM 2005 then has all the information that it needs to classify Sun servers into the Sun x64 Servers computer group. This occurs in two stages:

- *Computer discovery*: MOM 2005 performs computer discovery in order to discover any newly connected servers and to install MOM 2005 agents on those newly discovered servers.
- *Attribute discovery and server classification*: Once MOM 2005 has discovered a Sun server on your network and installed the appropriate agents on it, those agents query the particular attributes of that server and report those attributes to the MOM 2005 server. If MOM 2005 finds a match between the returned attributes of a server and the attributes defined for a particular computer group in its database of rule groups, MOM 2005 classifies that server into the appropriate computer group.

If you have installed Sun servers on your network before installing the Sun Management Pack, it is likely that MOM 2005 has already discovered them and installed its default agents. Depending on the status of your Sun servers (discovered or yet-to-be-discovered), you may need to read different sections of this chapter.

Discovery Status	Sections to Read
Already discovered	Discovering Server Attributes and Classifying Sun Servers: - Option-1: Allowing MOM 2005 to Perform Automatic Classification Within 24 hours - Option-2: Resetting the Default Interval for Running the Sun Discover Machines Script - Option-3: Performing Classification Immediately - Option-4: Classifying Servers Manually
Yet-to-be-discovered	Discovering Sun Servers Discovering Server Attributes and Classifying Sun Servers: - Option-1: Allowing MOM 2005 to Perform Automatic Classification Within 24 hours - Option-2: Resetting the Default Interval for Running the Sun Discover Machines Script - Option-3: Performing Classification Immediately - Option-4: Classifying Servers Manually

Discovering Sun Servers

By default, MOM 2005 initiates the computer discovery process automatically every 24 hours. You can wait for MOM 2005 to perform computer discovery on its default cycle, force MOM 2005 to perform computer discovery immediately, or change the default time interval for computer discovery.

After MOM 2005 completes the computer discovery process, it builds a list of newly discovered servers under Administration – Computers – Pending Actions in the Administrator Console.

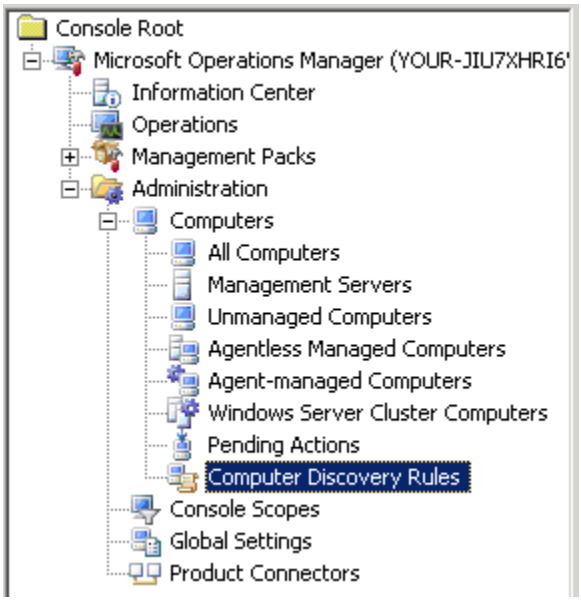
Name	D.	Pending Action	Approved	Management...	Desired Management
X4200-02	S..	Install agent	No	Unmanaged	Agent-managed
X4200M2-01	S..	Approve manual ...	No	Unmanaged	Unmanaged
MOM05DEVEL	S..	Install agent	No	Unmanaged	Agent-managed
X4100M2-01	S..	Install agent	No	Unmanaged	Agent-managed

After the appropriate agent or agents have been installed, MOM 2005 can proceed with attribute discovery and server classification.

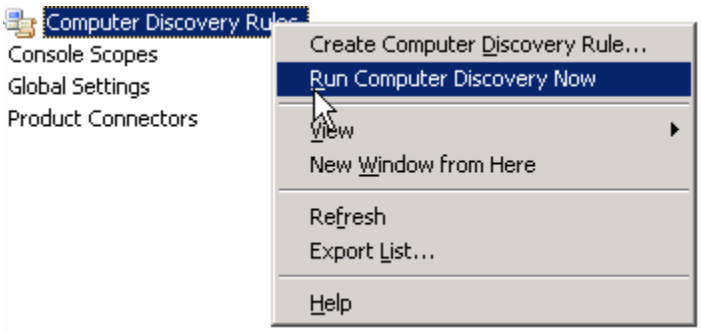
Discovering Sun Servers Immediately

If you want MOM 2005 to initiate computer discovery immediately, do the following:

1. **Launch the MOM Administrator Console.**
2. **Click the Administration -- Computers – Computer Discovery Rules entry.**



3. **Right-click Computer Discovery Rules to display the following pop-up menu.**



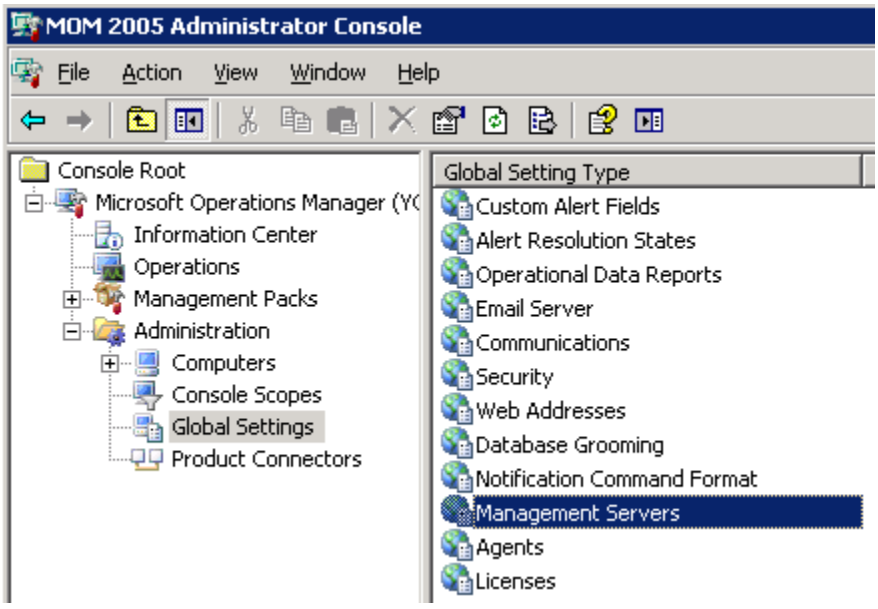
4. **Click Run Computer Discovery Now to prompt MOM 2005 to begin the computer discovery process immediately.**

   Note: If you have many servers on your network, this process may take a long time.

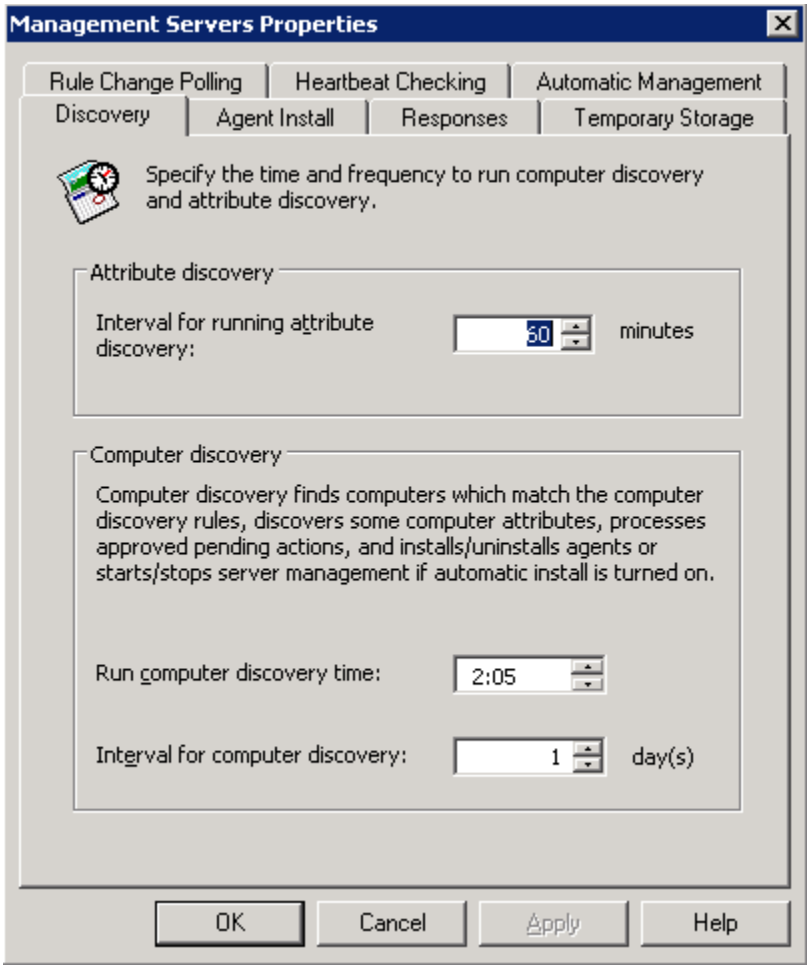
Resetting the MOM 2005 Default Interval for Computer Discovery

If you are deploying or reconfiguring numerous Sun servers on your network, you may want to change the default time interval that MOM 2005 uses to perform computer discovery. To change that default time interval, do the following.

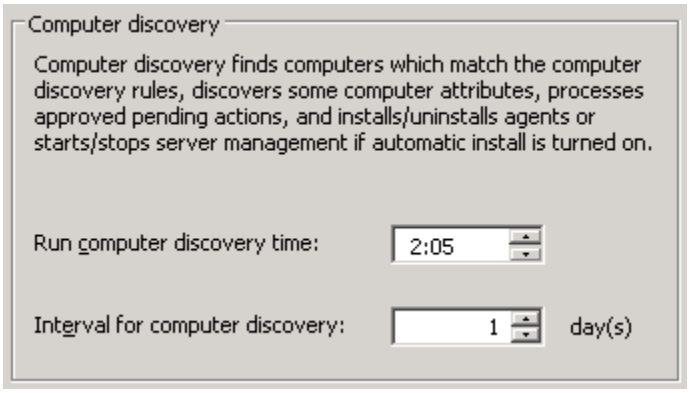
1. **Launch the MOM 2005 Administrator Console.**
2. **Click Administration – Global Settings in the Navigation pane.**



3. **Double-click the entry Management Servers in the Global Settings Type list to display the following screen.**



4. **In the Computer Discovery control group, modify the settings that MOM 2005 uses for automatic computer discovery.**



5. **Click the OK button to apply the change.**

Discovering Server Attributes and Classifying Sun Servers

You have four options that affect the way MOM 2005 discovers server attributes and classifies your Sun servers.

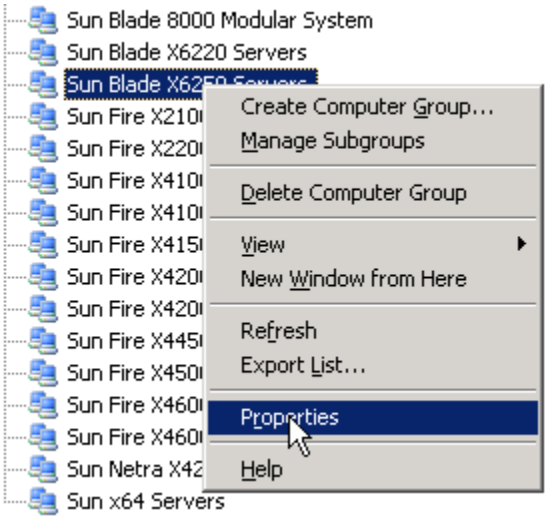
- *Option-1*: Allow MOM 2005 to perform automatic classification within 24 hours
- *Option-2*: Reset the default interval for running the Sun Discover Machines Script
- *Option-3*: Run classification against Sun servers immediately
- *Option-4*: Classify Sun servers manually

The Sun-specific formulas used by MOM 2005 to classify your Sun servers are the same; the timing differs for each option.

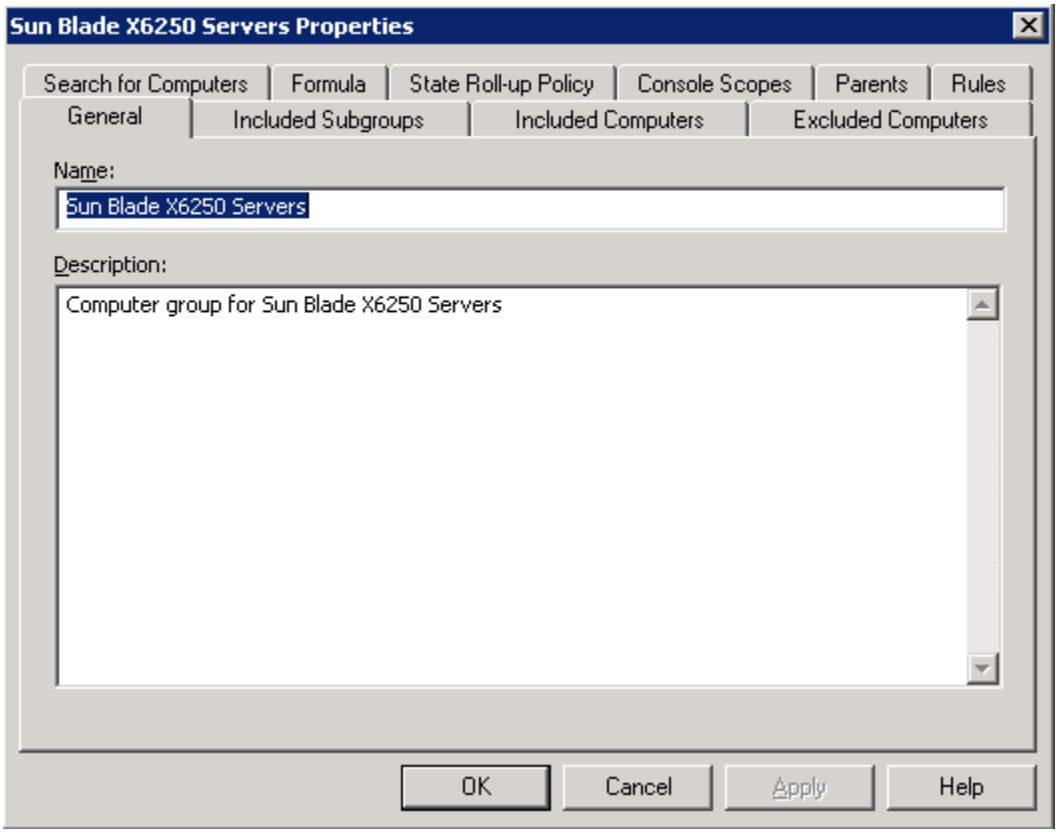
Viewing the Formula for Sun x64 Server Classifications

The classification of Sun servers is based on a Sun-specific attribute named Sun-ComputerModel. This attribute is discovered by the Sun Server Model Discovery script. To view the formulas that MOM 2005 uses when it classifies discovered servers, do the following:

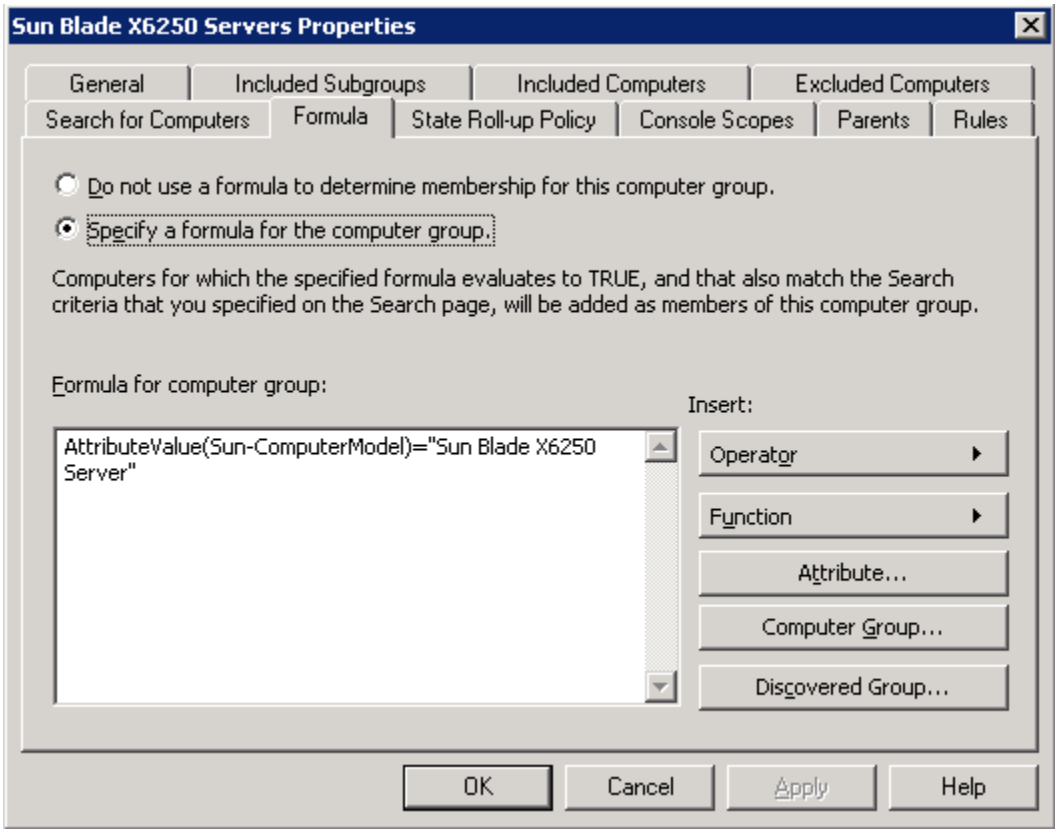
1. **Launch the Administrator Console.**
2. **Click Management Packs – Computer Groups to display the list of installed computer groups.**
3. **Right-click the name of a Sun server model to display a pop-up menu.**



4. **Choose Properties to display the following dialog box.**



5. **Click the Formula tab to display the classification formula that MOM 2005 uses to classify that particular model of Sun x64 server.**



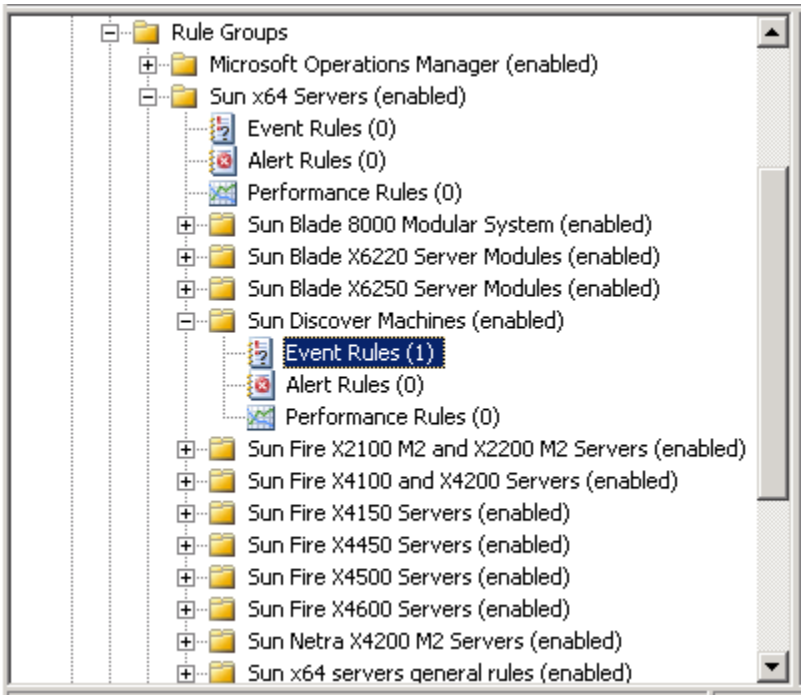
Option-1: Allowing MOM 2005 to Perform Automatic Classification

MOM 2005 performs attribute discovery and classification automatically, typically every 24 hours. If you do nothing at this point, MOM 2005 will perform attribute discovery and classification for you.

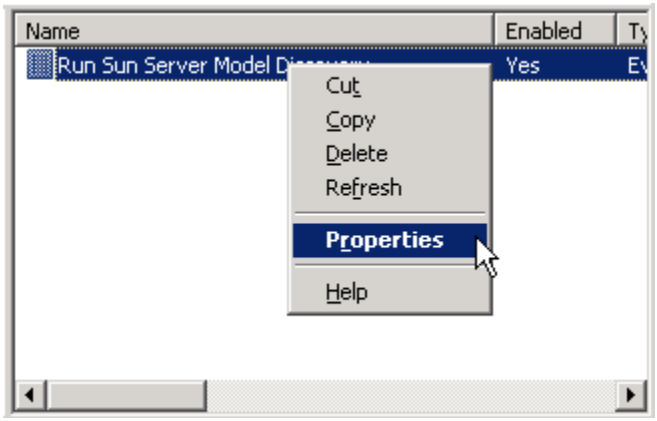
Option-2: Resetting the Default Interval for Running the Sun Discover Machines Script

The Sun Management Pack installs a Sun-specific event rule named Run Sun Server Model Discovery and a script that uses that Sun-specific event rule to initiate Sun-specific attribute discovery and Sun-specific server classification at a set interval. You can change the default interval at which this script executes. To reset this default time interval, do the following.

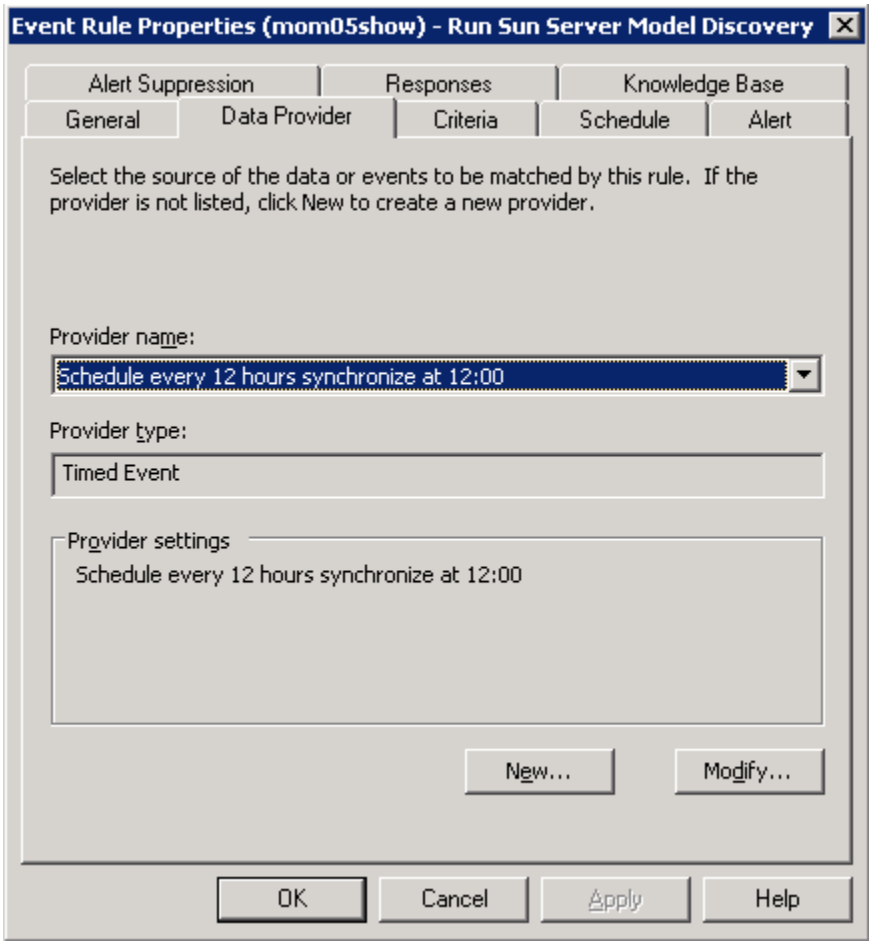
1. **Launch the MOM 2005 Administrator Console.**
2. **Click Management Packs – Rule Groups – Sun x64 Servers – Sun Discover Machines – Event Rules entry in the navigation pane.**



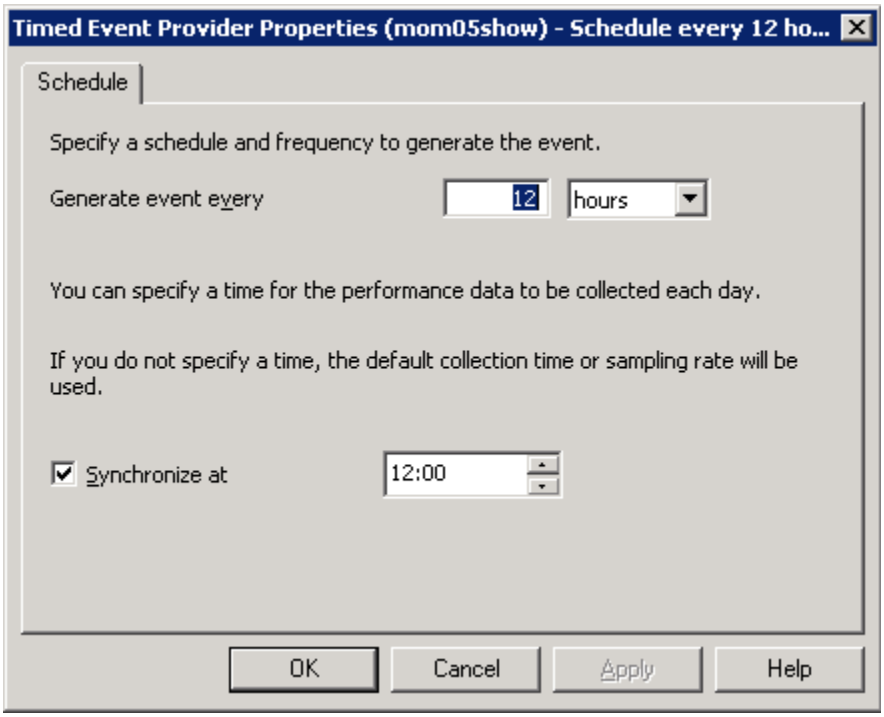
3. **In the right-hand pane, right-click the Run Sun Server Model Discovery entry to display a pop-up menu.**



4. **Choose Properties to display the Event Rule Properties box.**
5. **Click the Data Provider tab to display the following dialog box.**



6. **Click the Modify button to display the following dialog box.**



7. **Modify the default time interval and click the OK button.**

8. **Right-click the Management Packs entry in the Navigation pane to display a pop-up menu.**

9. **Choose Commit Configuration Change to confirm the new default time interval for attribute discovery.**

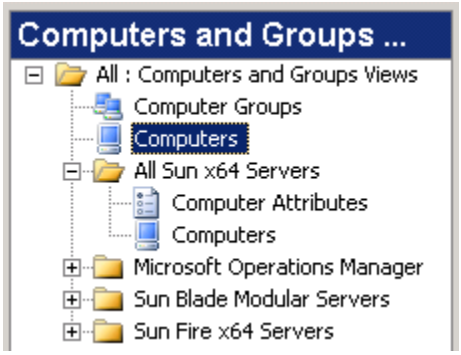
Option-3: Performing Classification Immediately

The Sun Management Pack installs a task named Run Sun Server Discovery in the Operator Console. This task executes the Sun Server Model Discovery script described in the previous section against one or more discovered servers. If you want to classify Sun servers immediately, do the following:

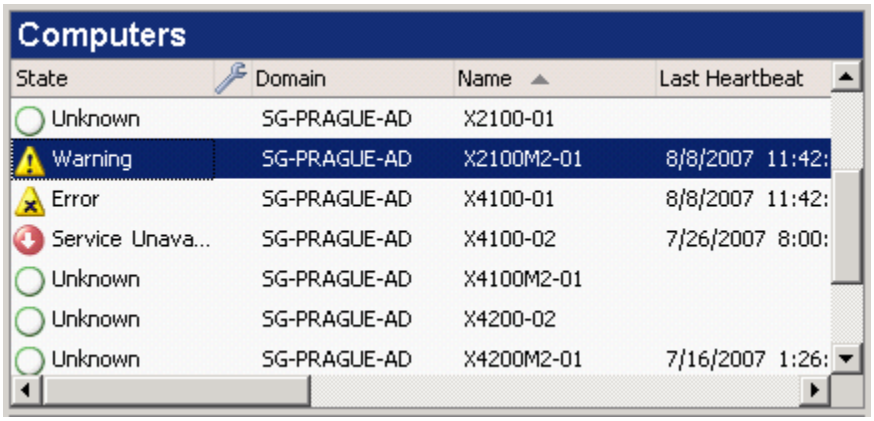
1. **Launch the MOM 2005 Operator Console.**

2. **Click the Computers and Groups … pane.**

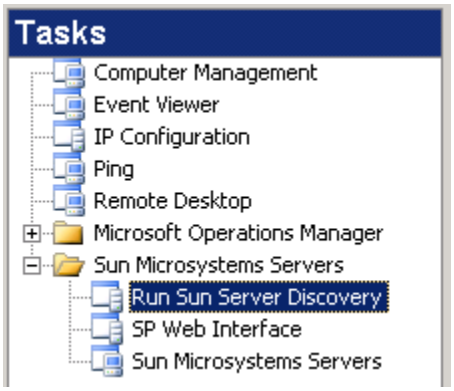
3. **Click the Computers entry in the Navigation pane to display the list of all servers in the Computer Details pane.**



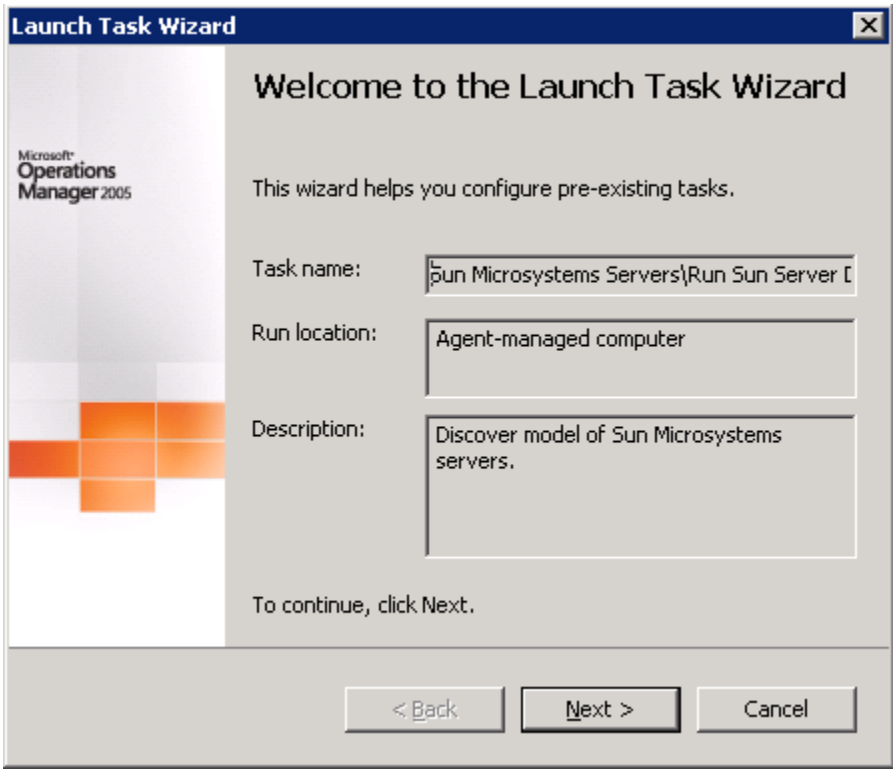
4. **In the Computers Details pane, select one or more servers.**



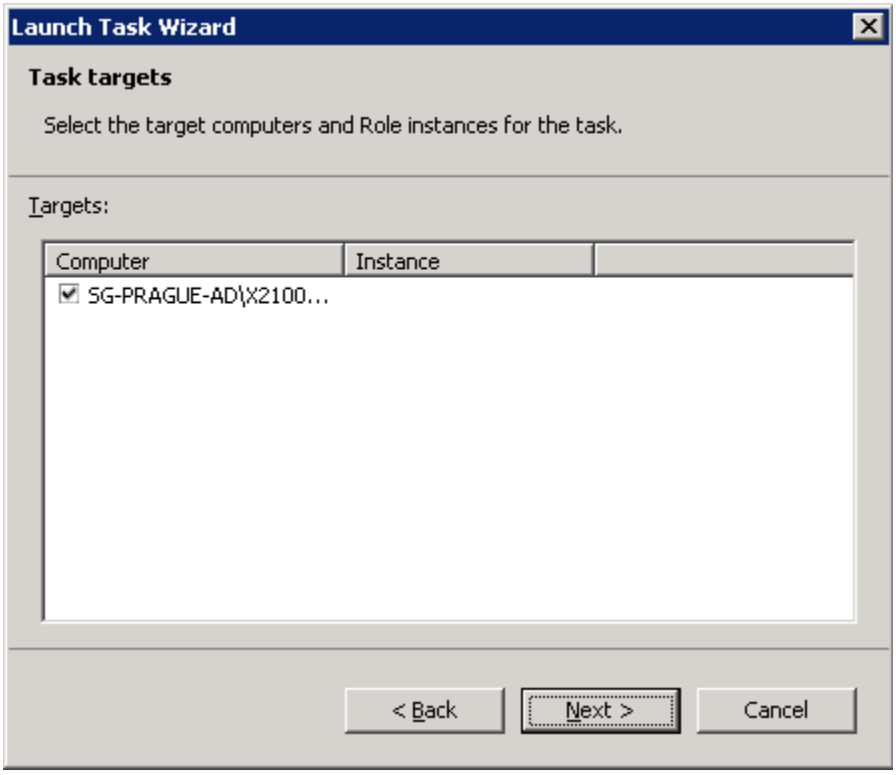
5. **In the Tasks pane, click Run Sun Server Discovery.**



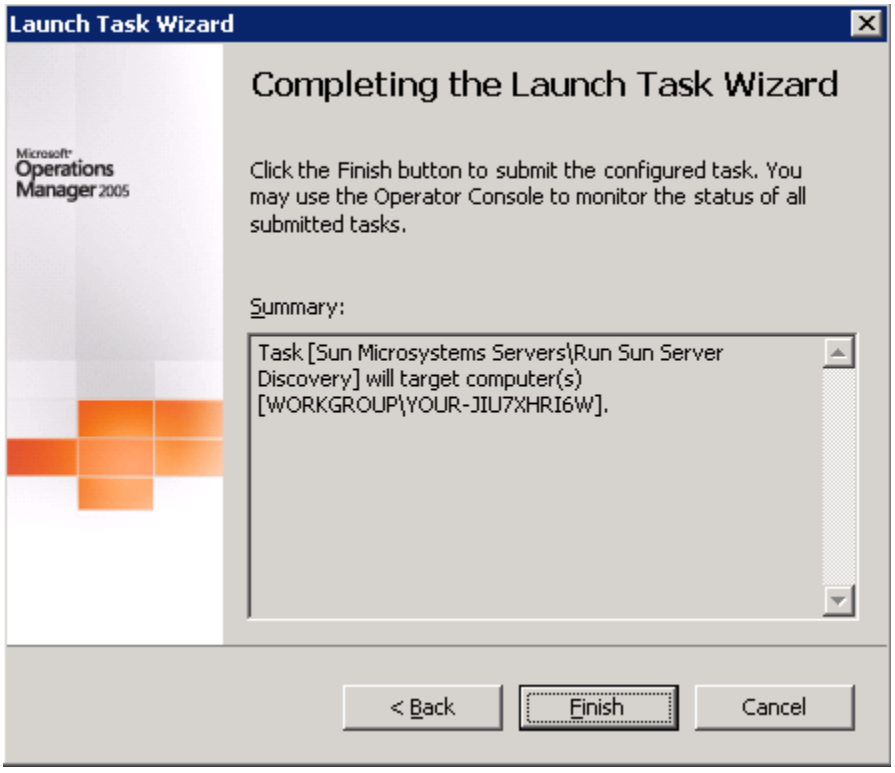
MOM 2005 displays the Launch Task Wizard screen.



6. **Select the name(s) of one or more target Sun servers in the list of discovered computers and click the Next button.**

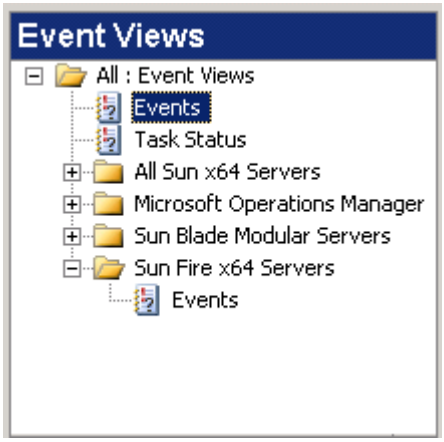


7. **Check one or more entries for target servers and click the Next button to display the following screen.**

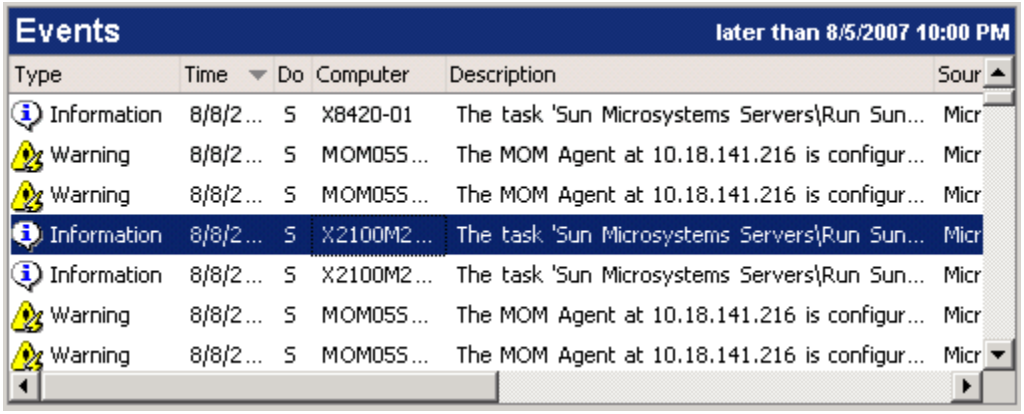


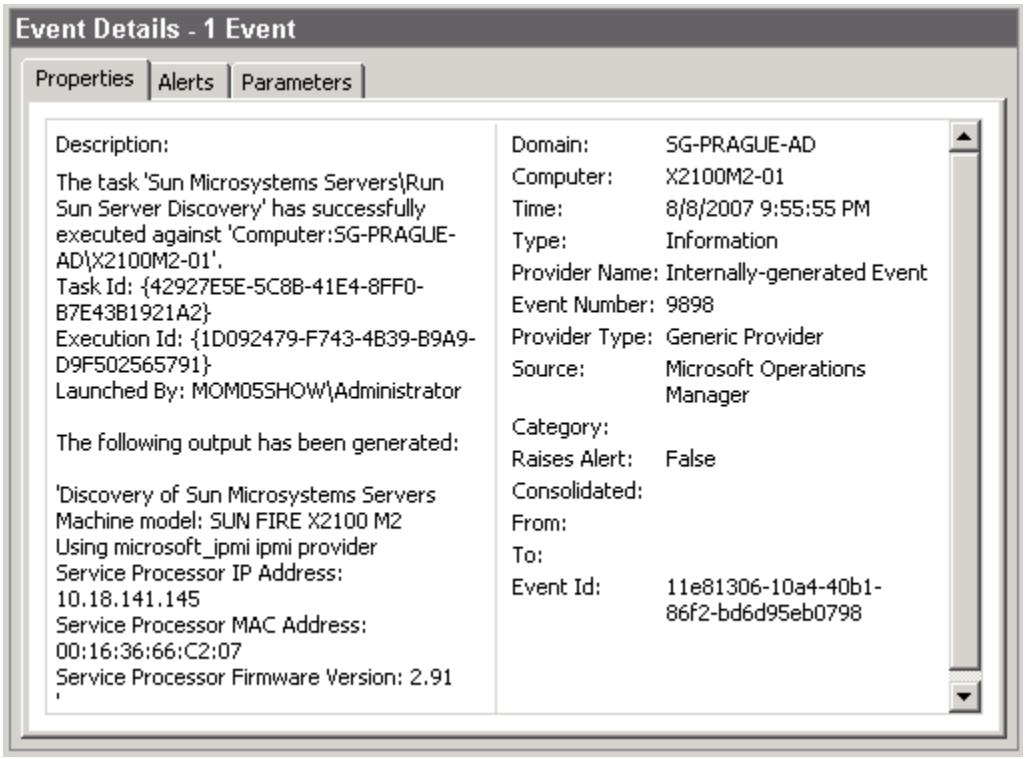
8. **Click the Finish button to launch attribute discovery on the target servers.**

9. **(Optional) To verify that the attribute discovery task ran successfully, click Event Views – Events.**



10. **Verify that MOM 2005 generated an information event for the Run Sun Server Discovery task.**

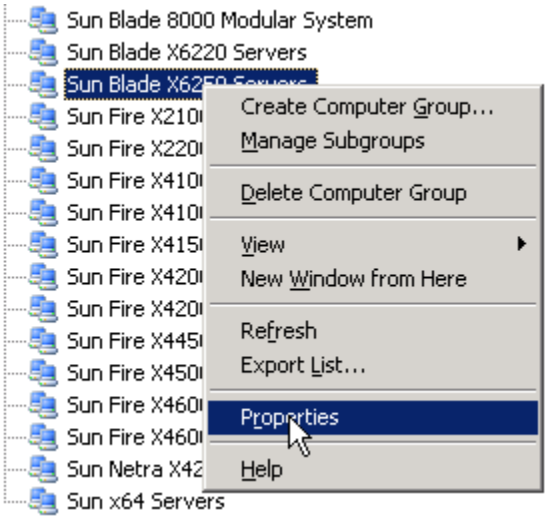




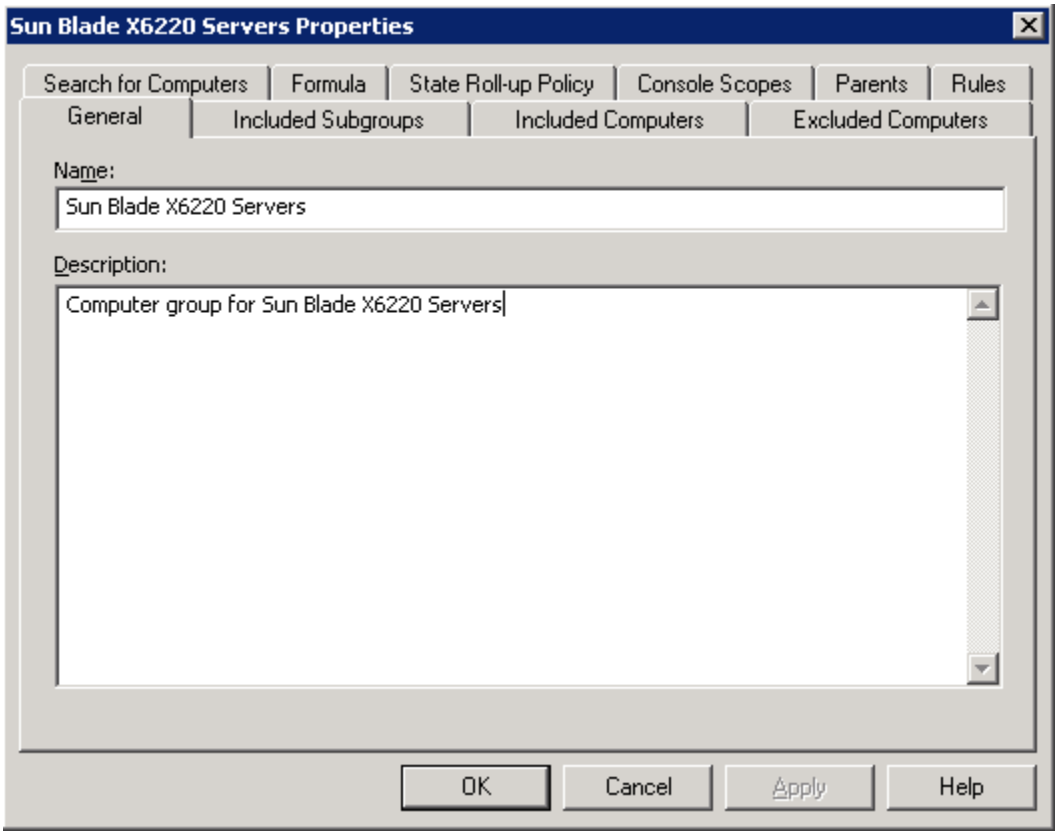
Option-4: Classifying Servers Manually

You can also add a discovered server to a particular class of Sun x64 servers manually. **This method however is not recommended and should be used only when other methods fail for some reason.** To classify a server manually, do the following:

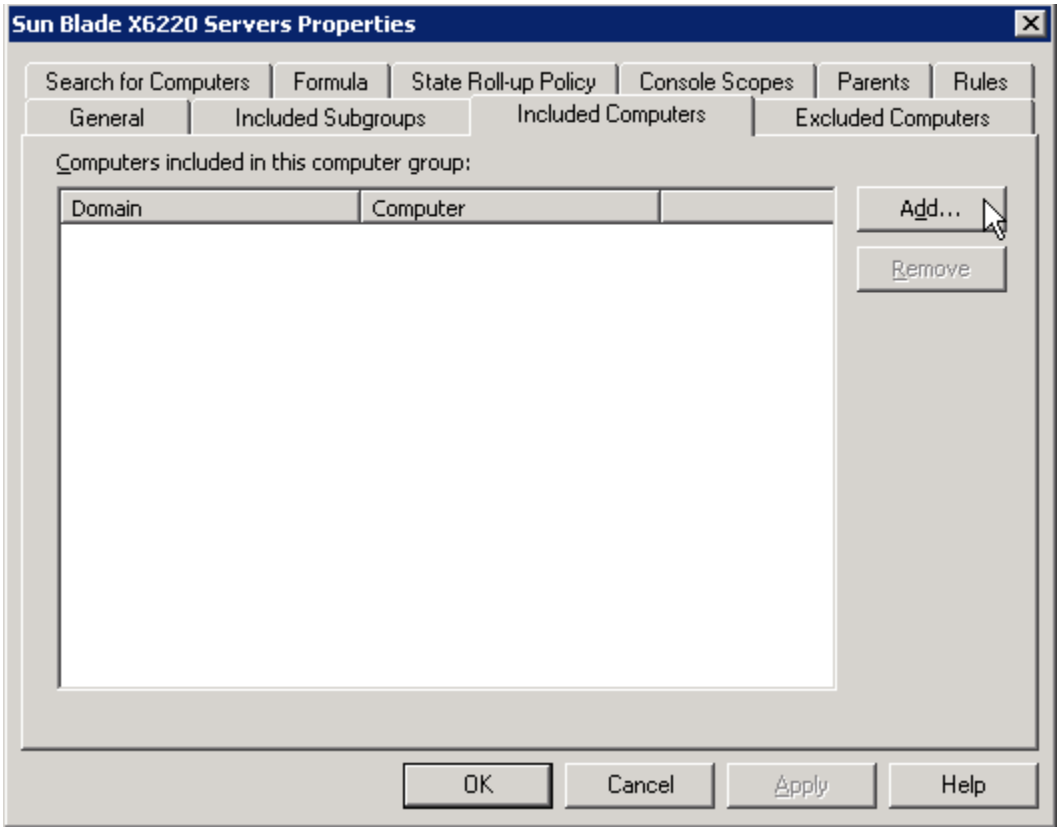
1. **Launch the Administrator Console.**
2. **Right-click the name of a Sun x64 computer group under Management Packs – Computer Groups.**



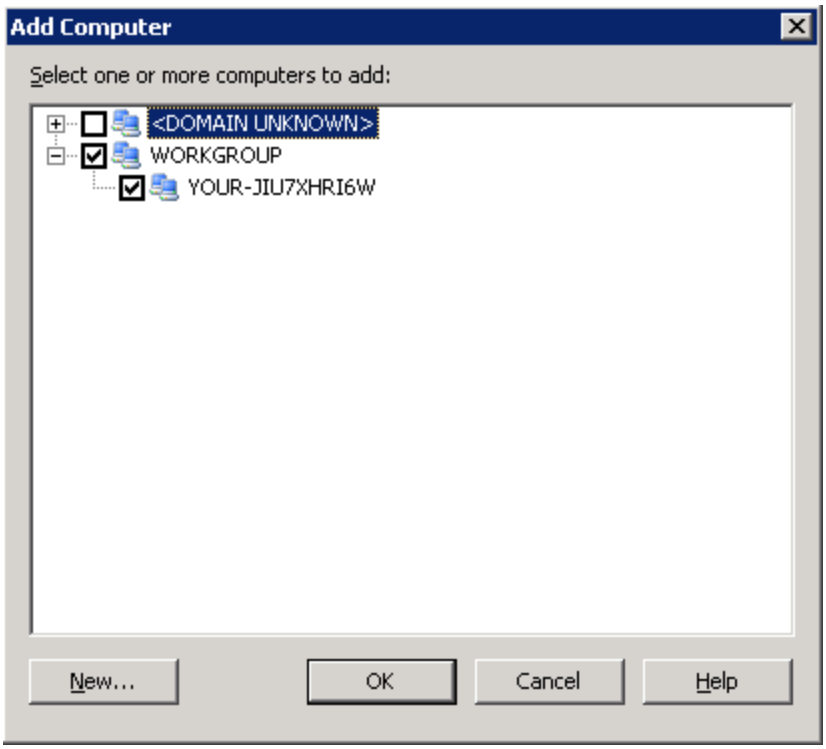
3. **Choose Properties in the pop-up menu to display the following screen.**



4. **Click the Included Computers tab to display the following screen.**



5. **Click the Add … button to display a list of discovered computers.**



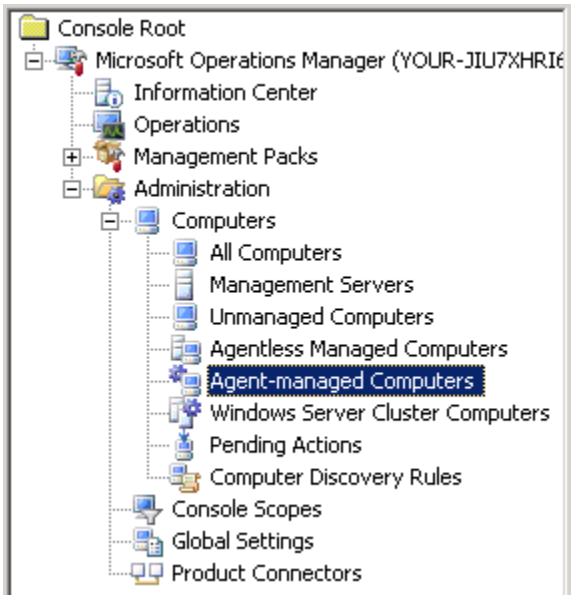
6. **Check one or more servers that you want to classify manually into the currently selected Sun x64 computer group and click the OK button.**

   The selected server(s) should appear as members of the specified computer group.

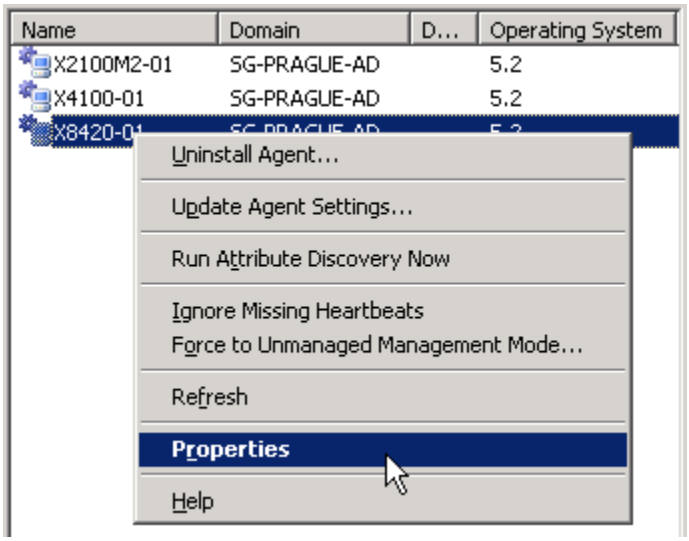
Verifying Classification

Each server identified by the Sun Management Pack as a Sun x64 server is classified into a general Sun computer group (Sun x64 Servers) and into a specific Sun model computer group (X4100 or X8420, for example). To verify that one or more Sun servers have been classified correctly, do the following:

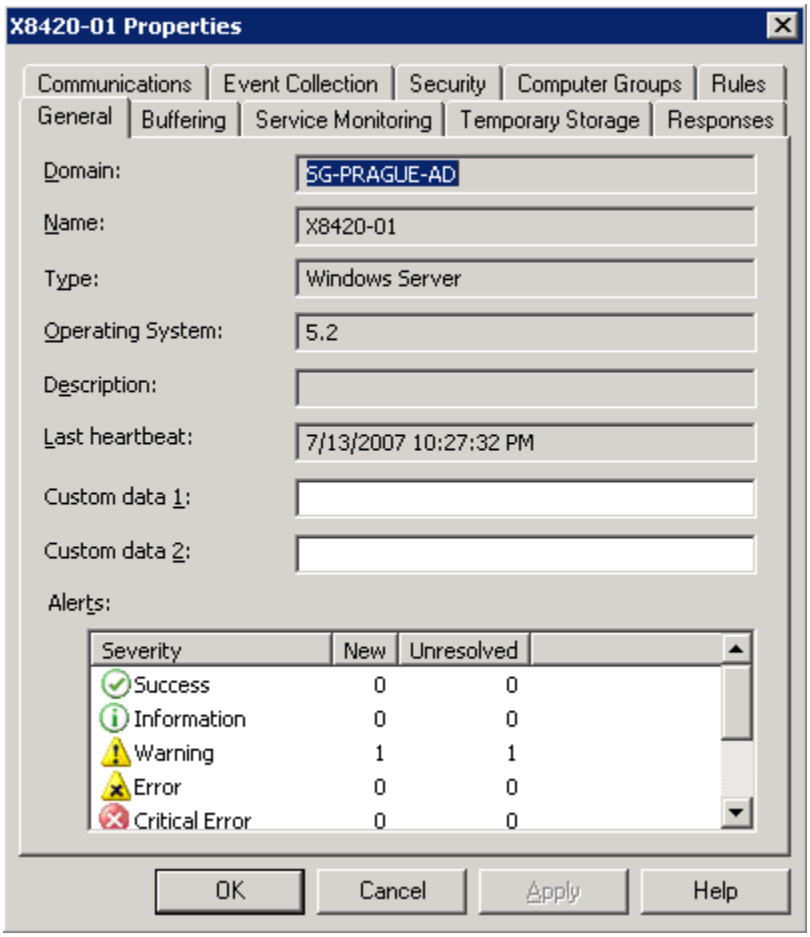
1. **Launch the Administrator Console.**
2. **Click the Administration – Computers – Agent-managed Computers entry in the Navigation pane.**



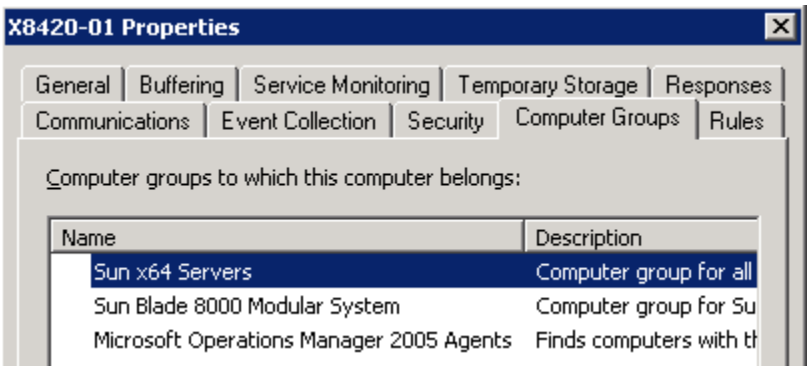
3. **In the right-hand pane, right-click the name of one of the agent-managed servers to display a pop-up menu.**



4. **Click Properties to display the following screen.**



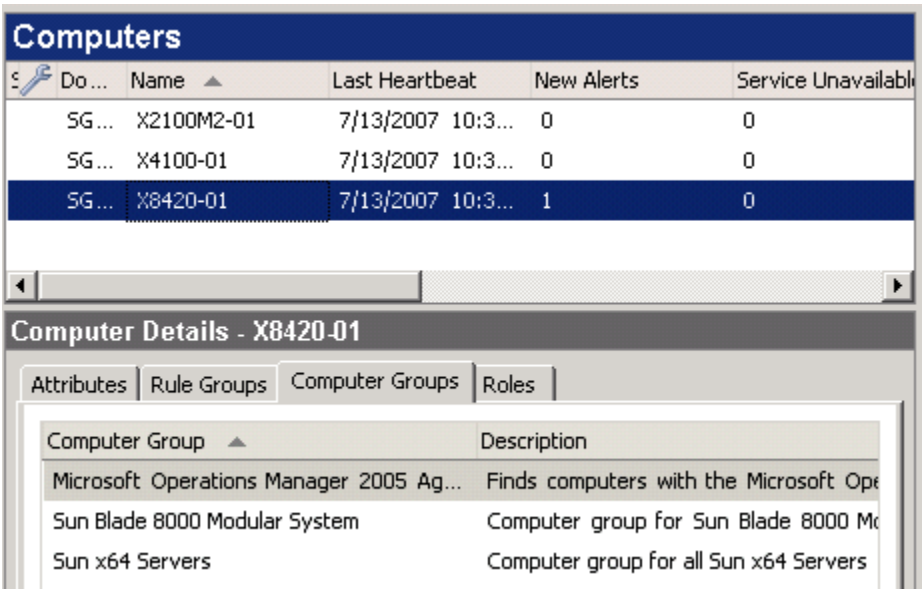
5. **Click the Computer Groups tab to display the following screen.**



6. **Verify that the server belongs to both the general Sun x64 Servers group and the specific Sun server model group.**

7. **Click the OK button to close the dialog box.**

Note: You can view the same information in the MOM 2005 Operator Console under the Computers View.


Computers
Do...
Name
Last Heartbeat
New Alerts
Service Unavailabl
SG...
X2100M2-01
7/13/2007 10:3...
0
0
SG...
X4100-01
7/13/2007 10:3...
0
0
SG...
X8420-01
7/13/2007 10:3...
1
0
Computer Details - X8420-01
Attributes
Rule Groups
Computer Groups
Roles
Computer Group
Description
Microsoft Operations Manager 2005 Ag...
Finds computers with the Microsoft Ope
Sun Blade 8000 Modular System
Computer group for Sun Blade 8000 Mo
Sun x64 Servers
Computer group for all Sun x64 Servers

CHAPTER 5

Verifying and Troubleshooting Your MOM 2005 Configuration

Once you have installed the Sun Management Pack on your MOM 2005 management server, configured drivers and services on your managed servers, and performed discovery, you can verify whether the entire configuration is working properly.

Verifying Successful Configuration

In the following procedure, you will use IPMItool to inject a simulated hardware event, a high temperature reading for a motherboard sensor, into the service processor of a Sun server, a Sun Fire X4100 M2 server. You can, alternatively, generate an actual event by unplugging a non-critical component such a redundant power supply on a Sun server. If this event (simulated or actual) appears in the MOM Operator Console as a MOM event and a MOM alert you have configured your Sun Management Pack and your managed nodes successfully.

About IPMItool

IPMItool is an open-source utility for managing and configuring devices that support the Intelligent Platform Management Interface (IPMI) version 1.5 and version 2.0 specifications. You can obtain a Windows version of IPMItool from one of the following sources:

- IPMItool package that you used to install the Sun IPMI Driver and the ipmievd service on managed servers
- The resource CD that shipped with your Sun server
- The IPMItool web site at `http://www.sun.com/system-management/tools.jsp`

Injecting a Simulated Event

To verify that MOM 2005 is configured to receive events from a Sun server, do the following:

1. **Collect the following information about the remote server that you want to test.**

Field	Description
`<SystemName|IPaddress>`	The system name or IP address of the remote managed server

Field	Description
	Example: `192.168.1.1`
`<ipmi_driver>`	The type of IPMI driver installed on that remote managed server: - `ms` (for systems with the Hardware Management service installed on MS Windows Server 2003 R2) - `ism` (for systems with the Sun IPMI Driver installed on systems without MS Windows Server 2003 R2)

2. **Open a command shell on a remote managed server that has IPMItool installed.**

3. **Enter the following IPMItool command to generate a list of all available sensors on that server.**

   ```
   ipmitool.exe –I <ipmi_driver> -v sdr list
   ```

   There are different sensor names and sensor threshold values for different models of Sun servers. To inject the appropriate event into a particular Sun server, you need to review the output from the above command and identify the name of a particular sensor.

   In the following example, we will be injecting a simulated event for a motherboard sensor named “mb.t_amb” and a temperature threshold for that sensor named “ucr” (for upper-critical).

4. **Enter the following IPMI command to generate a simulated event**

   ```
   ipmitool.exe –I <ipmi_driver> event ”mb.t_amb”\
   ”usr” ”assert”
   ```

   In the Command Window, IPMItool returns information like the following:

   ```
   Finding sensor mb.t_amb... ok

     0 | Pre-Init Time-stamp   | Temperature mb.t_amb \
     | Upper Critical going high \
     | Reading 77 > Threshold 75 degrees C
   ```

   Note: Entering the following command produces a log record in a Windows event log, but does not produce either a MOM Event with Sun ILOM or Sun ELOM source or a corresponding MOM Alert.

   ```
   ipmitool.exe -I ism event 1
   ```

   Inject a hardware event into IPMI sensor such as into "mb.t_amb" to produce a corresponding MOM Event or MOM Alert.

5. **After 30 – 60 seconds, open the MOM Operator Console and verify that the appropriate alert from this sensor has been received in the console.**

If you do not see an alert corresponding to the simulated event that you injected, review this manual for required configuration steps and consult the next section on troubleshooting your configuration.

Troubleshooting Your MOM 2005 Configuration

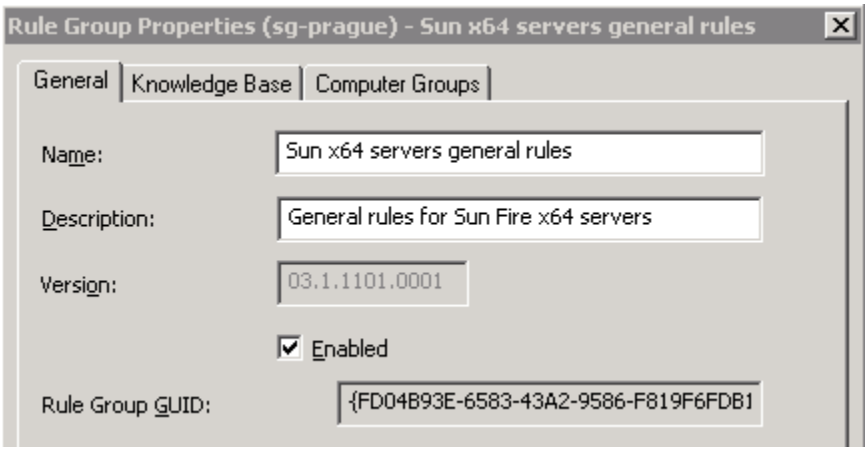
If hardware events (simulated or actual) are not appearing in your MOM Operator Console, you need to troubleshoot your MOM 2005 configuration.

Check each of the following possible configuration issues.

Sun Management Pack Version

In the Administrator Console, right-click the Sun x64 Servers Rule Group folder and choose Properties form the context menu.

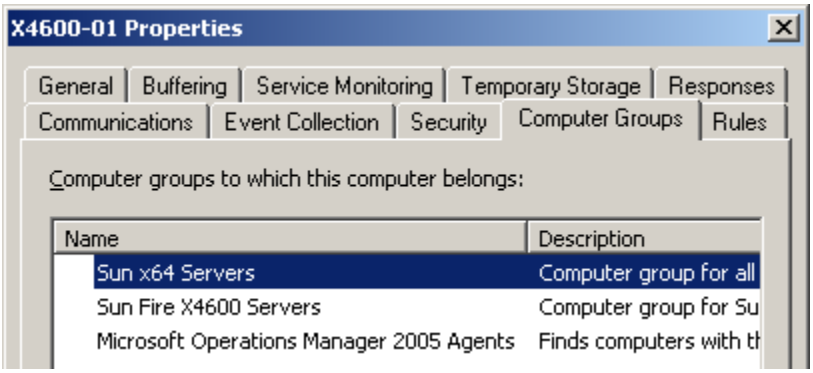
Verify that you are running the correct version of the Sun Management Pack.



Server Classification

In the Operator Console, display the Properties sheet for the managed server that you are troubleshooting to verify that it is classified correctly.

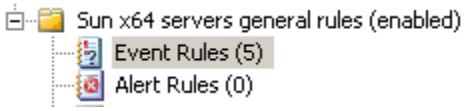
For example, a Sun Fire X4600 server must be classified under Sun x64 Servers and Sun Fire X4600 Servers.



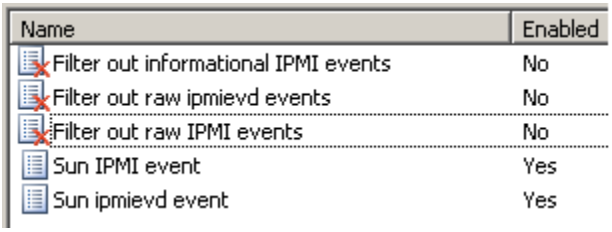
If the managed server is not in the appropriate group, review the section "Discovering Server Attributes and Classifying Sun Servers" and correct the classification.

Filter Rules

In the Administrator Console, click the Event Rules entry under Management Packs – Sun x64 Servers – Sun x64 servers general rules.



In the Details Pane, verify that both the filters named "Sun IPMI event" and "Sun ipimievd event" are enabled.



Name	Enabled
Filter out informational IPMI events	No
Filter out raw ipmievd events	No
Filter out raw IPMI events	No
Sun IPMI event	Yes
Sun ipmievd event	Yes

These event filters must be enabled for the Sun Management Pack to operate correctly.

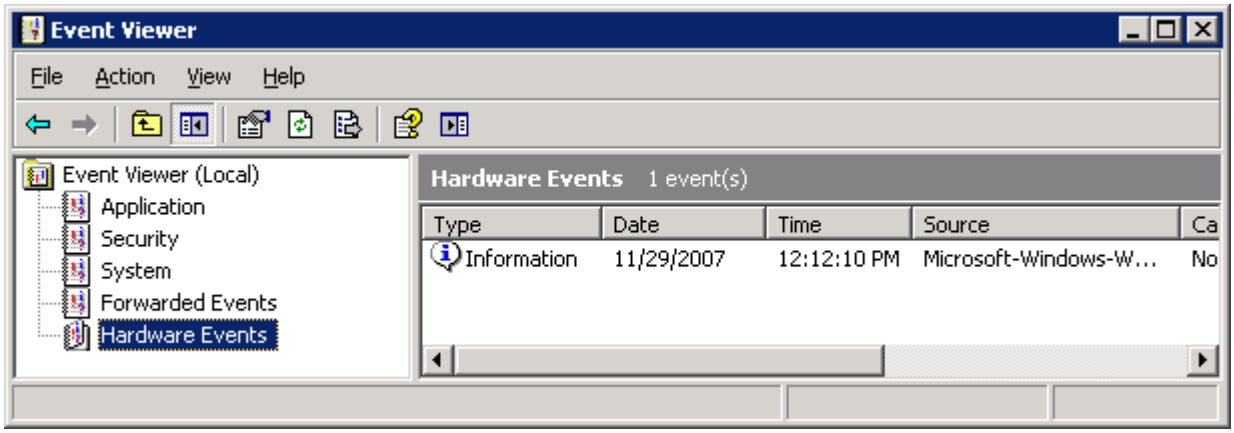
Note: While troubleshooting events, disable the following event filters:
- Filter out informational IPMI events
- Filter out raw ipmievd events
- Filter out raw IPMI events

Re-enable them after you have completed troubleshooting your MOM 2005 configuration.

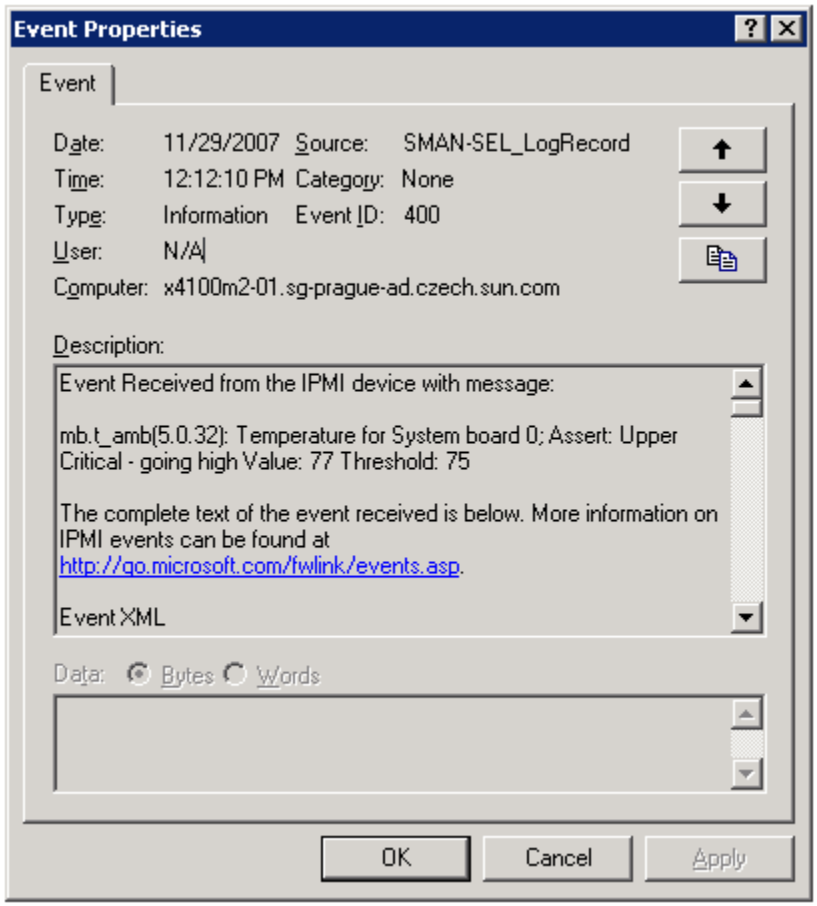
Hardware Event Logging for Windows Server 2003 R2 Managed Servers

If a managed Sun server running Windows Server 2003 R2 is not writing hardware events in its Windows Hardware Event Log, no hardware events will be available to MOM 2005. To verify that a Sun server running Windows Server 2003 R2 is writing hardware events, you must first inject a simulated hardware event using IPMItool or generate an actual hardware event by unplugging a non-critical component such a redundant power supply. See the section "Verifying Successful Configuration" for information about injecting simulated hardware events.

Once you have injected or generated a hardware event, choose Start – Control Panel – Administrative Tools – Event Viewer – Hardware Event on the managed system that you are troubleshooting.



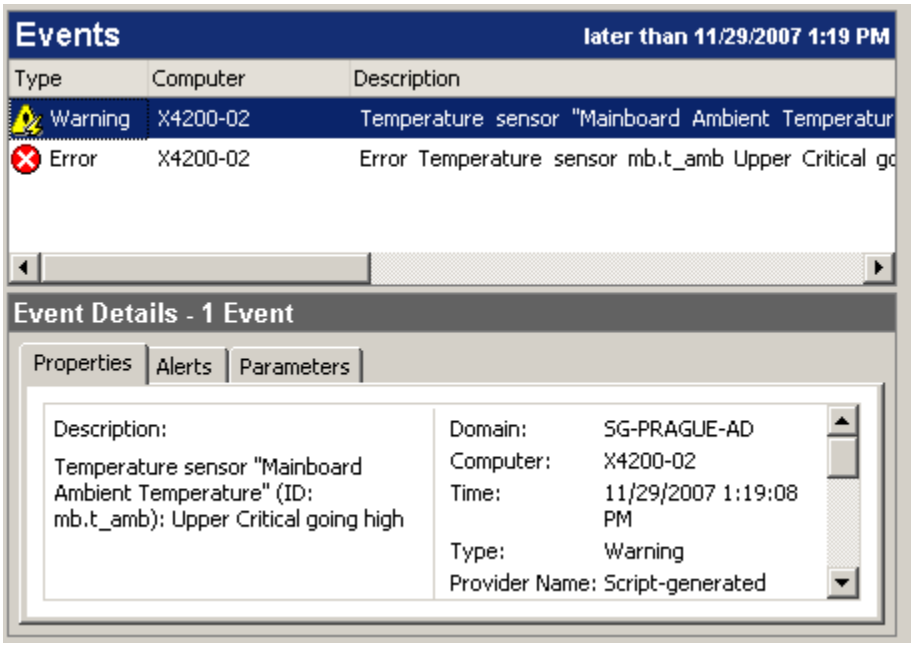
Double-click the most recent hardware event (most probably the injected event) to display its Properties Sheet and to verify that the source of the event is `Microsoft-Windows-WSMAN-SEL_LogRecord` (as in the following screen shot).



Note: In the MOM Operator Console, events are frequently identified as "Sun ILOM" or "Sun ELOM." These identifications are associated with Sun-specific rules in the Sun Management Pack so they will not appear in the Windows Event Log.

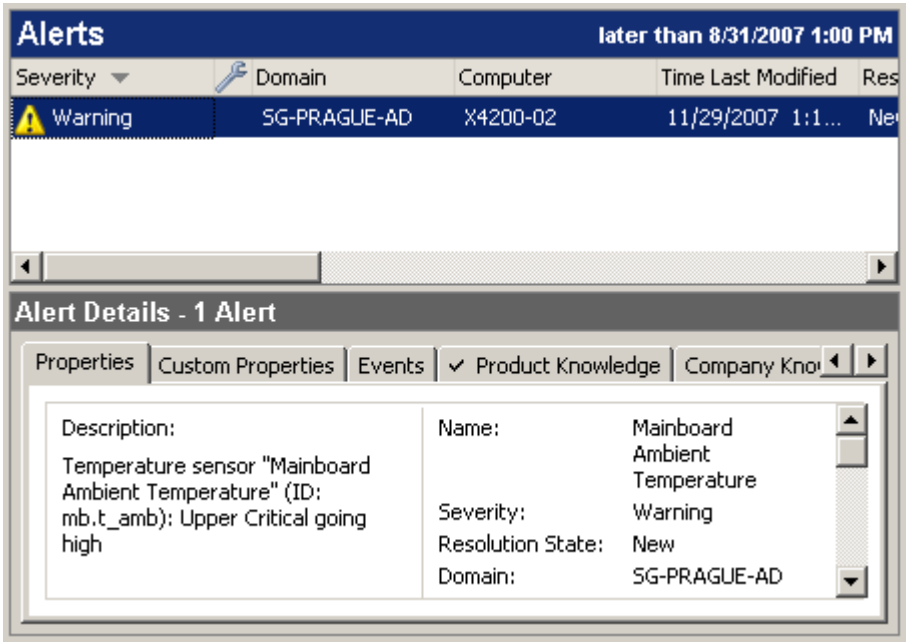
In the MOM Operator Console, you should also see corresponding messages in both the Events Pane and Alerts Pane:

- *Events Pane*: In the Events Pane, you should see two events related to sensor mb.t_amb.



Note: These events identified with the source `ipmievd` will not appear if the event filters named "Filter out raw ipmievd events" or "Filter out raw IPMI events" is enabled. Verify that these filters are disabled while you are debugging your MOM 2005 configuration. Re-enable these filters after you have completed troubleshooting your configuration.

- *Alerts Pane*: In the Alerts Pane, you should see one alert related to sensor mb.t_amb.



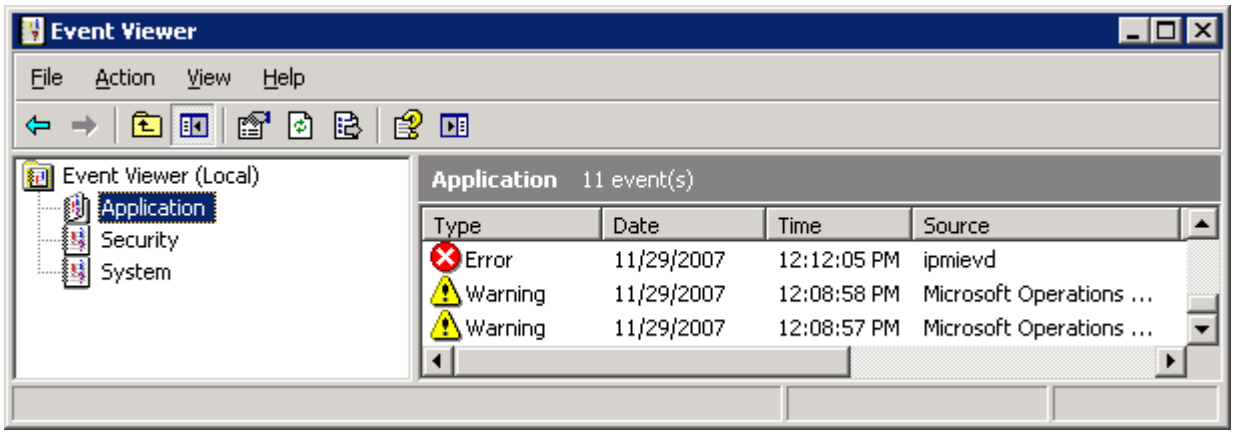
If your managed Sun server is *not* saving hardware events to the Windows Hardware Event Log, review the section named "Configuring Sun Servers Running MS Windows Server 2003 SP1 or SP2" and troubleshoot your current configuration. In case the management pack still does not work, please investigate the simple architecture of the management pack. Although a description of the architecture of

the pack is out of scope of this documentation, you can find several articles dealing with the Sun Management Pack from Sun Microsystems.

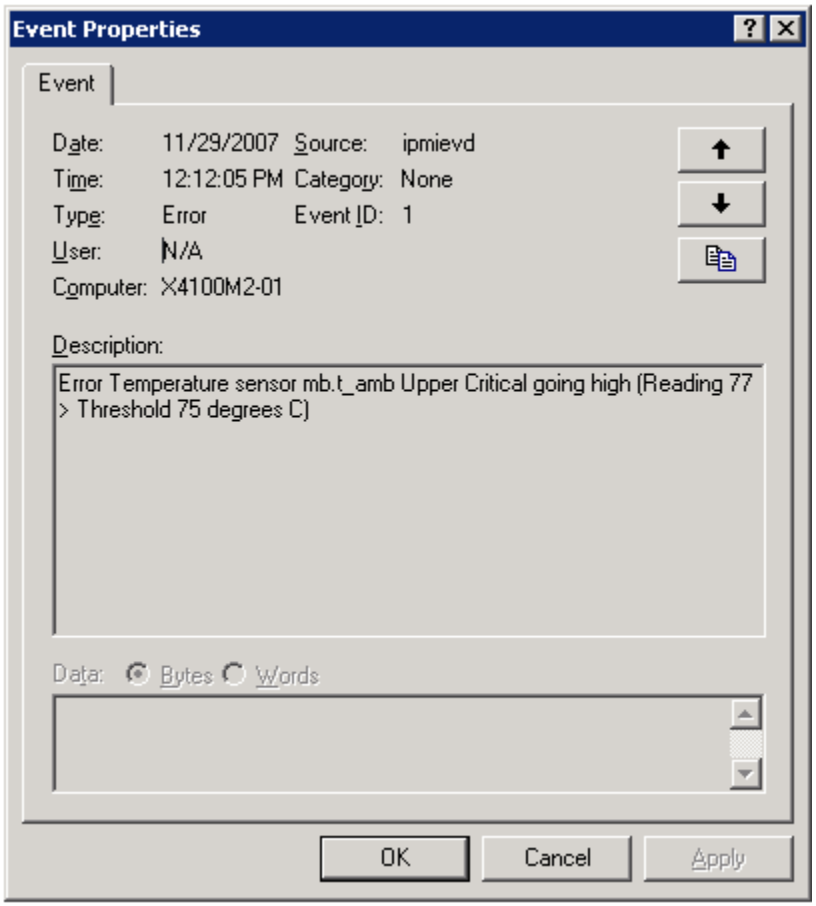
Hardware Event Logging for Managed Servers Running Windows Server 2003 non-R2

Managed servers running Windows Server 2003 non-R2 should be writing hardware events to the Application Log and identifying the source of those events as `ipmievd`. To verify that the managed Sun server is writing hardware events correctly, you must first inject a simulated hardware event using IPMItool or generate an actual hardware event by unplugging a non-critical component such a redundant power supply. See the section "Verifying Successful Configuration" for information about injecting simulated hardware events.

Once you have injected or generated a hardware event, choose Start – Control Panel – Administrative Tools – Event Viewer – Application on the managed system that you are troubleshooting.

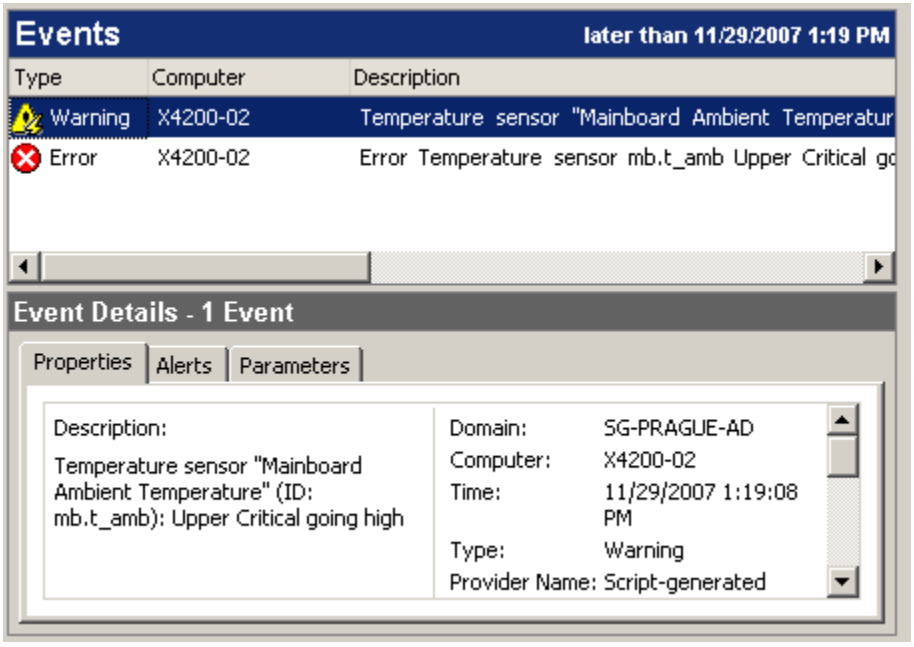


Double-click the most recent hardware event (most probably the injected event) to display its Properties Sheet and to verify that the source of the event is `ipmievd` (as in the following screen shot).



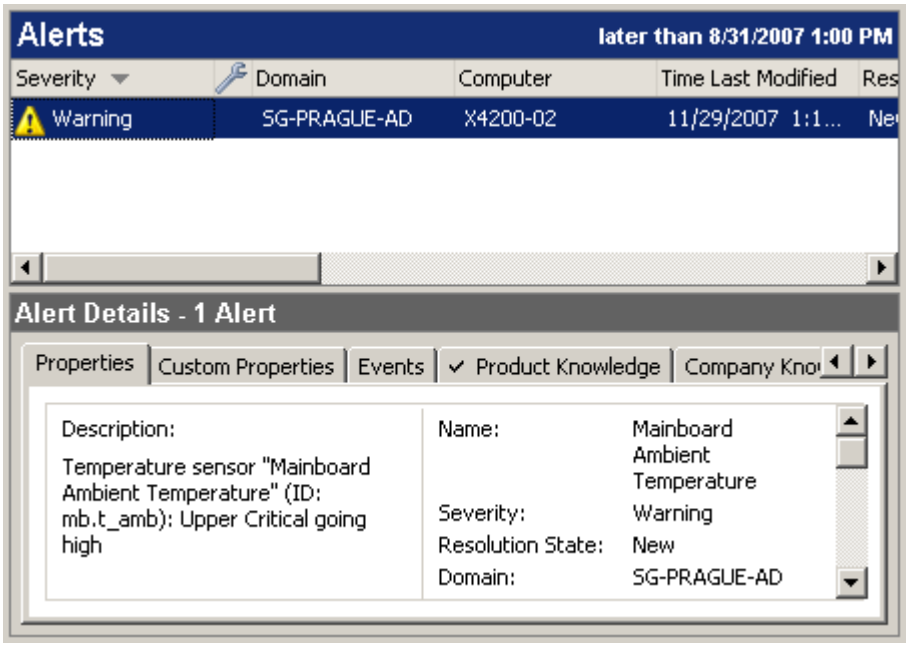
In the MOM Operator Console, you should also see corresponding messages in both the Events Pane and Alerts Pane:

- *Events Pane*: In the Events Pane, you should see two events related to sensor mb.t_amb.



Note: These events identified with the source `ipmievd` will not appear if the event filters named "Filter out raw ipmievd events" or "Filter out raw IPMI events" is enabled. Verify that these filters are disabled while you are debugging your MOM 2005 configuration. Re-enable these filters after you have completed troubleshooting your configuration.

- *Alerts Pane*: In the Alerts Pane, you should see one alert related to sensor mb.t_amb.



If your managed Sun server is *not* saving hardware events to the Windows Hardware Event Log, review the section named "Configuring Sun Servers Running MS Windows Server 2003 SP1 or SP2" and troubleshoot your current configuration. In case the management pack still does not work, please investigate the simple architecture of the management pack. Although a description of the architecture of the pack is out of scope of this documentation, you can find several articles dealing with the Sun Management Pack from Sun Microsystems.

CHAPTER 6

Monitoring Sun Servers with the Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005

Release 3.3 of the Sun Management Pack supports the most commonly used features in MOM 2005.

This chapter provides an overview of the Sun-specific information, features, and views that are available through the Sun Management Pack Release 3.3:

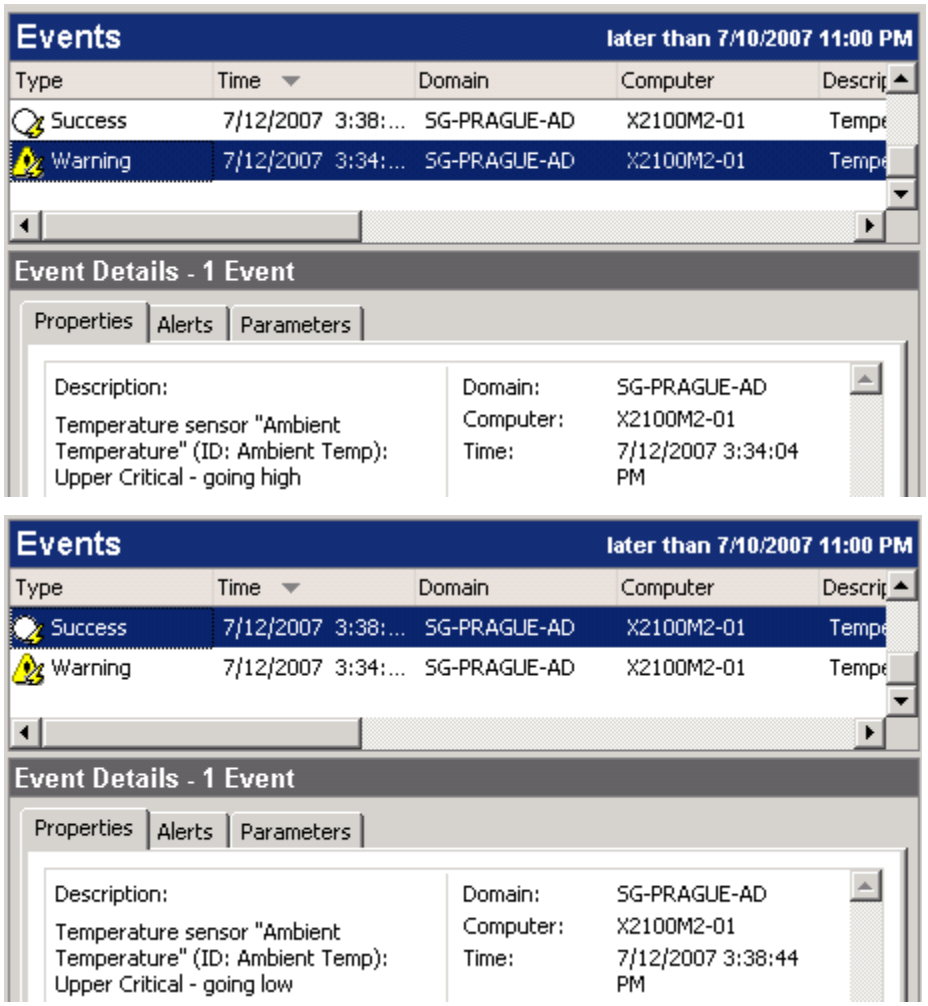
- Sun-specific event handling
- Sun-specific events and rules
- Sun-specific tasks
- Sun-specific views

Sun-Specific Event Handling

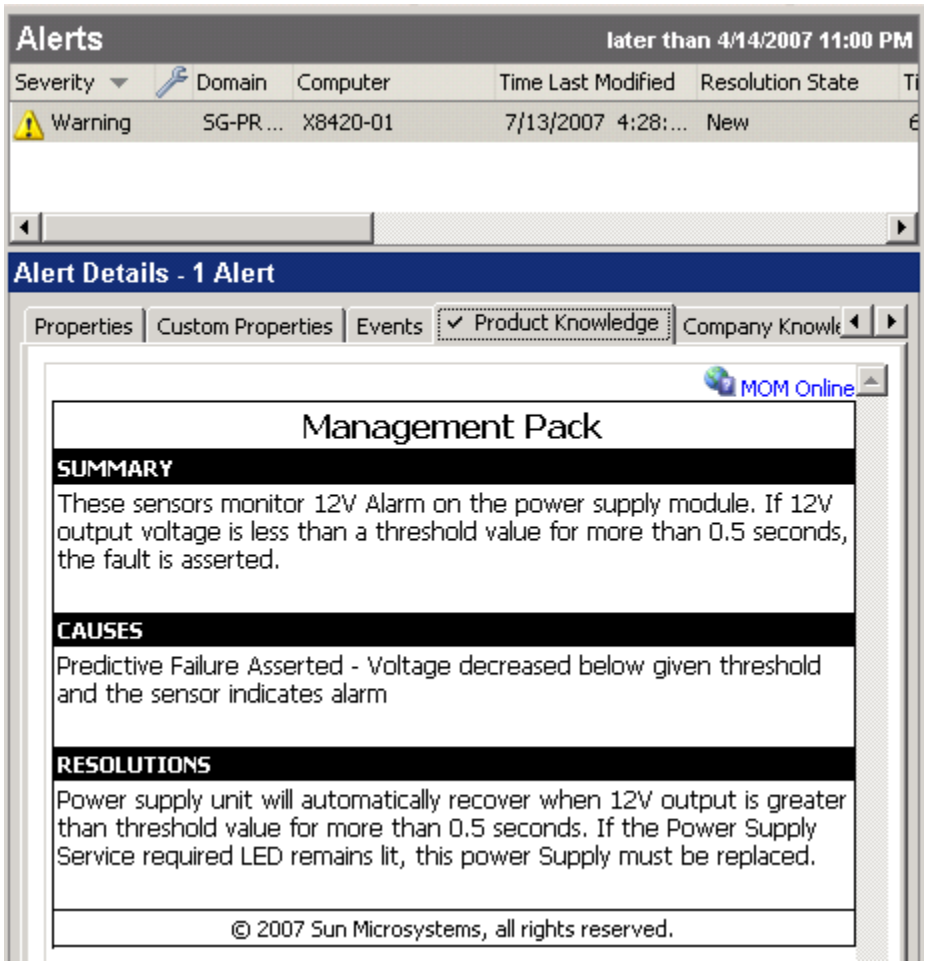
The usefulness of any management pack comes down to its ability to provide you with accurate events, meaningful descriptive knowledge about those events, and a feel for how multiple events sequence one another.

Basic Event Reporting

At a very basic level, you can view and interpret events derived from the Sun servers managed by MOM 2005. In the following example from the Operator Console, a Sun Fire X2100 M2 server sends two events to MOM 2005 reporting that one of its temperature sensors is registering a fluctuation above and below the critical threshold.

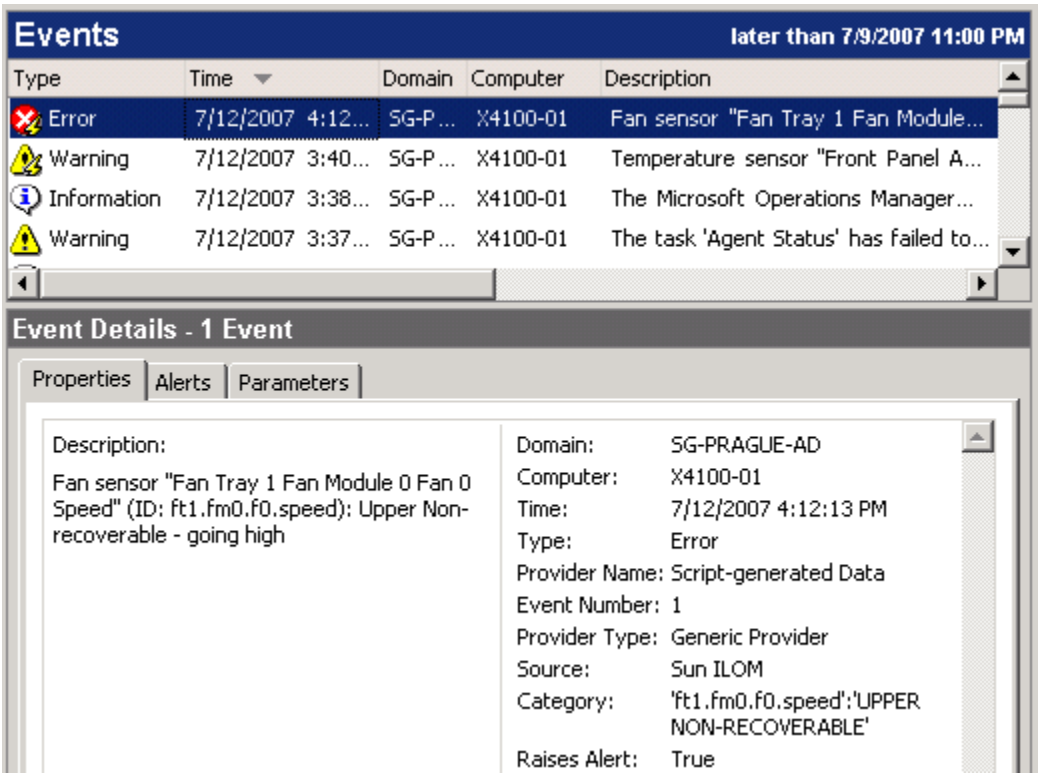


Viewing self-explanatory events from temperature sensors is nice, but interpreting more complex events and alerts from more complex systems requires the sort of product-specific knowledge that is everywhere in the Sun Management Pack. For example, here is a description in the Operator Console of a voltage sensor alert generated from a Sun Blade X8420 receiving its AC power problem indication from one of several blade server chassis power supplies.

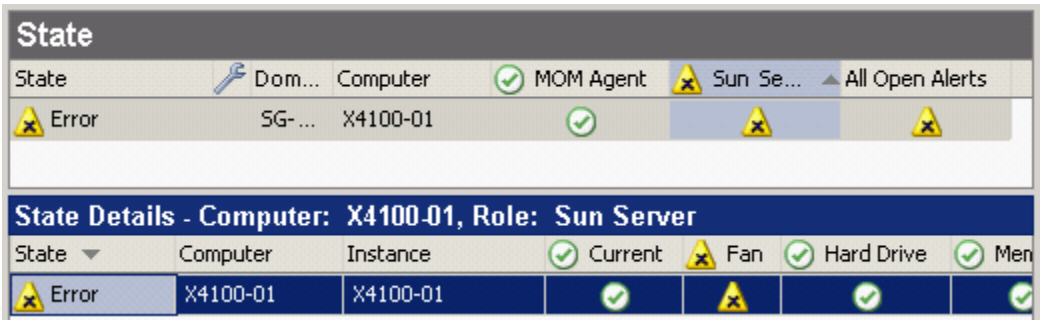


Additional Event Reporting

Being able to monitor Sun servers within a meaningful context is important. In the following example from the Operator Console, a Sun Fire X4100 server generates an alert about the speed of one of its fans going high.

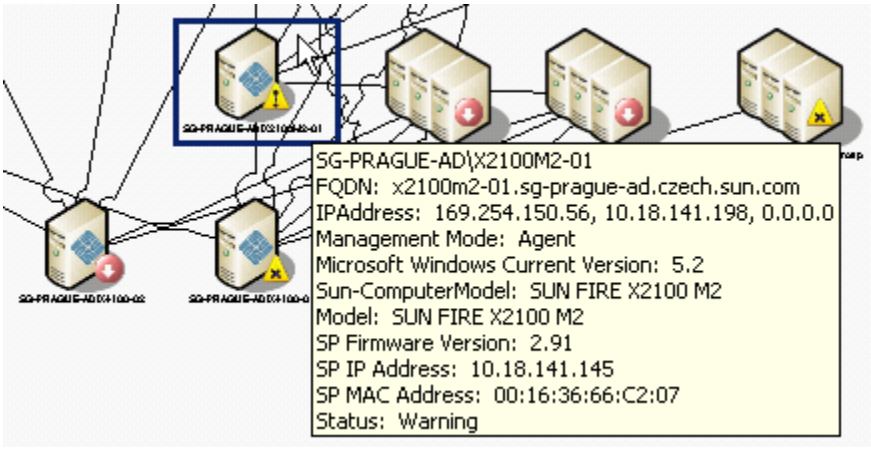


To interpret whether this is an isolated problem or one element in a larger problem, you need to see this event in context. The Sun Management Pack provides a health state view that allows you to see whether a server is experiencing one error or many. Here is how the Sun Management Pack builds a health state view in the Operator Console of the Sun Fire X4100 server that generated the alert about the speed of one of its fans.



In this view you are able to assess the state of many system components without having to drill down into lists of alerts.

Similarly, getting an immediate and accurate view of the state of multiple Sun servers in MOM 2005 can be critical. MOM 2005 not only provides a graphical view of the basic state of Sun servers in the MOM 2005 Diagram View, it also provides relevant information about installed firmware and networking information relevant to those individual servers.



From basic events to aggregate views of multiple Sun servers, the Sun Management Pack provides accurate and context-rich event handling and event-related knowledge.

Sun-Specific Events and Rules

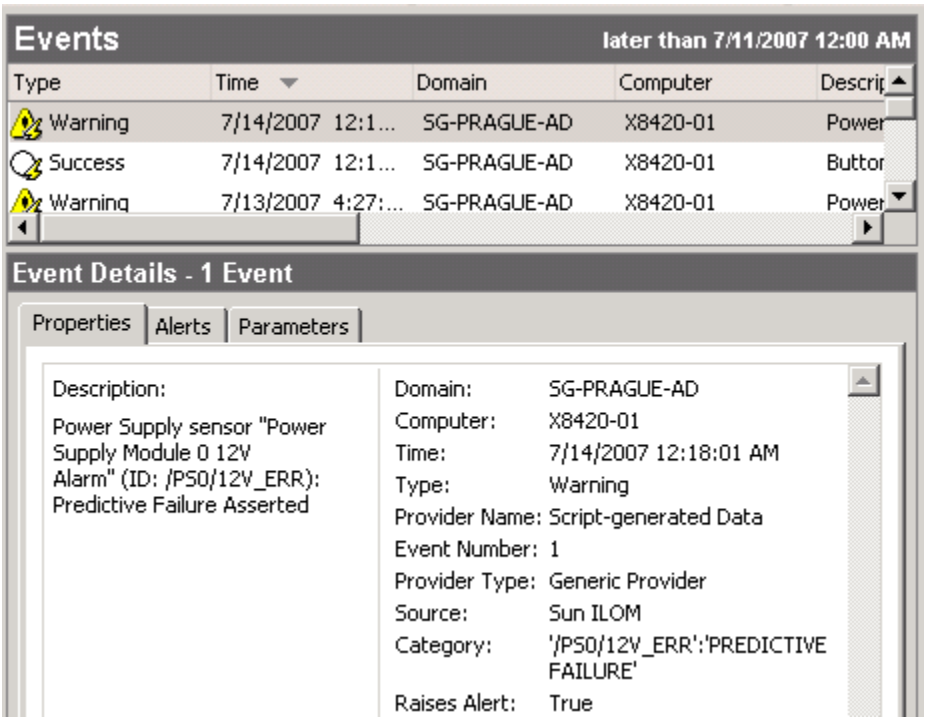
Event handling for Sun servers depends on Sun-specific event rules. Understanding how to view and, if necessary, modify Sun-specific event rules will help you monitor your Sun servers more effectively. This updated release of the Sun Management Pack has reduced the number of event rules and greatly simplified the process of managing those rules.

Sun Alerts

At a low level, the ILOM or Embedded LOM service processor installed on each Sun server passes events through to a set of scripts that is included in the Sun Management Pack. These scripts interpret these events and decide whether to generate an alert to MOM 2005. Depending on the type of event that occurred, the Sun Management Pack may choose to ignore it as an alert or to assign it one of the following alert severity levels:

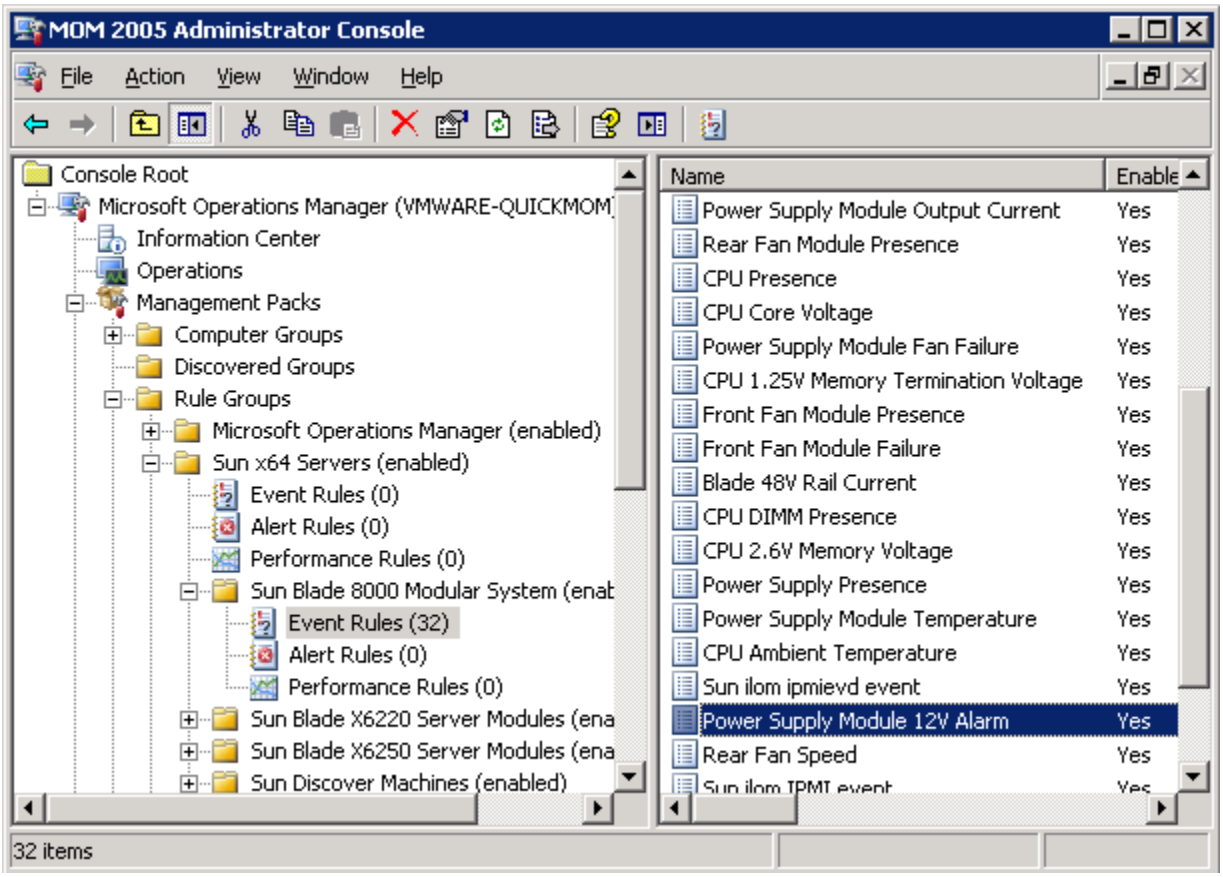
- Information
- Warning
- Error

The following event reported by a Sun Blade X8420 server module has a severity level of Warning.

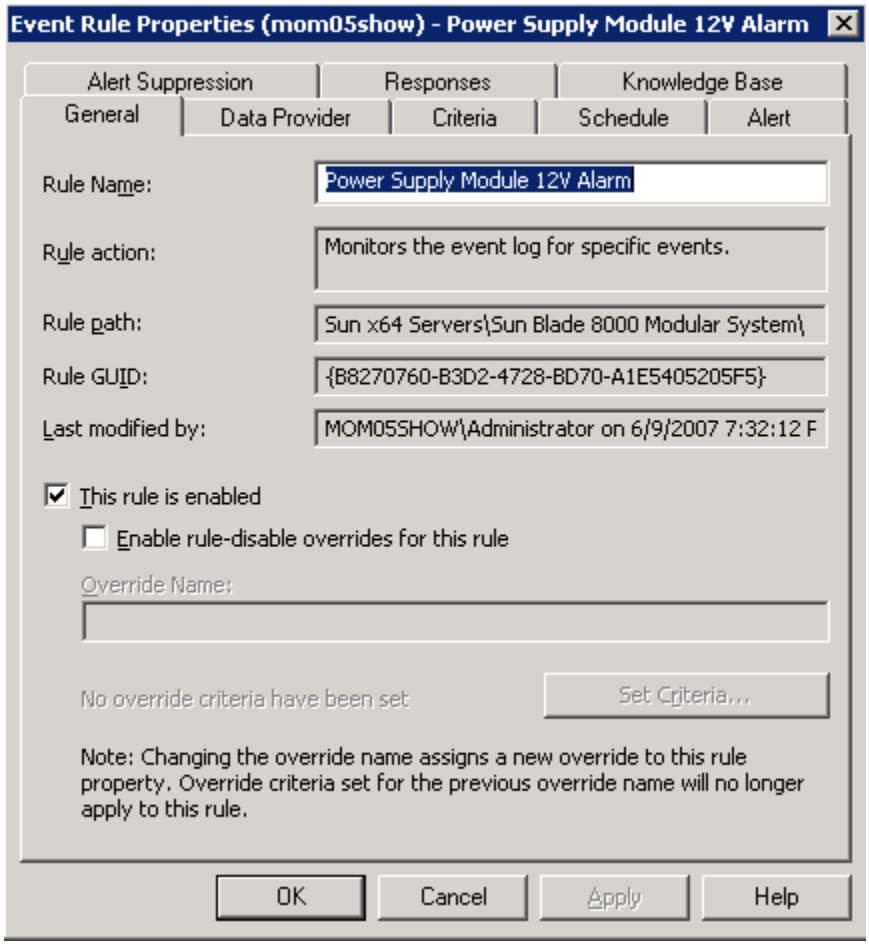


Sun Event Rules

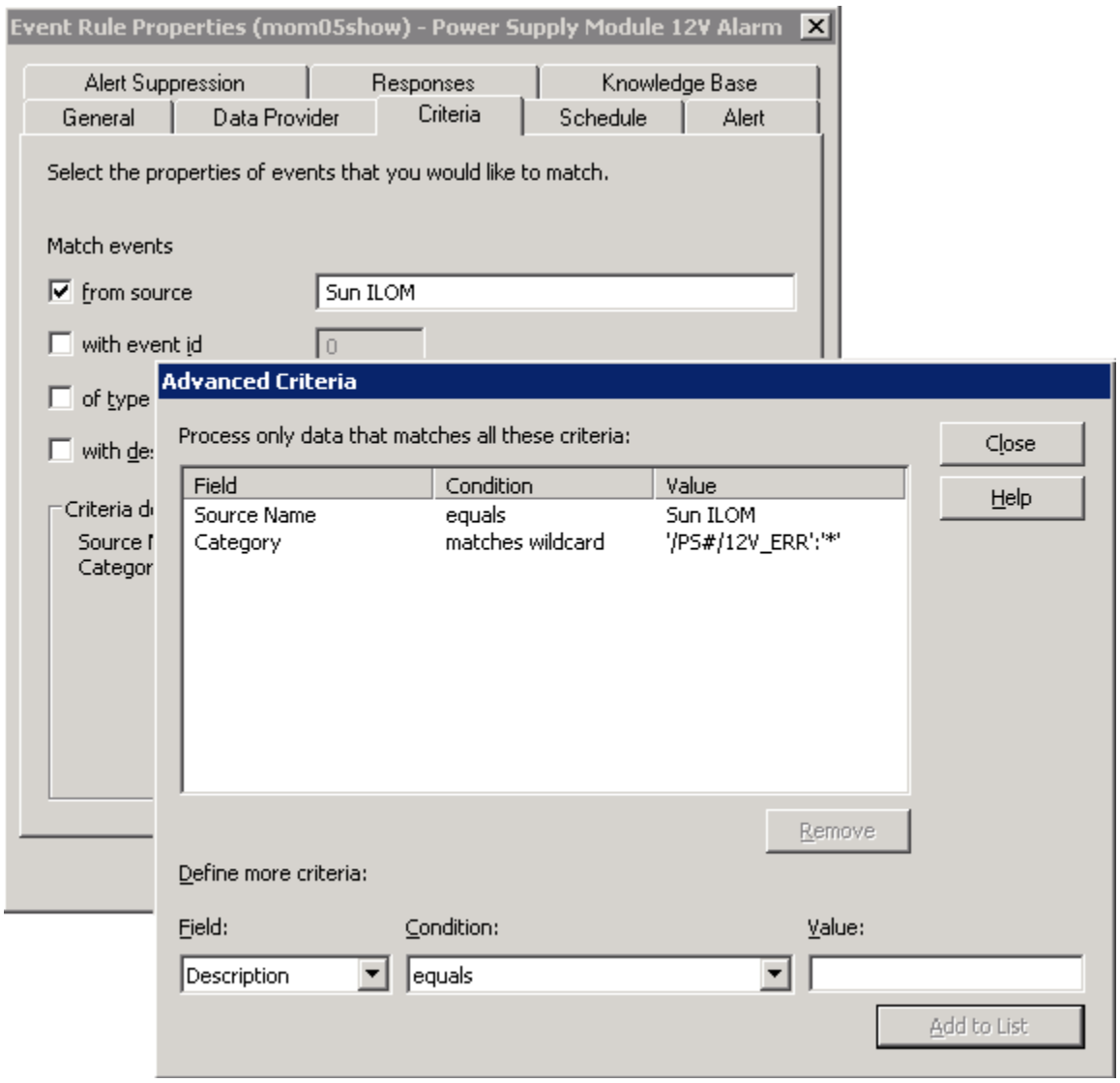
You can review the Sun-specific event rules in the MOM 2005 Administrator Console under Management Packs – Rule Groups – Sun Fire x64 Servers. The event rule for the X8420 power supply alert in the dialog box above is one of 32 event rules for the Sun Blade 8000 server modules.



If you want to drill down into an individual event rule, you can double-click it in the list of event rules.



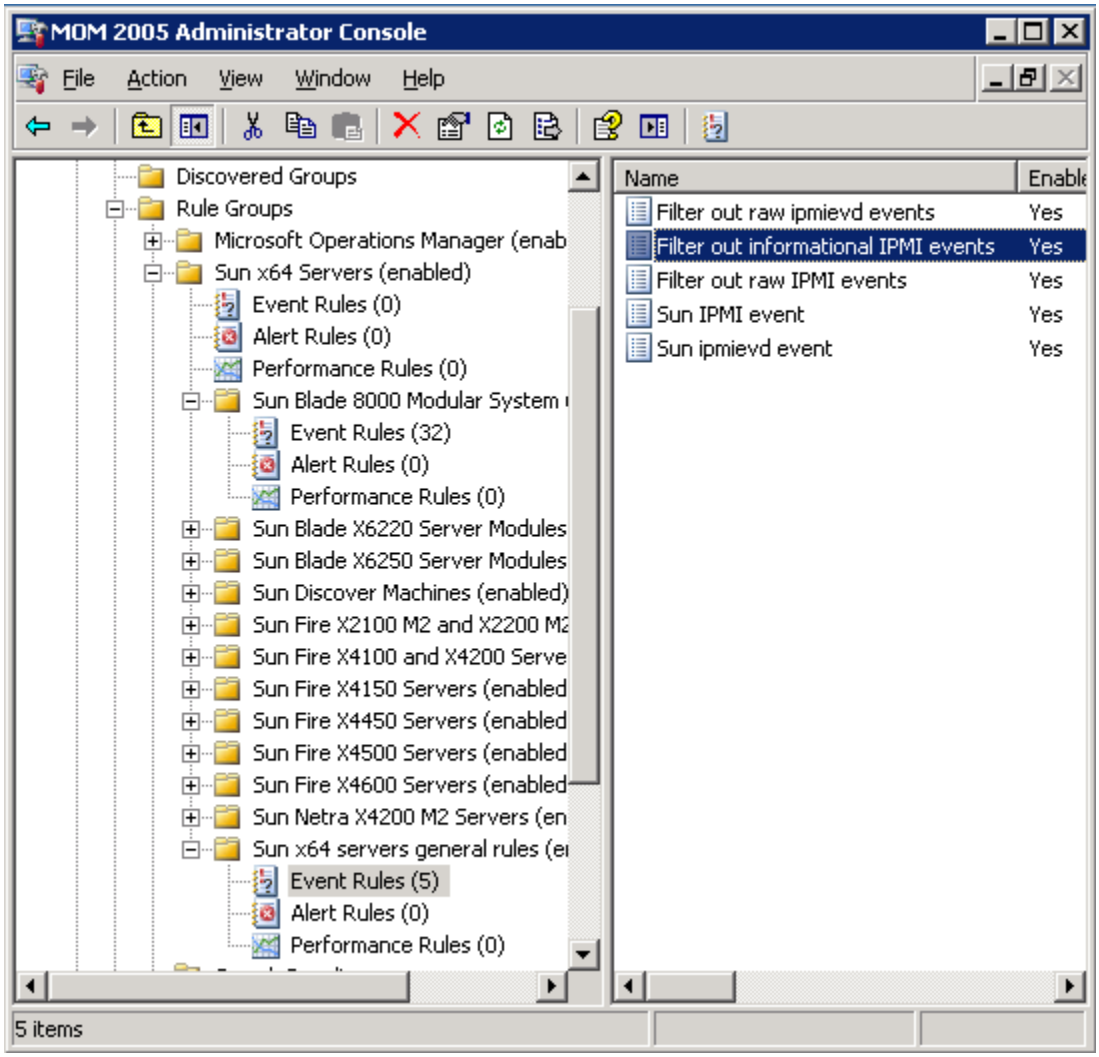
If necessary, you can view or modify the specific criteria used in the event rule.



Sun Event Filters

A significant amount of the event traffic in the system is purely informational. You can set a MOM 2005 filter to toggle all informational messages on or off.

To turn the reporting of Sun informational events on or off, click Management Packs – Rule Groups – Sun x64 servers general rules – Event Rules.

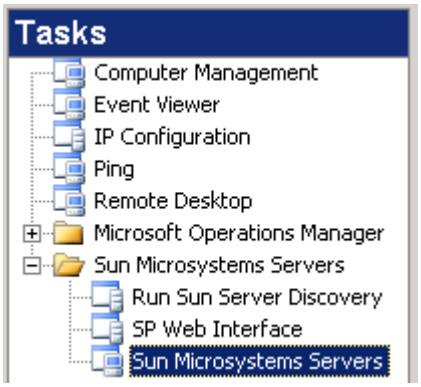


Double-click any of the entries to view or to reset filtering for all Sun servers.

Note: The event rules “Sun IPMI event” and “Sun ipmievd event” must remain enabled for the MOM 2005 to function properly.

Sun-Specific Tasks

The Sun Servers Management Pack 3.3 for Microsoft Operations Manager 2005 also provides three tasks in the MOM 2005 Operator Console.

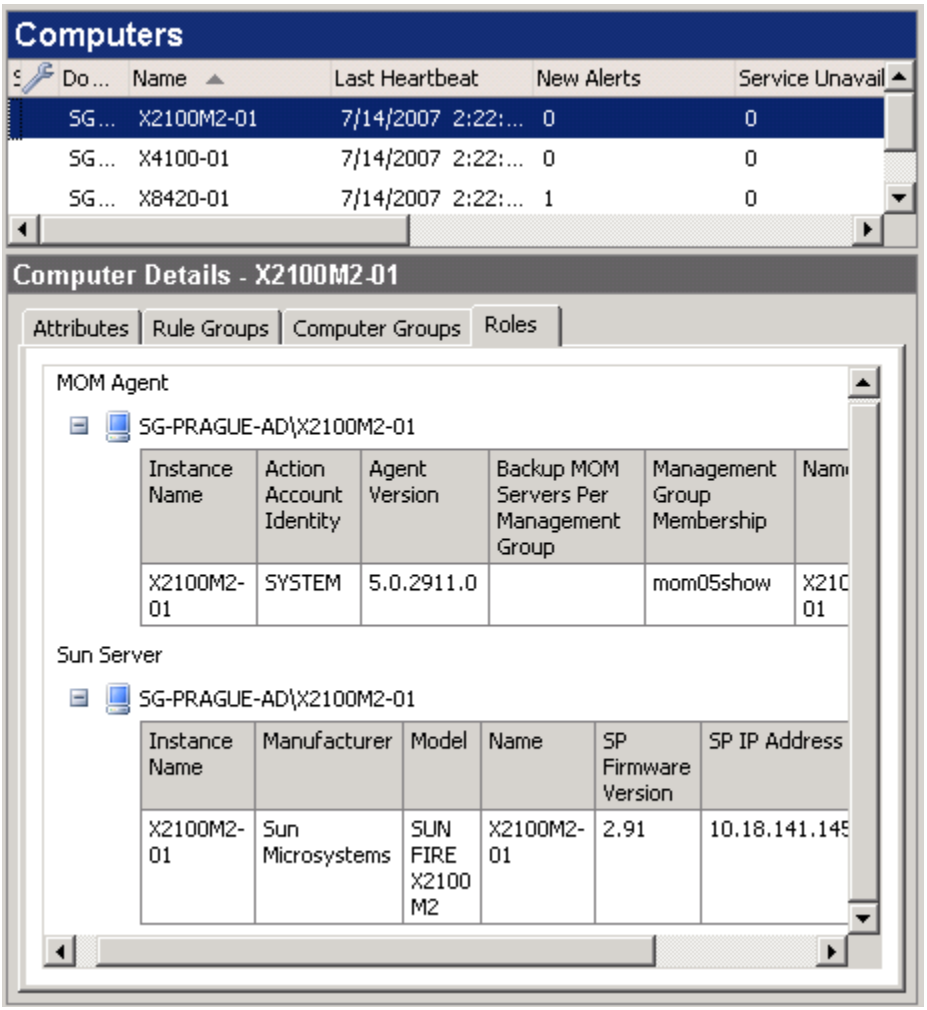
Task	Description
	Run Sun Server Discovery: This task launches MOM 2005 attribute discovery for one or more discovered Sun servers. For more information on this task, see "Discovering and Classifying Sun Servers With the Sun Management Pack" in Chapter 4.
	SP Web Interface: This task generates a hyperlink to the service processor web interface for a selected Sun server. For more information on this task, see "Access to Sun Service Processor Web Interfaces" in Appendix B.
	**Sun Microsystems Servers**: This task launches a web browser and displays the home page for Sun servers. For more information on this task, see "Access to Sun Server Resources" in Appendix B.

Sun-specific Views and Diagrams

MOM 2005 agents and the Sun Management Pack combine to provide a significant amount of information about Sun servers in MOM 2005 views and diagrams.

Computers View

In the MOM 2005 Operator Console, the Computers View for Sun servers provides significant detail about individual servers, the software installed on that server, and the network configuration of that server.



The information under the heading MOM Agent is provided by the MOM 2005 agent while the Sun Management Pack provides the Sun-specific information listed under the heading Sun Server.

Alerts View

In the MOM 2005 Operator Console, the Alert View for Sun servers provides Sun-specific product knowledge.

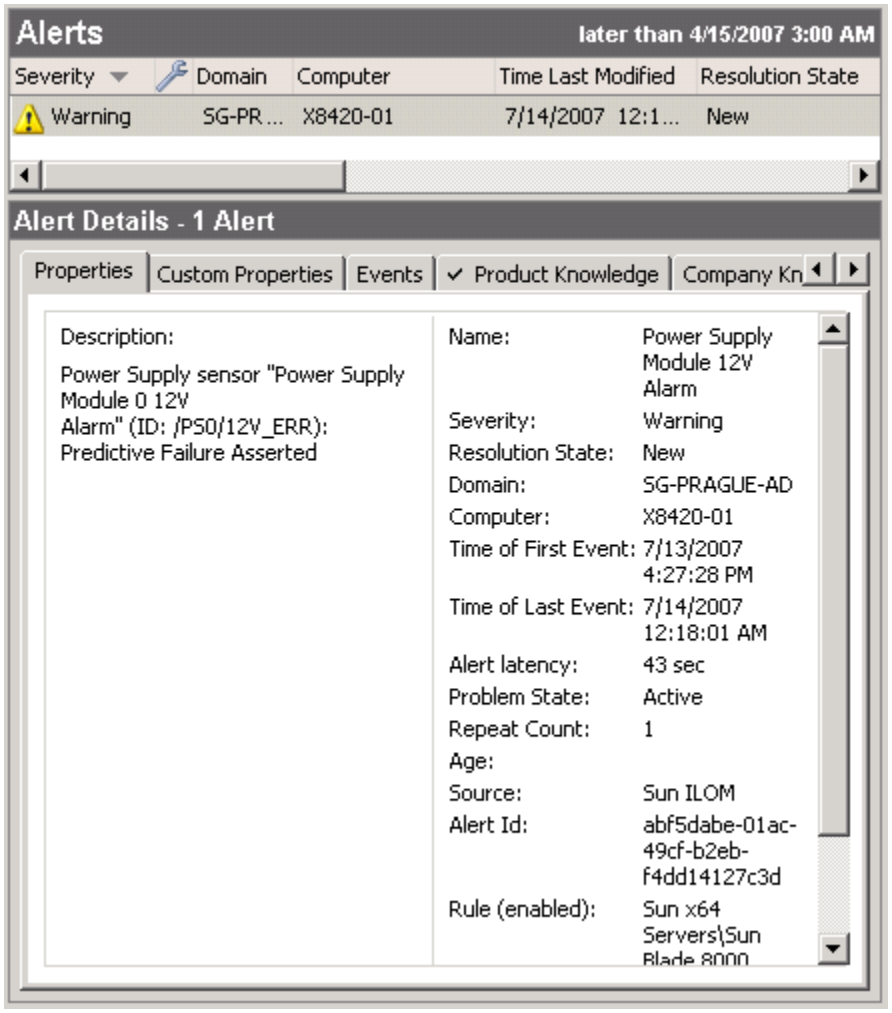
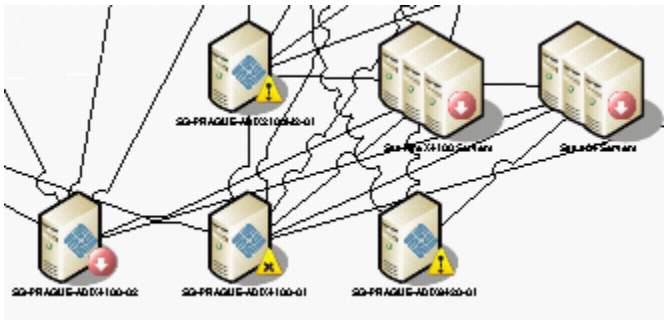


Diagram View

In the MOM 2005 Operator Console, the Diagram View for Sun servers provides a topographical view of one or more Sun groups and servers.



APPENDIX A

What's New in Sun Servers Management Pack 3.x for Microsoft Operations Manager 2005?

The Sun Server Management Packs 3.x offer many enhancements over the 2.0 version of the Sun Management Pack.

The enhancements in Server Management Pack 3.3 fall into one area:

- Server and software support: See the following web site for the most current list of supported servers, service processors, and firmware upgrades:

  `http://www.sun.com/system-management/tools.jsp`

The enhancements in Server Management Pack 3.x fall into four areas:

- Server and software support: See the following web site for the most current list of supported servers, service processors, and firmware upgrades:

  `http://www.sun.com/system-management/tools.jsp`

- Installation and version management
- Sun-specific rules, classes, and views for MOM 2005
- Access to other Sun system management resources

The following sections address each of these areas.

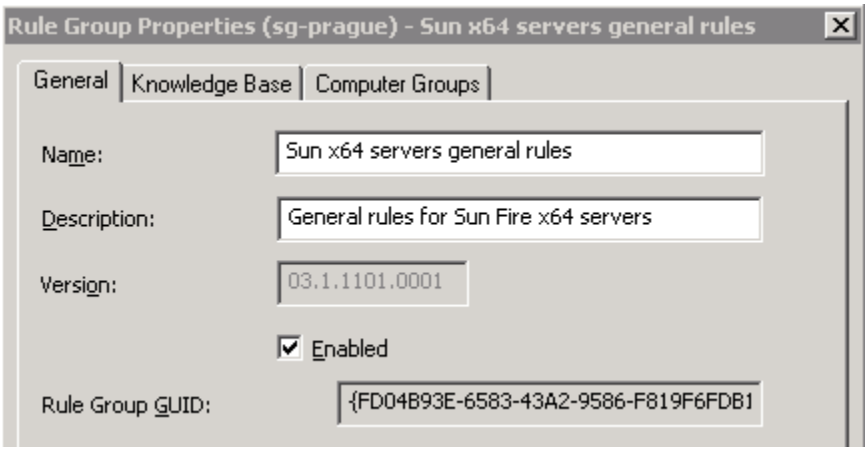
Version Management and Discovery

The new Sun Management Pack improves installation and discovery.

Installation and Versioning

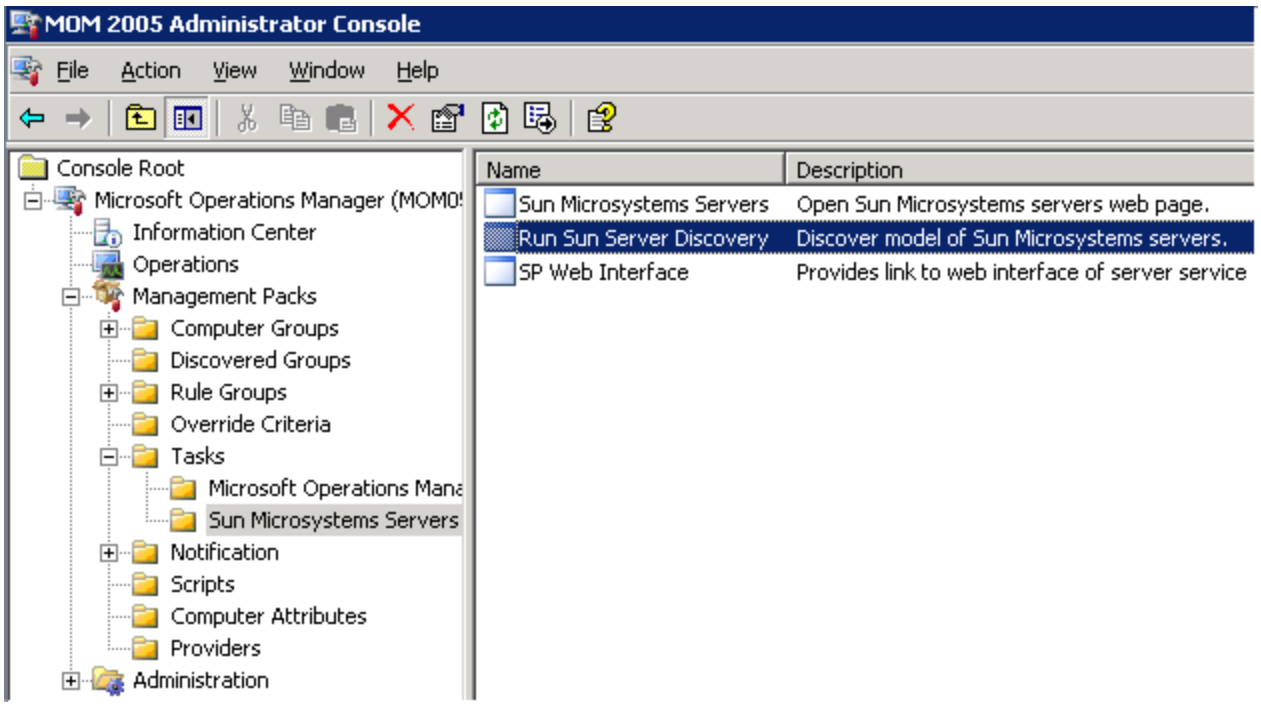
MOM 2005 now stores the version level of the Sun Management Pack. If someone attempts to install an older version of the Sun Management Pack, MOM 2005 prompts you to confirm or to reject the installation of the down-level Sun Management Pack.

The current version of the Sun Management Pack is visible in the Administrator Console under Management Packs – Rule Groups – Sun x64 Servers – Sun x64 servers general rules – Properties.



Server Discovery

The new Sun Management Pack provides a new Task that lets you initiate Sun-specific attribute discovery on one or more target Sun servers immediately after you install the Sun Management Pack.

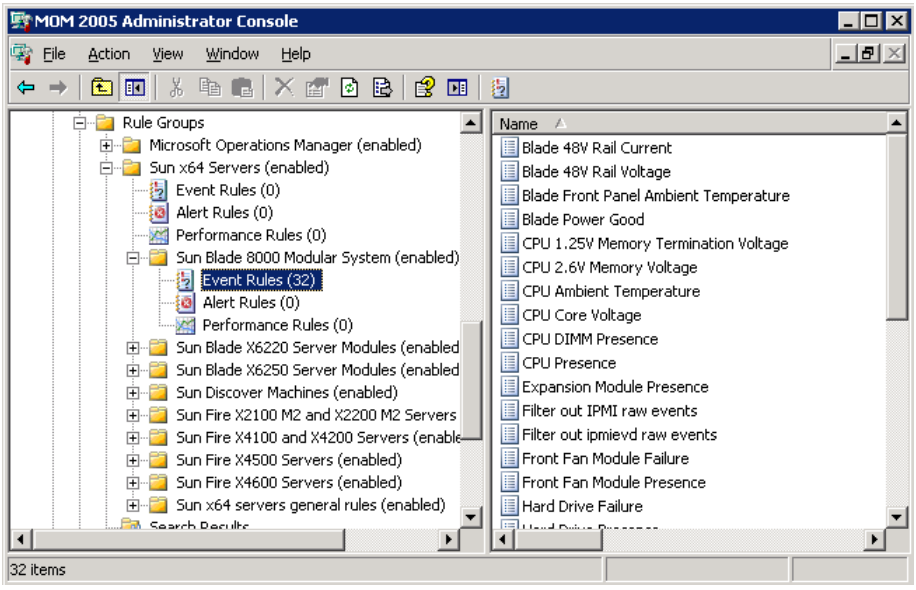


Sun-specific Rules, Classes, and Views

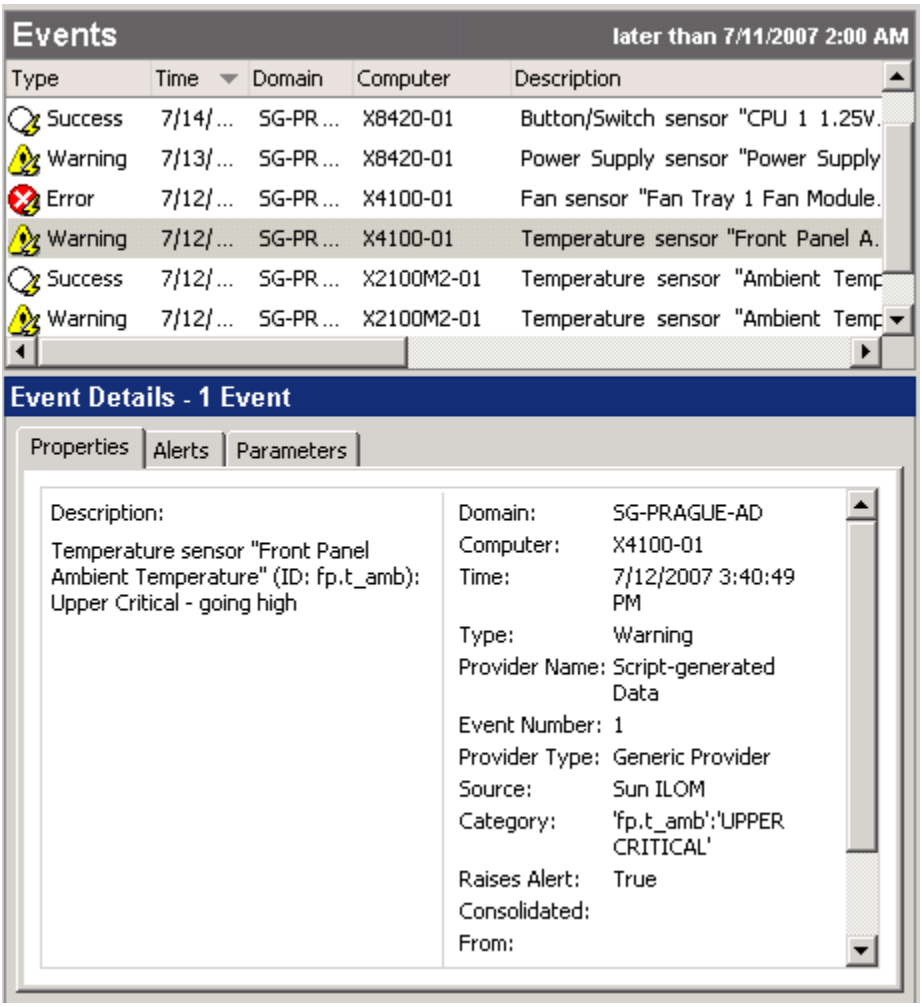
The new Sun Management Pack enhances and streamlines the rules, classes, and views available to you in MOM 2005.

Rule Groups and Rules

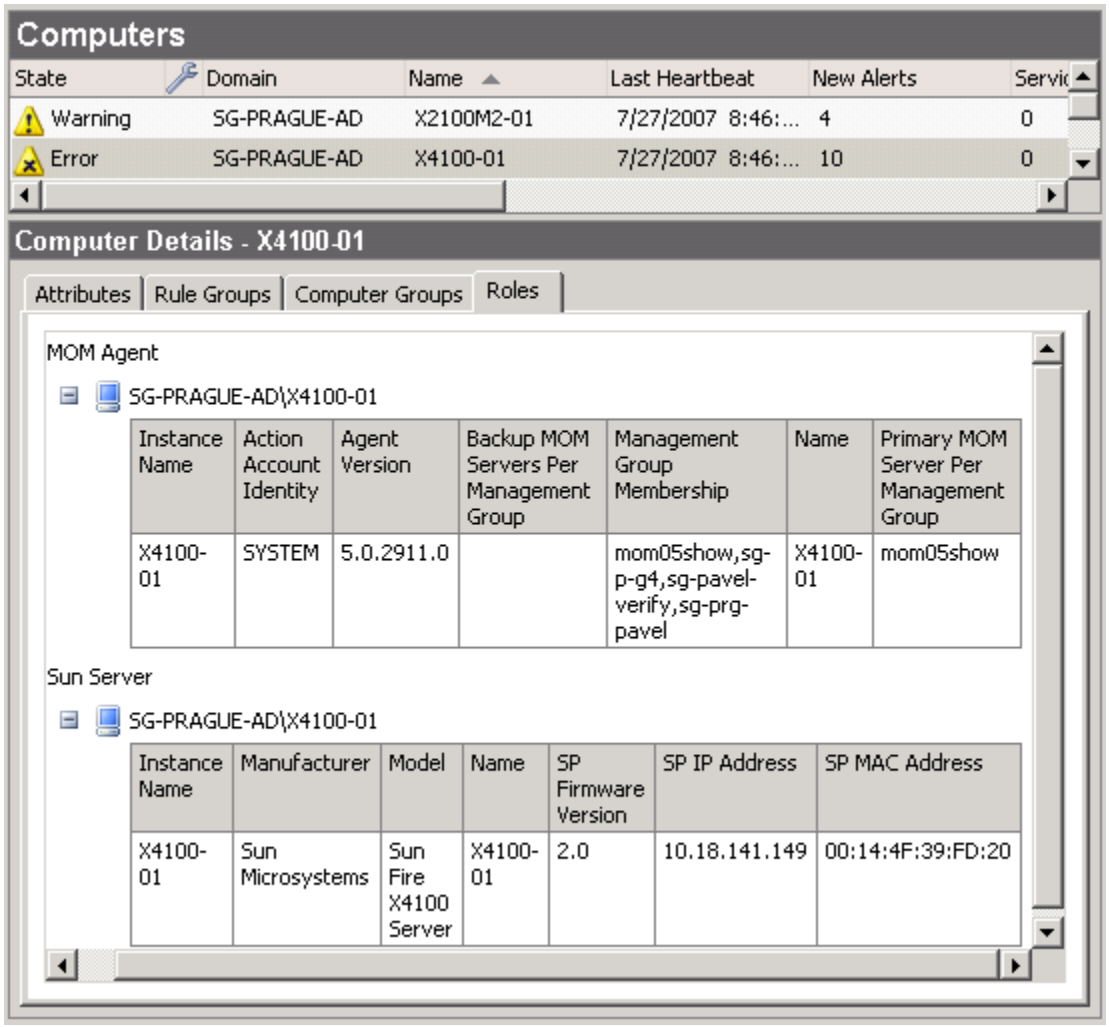
The new Sun Management Pack offers reorganized and streamlined sets of event rules under the Sun x64 Servers rule group.



The number of event rules for each Sun computer group is lower while the amount of information provided to MOM about particular events is significantly enriched.

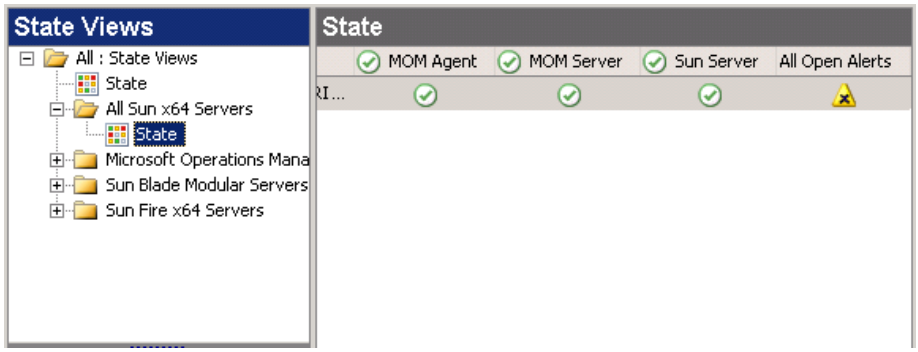


Note that MOM 2005 now receives information about the IP and MAC addresses of the Sun server's service processor and its firmware version.

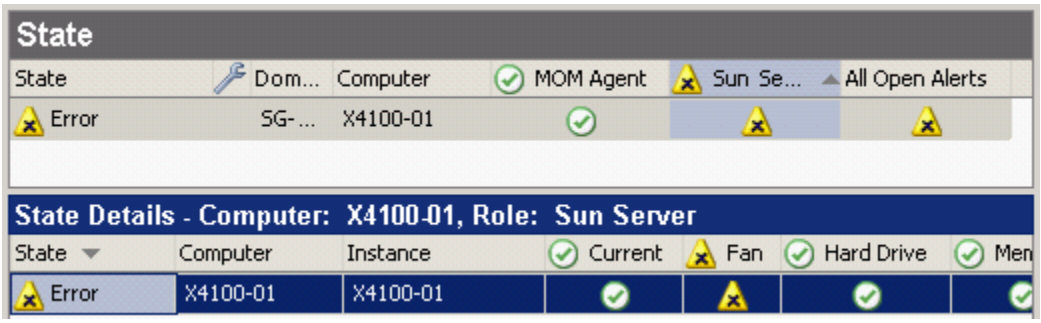


Sun Classes

The new Sun Management Pack has added a class named Sun Server that is visible in the Operator Console State Views pane.

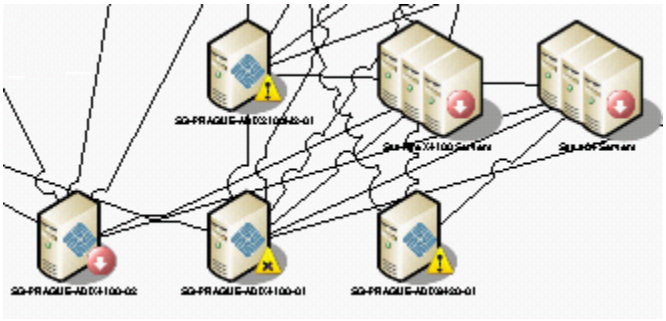


The new Sun Server class provides detailed information about the health of classes of sensors on Sun servers.

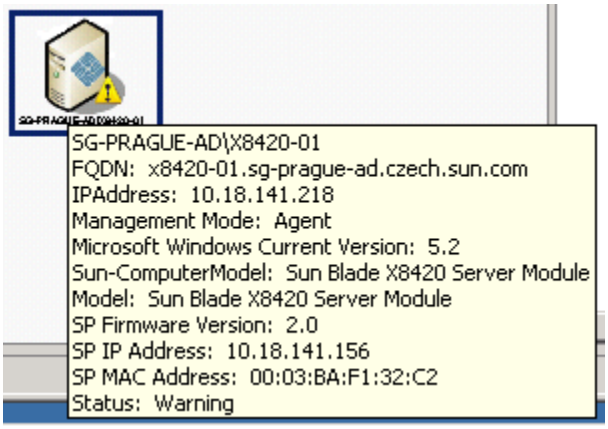


Enhanced Views

Once MOM 2005 receives more detailed information about your Sun servers, it can integrate that additional information into its many views of managed nodes on your network. In the Diagram View topology, for example, MOM 2005 displays Sun-specific icons to represent Sun servers.



To view detailed information about any server displayed in this topology, mouse over its icon.



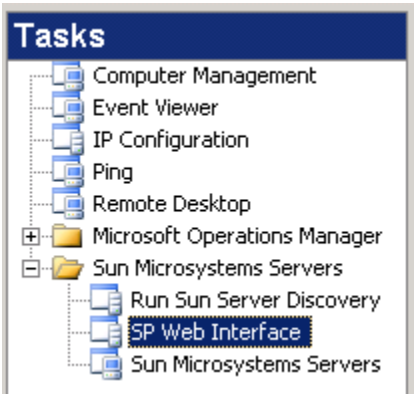
Access to Other Sun System Management Resources

MOM 2005 provides a combination of vendor-independent and vendor-specific views of managed servers on your network. The new Sun Management Pack

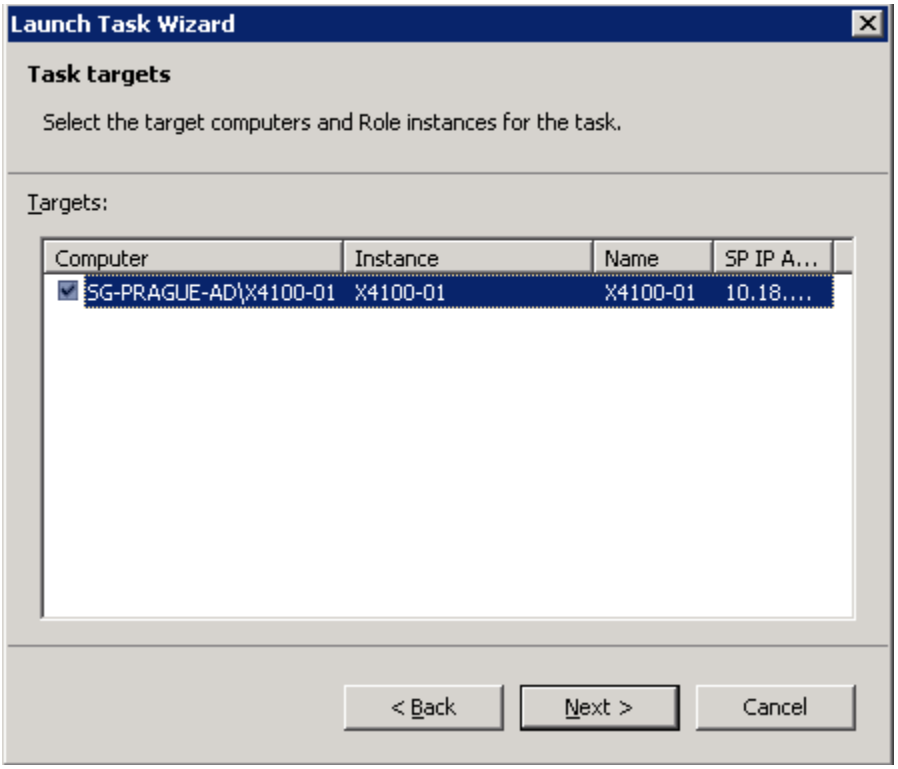
provides additional Tasks that let you access other Sun system management resources.

Access to Sun Service Processor Web Interface

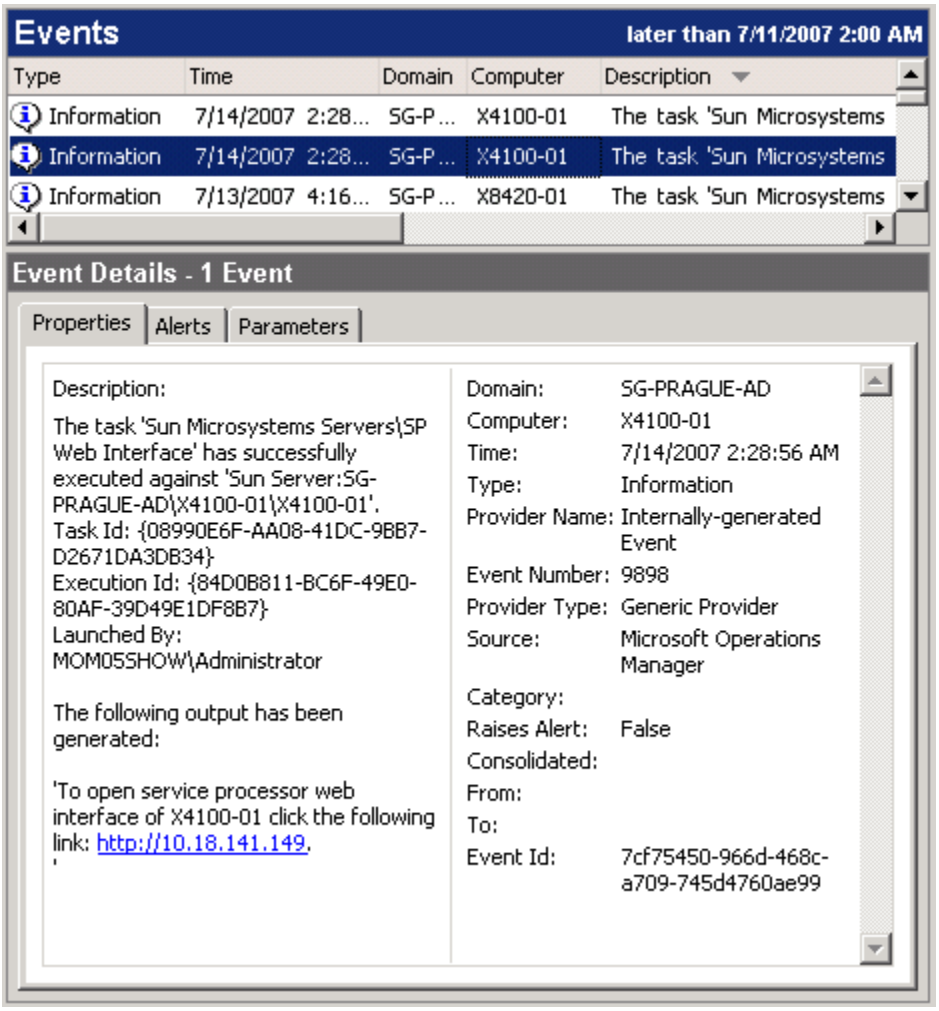
Each of your Sun x64 servers has an ILOM or an Embedded LOM service processor. The firmware installed on these service processors supports remote access to a web interface running on that service processor. To log in to the ILOM or Embedded LOM web interface for a selected server, expand the Sun Microsystems Servers entry in the MOM 2005 Operator Console Tasks pane and click SP Web Interface.



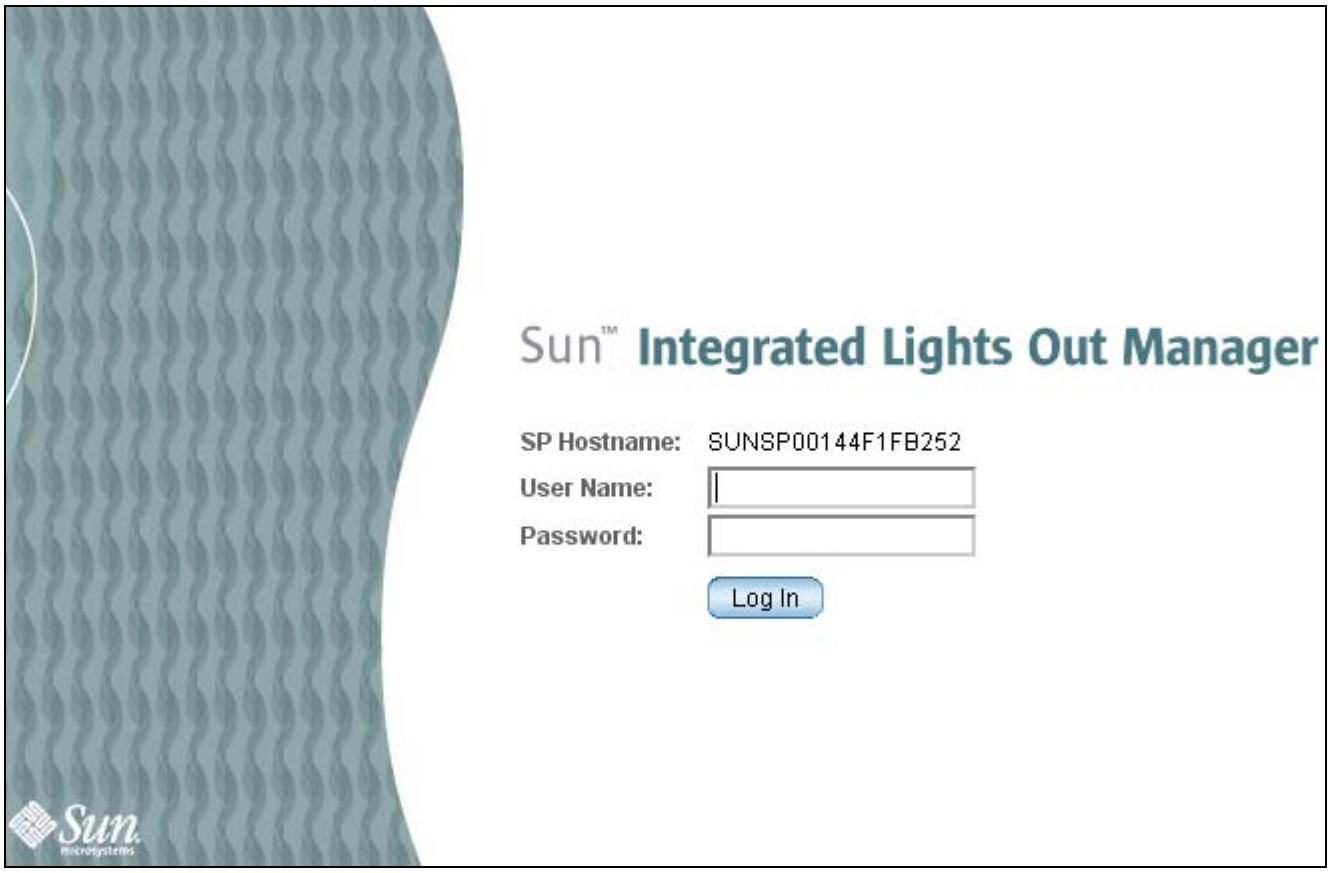
MOM 2005 launches a Task Wizard that guides you through the process of accessing the SP web interface of the selected server's service processor.



After the Wizard completes processing the task, click the event corresponding to the Task and click the hyperlink to the SP web GUI. In the following screen shot, that hyperlink is to the IP address http://10.18.141.149.



MOM 2005 launches a web browser and displays the login screen for your ILOM or Embedded LOM service processor web interface.



Access to Sun Server Resources

You can also access Sun-specific web resources from within MOM 2005. To view these resources in a web browser, expand the Sun Microsystems Servers entry in the MOM 2005 Operator Console Tasks pane and click the Sun Microsystems Servers link.

MOM 2005 launches a web browser and displays the following web site:

`http://www.sun.com/servers`

Glossary

Acronym	Term	Definition
	Administrator Console	In MOM 2005, the Administrator Console is an interface based on Microsoft Management Console (MMC) technology, used for monitoring and event management.
	alert view	In MOM 2005, the alert view is a window that displays specified alerts in the management group.
	attribute	In MOM 2005, an attribute is a characteristic of a discovered system.
	attribute discovery	In MOM 2005, attribute discovery is the operation by which agents installed on managed nodes report node-specific attribute information back to the MOM 2005 server. Based on these returned attributes from individual servers, MOM 2005 compares the results to rules and classifies servers into computer groups and computer models.
	computer discovery	In MOM 2005, computer discovery is the operation by which MOM 2005 polls its local network for any Windows-based computers that it might monitor.
	computer group	In MOM 2005, a computer group is a collection of computers with some attribute in common. Computer groups are defined by computer grouping rules for similar event management.
	computer group filter	In MOM 2005, a computer group filter is a set of predefined criteria for viewing groups of computers in the MOM Operator Console.
	computer group view	In MOM 2005, the computer group view is a window that displays specified computer groups in the management group.
	Embedded LOM	Sun Embedded LOM consists of service processor hardware and firmware that supports the remote monitoring and management of Sun servers through IPMI and SNMP interfaces.
	event rule	In MOM 2005, an event rule defines the conditions under which an alert gets generated in response to a specific event.
	event view	In MOM 2005, the event view is a window that displays specified events in the management group.

Acronym	Term	Definition
	filtering rule	In MOM 2005, a filtering rule excludes an event, alert, or performance data from some or all processing by MOM 2005. Types of filters include pre-filters, conditional filters, and database filters.
ILOM	Integrated Lights Out Manager	Sun ILOM consists of service processor hardware and firmware that supports the remote monitoring and management of Sun servers through IPMI and SNMP interfaces.
	ipmievd	ipmievd is a daemon (service) which will listen for events from the BMC that are being sent to the SEL and also log those messages to syslog.
IPMItool	IPMItool	IPMItool is a utility for managing and configuring devices that support the Intelligent Platform Management Interface.
MOM 2005	Microsoft Operations Manager 2005	MOM 2005 is one component in the Microsoft WEMD suite.
	notification group	In MOM 2005, a notification group lists operators and scheduled availability for receiving page or e-mail responses.
	Operator Console	In MOM 2005, the Operator Console is a graphical interface used to perform monitoring functions.
	product knowledge	In MOM 2005, product knowledge is a collection of rule comments that embody knowledge about the meaning and importance of events. Product knowledge is often developed by systems vendors specifically for their brand of systems.
	rule	In MOM 2005, a rule is a method of grouping computers or identifying data to collect. Rules can define a collection of computers for similar event management. Rules can also define the events, alerts, and performance data to collect, what to do with the information once it is collected, and how to respond to the indicated condition.
	rule group	In MOM 2005, a rule group is a set of rules grouped together with a single name. Grouping rules together allows you to associate more than one rule with a computer group.
	state indicator	In MOM 2005, the state indicators displayed in the Operator Console show the state of computers in a specified computer group.
	task	In MOM 2005, a task is an action that diagnoses or repairs a problem. A task can also automate a management process.
	Web Console	In MOM 2005, the Web Console is an interface that allows you to access database information remotely from any Windows platform that can run Microsoft Internet Explorer.

Index

A

attribute discovery, 31
  Sun Discovery Task, 40

C

computer discovery, 31
configuration
  configuring Sun servers with W2K3 R2, 19
  configuring Sun servers with W2K3 SP1 or SP2, 22
  determining W2K3 versions, 17

D

diagrams, 69

E

events, 63
  alerts, 63
  event filters, 67
  event handling, 59
  event rules, 64

H

hardware management, 21

I

installation, 6
  download, 6
  ipmievd service, 28
  Sun IPMI Driver, 22
  verification, 13
IPMI driver, 21
ipmievd service, 28

M

Microsoft Operations Manager 2005
  related documentation, 4
Microsoft Operations Manager 2005, 1

R

requirements, 2
rules, 63

S

server classification, 31, 35
  automatic, 37
  immediate, 40
  interval for Run Sun Server Model Discovery, 37
  manual, 44
  verification, 46
server discovery, 32
  manual, 32
servers supported, 2
Sun Integration Package
  download, 6
Sun Management Pack
  configuring managed nodes, 17
  download, 5
  installation, 5
  introduction, 1
  requirements, 2
  server discovery, 31
  Sun-specific resources, 59
  supported servers, 2

V

verifying installation, 13
views, 69

W

What's New?, 72