



Sun N1 System Manager 1.3.1 What's New



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Preface

Sun N1 System Manager 1.3.1 What's New describes all of the changes to Sun N1™ System Manager for this release, to help you to understand and administer N1 System Manager.

The full functionality of the N1 System Manager software is described by the N1 System Manager 1.3 documentation set. This document explains the enhancements made for this version to support the Sun Blade 8000 Modular System. This document also explains any additional enhancements to the functionality of N1 System Manager apart from those made for supporting the Sun Blade 8000 Modular System.

Who Should Use This Book

This guide is intended for system or network administrators who are responsible for managing servers running the Sun N1 System Manager software. These system administrators are expected to have the following background:

- Knowledge of the Solaris™ Operating System, Red Hat Linux, and Microsoft Windows, as well as the network administration tools provided by each operating system
- Knowledge of network equipment and network devices from a variety of vendors such as Sun Microsystems, Cisco, Foundry, and Extreme
- Knowledge of network device interconnections and cabling
- Knowledge of the Simple Network Management Protocol (SNMP). Some elements of N1 System Manager use software that is based on SNMP

Before You Read This Book

This book accompanies the N1 System Manager 1.3 documentation collection. Read the following documents:

- *Sun N1 System Manager 1.3 Introduction*
- *Sun N1 System Manager 1.3 Site Preparation Guide*
- *Sun N1 System Manager 1.3 Installation and Configuration Guide*

How This Book Is Organized

- [Chapter 1](#) describes how the Sun N1 System Manager supports the Sun Blade 8000 Modular System, lists hardware and software requirements, and provides the procedures for configuring the Sun Blade 8000 Modular System for management by the N1 System Manager.
- [Chapter 2](#) describes how to discover, manage and monitor the Sun Blade 8000 Modular System, including the Sun Blade 8000 Chassis and the Sun Blade X8400 Server Modules.
- [Chapter 3](#) describes how to provision the Sun Blade X8400 Server Modules in the Sun Blade 8000 Chassis.
- [Chapter 4](#) describes changes and enhancements to this release of the product, apart from those changes in functionality related to support for the Sun Blade 8000 Modular System. This chapter also details modifications not made to the online help for this release of the product.

Related Books

The following books are useful for using this version of N1 System Manager.

- *Sun N1 System Manager 1.3.1 Troubleshooting Guide*
- *Sun N1 System Manager 1.3.1 Release Notes*

Also, the N1 System Manager 1.3 documentation set is recommended.

- *Sun N1 System Manager 1.3 Introduction*
- *Sun N1 System Manager 1.3 Site Preparation Guide*
- *Sun N1 System Manager 1.3 Installation and Configuration Guide*
- *Sun N1 System Manager 1.3 Discovery and Administration Guide*
- *Sun N1 System Manager 1.3 Operating System Provisioning Guide*
- *Sun N1 System Manager 1.3 Command Line Reference Manual*
- *Sun N1 System Manager 1.3 Grid Engine Provisioning and Monitoring Guide*

Related Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

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- Documentation (<http://www.sun.com/documentation/>)
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- Training (<http://www.sun.com/training/>)

Typographic Conventions

The following table describes the typographic conventions that are used in this book.

TABLE P-1 Typographic Conventions

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> you have mail.
AaBbCc123	What you type, contrasted with onscreen computer output	<code>machine_name%</code> su Password:
<i>aabbcc123</i>	Placeholder: replace with a real name or value	The command to remove a file is <i>rm filename</i> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized	Read Chapter 6 in the <i>User's Guide</i> . <i>A cache</i> is a copy that is stored locally. Do <i>not</i> save the file. Note: Some emphasized items appear bold online.

Shell Prompts in Command Examples

The following table shows the default UNIX[®] system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P-2 Shell Prompts

Shell	Prompt
C shell	machine_name%
C shell for superuser	machine_name#
Bourne shell and Korn shell	\$
Bourne shell and Korn shell for superuser	#

N1 System Manager and the Sun Blade 8000 Modular System

Sun N1 System Manager 1.3.1 includes all of the functionality of the previous version of the product, and adds support for the Sun Blade 8000 Modular System hardware.

This chapter describes how the Sun Blade 8000 Modular System hardware is defined in the context of N1 System Manager, and provides the procedures for configuring the Sun Blade 8000 Modular System for management by N1 System Manager.

N1 System Manager can be used to discover and manage the Sun Blade X8400 Server Modules in a chassis but not the Sun Blade 8000 Chassis itself.

Introduction to N1 System Manager 1.3.1

This version of the N1 System Manager software supports the Sun Blade 8000 Modular System hardware.

The Sun Blade 8000 hardware is defined by N1 System Manager as follows:

Sun Blade 8000 Chassis	The support chassis, which can contain one or several Sun Blade X8400 Server Modules, to become a Sun Blade 8000 Modular System. The chassis also contains a system controller (SC) known as the <i>Chassis Monitoring Module</i> , (CMM). The CMM has a DB9 console connector and an Ethernet port for IP configuration.
Sun Blade X8400 Server Module	This module is a four-socket Sun Blade X8400 Server Module, which is inserted into the Sun Blade 8000 Chassis. Each Sun Blade X8400 Server Module has a service processor (SP), 2 USB ports, 1 VGA port, and 1 DB9 connector for console access.
The Sun Blade 8000 Modular System	This system is a Sun Blade 8000 Chassis, with one or several Sun Blade X8400 Server Modules installed. The server modules within a single chassis are known as <i>blades</i> ,

and are defined by the N1 System Manager software as being a distinct group of servers, identical to the N1 System Manager concept of a logical group, described in “Creating Groups and Adding Managed Servers to Groups” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*. A discovered group of Sun Blade X8400 Server Modules in a Sun Blade 8000 Modular System is also referred to as a *chassis server group*.

Sun Blade 8000 Modular System Hardware, Firmware, and OS Requirements

The following tables list the hardware details, operating systems, firmware, and credentials supported by N1 System Manager, for the Sun Blade 8000 Modular System.

Note – Do not use a Sun Blade X8400 Server Module as the management server for N1 System Manager. Use one of the supported management server listed in “[Management Server Requirements](#)” on page 37.

TABLE 1-1 Sun Blade X8400 Server Module Hardware and OS Requirements

Requirement Type	Recommendation
RAM	512 Mbytes minimum, 1 Gbyte recommended
Disk Space	12 Gbytes minimum
Provisionable Operating Systems	Solaris x64 Version 10 Update 2, 64-bit Red Hat Enterprise Linux 4.0 AS Update 3, 64-bit SUSE Linux Enterprise Server 9 SP3, 64-bit Windows 2003 SE, 2003 EE, SP1 32-bit Windows 2003 SE, 2003 EE 64-bit

TABLE 1-2 Sun Blade 8000 Modular System Firmware Requirements

Chassis Component	Management Port	Minimum
Sun Blade 8000 Chassis CMM	ILOM	Firmware 1.1 Firmware build 11149
Sun Blade X8400 Server Module SP	ILOM	Firmware 1.1 Firmware build 11149
Sun Blade X8400 Server Module BIOS		0ABHL048

Note – N1 System Manager supports upgrading the firmware on the Sun Blade X8400 Server Modules. This release of N1 System Manager does *not* support upgrading the firmware on the Sun Blade 8000 Chassis.

The Sun Blade 8000 Chassis CMM and the Sun Blade X8400 Server Module SP must be at the same firmware level. See the hardware documentation for more information.

TABLE 1-3 Sun Blade 8000 Modular System Default Credentials

Management Port Type	SSH Login	SSH Password	IPMI Login	IPMI Password
ILOM	root	changeme	root	changeme

Note – If no other credentials are specified during discovery of Sun Blade X8400 Server Modules, the default credentials assumed by N1 System Manager are the factory default credentials, as listed in [Table 1-3](#).

Configuring the Sun Blade 8000 Modular System

Before any Sun Blade X8400 Server Modules installed in a Sun Blade 8000 Chassis can be discovered by N1 System Manager, you must assign an IP address, gateway address, and netmask to the CMM of the Sun Blade 8000 Chassis and to each Sun Blade X8400 Server Module service processor in the Sun Blade 8000 Chassis.

Note – For discovery to be successful, each Sun Blade 8000 Chassis must contain at least one Sun Blade X8400 Server Module blade.

▼ To Configure Network Addresses for a Sun Blade 8000 Modular System

- 1 Connect a terminal to the DB9 serial port of the Sun Blade 8000 Chassis or Sun Blade X8400 Server Module to be configured.

- 2 Provide the command environment.

Log in with the factory default CMM credentials, which are detailed in [Table 1–3](#).

- 3 Set the IP address, gateway address, and netmask for the SC of the CMM in the Sun Blade 8000 Chassis.

Type the following commands where *IP-address* is the IP address for the SC of the CMM in the Sun Blade 8000 Chassis, *gateway-address* is the gateway IP address, and *netmask* is the netmask:

```
N1-ok> set /CMM/network/CMM0 pendingipaddress = IP-address
```

```
N1-ok> set /CMM/network/CMM0 pendingipgateway = gateway-address
```

```
N1-ok> set /CMM/network/CMM0 pendingipnetmask = netmask
```

```
N1-ok> set /CMM/network/CMM0 commitpending=true
```

- 4 Verify the bench configuration of these addresses:

```
N1-ok> show /CMM/network/CMM0
```

- 5 Set the IP address, gateway address, and netmask for the SP of each Sun Blade X8400 Server Module in the chassis.

Type the following commands where *IP-address* is the IP address for the SP, *gateway-address* is the gateway IP address, *static* is the static IP address, *blade-number* is the number associated with the Sun Blade X8400 Server Module in the chassis, and *netmask* is the netmask:

```
N1-ok> set /CH/BLblade-number/SP/network pendingipaddress = IP-address
```

```
N1-ok> set /CH/BLblade-number/SP/network pendingipgateway = gateway-address
```

```
N1-ok> set /CH/BLblade-number/SP/network pendingipnetmask = netmask
```

```
N1-ok> set /CH/BLblade-number/SP/network pendingipdiscovery = static
```

```
N1-ok> set /CH/BLblade-number/SP/network commitpending=true
```

For example, if the *blade-number* of the Sun Blade X8400 Server Module is 0, type the following command to set the IP address.

```
N1-ok> set /CH/BL0/SP/network pendingipaddress = IP-address
```


6 Verify the bench configuration of these addresses:

```
N1-ok> show /CH/BLblade-number/SP/network
```

For example, if the *blade-number* of the Sun Blade X8400 Server Module is 0, type the following command to verify the bench configuration of these addresses.

```
N1-ok> show /CH/BL0/SP/network
```


Discovering, Managing, and Monitoring the Sun Blade 8000 Modular System

This chapter provides the procedures for discovering, managing, and monitoring the Sun Blade 8000 Modular System and any Sun Blade X8400 Server Modules installed in a Sun Blade 8000 Chassis.

Discovering the Sun Blade 8000 Modular System And Any Installed Sun Blade X8400 Server Modules

N1 System Manager discovers Sun Blade X8400 Server Modules in the same manner as other servers. You can discover any installed Sun Blade X8400 Server Modules by specifying a range of addresses that include the SP IP addresses of Sun Blade X8400 Server Modules, or by the operating system installed on Sun Blade X8400 Server Modules.

N1 System Manager does not discover the Sun Blade 8000 Chassis through its SP or SC IP address. Sun Blade 8000 Chassis is discovered when you use N1 System Manager to discover Sun Blade X8400 Server Modules installed in the chassis.

For further information about discovery methods, see Chapter 4, “Discovering Manageable Servers,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

Note – The capability of N1 System Manager to manage a Sun Blade 8000 Chassis and any installed Sun Blade X8400 Server Modules depends on the discovery method. These capabilities are identical to the Sun Fire™ X4000 server management capabilities described in “Capability of Managed Servers Based on Discovery” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

If any installed Sun Blade X8400 Server Modules are discovered using SP-based discovery, the discovery process automatically places them into a special group called a chassis group, with a group name of the form `cmm-chassisID`, where `chassisID` is the hardware ID of the Sun Blade 8000 Chassis containing each discovered Sun Blade X8400 Server Module.

Chassis groups are displayed by N1 System Manager in the same way as user-defined groups of servers. For details about defining and managing groups of servers, see Chapter 5, “Managing Servers and Server Groups,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*. The `cmm-`

prefix of the chassis group name is reserved for Sun Blade 8000 Chassis, and enables you to quickly identify each chassis and the Sun Blade X8400 Server Modules installed in the chassis. Additionally, the discovery process retrieves additional server information about each Sun Blade X8400 Server Module, including PXE boot devices, and UUID.

If the Sun Blade X8400 Server Modules are discovered using OS-based discovery, the discovered Sun Blade X8400 Server Modules are not shown in the chassis server group context.

Discovery also provides the capability of placing discovered blades in an existing logical server group as described in the following procedure.

▼ To Discover Sun Blade X8400 Server Modules

1 Log in to the N1 System Manager browser interface.

See Chapter 1, “Accessing the N1 System Manager,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

2 Select an existing logical server group, or create and then select a new logical server group.

For group creation procedures, see “To Create a Group of Managed Servers” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

3 Use SP-based discovery, specifying the range of Sun Blade X8400 Server Module SP IP addresses.

Use the `discover` command to discover a Sun Blade X8400 Server Module through its SP.

```
N1-ok> discover IP,IP-IP,subnet/mask format ip [group group]
[ipmi username/password]
[ssh username/password]
```

IP addresses, IP address ranges, and IP subnets can be input as a comma-separated list. Overlapping IP address ranges are allowed.

Note – When you specify the range of IP addresses for discovery, ensure that the IP address range does not include the IP addresses of the N1 System Manager management server.

Security credentials for IPMI, Simple Network Management Protocol (SNMP), SSH and Telnet are optional. If credentials are not specified, the manufacturer defaults are used. See *Sun N1 System Manager 1.3 Site Preparation Guide* for information about the default accounts.

See “discover” in *Sun N1 System Manager 1.3 Command Line Reference Manual* for more details about the syntax used in the `discover` command.

After successful completion of the Discovery job, a managed server is identified by its *management name*. If the Sun Blade X8400 Server Module was discovered using SP-based discovery, its management name is initially set to its management IP address. You can rename discovered servers at any time, to a name of your choosing, by using the `set server` command as described in “set server” in *Sun N1 System Manager 1.3 Command Line Reference Manual*. When you name a Sun

Blade X8400 Server Module using the `set server` command, the name does not change if you move the Sun Blade X8400 Server Module to another chassis.

For more information, see “SP-Based Discovery” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*

After discovery, each discovered Sun Blade X8400 Server Module is placed into the selected logical server group and into a chassis server group. You can add discovered Sun Blade X8400 Server Modules to more than one logical server group, for various group level tasks, providing additional management functionality.

Detecting Duplicate Sun Blade X8400 Server Modules

Under certain conditions, N1 System Manager can discover the same server more than once, resulting in duplicate servers. See “Discovering and Identifying Duplicate Servers” in *Sun N1 System Manager 1.3 Discovery and Administration Guide* for details.

When manually discovering a Sun Blade 8000 Modular System server, if you do not specify the correct `guid`, the `detectduplicates` command does not work properly for that manually discovered Sun Blade 8000 Modular System. When manually discovering Sun Blade X8400 Server Modules, if specifying a `guid` in the manual discovery XML file, ensure therefore that you specify the correct `guid`.

Upgrading Sun Blade X8400 Server Modules ILOM Firmware

You can upgrade the Sun Blade X8400 Server Modules ILOM firmware in the N1 System Manager environment.

The ILOM firmware version installed on the CMM must be the same as the ILOM firmware version installed on the service processors of the Sun Blade X8400 Server Modules. Use N1 System Manager to upgrade the firmware on Sun Blade X8400 Server Modules. See Chapter 6, “Managing Firmware SP, BIOS, and ALOM Updates,” in *Sun N1 System Manager 1.3 Operating System Provisioning Guide* for details about upgrading firmware.

For details about changing the firmware of the Sun Blade 8000 Chassis, refer to the Sun Blade 8000 Modular System documentation.

Note – N1 System Manager does not support upgrading the firmware on the Sun Blade 8000 Chassis. N1 System Manager does support upgrading the firmware on the Sun Blade X8400 Server Modules.

Monitoring the Sun Blade 8000 Modular System

This section explains monitoring for Sun Blade 8000 Modular System. Sun Blade 8000 Modular System and any installed Sun Blade X8400 Server Modules must be discovered before running any of the procedures in this section.

▼ To View Sun Blade 8000 Modular System Server Groups

- 1 **Log in to N1 System Manager command-line environment.**

See “Accessing the N1 System Manager Through the Command Line” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

- 2 **To view Sun Blade 8000 Modular System server groups, use the `show group` command.**

```
N1-ok> show group
```

A list of all server groups registered in N1 System Manager appears. The browser interface Servers by Group panel is also populated with the list of server groups. Server groups composed of Sun Blade X8400 Server Modules are easily identified by their `cmm-chassisID` naming convention.

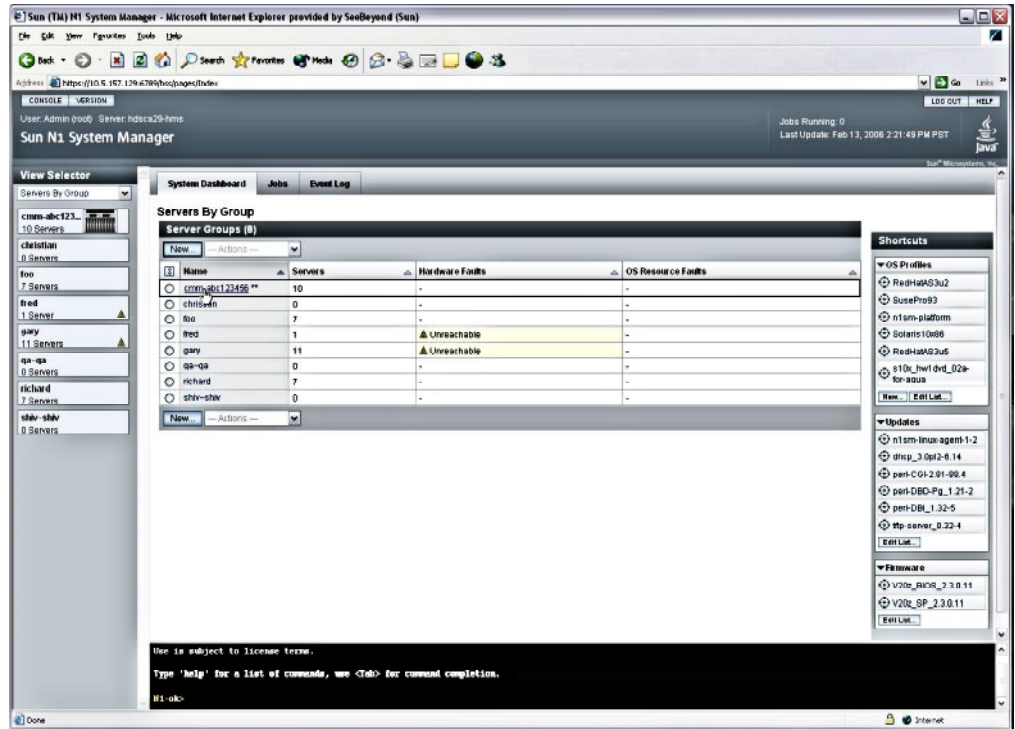


FIGURE 2-1 Viewing Chassis Server Groups

A chassis server group behaves in the same way as a logical group in N1 System Manager 1.3. For information on the behavior and management of monitored server groups in N1 System Manager 1.3, see Chapter 5, “Managing Servers and Server Groups,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

To determine whether Sun Blade X8400 Server Modules have failed, view Sun Blade X8400 Server Modules in the chassis server group as described in the next procedure. Then view Sun Blade X8400 Server Module details as described in “To View Sun Blade X8400 Server Module Details” on page 25.

See Also “Listing Managed Server and Groups” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

▼ To View Sun Blade X8400 Server Modules in a Chassis Server Group

A Sun Blade 8000 Chassis itself cannot belong to any group. Only Sun Blade X8400 Server Modules can be grouped.

- 1 Log in to the N1 System Manager command-line environment.
- 2 To view Sun Blade X8400 Server Modules in a chassis server group, type the following command.

```
N1 -ok> show group cmm-groupID
```

Note that `cmm-groupID` is the name of the group containing the Sun Blade 8000 Chassis and any installed Sun Blade X8400 Server Modules.

A list of all Sun Blade X8400 Server Modules in the group appears. The browser interface Servers by Group panel is also populated with the list of server groups.

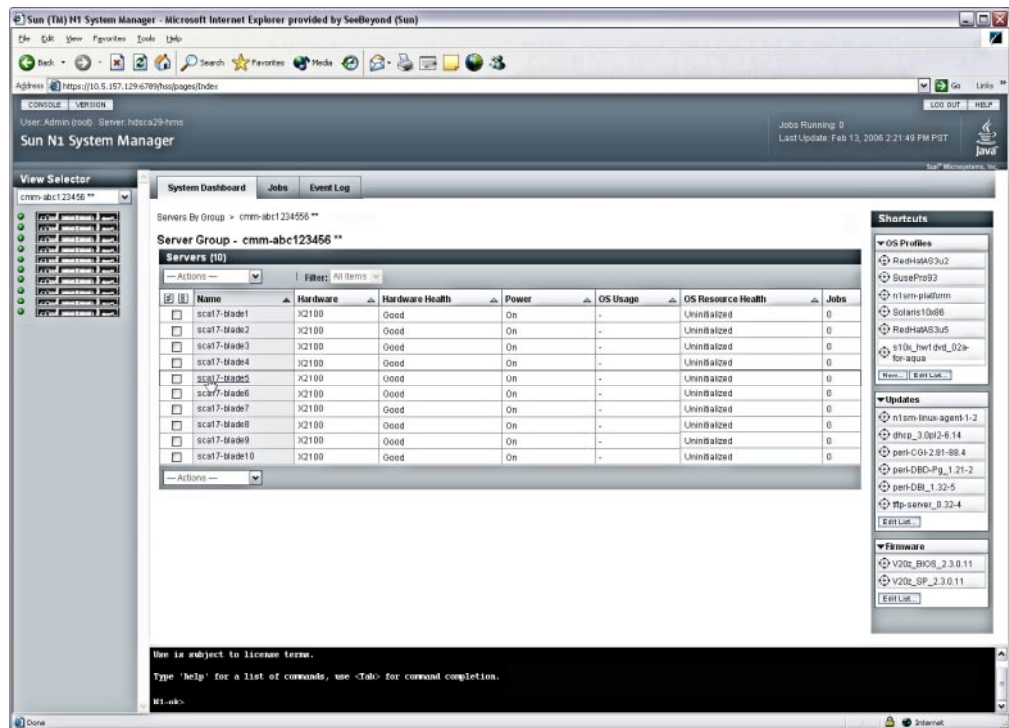


FIGURE 2-2 Viewing Servers in a Chassis Server Group

See Also “Listing Managed Server and Groups” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

▼ To View Sun Blade X8400 Server Module Details

- 1 Log in to the N1 System Manager command-line environment.
- 2 To view Sun Blade X8400 Server Modules details, enter the following command.

```
N1-ok> show server serverID
```

Detailed information for the specified Sun Blade X8400 Server Module appears. Information about the selected Sun Blade X8400 Server Module is also provided on the Server Details page in the browser interface.

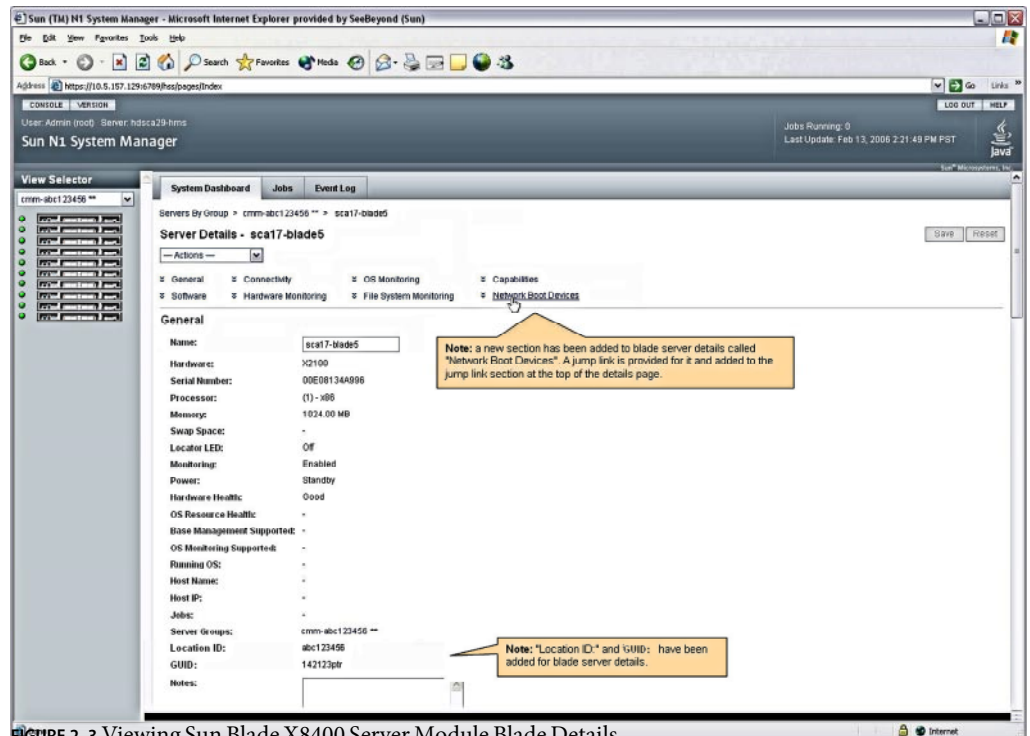


FIGURE 2-3 Viewing Sun Blade X8400 Server Module Blade Details

The Server Details page displays additional information only for blades as shown by the preceding figure:

- **Network Boot Devices** — Selecting Network Boot Devices displays the Network Boot Devices page as shown by the following figure. The Network Boot Device page displays a list of boot target identifiers, which refer to the PXE enabled Ethernet ports available to that Sun Blade X8400 Server Module. These ports are located on the I/O modules on the back of the chassis. Each boot target identifier is unique within a Sun Blade X8400 Server Module. The Network Boot Device page also displays the physical location of the Sun Blade X8400 Server Module in the Sun Blade 8000 Chassis. Network Boot devices are displayed in the PCI bus probe order. A Sun Blade

8000 Chassis that is fully populated with Gigabit Ethernet I/O modules supports a maximum of 12 network boot devices per Sun Blade X8400 Server Module.

- **Location ID** — The ID of the Sun Blade 8000 Chassis in which the Sun Blade X8400 Server Module is installed. The location ID is the same as the *chassisID* portion of the chassis group to which the Sun Blade X8400 Server Module belongs. This ID changes if the Sun Blade X8400 Server Module is moved to a different Sun Blade 8000 Chassis
- **GUID** — The Globally Unique Identifier assigned to the Sun Blade X8400 Server Module. The guid is static, and does not change if the Sun Blade X8400 Server Module is moved to a different Sun Blade 8000 Chassis.

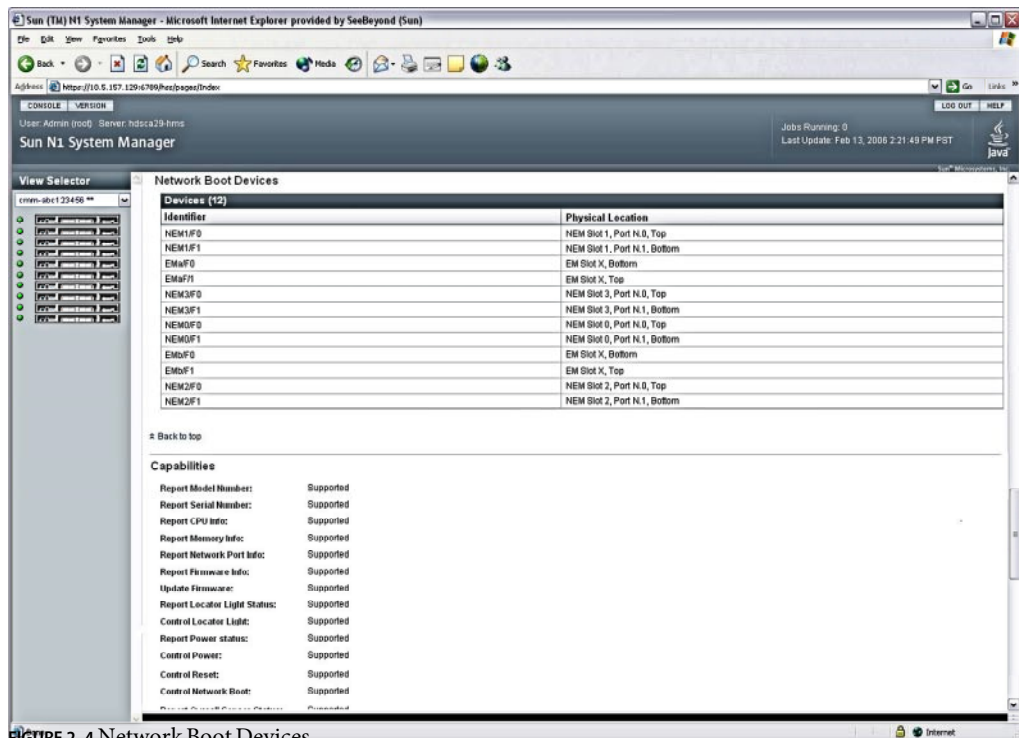


FIGURE 2-4 Network Boot Devices

The location information displayed by the Network Boot Devices page is from the rear view of the B8000 chassis. The values displayed are as follows:

- **Network Expansion Module (NEM)** — NEM Port [N.0, N.1] corresponds to the NEM port labels on the chassis. *N* is the Sun Blade X8400 Server Module number and can vary from 0 to 9. For more information, see the Sun Blade 8000 Modular System documentation. NEM ports vary from 0 – 3 and not from 0 – 9. The port number corresponds to the Ethernet port on the NEM. NEM Slot [0,1,2,3] corresponds to the position of the NEM on the chassis reading from top (3) to bottom (0).

- PCI Express Module (EM) — EM Slot EMN.a and EMN.b corresponds to the EM labels on the chassis. *N* is the Sun Blade X8400 Server Module number can vary from 0-9. For more information, see the Sun Blade 8000 Modular System documentation.

See Also “Viewing Managed Server Details and Group Members” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

Managing a Sun Blade 8000 Modular System

N1 System Manager supports all of the Sun Blade X8400 Server Modules in the Sun Blade 8000 Chassis as a managed group of servers. This section provides procedures for managing a Sun Blade 8000 Modular System.

N1 System Manager supports all of the Sun Blade X8400 Server Modules in the Sun Blade 8000 Chassis as a managed group of servers.

Sun Blade 8000 Chassis is assigned the name `cmm-chassisID`, where *chassisID* is the ID of the chassis. This ID is factory assigned.

N1 System Manager can be used to discover and manage the Sun Blade X8400 Server Modules in the chassis.

N1 System Manager cannot be used to discover and manage the Sun Blade 8000 Chassis.

Chassis Group Operation Restrictions

Using N1 System Manager, groups of Sun Blade X8400 Server Modules in the chassis can be managed as groups of servers in the same way as described in Chapter 5, “Managing Servers and Server Groups,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*. All group operations are supported, except for the following:

- Modifying a blade `guid`, also known as a UUID, is not permitted. You cannot use the `set server` command with the `guid` subcommand, or the `load guidconfig` command, on Sun Blade X8400 Server Modules that were discovered using SP-based discovery.
- Logical server groups cannot contain the prefix `cmm-`. The `cmm-` prefix is reserved for Sun Blade 8000 Modular System groups.
- Chassis server groups cannot be renamed.
- Chassis server group membership cannot be modified using the `add group` or `remove group` commands. Adding or deleting a chassis server group member is not permitted.
- Deletion of a chassis server group using the `delete group` command is not permitted.

Launching the ILOM Web GUI for Sun Blade X8400 Server Modules

This section describes how to launch the ILOM Web GUI that enables you to manage the Sun Blade 8000 Modular System from the N1 System Manager browser interface.

▼ To Launch the ILOM Web GUI

Before You Begin

You must already have discovered any installed Sun Blade X8400 Server Modules.

You must know the complete URL and the login and password of an account on the SC. By default, you can enter the IP address of the CMM as configured in “[Configuring the Sun Blade 8000 Modular System](#)” on page 15.

- 1 **In the N1 System Manager browser interface, choose the Launch ILOM Web GUI option from the Actions list in the System Dashboard.**
- 2 **Edit the URL if it needs to be changed.**

The first time you launch the ILOM Web GUI, you are prompted for the URL of the SC for the ILOM Web GUI. Subsequently, each time you launch the ILOM Web GUI, you are prompted to verify the URL you previously entered.

Moving and Replacing Sun Blade X8400 Server Modules

This section provides procedures for moving a Sun Blade X8400 Server Module in a Sun Blade 8000 Chassis, and for replacing Sun Blade X8400 Server Modules in a Sun Blade 8000 Chassis.

For general information about moving and replacing Sun Blade X8400 Server Modules, see the Sun Blade 8000 Modular System hardware documentation. For troubleshooting information related to the network boot list, see “[Troubleshooting Guidelines and Logs](#)” in *Sun N1 System Manager 1.3.1 Troubleshooting Guide*.

▼ To Move a Sun Blade X8400 Server Module From One Sun Blade 8000 Chassis to Another Chassis

Before You Begin

You must already have discovered the Sun Blade X8400 Server Module that you want to move.

- 1 **Open the ILOM Web GUI for the Sun Blade X8400 Server Module that you want to move.**
See “[Connecting to the Sun ILOM Web GUI for a Managed Server](#)” in *Sun N1 System Manager 1.3 Discovery and Administration Guide* for details.
- 2 **Prepare the Sun Blade X8400 Server Module for a safe removal.**
See the Sun Blade 8000 Modular System documentation for details.

3 Physically move the Sun Blade X8400 Server Module to the target Sun Blade 8000 Chassis.

See the Sun Blade 8000 Modular System documentation for details.

4 Use the `set server` command with the `refresh` subcommand to register the Sun Blade X8400 Server Module in its new Sun Blade 8000 Chassis.

You can also do perform this action by choosing the Refresh action for the Sun Blade X8400 Server Module in the browser interface.

5 In the browser interface, verify that the Sun Blade X8400 Server Module appears in its new Sun Blade 8000 Chassis.**▼ To Add a Sun Blade X8400 Server Module to a Partially Populated Sun Blade 8000 Chassis****1 Physically add the Sun Blade X8400 Server Module server to the partially populated target Sun Blade 8000 Chassis.**

See the Sun Blade 8000 Modular System documentation for details.

2 Discover the new Sun Blade X8400 Server Module.

See “[Discovering the Sun Blade 8000 Modular System And Any Installed Sun Blade X8400 Server Modules](#)” on page 19 for details.

3 In the browser interface, verify that the Sun Blade X8400 Server Module appears in its new Sun Blade 8000 Chassis.**▼ To Remove a Sun Blade X8400 Server Module From a Sun Blade 8000 Chassis and Delete it From N1 System Manager****1 Open the ILOM Web GUI for the Sun Blade X8400 Server Module that you want to move.**

See “[Connecting to the Sun ILOM Web GUI for a Managed Server](#)” in *Sun N1 System Manager 1.3 Discovery and Administration Guide* for details.

2 Prepare the Sun Blade X8400 Server Module for a safe removal.

See the Sun Blade 8000 Modular System documentation for details.

3 Use the `delete server` command with the Sun Blade X8400 Server Module name to delete the Sun Blade X8400 Server Module from N1 System Manager.

See “[delete server](#)” in *Sun N1 System Manager 1.3 Command Line Reference Manual* for details.

Provisioning Sun Blade X8400 Server Modules in the Sun Blade 8000 Chassis

This chapter explains how to use N1 System Manager to provision operating systems and firmware on to Sun Blade X8400 Server Modules in a Sun Blade 8000 Modular System.

For general information on using N1 System Manager to provisioning operating systems and firmware on other supported hardware, see *Sun N1 System Manager 1.3 Operating System Provisioning Guide*.

For a list of supported operating systems that can be run on the management server or on managed servers, see [“Supported Hardware and Operating Systems” on page 37](#).

Deploying an Operating System on to a Single Sun Blade X8400 Server Module

Provisioning of an OS works as explained in *Sun N1 System Manager 1.3 Operating System Provisioning Guide*. This section outlines the changes to how provisioning works in the version of N1 System Manager for Sun Blade X8400 Server Modules.

When deploying supported UNIX based operating systems, you can optionally specify the network interfaces to be configured during deployment by specifying the physical port name of the device to be configured, or by the logical device name of the device to be configured. Use the `bootnetworkdevice` or `networkdevice` options at the command line. See “load server” in *Sun N1 System Manager 1.3 Command Line Reference Manual* for details about these options.

When provisioning Microsoft Windows, you cannot specify a logical device name or a physical port name. The OS is provisioned on the first network interface reported by the managed server.

Network Interface Mapping

N1 System Manager physical and network device names are explained in [“To View Sun Blade X8400 Server Module Details” on page 25](#). Valid values for elements of the Sun Blade 8000 Modular System are shown in the following tables.

Note – Physical and logical network device names are case-sensitive.

TABLE 3-1 Physical Network Device Names Valid for Use With N1 System Manager

Physical Network Device Name	Description
NEM0/F0	Network Expansion Module 0
NEM0/F1	Network Expansion Module 0
NEM1/F0	Network Expansion Module 1
NEM1/F1	Network Expansion Module 1
NEM2/F0	Network Expansion Module 2
NEM2/F1	Network Expansion Module 2
NEM3/F0	Network Expansion Module 3
NEM3/F1	Network Expansion Module 3
EMa/F0	PCI Express Module
EMa/F1	PCI Express Module
EMb/F0	PCI Express Module
EMb/F1	PCI Express Module

TABLE 3-2 Logical Device Names Valid for Use With N1 System Manager

Logical Device Name	Real name
eth0 – eth11 (Linux)	Network Interface Cards 0 to 11
e1000g0-e1000g11	-

A provisioned OS assigns logical network interface names, such as eth3, in numerically ascending order to physical network ports based on the PCI bus probe order. The Network Bootable Devices section of the Server Details page in the browser interface displays network ports in PCI probe order.

To deduce the logical interface name for a given entry in the boot list, find its zero-based index in the Bootable Devices list. The first device in the list has an index of 0, the second device in the list has an index of 1. When you determine the index, prepend the logical interface name prefix for the OS being provisioned. So the *n*th entry in the list, starting from 0, maps to eth*N* for Linux, or to e1000g*N* for the Solaris OS.

▼ To Provision A Supported Solaris OS Or Linux Distribution on to A Sun Blade X8400 Server Module

This procedure explains how to provision the Red Hat Enterprise Linux AS 4 Update 3 operating system on a Sun Blade X8400 Server Module. Read *Sun N1 System Manager 1.3 Operating System Provisioning Guide* for full details about provisioning.

The Red Hat Enterprise Linux AS 4 Update 3 operating system is only supported for Sun Blade X8400 Server Modules. You cannot provision this operating system to other hardware.

Before You Begin You must discover the Sun Blade X8400 Server Module using SP-based discovery.

- 1 For the OS you are deploying, follow the procedures described in Chapter 2, “Provisioning UNIX Operating Systems,” in *Sun N1 System Manager 1.3 Operating System Provisioning Guide*.
- 2 To load the OS profile on a Sun Blade X8400 Server Module, type the following command:

```
N1-ok> load server server-name osprofile profile-name bootip bootip networktype=static [bootnetworkdevice bootnetworkdevice]
[networkdevice networkdevice]
```

The *bootnetworkdevice* and the *networkdevice* can be a physical or logical network device name.

For more command line options, see “load server” in *Sun N1 System Manager 1.3 Command Line Reference Manual*.

Physical interfaces names can be used only when every server being provisioned is part of a Sun Blade 8000 Modular System. For groups of servers that consist of more than one type of server, physical device names cannot be used.

- If you do not specify the *bootnetworkdevice* and the *networkdevice* options:

N1 System Manager selects the logical interface names corresponding to the first network boot device that is reported by the Sun Blade X8400 Server Module, based on the mapping of physical device names to logical device names as described in this section.
- If you specify the physical interface name for the *bootnetworkdevice* and/or the *networkdevice* options:

N1 System Manager selects the corresponding logical interface name that is reported by the Sun Blade X8400 Server Module, based on the mapping of physical device names to logical device names as described in this section.
- If you specify the logical device name for the *bootnetworkdevice* and/or the *networkdevice* options:

N1 System Manager selects the corresponding physical interface name that is reported by the Sun Blade X8400 Server Module, based on the mapping of physical device names to logical device names as described in this section.

Note – If NEM or EM modules have been hot-plugged without also resetting any affected Sun Blade X8400 Server Modules, the network device list reported by N1 System Manager might be out of date. If so, the logical interface mapping may have changed from what is expected. To update the network device list:

- a. Run the `reset server` command on all Sun Blade X8400 Server Modules that are to be provisioned.
- b. Run the `set server` command with the `refresh` subcommand on all Sun Blade X8400 Server Modules that are to be provisioned.

These steps are not necessary if you specify physical interface names. For more information about hot-plugging Sun Blade X8400 Server Modules, see “Hot-Plugging Sun Blade 8000 Chassis Modules” in *Sun N1 System Manager 1.3.1 Troubleshooting Guide*.

Use the `load group` command with the group name, to provision the operating system on to a group of servers. See Chapter 5, “Managing Servers and Server Groups,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide* for details about grouping servers.

Provisioning Microsoft Windows on to Sun Blade X8400 Server Modules

This section discusses how to provision Sun Blade X8400 Server Modules with the Microsoft Windows operating system.

Note – Although N1 System Manager enables you to provision the Windows operating system, the product does not provide OS monitoring or update capabilities for Windows.

▼ To Provision Microsoft Windows on to a Sun Blade X8400 Server Module

Before You Begin You can provision Microsoft Windows on to a Sun Blade X8400 Server Module if the module was discovered using SP-based discovery. You do not have to discover the server using manual discovery. For information about SP-based discovery, see “SP-Based Discovery” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

When provisioning Microsoft Windows, you cannot specify a logical device name or a physical port name. The OS is provisioned on to the first network interface reported by the managed server.

- 1 **Follow the steps described by the procedures in Chapter 3, “Provisioning Windows Operating Systems,”** in *Sun N1 System Manager 1.3 Operating System Provisioning Guide*.

2 Manually change the order of the interfaces by following the procedure described in “Potential Issues Related to Provisioning Windows OS” in *Sun N1 System Manager 1.3 Operating System Provisioning Guide*.

When provisioning the Windows OS on to Sun Blade X8400 Server Modules, note that the `Nem0` interface is used by default.

The LAN connection made after the Windows OS is provisioned on to a Sun Blade X8400 Server Module is detailed under Network Connections in the browser interface.

Other Changes to N1 System Manager

This chapter details changes and modifications to N1 System Manager functionality and documentation beyond those additions that support the Sun Blade 8000 Modular System.

The online help has not been updated for this release of N1 System Manager. This chapter also details the minor changes to the functionality described in the online help.

Supported Hardware and Operating Systems

This section details the supported hardware for this release of N1 System Manager.

Management Server Requirements

N1 System Manager management server hardware and operating software minimum requirements are listed in the following table.



Caution – Dedicate the N1 System Manager management server only to the N1 System Manager software. Do not install other applications on the management server. The management server must not be managed by any system management software such as N1 System Manager, Sun Management Center, Sun Control Station, or any other management system.

TABLE 4-1 Management Server Disk Space and RAM Requirements

Disk Space	RAM
72 Gbytes minimum for all management servers	4 Gbytes minimum for all management servers

TABLE 4-2 SPARC-based Management Server Supported Hardware and Operating Systems

Type	Operating System
Netra™ 240, 440	Solaris Version 10, 64-bit
	Solaris Version 10 Update 1, 64-bit
Sun Fire™ T1000, T2000	Solaris Version 10 HW2, 64-bit
	Solaris Version 10 Update 1, 64-bit
Sun Fire V210, V240, V440	Solaris Version 10, 64-bit
	Solaris Version 10 Update 1, 64-bit
Sun Fire V490	Solaris Version 10, 64-bit
	Solaris Version 10 Update 1, 64-bit

TABLE 4-3 X86 and X64-based Management Server Supported Hardware and Operating Systems

Type	Operating System
Sun Fire X2100	Solaris Version 10 HW1, 32-bit and 64-bit
	Solaris Version 10 Update 1, 32-bit and 64-bit
	Solaris Version 10 Update 2, 32-bit and 64-bit
	Red Hat Enterprise Linux 3.0 AS Update 6, 32-bit and 64-bit
	Red Hat Enterprise Linux 4.0 AS Update 2, 32-bit and 64-bit
Sun Fire X4100 and X4200	Solaris x64 Version 10 HW1, 64-bit
	Solaris x64 Version 10 Update 1, 64-bit
	Solaris x64 Version 10 Update 2, 64-bit
	Red Hat Enterprise Linux 3.0 AS Update 5, 32-bit and 64-bit
	Red Hat Enterprise Linux 4.0 AS Update 1 and Update 3, 64-bit
Sun Fire V20z and V40z	Solaris x64 Version 10 HW1, 64-bit
	Solaris x64 Version 10 Update 1 and Update 2, 64-bit
	Red Hat Enterprise Linux 3.0 AS Updates 2 through 4, 32-bit and 64-bit, single core only
	Red Hat Enterprise Linux 3.0 AS Update 5, 32-bit and 64-bit
	Red Hat Enterprise Linux 4.0 AS Update 1, 32-bit and 64-bit

A minimum of 3.0 Gbytes should be allocated for each OS distribution you plan to provision.

- On a Solaris-based management server, OS distributions are stored as follows:

- Linux OS distributions are stored in `/var/opt/SUNWscs/share/allstart`
- Solaris OS distributions are stored in `/var/js`
- On a Linux-based management server, OS distributions are stored as follows:
 - Linux OS distributions are stored in `/var/opt/sun/scs/share/allstart/`
 - Solaris OS distributions are stored in `/var/opt/sun/scs/share/allstart/jumpstart/`

Note – If the server you have chosen for the management server has only two network interfaces, consider installing a third 10/100 or 10/100/1000 NIC in N1 System Manager. A third NIC enables you to assign the management, provisioning, and data networks to separate network interfaces, and simplifies administrative tasks. The example diagrams and configurations in this document assume that an additional NIC has been installed in the management server.

Manageable Server Requirements

N1 System Manager manageable server hardware and operating software requirements are listed in the following tables.

TABLE 4-4 Manageable Server Disk Space and RAM Requirements

Disk Space	RAM
12 Gbytes minimum for all manageable servers	512 Mbytes minimum, 1 Gbyte recommended for all manageable servers

TABLE 4-5 SPARC-Based Manageable Server Supported Hardware and Operating Systems

Type	Provisionable OS
Sun Netra 240 and 440	Solaris 10 GA and later
	Solaris 9 Update 7 and Update 8
Sun Fire V210, V240, and V440	Solaris 10 GA and later
	Solaris 9 Update 7 and Update 8
Sun Fire V490	Solaris 9 9/05
	Solaris 10 3/05
Sun Fire V890	Solaris 9 9/05
	Solaris 10 3/05
Sun Fire T1000 and T2000	Solaris 10 HW2 and later

TABLE 4-6 X86 and X64 Based Manageable Server Supported Hardware and Operating Systems

Type	Provisionable OS
Sun Blade X8400 Server Module	Solaris x64 Version 10 Update 2, 64-bit Red Hat Enterprise 4 AS, Update 3 SUSE Linux Enterprise Server 9 SP3, 64-bit Windows 2003 SE, 2003 EE 64-bit Windows 2003 SE, 2003 EE, SP1 32-bit
Sun Fire V20z and V40z	Solaris x64 Version 10 HW1, 64-bit Solaris x64 Version 10 Update 1, 64-bit Solaris 9 04/05 32-bit Solaris 9 09/05 HW 32-bit Solaris 9 09/05 32-bit Red Hat Enterprise Linux 3.0 WS, ES, and AS, Updates 1 through 4, 32-bit and 64-bit, single core only Red Hat Enterprise Linux 3.0 WS, ES, and AS, Updates 5 through 6, 32-bit and 64-bit Red Hat Enterprise Linux 4.0 WS, ES, and AS, 32-bit, single core only Red Hat Enterprise Linux 4.0 WS, ES, and AS, update 1, 32-bit and 64-bit SUSE Linux Enterprise Server 9 SP1 and SP2, 64-bit MS Windows 2003 SE, 2003 EE, 2003 WE 32-bit only Windows 2003 SE, 2003 EE 64-bit only Windows 2000S, 2000AS 32-bit only
Sun Fire X2100 with the 8081A IPMI 1.5 Remote Management Card: Part Number: 371-0743	Solaris Version 10 HW1. 32-bit and 64-bit Solaris Version 10 Update 1, 32-bit and 64-bit Red Hat Enterprise Linux 3.0 WS, ES, and AS Update 6 or greater, 32-bit and 64-bit Red Hat Enterprise Linux 4.0 WS, ES, and AS Update 2, 32-bit and 64-bit SUSE Linux Professional 9 SP3 or greater, 32-bit and 64-bit Windows 2003 SE, 2003 EE, 64-bit Windows 2003 SE, 2003 EE, SP1, 32-bit

TABLE 4-6 X86 and X64 Based Manageable Server Supported Hardware and Operating Systems
(Continued)

Type	Provisionable OS
Sun Fire X4100 and X4200 including Sun Fire X4100 M2 and Sun Fire X4200 M2	Solaris x64 Version 10 HW1, 64-bit
	Solaris x64 Version 10 Update 1, 64-bit
	Red Hat Enterprise Linux 3.0 WS, ES, and AS, Update 5 and Update 6, 32-bit and 64-bit
	Red Hat Enterprise Linux 4.0 WS, ES, and AS Update 1 and Update 2, 64-bit
	SUSE Linux Enterprise Server 9 SP1 through SP3, 64-bit
	Windows 2003 SE, 2003 EE 64-bit
Sun Fire X4500	Windows 2003 SE, 2003 EE, SP1 32-bit
	Solaris 10 Update 1, 64-bit
Sun Fire X4600 and Sun Fire X4600 M2	Solaris 10 Update 1, 64-bit,
	Red Hat Enterprise Linux 4.0 WS, ES, and AS Update 3, 64-bit,
	Windows 2003 SE, SP1, 32-bit

Note – OS discovery, OS monitoring, and software update management are not supported for managed servers running the Windows operating system. For further information about OS discovery, see Chapter 4, “Discovering Manageable Servers,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*. For further information about OS monitoring, see Chapter 6, “Monitoring Servers and Server Groups,” in *Sun N1 System Manager 1.3 Discovery and Administration Guide*.

Upgrading From N1 System Manager 1.3

The upgrade procedure to N1 System Manager 1.3.1 from N1 System Manager 1.3 is identical to the upgrade procedure to N1 System Manager 1.3 from N1 System Manager 1.2. See “Upgrading to Sun N1 System Manager 1.3” in *Sun N1 System Manager 1.3 Installation and Configuration Guide* for details.

Updates to the N1 System Manager 1.3 Documentation

This section details any updates or corrections to the N1 System Manager documentation that already existed for the last release of the product, and that accompanies this release of the product.

Provisioning the Solaris 10 OS on to N1 Grid Engine Hosts

After you have deployed the Solaris 10 OS to the managed servers that are designated N1 Grid Engine compute hosts, if the N1 Grid Engine master server is running a supported distribution of Red Hat Linux version 4, follow the procedure described below.

This workaround is necessary no matter what operating system is running on the management server.

▼ To Provision the Solaris 10 OS on to N1 Grid Engine Hosts

- 1 Follow the standard provisioning process described in Chapter 2, "Provisioning UNIX Operating Systems," in *Sun N1 System Manager 1.3 Operating System Provisioning Guide* and in Chapter 1, "N1SM for N1 Grid Engine Online Help," in *Sun N1 System Manager 1.3 Grid Engine Monitoring Help*.**
- 2 On the server designated as a compute host, on which you have provisioned the Solaris 10 OS, edit the `/etc/default/nfs` file as follows.**
Ensure that the `NFS_CLIENT_VERSMAX` is set to 2 and not 4.
`NFS_CLIENT_VERSMAX=2`
- 3 Restart NFS using the following command.**

```
# svcadm restart svc:/network/nfs/client:default
```

Updates and Amendments to the Online Help

The online help has not been updated for this release of the N1 System Manager. This section details some minor additions to the functionality that is described in the online help, since these additions have not been made to the online help for this release.

The valid hardware model name in N1 System Manager for Sun Blade X8400 Server Module is `X8400`.

The valid hardware model names in N1 System Manager for the Sun Fire X4000 series servers are as follows:

`X4100M2` Sun Fire X4100 M2 server

X4200M2	Sun Fire X4200 M2 server
X4600M2	Sun Fire X4600 M2 server
X4500	Sun Fire X4500 server

The provisioning of Sun Blade X8400 Server Modules is now possible. This is not detailed in the online help. See [Chapter 3](#) for details.

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