



# Sun Fire™ X4100 and Sun Fire X4200 Servers Product Notes

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Sun Microsystems, Inc.  
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# Preface

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This document describes hardware issues, software issues, and documentation issues for the Sun Fire™ X4100 and Sun Fire X4200 servers. Change requests have tracking numbers shown in parentheses. For updates on change requests and for patches, see the SunSolve<sup>SM</sup> web site at:

<http://sunsolve.sun.com>

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**Note** – Separate Release Notes with instructions for upgrading platform software and firmware are also published at the web site where this document is published. Although it is recommended that you upgrade directly to the latest software release available, more than one version of the Release Notes might be available, to provide the ability to return to earlier releases for troubleshooting.

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**Note** – The software on the CDs that are shipped with the system is the latest available at the time of shipping and can be used for reinstallation or system recovery. Because software versions are updated frequently, check the product download site for the latest versions of the software that are qualified by Sun.

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## Product Updates

For product updates that you can download for the Sun Fire X4100 or Sun Fire X4200 servers, please visit the following Web site:

<http://www.sun.com/software/solaris/get.jsp>

This site contains updates for firmware and drivers, as well as CD-ROM .iso images.

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## Related Documentation

For a description of the document set for the Sun Fire X4100 and Sun Fire X4200 servers, see the *Where To Find Documentation* sheet that is packed with your system and also posted at the product's documentation site. See the following URL, then navigate to your product:

<http://www.sun.com/documentation>

Translated versions of some of these documents are available at the web site described above in French, Simplified Chinese, Traditional Chinese, Korean, and Japanese. English documentation is revised more frequently and might be more up-to-date than the translated documentation.

For all Sun documentation, see the following URL:

<http://www.sun.com/documentation>

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## Contacting Sun Technical Support

If you have technical questions about the Sun Fire X4100 or Sun Fire X4200 servers that are not answered in this document, go to:

<http://www.sun.com/service/contacting>

See the Support menu for links to the Knowledgebase.

If you need to contact Sun technical support, please have the following information available so that we can best assist you in resolving problems:

- Description of the problem, including the situation where the problem occurs and its impact on your operation
- Machine type, operating system version, and product version, including any patches and other software that might be affecting the problem
- Detailed steps on the methods you have used to reproduce the problem
- Any error logs or core dumps

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*Sun Fire X4100 and Sun Fire X4200 Servers Product Notes*, part number 819-1162-24



# Additional Software

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This chapter provides a brief summary of new features and late-breaking news for the Sun Fire™ X4100 and Sun Fire X4200 servers.

## Additional Software in This Release

The following software is included with every Sun Fire X4100 and Sun Fire X4200 server:

- Solaris™ 10 operating system (preinstalled on the hard disk)
- Sun Java™ Enterprise System (Java ES) 2005Q1 (pre-loaded)
- Sun™ N1 System Manager (DVD)

## Solaris 10 Operating System

The Solaris 10 Operating System (OS) delivers the security, manageability, and performance that IT professionals need to help increase service levels and decrease costs and risk. It also serves as the foundation for the Sun Java Enterprise System, an integrated, open, standards-based software system delivered using a new predictable approach for development, testing, and servicing.

If you need to re-install the Solaris 10 OS after removing it, you can download the DVD image.

To download the DVD image, see:

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

The raidctl patch for Solaris OS (119851-13) can be downloaded from the SunSolve web site at:

<http://sunsolve.sun.com>

Online documentation for Solaris 10 OS can be found at:

<http://docs.sun.com/documentation>

## Sun Java Enterprise System

Sun Java Enterprise System (Java ES) is a set of software components that provide services needed to support enterprise-strength applications distributed across a network or Internet environment.

Online documentation for Java ES can be found at:

<http://docs.sun.com/documentation>

## Sun N1 System Manager

Sun N1 System Manager is an aggregated system manager that helps administrators reduce cost and complexity while providing the agility to manage hundreds of systems. Using the N1 System Manager software, administrators can discover, provision, patch, monitor and manage anywhere from one to hundreds of Sun systems. The benefits of the N1 System Manager software include a centralized, interactive, easy-to-use browser and command line interface (CLI), allowing administrators to make quick and accurate changes to single systems or groups of systems.

Online documentation for Sun N1 System Manager can be found at:

<http://docs.sun.com/documentation>

For more information, go to:

[http://www.sun.com/software/products/system\\_manager](http://www.sun.com/software/products/system_manager)

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# Diagnosing Server Problems With the Bootable Diagnostics CD-ROM

The server is shipped with a bootable diagnostics CD-ROM V1.2F (705-7852). This CD-ROM is designed so that the server will boot using the Solaris OS on the CD-ROM and start SunVTS software. Diagnostic tests will run and write output to log files that the service technician can use to determine the problem with the server.

## *Requirements*

- To use the bootable diagnostics CD, you must have a keyboard, mouse, and monitor attached to the server on which you are performing diagnostics.



# LSI Firmware, Service Processor, and BIOS Issues

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This chapter describes the LSI firmware, Sun Integrated Lights Out Manager (ILOM) Service Processor, and BIOS issues related to the Sun Fire X4100 and Sun Fire X4200 servers. It includes these topics:

- “[LSI Firmware Issues](#)” on page 6
- “[Service Processor Issues](#)” on page 8
- “[BIOS Issues](#)” on page 20

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**Note –** If an issue statement does not specify a particular platform, the issue applies to all platforms.

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# LSI Firmware Issues

## RAID Volume Requires 64 Mbytes of Unpartitioned HDD Space for Metadata (6312581)

To create a RAID volume, the firmware and BIOS must write metadata at the end of the HDD. At least 64 Mbytes of unpartitioned hard-disk space are required.

### *Workaround*

- In servers shipped with the preinstalled Solaris 10 1/06 OS, the preinstall image includes more than 64 Mbytes of unpartitioned hard disk space for metadata. No further action is required.
- In servers shipped with the preinstalled Solaris 10 3/05 OS, you must partition the disk space from within the Solaris OS before you use the LSI Configuration Utility to create RAID volumes. Refer to your Solaris OS documentation for instructions.

## RAID 1 Volume Cannot Be Created, Partition Warnings Displayed (6310074)

When using the LSI BIOS Configuration Utility, you might see the following warning when trying to create a RAID volume by migrating existing data:

The selected disk contains partitions that may not be preserved when creating an array. This data may be lost when the array is created! If you would still like to use this disk in an array, choose the Erase Disk option on the previous menu by pressing Delete (D)

If you choose the Erase Disk option as suggested in the warning, the RAID volume will still not be created and the warning will be displayed again.

### *Analysis*

The warning is because the utility does not recognize the new Solaris x86 OS disk partition type.

### *Workaround*

This issue is resolved in the LSI firmware that is included in the Release 1.1 update and no workaround is necessary.

If you do not have the Release 1.1 update, use the fdisk utility and, either from the command line or from the Format screen, choose menu item 4:

```
Change between Solaris and Solaris2 Partition IDs
```

This will change a Solaris2 ID to a Solaris1 ID (0x82).

## **LSI MPT BIOS Does Not Provide Low-Level, Hard-Disk Drive Formatting Functionality (6301350)**

LSI MPT BIOS version 6.02 does not provide low-level format functionality at this time.

### *Workaround*

This issue is resolved in the LSI firmware that is included in the Release 1.1 update (LSI BIOS 6.04.07) and no workaround is necessary.

## **Hard-Disk Drive Resynchronization Completion Indicated By Optimal Status in LSI Firmware Version 1.08 (6389986)**

If you are using LSI firmware Version 1.08 or later, the resynchronization progress indicator might stay at 0%, even though the resynchronization is happening. The resynchronization is complete when Optimal is displayed as the status.

### *Workaround*

This is expected behavior in LSI firmware Version 1.08 or later.

# Service Processor Issues

## Service Processor Neither Logs Event Nor Provides Visual Alert After Hard Disk Removed (6306536)

If a hard disk is removed from a system, the service processor neither logs an event nor provides a visual alert. This is expected behavior since the service processor does not receive events from the LSI SAS controller when a hard-disk drive is hot-plugged and visual alerts do not occur.

## Service Processor and USB Interactions Interrupt the OS (6277725)

There are several methods you can use to reset the service processor, for example:

- Using the Reset SP tab in the ILOM web GUI
- Using the `reset SP` command on the ILOM CLI
- Using the IPMItool command `IPMI_MC_RESET_COLD`
- As a side effect of changing the remote mouse emulation mode

Any of these methods could interrupt the system or cause it to hang because of the USB plug/unplug events that are initiated between the service processor and the system.

### *Workaround*

To ensure that the service processor is reset and a USB event does not hang the system, configure the OS with minimal or no USB support.

Do not reboot the system while the service processor is resetting itself or the system could hang. Instead, change the mouse mode to the desired state before booting.

Scheduling service processor resets to occur only when the system is off or in reset will also prevent any service processor interaction with the system.

## Kernel Error During Reset Hangs Some System Components (6295154)

During service processor reset, such as during flashing or mouse mode changes, an SP kernel error might occur that leaves the service processor reachable, but which hangs serial login, SSH, the web GUI, and CLI services.

### *Workaround*

Reset the system using the remaining working service or by powering off the system.

## Network Port Does Not Operate at 10 Mbyte/sec (6302923)

The service processor Ethernet port operates only at 100 Mbyte/sec. It does not operate at 10 Mbyte/sec.

### *Workaround*

None.

## System Might Not Initially Mount `iso` Image (6276086)

If you are installing a RHEL or SLES distribution using the ILOM web GUI and you unmount an `iso` image, then try to mount a new image, the first attempt to read the new image might fail.

### *Workaround*

Mount the new image again. It should mount correctly the second time.

## Installing OS Using Redirected Samsung SN-124 CD-ROM Drive Might Not Work (6279896)

If you try to install an operating system (OS) from a Samsung SN-124 CD-ROM drive using the Java Remote Console, the virtual CD-ROM drive might not be recognized.

### *Workaround*

Install the OS using the image files redirected from another device.

## Sun Integrated Lights Out Manager (ILOM) Web GUI Displays Incorrect Thresholds (6316706)

The ILOM web GUI might display incorrect threshold values for the temperature sensors, for example. ILOM might also display random values for non-threshold sensors.

### *Workaround*

None.

## Cannot Log in to Service Processor with 16-Character Passwords with ILOM Web GUI or CLI (6286187)

If your password contains exactly 16 characters, you will not be able to log in to the service processor (SP) using either the ILOM web GUI or CLI.

### *Workaround*

Choose a password containing fewer than 16 characters.

# Unimplemented Simple Network Management Protocol (SNMP) Traps (6300437)

The following traps are currently not supported:

- SUN-PLATFORM-MIB
  - sunPlatObjectCreation
  - sunPlatObjectDeletion
  - sunPlatCommunicationsAlarm
  - sunPlatEnvironmentalAlarm
  - sunPlatEquipmentAlarm
  - sunPlatProcessingErrorAlarm
  - sunPlatStateChange
  - sunPlatAttributeChangeInteger
  - sunPlatAttributeChangeString
  - sunPlatAttributeChangeOID
  - sunPlatQualityOfServiceAlarm
  - sunPlatIndeterminateAlarm
- ENTITY-MIB
  - entConfigChange
- SNMPv2-MIB
  - coldStart
  - warmStart
  - authenticationFailure

## Other SNMP Issues

The following SNMP issues are known limitations:

- The SNMP agent does not currently handle SETs for the Entity and Sun Platform MIBs. This causes compliance tests involving SETs to fail. Use other services to perform the needed tasks. (6255301)
- Error messages are unclear when an SNMP user is being deleted. For example, you might see the message Target cannot be deleted when a user is being deleted soon after another activity. In general, these commands can be ignored. However, scripted commands might not succeed. (6284706)
- The SNMP agent stops responding if there are multiple connections. This requires you to restart SNMP or reboot the system. (6290651)
- An error message appears when a user is added. For example, you might see the message SNMP agent not up yet, may be reconfiguring. In general, this message can be ignored. (6292473)

- The sysUpTime values might be incorrect. For example, a system that has been assembled only a few days might show an uptime of 51 days. You can ignore these values. (6295609)
- Using CLI to set the maximum number of communities might kill the SNMP agent and require you to reboot the system. (6316403)

## SP Does Not Handle SNMP Traps (6396525)

The service processor does not support SNMP traps for the SUN-PLATFORM-MIB.

### *Workaround*

Use IPMI PET traps, a form of SNMP trap, to trap errors. You can implement them by configuring alert rules in the service processor, or by configuring PEF rules directly in IPMI. See the *Integrated Lights-Out Manager Administration Guide*, 819-1160, for details.

## Serial Port Speed Setting Reverts to 9600 After Exiting CLI Session (6298521)

When you exit a CLI session, the serial port speed is reset to 9600 bps. This might cause the serial port not to work after you exit a CLI session if the speed was set to a value other than 9600 bps.

### *Workaround*

Keep the speed of the serial management port set to 9600 bps.

## Browser Displays Confusing Message After Transfer Has Completed (6254310)

If you use a Mozilla browser, the status area might display a `Transferring data from` message, even though the transfer has completed. This is a problem with the browser, not the Sun ILOM software. For more information on this bug, see: [https://bugzilla.mozilla.org/show\\_bug.cgi?id=185547](https://bugzilla.mozilla.org/show_bug.cgi?id=185547).

### *Workaround*

None.

## Break Key Does Not Work in Secure Shell (SSH) Session or From Java Remote Console (6306610)

Breaks are transmitted to the system serial port only from the serial management port. The Break key does not work when you enter `ssh ~B` in a secure shell (SSH) session, or in the Java Remote Console.

### *Workaround*

None.

## Java Remote Console Might Crash During External CD-ROM Redirection (6306010)

Java Remote Console might crash if you redirect an external CD-ROM to a remote client, running RHEL4 U1 (64-bit) on both the host and the remote client.

### *Workaround*

None.

## Java Remote Console Might Hang When Restarting Floppy Disk Redirection (6295147)

When running on a virtual device, the Java Remote Console might hang.

### *Workaround*

Kill and restart the Java Remote Console.

## External Storage Redirection Error Messages Might Be Erroneous

You can redirect remote storage devices to Sun Fire X4100 or Sun Fire X4200 servers by starting the Java Remote Console from the ILOM web GUI (Remote Console -> Redirection). Because the ILOM has this capability, the operating system might display redirected USB storage devices as always being attached.

If redirection is disabled, however, you might see one of the following messages if you attempt to access those devices: Drive not ready or No media found. Starting and stopping storage redirection does not add or remove the virtual devices themselves, but affects only the media in those virtual devices.

### *Workaround*

None.

## Accessibility Issues

Accessibility means removing barriers that can prevent people with disabilities from participating in substantial life activities, including the use of services, products, and information. Not only does providing access offer benefits for a wide range of users, but it is also a requirement in all current federal contracts under Section 508 of the Federal Rehabilitation Act. In the commercial sector, the Americans with Disabilities Act (ADA) calls for similar considerations when reasonably accommodating current and prospective employees.

The Sun Fire X4100 and Sun Fire X4200 servers meet Section 508 accessibility requirements. However, the following accessibility issues have been noted in the SP-firmware GUI:

- If the focus is in a low-level tab menu, the Tab key does not navigate to the higher level. This issue is seen in Mozilla Firefox. (6316639)
- JavaScript<sup>TM</sup> alerts and confirmation boxes in the GUI have generic menu titles that do not provide enough contextual information. (6274918)
- Tabbing to top level frames is not possible in Mozilla. Typing a phrase to find the corresponding item in Mozilla works partially. Frames are highlighted, but not action items such as buttons. (6278273)
- Pressing the down arrow in the Select Action pull-down list moves the focus to reset. You cannot use the down arrow to scroll through the rest of the list. This issue is seen in Internet Explorer. (6316634)
- When you tab to the Add button in the Add User pop-up menu and press Enter, the page exits without adding the user entry. This issue is seen in Internet Explorer. (6316625)
- When you press the Tab key, the focus does not move to the lower-level tabs within the selected tab. (6245789)
- When you press the Tab key in Internet Explorer, the focus does not move to an unselected radio button. Also, if a radio button is selected, you cannot deselect it using the keyboard. (6316591)
- When you press the Tab key in Internet Explorer, the focus does not move to any checkboxes that might be in the GUI. (6316621)
- Some pages contain JavaScript links for navigation that are not read by assistive technologies. (6255423)

## Incorrect Name Used for Rear Fan Tray (6323731)

The internal software incorrectly uses the name `io.f0` (Input/Output Fan 0) to refer to the rear fan tray of the Sun Fire X4200 server. The name should be `FT2`.

### *Workaround*

None.

## Serial Console Access Over SSH Might Lock Up When Using `start -script` Command (6337909)

While connecting to the SP CLI mode via SSH, the serial console connection might intermittently lock up when the `start -script` command is used to log in to the SP console.

### *Workaround*

Use the `SP start console` command to connect to the SP console, rather than `start -script` command.

If the serial console connection locks up, exit the SSH session then try again using the `SP start console` command.

# BIOS Upgrades Fail When Upgrading SP Firmware Older Than Version 6169 (6324746)

If you attempt to upgrade the SP firmware and BIOS on a pre-release server that still has an SP firmware version older than version 6169, FRU data will be corrupted. This problem has been corrected in servers shipping at the time of release (with BIOS version 6464).

See the procedures in “[Upgrading the ILOM SP Firmware From Version 6169 to 6464 Causes SP Configuration To Be Lost](#)” on page 17 for methods of determining the firmware version.

## *Workaround*

If you were a Beta or Early Access customer with a system that has SP firmware older than version 6169, you must return the graphics redirect and service processor (GRASP) board to the factory for reprogramming. Contact your Sun Service representative for assistance.

## Upgrading the ILOM SP Firmware From Version 6169 to 6464 Causes SP Configuration To Be Lost

Early access systems might have shipped with ILOM SP firmware version 6169. The production release firmware version is 6464.

When you upgrade the firmware from version 6169 to 6464, the SP configuration is lost and must be reconfigured. This includes anything that has been set up on the SP, such as:

- Changes to the default password (changeme) for the root userid
- Any users that have been added
- Any configuration of SNMP, alerts, LDAP, NTP, or network settings (for example, a static IP address).

You can determine the ILOM SP firmware build version on your server by using the ILOM command language interface (CLI) or the ILOM Web GUI. You can access the CLI via the management Ethernet or the serial port on the back of the server.

For alternate methods of determining the firmware version see:

- “[Determining the Firmware Version Using the CLI Through the Management Ethernet Port](#)” on page 18
- “[Determining the Firmware Version Using the CLI Through the Serial Port](#)” on page 18
- “[Determining the Firmware Version Using the Web GUI](#)” on page 19

## Determining the Firmware Version Using the CLI Through the Management Ethernet Port

1. Connect an RJ-45 Ethernet cable to the NET MGT Ethernet port on the back panel.
2. Establish an SSH connection using the following command, then enter the default password (changeme) when prompted:

```
# ssh -l root <SP IP address>
```

```
changeme
```

After you have successfully logged in, the SP displays its default command prompt:

->

3. Type the version command, which will return output similar to the following:

```
-> version
```

```
SP firmware version: 1.0
```

```
SP firmware build number: 10644
```

```
SP firmware date: Tue Sep 13 12:50:37 PDT 2006
```

```
SP filesystem version: 0.1.13
```

The ILOM firmware build version is the build number listed above.

## Determining the Firmware Version Using the CLI Through the Serial Port

1. Configure your terminal device or the terminal emulation software running on a laptop or PC to the following settings:
  - 8N1: eight data bits, no parity, one stop bit
  - 9600 baud
  - Disable hardware flow control (CTS/RTS)
  - Disable software flow control (XON/XOFF)
2. Connect a serial cable from the RJ-45 SER MGT port on your server's back panel to your terminal device or PC.
3. Press Enter on the terminal device to establish a connection between that terminal device and the server's SP.

The SP displays a login prompt.

```
SUNSP0003BA84D777 login:
```

In this example login prompt, 0003BA84D777 is the Ethernet MAC address of the SP. This will be different for each server.

4. Log in to the ILOM SP and type the default user name (**root**) with the default password (**changeme**).

After you have successfully logged in, the SP displays its default command prompt:  
->

5. Type the **version** command, which will return output similar to the following:

-> **version**

```
SP firmware version: 1.0
SP firmware build number: 10644
SP firmware date: Tue Sep 13 12:50:37 PDT 2006
SP filesystem version: 0.1.13
```

The ILOM firmware build version is the build number listed above.

## Determining the Firmware Version Using the Web GUI

1. Connect to the ILOM Web GUI by typing the IP address of the server's SP into your browser's URL field. For example:

<https://129.146.53.150>

2. Log in to the ILOM SP and type the default user name (**root**) with the default password (**changeme**).

The first web page that is presented is the System Information -> Versions page, which includes the Build Number.

---

## BIOS Issues

### System Does Not Detect Supported HBA Card During Bootup Process (6272514)

If a supported host bus adapter (HBA) card is plugged in to Slot 1 (on a Sun Fire X4100 server) or Slots 1-4 (on a Sun Fire X4200 server), the card is not detected by the BIOS during the bootup process.

#### *Analysis*

After the BIOS scans the network interface cards and SAS, the BIOS runs out of address space for the option ROM and cannot scan the card. However, the card is detected at the OS level and can still be used.

#### *Workaround*

To boot the system from an external storage device, connect the device to a supported HBA controller installed in Slot 0.

### BIOS 36 Improves Stability of DIMMs By Disabling PowerDown Mode

Sun Fire X4100 and Sun Fire 4200 DIMM's (in particular, Infineon DIMMs that use IDT registers) might sometimes have a problem going in or out of the PowerDown mode and might subsequently trigger uncorrectable ECC errors that can lead to system reboots.

#### *Workaround*

Upgrade to BIOS 036 or later. BIOS 36 is included with Software Release 1.2.1. For instructions on upgrading to Software Release 1.2.1, see the Sun Fire X4100 and Sun Fire 4200 Sun Fire X4100 and Sun Fire 4200 Release Notes For Software Release 1.2.1, 819-4344.

BIOS 036 disables the PowerDown mode (self-refresh/low-power mode), per AMD's recommendation. Some DIMMs are susceptible to the noise induced when entering and exiting the PowerDown mode. With the PowerDown mode disabled, the probability of UE reboot is much reduced and the system stability increases.

## System Connected to External Storage Device Using PCI Card in Slot 0 Might Not Boot from Internal Disk (6268877)

The system will not boot from the internal HDD if any external storage devices are connected to a PCI card plugged in to Slot 0 only.

### *Analysis*

This occurs because the BIOS scans Slot 0, which connects to the HDDs, before scanning the embedded 1064 SAS controller.

The BIOS scans PCI devices in ascending order (from low PCI address to high PCI address). The scanning priority is:

1. NIC
2. Slot 0
3. SAS
4. Slot 2
5. Slot 3
6. Slot 4
7. Slot 1

Because of constraints in the option ROM, internal HDDs connected to the embedded LSI SAS controller might not be in the boot list if a PCI card is installed in Slot 0, which connects to the external HDDs.

### *Workaround*

Install the PCI card in Slots 1-4 instead of Slot 0. Slot 0 is the only slot that cannot be used if you want to boot from an internal hard-disk drive in the server.

## System Does Not Boot up with Emulex LP10000 Card Enabled (6306640)

If an Emulex LP10000 card is plugged in to any slot on the system and its BIOS is enabled, the system does not boot up.

### *Analysis*

The Emulex LP10000 BIOS interferes with system boot up.

### *Workaround*

To boot up the system, disable the Emulex LP10000 BIOS.

## HDD Order Changes in BIOS Settings After Installing HBA Card (6308569)

After installing a supported host bus adapter (HBA) card, you might not be able to boot the system to operating system level because of changes in the drive order.

### *Workaround*

After installing or removing any supported HBA card connected to an external storage device, make sure the BIOS boot order is set correctly according to your system configuration.

## BIOS Date and Time and Optimal Defaults Must be Reset After Certain System Events (6379898)

With the initial version 6464 of the firmware using BIOS 22, you must manually reset the date and time and load the optimal default settings in the BIOS Configuration Utility after some system events.

The requirement to reset these items manually will be removed in the first update to the firmware.

You must use the BIOS Configuration Utility to reset the date and time and load optimal defaults after these system events:

- When a pre-release version of the server with a pre-release version of the firmware such as version 6169, has the firmware upgraded to the release version 6464.
- When the BIOS checksum is invalid.
- When the CMOS is cleared using the Clear CMOS jumper or using IPMItool through the service processor.

### *Workaround*

After any of the events listed above happen, use the BIOS Configuration Utility to reset the date and time and to load the optimal defaults:

1. **Enter the BIOS Configuration Utility by pressing F2 while the system is booting.**
2. **Change the date and time on the Main menu screen of the utility.**
3. **Use the arrow keys to choose Load Optimal Defaults on the Exit menu.**
4. **Press Enter to go to the next screen.**
5. **Press Enter when prompted to load the optimal defaults.**
6. **Choose Save Changes and Exit, and then press Enter.**
7. **Press Enter when prompted to save the configuration changes and exit the utility.**

## Upgrading BIOS Without Changing and Saving Optimal Defaults Might Result in Increased Memory Latency (6306622, 6299794)

You might notice an increased memory latency if you upgrade the BIOS image and do not also change the optimal defaults and save the setup. This issue is not specific to an operating system.

### *Workaround*

This issue is fixed in the BIOS that is part of Release 1.0.1.

If you have a server without the Release 1.0.1 upgrade, do the following after upgrading the BIOS using the BIOS Setup utility:

1. Use the arrow keys to choose Load Optimal Defaults on the Exit menu.
2. Press Enter to go to the next screen.
3. Press Enter when prompted to load the optimal defaults.
4. Choose Save Changes and Exit, and then press Enter.
5. Press Enter when prompted to save the configuration changes and exit the utility.

## Resetting System Might Create Invalid CMOS Checksum (6297018)

Each time the system is booted, the BIOS recomputes CMOS data within the checksum area and checks the data against the stored value. If the two values do not match, an error message is generated to tell you that the CMOS memory contents might have been corrupted.

### *Analysis*

There is a time gap between when the system writes the CMOS data and when it writes the checksum. If the system is reset during this gap, an invalid CMOS checksum may be created.

### *Workaround*

Load the optimal defaults as described in “[Upgrading BIOS Without Changing and Saving Optimal Defaults Might Result in Increased Memory Latency \(6306622, 6299794\)](#)” on page 24.

## **BIOS Boot Order Lost After Reset Testing (6302703)**

If you reset the system and interrupt BIOS power-on self-test (POST) early in the boot process, the system might lose the virtual USB devices from the boot order and stop booting from the drive. The BIOS rewrites some CMOS registers during POST and does not immediately update the CMOS checksum.

### *Workaround*

Unplug and then replug the system to cause a full hardware reset. All USB devices should reappear.

## **DIMM Fault LEDs Are Not Implemented At This Time (6324863)**

The troubleshooting and maintenance documentation for the product describes the future functionality of the DIMM fault LEDs. When there is an noncorrectable error, it is expected that the DIMM fault LEDs will light the DIMM-slot ejector levers to indicate the faulty DIMM pair. This fix is planned for a future release.

### *Workaround*

None.

## **System Does Not Detect Supported HBA Card During Bootup Process (6272514)**

If a supported host bus adapter (HBA) card is plugged in to Slot 1 on a Sun Fire X4100 server, or Slots 1-4, on a Sun Fire X4200 server, the card is not detected by the BIOS during the bootup process.

## *Analysis*

After the BIOS scans the network interface cards and SAS, the BIOS runs out of address space for the option ROM and cannot scan the card. However, the card is detected at the OS level and can still be used.

## *Workaround*

To boot the system from an external storage device, connect the device to a supported HBA controller installed in Slot 0.

# Qimonda DIMMs Return Manufacturer Mismatch Warning Message During POST

When the server boots and runs POST, the warning message, `NODE-n DIMMs Manufacturer Mismatch` might be displayed for each DIMM.

## *Analysis*

This warning message is seen with all supported Qimonda DIMMs and is caused by the presence of a new JEDEC manufacturer's code. The new code is the result of Infineon spinning off its DRAM unit into a new company named Qimonda. The server BIOS has not yet been updated to recognize the new manufacturer's code.

## *Workaround*

---

**Note** – Each DIMM-pair in the server must be identical—same manufacturer, size, and speed.

---

Provided you know all DIMMs match, you can ignore this message.

## Log Event Timestamps Might Appear Different Between Host and Client Systems Because of Time Zone Adjustment (6369917)

The timestamps on events reported in the server's system event log and IPMI logs are always based on GMT/UTC. However, when you view system information from a client system using the GUI or IPMItool, the timestamps displayed are adjusted based on the time zone of the client system. Therefore, the same event can appear to have two different timestamps when viewed directly from the host and from a client system in a different time zone.

### *Workaround*

None. This is expected behavior.

## Server Goes Into BIOS Recovery Mode when Control-Alt-Delete Keys Are Pressed (6386222)

If you hold down the Control-Alt-Delete keys long enough for the system to reset and re-enter BIOS POST, the BIOS will enter BIOS recovery mode. This is non-destructive unless a special BIOS recovery CD or USB-floppy is attached to the machine.

### *Workaround*

Power cycling the host by pushing the power button resolves the problem and the system returns to normal operation.

# Systems with More Than Three PCI Cards

## PXE-Booting Return Error Message (6403173)

When Sun Fire X4200 servers have more than three PCI cards installed in the five PCI slots and more than three cards are PXE booted, all four of the GB Ethernet ports report the following error message:

Base-code ROM ID structure was not found

### *Analysis*

This message is displayed because of the limitation on option ROM space in the server's BIOS.

The BIOS option ROM is 128 KB. Of these 128 KB, approximately 80 KB are used by the VGA controller, the LSI controller, and the network interface card.

Approximately 48 KB remain for the Option ROM.

When more than three PCI cards PXE boot, more option ROM space is requested than is available, so the PXE base code cannot be loaded.

### *Workaround*

A maximum of three PCI cards can be PXE-booted in the server. To avoid the Base-code ROM ID structure was not found message, disable option ROM on the one or more cards that do not need option ROM to boot.

1. Enter the BIOS Setup utility by pressing the F2 key while the system is booting up and performing POST.
2. On the BIOS Main Menu screen, select the PCIPnP tab to open the PCI/PnP Settings screen.
3. Change the PCIX SLOT fields to Disabled for those PCI cards that will not be PXE booted.
4. Press and release the right arrow key until the Exit menu screen is displayed.
5. Follow the instructions on the Exit menu screen to save your changes and exit the Setup utility.

# Software Issues

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This chapter describes software issues related to the Sun Fire X4100 and Sun Fire X4200 servers and includes these topics:

- “[Solaris 10 Operating System Issues](#)” on page 30
- “[Sun Installation Assistant Issues](#)” on page 34
- “[Linux Operating System Issues](#)” on page 36
- “[Windows Server 2003 Operating System Issues](#)” on page 50
- “[Sun VTS Bootable Diagnostics CD Issues](#)” on page 54

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**Note** – If an issue statement does not specify a particular platform, the issue applies to all platforms.

---

This chapter uses the following Linux-related acronyms:

- Red Hat Enterprise Linux operating system (RHEL)  
RHEL versions are usually used with a version number (for example, RHEL4) and an update number (for example, U3).
- SUSE Linux Enterprise Server (SLES)  
SLES versions are usually used with a version number (for example, SLES9) and a software patch number (for example, SLES9 SP3).

---

# Solaris 10 Operating System Issues

## Solaris 10 1/06 OS Adds Support For GRUB-Based Booting

Starting with the Solaris 10 1/06 OS release, the open-source GNU Grand Unified Bootloader (GRUB) has been implemented on x86-based systems that are running the Solaris OS. GRUB is the boot loader that is responsible for loading a boot archive into a system's memory. The boot archive contains the kernel modules and configuration files that are required to boot the system. For more information on GRUB, you can see the `grub(5)` man page.

For information on how to boot a server that is running Solaris 10 1/06 OS in a GRUB-based environment, refer to the *Solaris 10 System Administration Guide: Basic Administration*, at this URL:

<http://docs.sun.com>

## Solaris 10 1/06 OS Installation Might Fail if System Has Multiple InfiniBand Host Channel Adapter Cards (6321372)

During Solaris 10 1/06 OS installation, the installer runs in 32-bit mode. Because of this, the virtual memory available is reduced. The InfiniBand Host Channel Adapter (IB-HCA) card by Mellanox typically uses 256 Mb or more of virtual memory for each card installed on the system. If multiple IB-HCA cards are installed, the system might not have enough virtual memory and the installation might hang.

### *Workaround*

Remove the IB-HCA cards before installing Solaris 10 1/06 OS.

## Drives Moved From Two-Drive System to Four-Drive System Might Not Operate Correctly (6300178)

On systems that have two hard-disk drives, the drives in Slot 0 and Slot 1 are mapped to the OS as disk 2 and disk 3. Therefore, drives that are configured in Slot 0 or Slot 1 in systems with four hard-disk drives, and then moved into a two-disk system, might not operate correctly.

### *Workaround*

None.

## Solaris 10 3/05 x86 OS Patch Cluster Installation Required Before Installing Patches for Some Host Bus Adapters (6312352)

Certain patches for host bus adapters (HBAs), such as the Sun StorEdge Entry-Level Fibre Channel host bus adapter (QLA210), will not work without first installing a Solaris OS patch cluster on systems running Solaris 10 x86 OS and then rebooting the systems.

To install the patch cluster and the QLA210 patch:

- 1. Install the Solaris 10 3/05 operating system (if it is not already installed).**
- 2. Install the recommended patch cluster.**

For instructions on installing the patch cluster, see:

[http://patches.sun.com/clusters/10\\_x86\\_Recommended README](http://patches.sun.com/clusters/10_x86_Recommended README)

- 3. Install the recommended patch for the HBA.**

For example, to install the QLA210 patch (119131-xx):

- a. See the instructions at:**

<http://sunsolve.sun.com/pub-cgi/show.pl?target=patchpage>

- b. Enter 119131 in the PatchFinder text box.**

- 4. Reboot the system.**

## X Window Server Default is Xorg (6321043)

If for any reason you remove the pre-installed Solaris 10 image from the server and then install Solaris 10 OS software from a download or DVD, a kdmconfig screen prompts you to select the X Window server. For Sun Fire X4100 and Sun Fire X4200 servers, choose Xorg as the X Window server.

## Do Not Use raidctl Command in Solaris 10 3/05 OS (6228874)

The `raidctl` command enables you can manage the RAID controllers from the command line interface. However, because the `raidctl` command is not supported on Solaris 10 3/05, using the command might cause the system to panic.

### *Workaround*

A Solaris 10 3/05 patch (119851-13) that resolves this issue is available from the SunSolve download site.

If you do not have the latest Solaris 10 3/05 patch, use the MPT SCSI BIOS to create and manage the RAID volumes.

## Ignore Bootup Message: Method or service exit timed out (6297813)

If the input device and output device are set to the serial port (`ttya`), the following message might appear in the console during bootup:

```
svc:/system/power:default: Method or service exit timed out. Killing contract 17.
```

This message does not indicate a problem.

## Solaris 10 OS Installation From CD Media Hangs When the Second Disc is Inserted (6374024)

During Solaris 10 OS installation, Solaris might report that it cannot find the second CD even though the second CD is inserted.

### *Workaround*

This problem does not occur if you perform a net install. Solaris is then able to mount and read the CD images. You can also work around this problem by installing from DVD media rather than multiple CDs.

## AMD Erratum 131 Warning Message Can Be Safely Ignored During Solaris OS Startup (6438926, 6447850)

Solaris AMD x64 OS support includes a boot-time check for the presence of a BIOS workaround for the AMD Opteron Erratum 131. If the Solaris OS detects that the workaround for Erratum 131 is needed but it is not yet implemented, Solaris logs and displays the following warning message:

WARNING: BIOS microcode patch for AMD Athlon(tm) 64/Opteron(tm) processor erratum 131 was not detected; updating your system's BIOS to a version containing this microcode patch is HIGHLY recommended or erroneous system operation may occur.

### *Workaround*

The Sun Fire X4100 and Sun Fire X4200 BIOS implements a superset workaround that includes the workaround required for Erratum 131, so this warning message can be safely ignored.

---

# Sun Installation Assistant Issues

## RHEL4: Cannot Enable Security-Enhanced Linux (SELinux) (6288799)

The Sun Installation Assistant does not allow SELinux configuration during the installation of RHEL4. The GUI for the SELinux option is disabled during the installation of RHEL4 U1 with the Sun Installation Assistant CD.

### *Workaround*

To configure SELinux, run `system-config-securitylevel` after the installation.

## Incorrect MPT Driver Included in Sun Installation Assistant Base (6319680)

The Sun Installation Assistant will not work when a Sun StorEdge PCI single-channel card is installed. This is because the base code for the Sun Installation Assistant has the wrong driver. This affects only the Sun Installation Assistant—the drivers installed on the system are correct.

### *Workaround*

This issue has been resolved in the current version of the Sun Installation Assistant CD.

If you do not have the latest version, install the card after running the Sun Installation Assistant or do not use the Sun Installation Assistant. Check for the latest downloadable version at this URL:

<http://www.sun.com/servers/entry/x4100/downloads.jsp>

## Ignore Kudzu Messages After Installing RHEL3 or RHEL4 (6290559)

RHEL runs a hardware discoverer named Kudzu. After installing RHEL3 or RHEL 4 with the Sun Installation Assistant, Kudzu displays messages indicating that the Ethernet drivers need to be removed and added again.

The messages Kudzu displays are incorrect. The Ethernet drivers do not need to be changed. Click Ignore when you are prompted to change the hardware configuration.

## The ext3 File System Reports Errors After Red Hat Linux Installation Using Sun Installation Assistant CD (6336064)

When the Sun Installation Assistant CD is used to install Red Hat Linux, the ext3 file system might report incorrect disk space utilization and `file system full` errors. This is because the file system was not being unmounted correctly by the utility on the CD.

### *Workaround*

The problem has been fixed in the new version of the Sun Installation Assistant CD (version 1.1.6 or later) that is available on the Sun Download Center web site. Go to the following URL and click on Downloads.

<http://www.sun.com/servers/entry/x4100/index.html>

If you use the old version of the CD and you see these errors, correct the problem by entering the `tune2fs` command at a command line, and then reboot the server.

---

# Linux Operating System Issues

This section describes known problems and associated workarounds on Sun Fire X4100 and Sun Fire X4200 servers for RHEL operating system and the SLES.

## Hard-Disk Drive Display Omits Disk Listing At Installation When Multiple SCSI disks Are Attached to System on RHEL4 U4 (6447738)

The hard-disk drive display omits a disk listing during installation if there are many SCSI disks attached to a system. Not all disks are available during the installation.

In addition, the disk-drive display lists the wrong drive type after the installation.

### *Workaround*

None. However, to display the omitted hard-disk drive, use one of the following instructions:

- During installation, disconnect all external storage devices *except* those devices needed for disk initialization.
- Perform manual disk-initialization after you reboot the system, when all disks are available.

## Duplicate Devices Seen by Linux OS if External RAID Array Connects to Server Through Ultra320 SCSI (6220406)

If a RAID array is attached to the system using a Sun StorEdge PCI/PCI-X Single Ultra320 SCSI host bus adapter (Ultra320 SCSI), you might see the following if you enter the command, `fdisk -l`, depending on which Linux OS you are using:

- Duplicate devices for each logical unit number (LUN) in the array
- One device for multiple LUNs in the array

## List of Attached Hard-Disk Drives for the Pyramid (Qlogic) and Summit Option Cards is Not Displayed in Red Hat Linux (6460883)

Hard-disk drives for the Pyramid and Summit option cards are not displayed during installation or after the installation is complete on Red Hat Linux.

Exceptions: This behavior was not observed in RHEL4 U3 with a 64-bit processor.

### *Workaround*

Add a device keyword to the installer kickstart file:

```
device <scsi/eth> xyz_driver [options]
```

To display the omitted cards, enter the following command in a terminal window:

```
modprobe qla2400
```

The qla2400 refers to the HBA driver module that is included with this version of Red Hat Linux software.

After you choose and perform one of the workarounds, reboot the system and run the following command to confirm that the driver is loaded:

```
fdisk -l
```

## Graceful Shutdown Not Available on Non-ACPI Supported Linux OS (6278514)

Some Linux OSs, such as RHEL3, do not support the Advanced Configuration and Power Interface (ACPI), which allows a graceful shutdown. On systems running non-ACPI Linux operating systems, only a forceful shutdown is available.

# External Hard-Disk Drives Attached to Emulex HBA Are Not Recognized Because RHEL3 U8 Does Not Automatically Load Emulex Drivers (6447329, 6460769)

By design, external drives are never loaded automatically on RHEL3 U8.

## *Workaround*

There are two possible workarounds:

- Create a new initrd file that contains the XYZ driver:

1. Use either of the following to manually load the driver:

```
prompt> modprobe xyz_driver  
prompt> insmod <path_to_driver>/xyz_driver
```

2. Save a copy of the original initrd file:

```
prompt> cd /boot  
prompt> cp initrd-<kernel-version>.img initrd-<kernel-version>.img_SAVED
```

3. Create a new initrd file:

```
prompt> mkinitrd -f initrd-<kernel-version>.img <kernel-version>
```

When the system is rebooted the driver will be loaded automatically.

---

**Note** – You might have to modify the initrd file entry in the grub.conf file to reflect the initrd file name change. However, be sure to keep an unmodified kernel entry for the initrd file in the grub.conf file just in case.

---

- Add a device keyword to the kickstart file:

```
device <scsi/eth> xyz_driver [options]
```

After you choose and perform one of the workarounds, reboot the system and run the following command to confirm that the driver is loaded:

```
fdisk -l
```

# Base Versions of Linux Distributions Shipped By Sun Must Be Upgraded to Receive Full Sun Support

The RHEL3, RHEL4, and SLES9 CDs that you can purchase from Sun are the base (initial-release) versions of those operating systems (OSs) and are not the latest updated versions of those OS's. Although Sun will support customers to help them install these base versions from the shipped media, customers are expected to immediately upgrade to RHEL3 U6, RHEL4 U3, and SLES9 SP2 to get full Sun support for servers running those OS's.

- If you download these Linux OS's from the manufacturer's web site, you will get the latest distribution, with no upgrades necessary.
- If you purchased one of these Linux OS's from Sun, do the following:

- 1. Go to Sun's download site for these platforms and download the latest Sun Installation Assistant software. The latest version, 1.1.6, is designed to support installation of the base versions of the Linux OS's.**
- 2. Burn the new SIA software to CD.**
- 3. Use the new SIA CD you burned to install the version of the OS that you received from Sun.**

Refer to the *Sun Fire X4100 and Sun Fire X4200 servers Operating System Installation Guide* for detailed instructions.

- 4. Immediately download the latest update or patches from the Linux manufacturers's web site and install them.**

Refer to the *Sun Fire X4100 and Sun Fire X4200 servers Operating System Installation Guide* for detailed instructions.

# Unloading QLogic Drivers Might Be Necessary Before Installing Updated Drivers (6312342, 6314923)

When installing the updated QLogic drivers for the QLA210 or QLA2342 option cards, you must manually unload the current drivers or the installation will fail. The modprobe -rv command does not work with these drivers.

## *Workaround*

1. To check for existing QLA drivers, enter the following command:

```
# lsmod | grep qla
```

The output should look like this:

```
qla6322          129536  0
qla2xxx_conf     310536  1
qla2xxx          226960  1 qla6322
scsi_transport_fc 16384   1 qla2xxx
scsi_mod         140800   8
usb_storage,st,sr_mod,sg,qla2xxx,scsi_transport_
fc,mptscsih,sd_mod
```

2. Unload the drivers as shown in the following example:

```
# rmmod qla6322
# rmmod qla2xxx
```

3. Load the updated QLA drivers.

# Translation Look-Aside Buffer (TLB) Reload Causes Errors With Certain Linux Software (6296473)

---

**Note** – We recommend that RHEL3 users install the most recent OS update on the server to alleviate this issue. (At the time of printing, the most recent update is RHEL4 U1.)

---

The BIOS Advanced menu (CPU Configuration menu), in the BIOS Setup utility, contains an option named “Speculative TLB Reload.” By default, this setting is enabled, which allows TLB reload.

With this default setting, you might see errors similar to the following on systems running any 64-bit version of RHEL or SLES with Service Pack 1.

```
Northbridge status a60000010005001b
GART error 11
Lost an northbridge error
NB status: unrecoverable
NB error address 0000000037ff07f8
Error uncorrected
```

## *Workaround*

To avoid these errors, disable TLB reloading:

1. Reboot the server and press F2 to enter the BIOS Setup utility.
2. Go to the Advanced -> CPU Configuration menu.
3. Use the arrow keys to highlight the Speculative TLB Reload option, and change its setting to Disabled.

This disables TLB reloading.

4. Save your changes and exit the utility.

## AMD PowerNow! Might Cause System Clock to Lose Ticks (6298500, 6281771)

The AMD PowerNow! feature is disabled in the BIOS by default. Before enabling it, verify that your operating system and applications support the PowerNow! feature.

The PowerNow! feature changes CPU clock rates. A loss of timer ticks has been observed while running recent Linux SMP kernels when PowerNow! is enabled. This loss of timer ticks might result in timing errors in the kernel and in user applications. Symptoms might include timers that prematurely time out and the time of day clock appearing to behave erratically.

### *Workaround*

Disable the PowerNow! feature by using the BIOS Setup utility. The menu path to the feature's screen is Main -> Advanced -> AMD PowerNow Configuration.

## RHEL3: I/O Errors Are Displayed When Initializing USB Mass Storage Device (6241851)

RHEL3 displays many I/O errors when a USB device is being initialized. The USB mass storage driver uses the SCSI subsystem to access the device. When a USB mass storage device is attached, the driver attempts to identify it as a SCSI device. The I/O errors displayed are a result of this initialization probe. The I/O errors can be ignored, and the USB device should work properly once it is initialized. This problem and its workaround are documented at:

[https://bugzilla.redhat.com/bugzilla/show\\_bug.cgi?id=156831](https://bugzilla.redhat.com/bugzilla/show_bug.cgi?id=156831).

## RHEL3: Kernel Might Report Incorrect CPU Information on Dual Core Processors (6241701)

When two dual core processors are installed on a Sun Fire X4200 server, the RHEL3 kernel might report four of the hyperthreaded CPUs with the same physical ID of 0. Instead, the IDs should be 0 and 1 for each CPU.

## RHEL3 U5 (64-bit): Ignore Keyboard reset failed Message (6306118)

If the USB keyboard is connected to either the front or back USB port, the system running RHEL3 U5 (64-bit) always shows the following error message in the "dmesg" after the reboot.

```
initialize_kbd: Keyboard reset failed, no ACK
```

This message does not indicate a problem.

## Infinite Reboot Loop Cycle in RHEL4 U3 With smp Kernel, BIOS 31/34/36, and Single Dual-Core CPU (6466105)

SunFire X4200 servers running on RHEL4 U3 with BIOS 31, 34, or 36, an `smp` kernel, and single dual-core CPUs, might fall into an infinite reboot loop.

*Workaround.*

Use RHEL4 U1 instead of RHEL4 U3. This fix is planned for a future release.

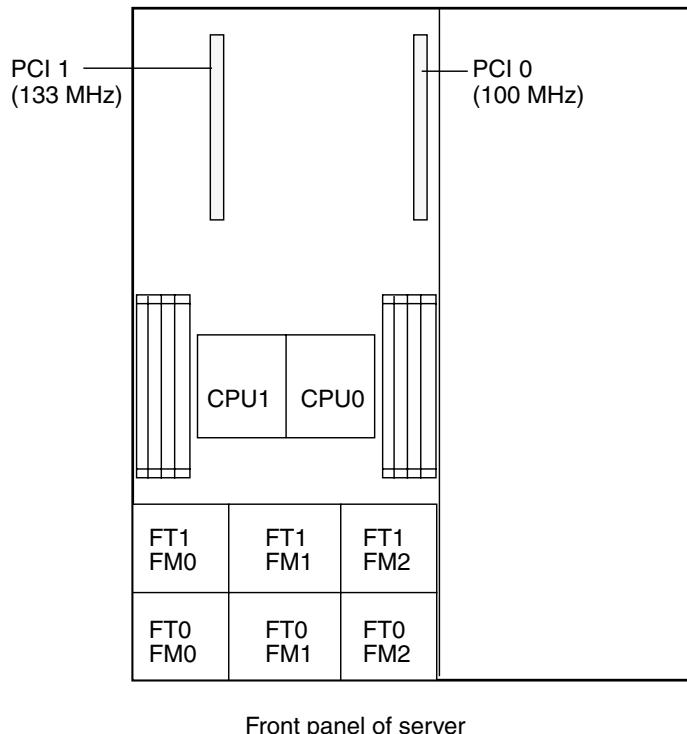
## RHEL3 U7 32-Bit Installation Might Hang when any PCI Card is in a PCI Slot Other than PCI 0 (6402552, 6404116, 6404134, 6404944, 6407997)

When installing RHEL3 U7 32-bit on Sun Fire X4100 or Sun Fire X4200 servers that have a PCI card installed in any slot other than PCI 0, installation might hang. This problem is not observed when installing RHEL3 U7 64-bit.

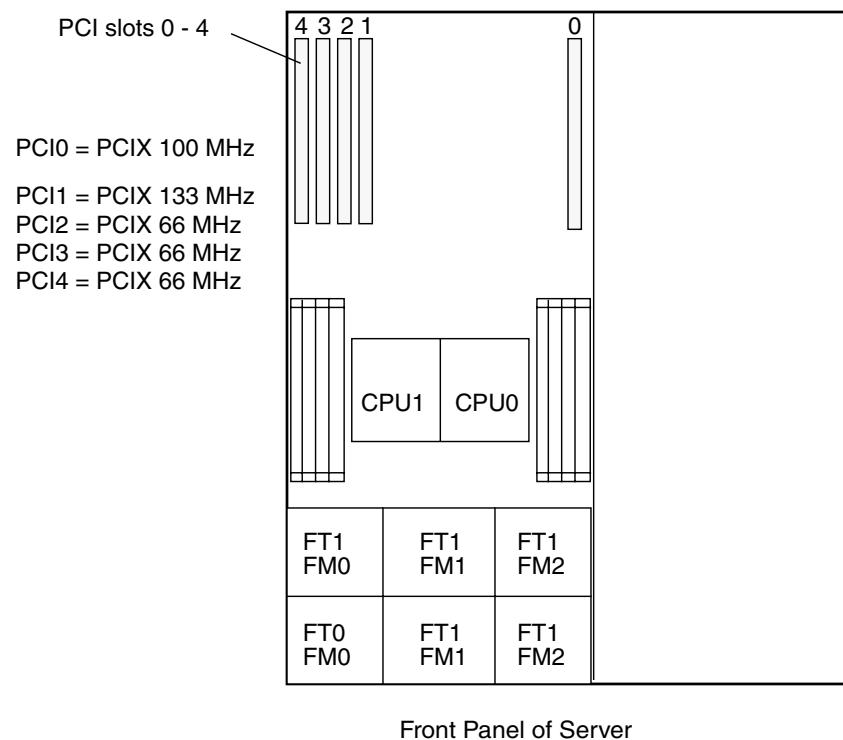
See [FIGURE 1](#) or [FIGURE 2](#) for the location of the PCI slots.

### *Workaround*

Use RHEL3 U8 32-bit if you have a PCI card installed in any PCI slot other than PCI 0. (This limitation was fixed in Update 8).



**FIGURE 1** Sun Fire X4100 Designation and Speeds of PCI Slots



Front Panel of Server

**FIGURE 2** Sun Fire X4200 Designation and Speeds of PCI Slots

## Cannot Access External Storage Attached to Emulex and Qlogic HBA Cards During RHEL3 U8 Installation (6447329)

If you have Emulex and QLogic HBA cards installed in your server, you might not be able to access external storage during RHEL3 U8 installation because the installer software does not load the appropriate kernel modules automatically. You therefore cannot perform setup and initialization of any external storage devices that are connected to those HBA cards during RHEL3 U8 installation (for example, disk formatting or RAID set up).

### *Workaround*

Perform the required hard-disk drive configuration manually after the operating system is installed on the local disks. If you use the KickStart automated installation, it is possible to force the installer to load a specific driver with the `device` and `deviceprobe` command. Refer to the Red Hat KickStart documentation for instructions.

## RHEL3 U8 Installer Might Have Problems Installing to a Hard-Disk Drive That Contains Solaris Partitions (6415176)

The RHEL3 U8 installer is known to have problems when trying to install the operating system to hard-disk drives that already contain Solaris partitions.

### *Workaround*

It is recommended that you erase existing Solaris disk partition tables before attempting to install RHEL3 U8.

## Cannot Install RHEL4 U3 (32-Bit) to Sun Fire X4200 if QLogic PCI Card is Already Installed in PCI Slots 1, 3, or 4 (6437504)

If your Sun Fire X4200 server has a QLogic PCI card installed in PCI slots 1, 3, or 4 and you then try to install RHEL4 U3 (32-bit), installation fails at the time the anaconda script starts. There are no other warning or error messages. See [FIGURE 2](#) for the PCI slot locations.

### *Workaround*

This failure does not occur if the QLogic card is installed in PCI slots 0 or 2. Failures do not occur if a QLogic card is installed in PCI slots 1, 3, or 4 *after* RHEL4 U3 (32-bit) is installed. The Kudzu utility finds and properly configures the card and the system operates as expected.

## Server Might Reboot Sun Fire X4100 Server when MTU is Set to 9K on Kirkwood Interface (6335741)

The Sun Fire X4100 server might spontaneously reboot when running network traffic over the Kirkwood interface, in a Linux environment. This problem has only been observed when the MTU is set to 9K.

### *Workaround*

None.

## SLES9 64-Bit: Incorrect CPU Speeds Reported When PowerNow! is Enabled (6287519)

On systems running SLES9, incorrect CPU speeds might be reported in /proc/cpuinfo when the PowerNow! option is enabled. The maximum speed may not be reported.

### *Workaround*

Disable the PowerNow! feature by using the BIOS Setup utility. The menu path to the feature's screen is Main -> Advanced -> AMD PowerNow Configuration.

## SLES9 SP1: Multipath Driver Does Not Work After Reboot (6332988)

SLES9 SP1 multipath driver (mdadm) does not work after a reboot of the host.

### *Workaround*

None.

## SLES9 SP2 Update Does Not Work If SLES9 Already Installed (6343559)

The yast CD update method does not work to update SLES9 base to SLES9 SP2. The error message, corrupt kernel, is reported. The problem is that the driver modules are not loaded during the system boot.

### *Workaround*

Installation of SLES9 SP2 works if the SLES9 base is not installed. Start the installation with SLES9 SP2, rather than SLES9 base.

# SLES9 64-Bit: System Does Not Boot With Supported HBA Card Plugged Into Slot 0 (6307424)

On systems running SLES9, if a host bus adapter (HBA) card is plugged in to Slot 0, you might not be able to boot the system. This is because SLES9 enumerates IDE and SCSI devices in scan order, and the BIOS scans PCI devices in ascending order. The scanning priority is:

1. NIC
2. Slot 0
3. SAS
4. Slot 2
5. Slot 3
6. Slot 4
7. Slot 1

If there is only one drive in the system, it is enumerated as /dev/sda. If an external device is later connected to an HBA card in Slot 0, the device will be enumerated as /dev/sda and the internal device will be enumerated as /dev/sdb. However, the SLES9 boot device points to /dev/sda, which is an external device without the OS, and the system cannot boot.

The problem does not occur if the HBA card is plugged in to Slots 1-4, since these slots are scanned later than the on-board SLI controller. This problem is not specific to the server or the HBA card.

## *Workaround*

Plug the supported HBA card in to Slots 1-4, and then reboot the system. Also, follow these general guidelines:

- Do not move SCSI drives around.
- Do not change bus connections for IDE drives.
- Have a rescue disk ready in case these guidelines are not followed, as you might need to run `grub` or `vi /etc/fstab` afterwards.

---

## Windows Server 2003 Operating System Issues

### Bootup Time Affected by Degraded RAID Volume (6297804)

The bootup time for Windows Server 2003 could be significant (20 minutes or so) if there is a defective disk in the RAID array. Both Windows and firmware retries contribute to the time delay. The defective disk might be recognized by the controller under SAS Topology, but not under RAID Properties.

### OS Cannot Be Installed on LSI RAID Array if RAID is Not Recognized as First Storage Device (6297723)

Windows Server 2003 requires that you use the first storage or the existing partition for installation. You cannot install Windows Server 2003 onto an on-board LSI RAID array if:

- The array is not recognized by Windows as the first storage device.
- There is another existing partition on disks other than the RAID storage.

### No Output Displayed on Java Remote Console After Issuing Restart Command (6301444)

If you reset the system using the Restart command (Special Administrative Console -> Restart), then reboot, you might not see output displayed in the Java Remote Console. BIOS messages are displayed in the host serial console, but not in the Java Remote Console.

#### *Workaround*

Restart the system again to clear this problem.

## OS Installation on External Disks Requires Partition on Internal Disk (6238985)

Before you install Windows Server 2003 on any external device, you must create a partition on an internal disk for the setup files. A partition is not required if you install Windows Server 2003 on an internal disk.

## Alert and Power Failure LEDs Might Illuminate If AMD PowerNow! Feature is Enabled (6310814)

The AMD PowerNow! feature is disabled in the BIOS by default. Before enabling it, verify that your operating system and applications support the PowerNow! feature.

If you enable PowerNow! in a Windows Server 2003 environment, you might see a loss of timer ticks and a decrease in CPU voltage, resulting in alert and power failure LEDs illuminating.

### *Workaround*

Disable the PowerNow! feature by using the BIOS Setup utility. The menu path to the feature's screen is Main -> Advanced -> AMD PowerNow Configuration.

## Windows Server 2003: Graceful Shutdown and Power Off Fails (6293118)

If a system running Windows Server 2003 OS is in screen lock state and you try to turn off the system remotely using the "Graceful shutdown and power off" option (Remote Control -> Remote Power Control), the shutdown does not occur and the service processor issues the following error:

```
ChassisCtrl.c : Invalid Chassis task parameter
```

Windows Server 2003 allows a graceful shutdown only if you are logged in as Administrator. This is expected Windows Server 2003 behavior.

### *Workaround*

Use the Java Remote Console to log in as Administrator and issue a graceful shutdown.

## Do Not Use Backup or Restore Functionality in LSI MyStorage (6456252)

The Backup/Restore functionality will cause the CD-disk drives to become unavailable and the LSI controller firmware will need to be reloaded.

### *Workaround*

Do not use the Backup/Restore functionality. The version of the LSI MyStorage application on the Tools and Drivers CD has the Backup/Restore functionality disabled.

## Systems with Under 4 GB Memory Fail to Resume from Hibernation when Running Windows Server 2003 with BIOS 34 (6457304)

Hibernation is disabled by default in the InstallPack.exe for Sun Fire X4100 and Sun Fire X4200 servers, but it can be enabled by the user with the Windows Control Panel Power Options settings.

If a server with BIOS 34 enters the S4 Hibernation state, and it has less than 4 GB of available memory, the server might fail to resume from Hibernation. It will instead attempt to reboot, but hang with a blue-screen crash.

---

**Note –** The software memory hole feature is disabled by default in the BIOS. When it is disabled, even if you have 4 GB of memory installed, the system effectively has less than 4 GB of available memory. If you enable the software memory hole feature, 4 GB of installed memory gives 4 GB of available memory. You can enable the software memory hole feature in the BIOS Configuration Utility (Chipset menu -> Memory Configuration screen).

---

### *Workaround*

Do not enable Hibernation if your server has less than 4 GB available memory.

## Windows Utility `mkfloppy.exe` Does Not Select Correct Floppy Drive if More Than One Floppy Drive is Present

The `mkfloppy.exe` utility that is included in `FloppyPack.zip` can be run on any Windows system; it is used to create the Mass Storage Driver floppy that is used during Windows Server 2003 installation.

However, if there is more than one floppy drive present in the system (including USB-attached floppy drives), `mkfloppy.exe` does not select the correct floppy drive.

### *Workaround*

Ensure that the system has only one floppy drive present when using `mkfloppy.exe`.

---

# Sun VTS Bootable Diagnostics CD Issues

## SunVTS ramtest Might Cause System to Reboot When Testing More Than Seven Hours (6369893)

A memory test under exclusive mode in SunVTS (version 6.1 and earlier), `ramtest`, exercises a corner case that does not follow AMD programming guidelines. Therefore, on early Sun Fire X4100 or Sun Fire X4200 servers, `ramtest` might cause the system to reboot after an extended test run of more than seven hours. Sun Fire X4100 and Sun Fire X4200 systems running software that follows AMD programming guidelines, which most compilers generate, will function properly.

### *Workaround*

This problem is fixed in Sun VTS version 6.1sp1 and later. To get the latest version of SunVTS, you can download it from this URL:

<http://www.sun.com/oem/products/vts/>

If you have SunVTS version 6.1 or earlier, SunVTS `pmemtest` and `vmemtest` are suitable memory diagnostics for extended test runs. When performing test runs of more than seven hours, use `pmemtest` or `vmemtest`, rather than `ramtest`.

## Meter Button in Bootable Diagnostics CD, Version 2.1f Does Not Work (6465167)

SunVTS 6.2 Graphical User Interface (GUI), shipped on the Bootable Diagnostics CD, Version 2.1f, has a Meter button. This Meter button does not work because it requires the Solaris `stdperformer` utility, which is not available for bootable diagnostics.

## Ignore Messages When Booting from Sun VTS Bootable Diagnostics CD .iso Image, Version 2.1f (CR 6470488)

If you boot from the SunVTS Bootable Diagnostics CD .iso image, version 2.1f, through a virtual CD-ROM or on some CD-ROM models, you might see the following messages. These messages are harmless and can be ignored:

```
Sep  7 03:49:11  scsi: [ID 107833 kern.warning] WARNING:  
/pci@0,0/pci1022,7460@6/pci1022,7464@0,1/storage@1/disk@0,0  (sd0):  
Sep  7 03:49:11          Error for Command: read(10)          Error  
Level: Fatal  
Sep  7 03:49:11  scsi: [ID 107833 kern.notice]  Requested Block:  
109118          Error Block: 109118  
Sep  7 03:49:11  scsi: [ID 107833 kern.notice]  Vendor:  
AMI          Serial Number:  
Sep  7 03:49:11  scsi: [ID 107833 kern.notice]  Sense Key: Media Error  
Sep  7 03:49:11  scsi: [ID 107833 kern.notice]  ASC: 0x11 (unrecovered  
read error), ASCQ: 0x0, FRU: 0x0
```

### *Workaround*

None.



# Hardware Issues

---

This describes hardware issues related to the Sun Fire X4100 and Sun Fire X4200 servers, and includes these topics:

- ["Miscellaneous Issues" on page 58](#)
  - ["Preventative Maintenance Issue" on page 62](#)
  - ["Hard-Disk Drive \(HDD\) Issues" on page 62](#)
- 

**Note** – If an issue statement does not specify a particular platform, the issue applies to all platforms.

---

## Miscellaneous Issues

### Qualified DC Power Supplies for Sun Fire X4100 and Sun Fire X4200 Servers

DC power supplies can be ordered as a factory installed option, or they can be ordered and used to replace existing AC power supplies in the field.



**Caution** – It is a violation of UL rules to add a DC power supply into a chassis that does not have the DC label indicating the correct safety information. (There is no functional difference that would prevent this, aside from the DC label.)



**Caution** – Do not mix AC and DC power supplies in the same server.

Use the following option number (X-option) to order the factory-installed option:  
X8051A-Z

Use the following FRU number to order individual power supplies with cables:  
FRU number: 300-2006-01

### AMD PowerNow! Feature Supported Only on Qualified CPUs

Support for AMD's PowerNow! feature is added with the Release 1.2 firmware and BIOS upgrade. At this time, only certain CPUs have been qualified by Sun in the Sun Fire X4100 or Sun Fire X4200 servers:

- AMD 252 (2.6 GHz) Opteron single-core CPU
- AMD 280 (2.4 GHz) Opteron dual-core CPU
- AMD 280 SE (2.4 GHz) Opteron dual-core CPU

## Non-Recommended Optical Mouse Devices and Keyboards (6299692, 6317710, 6304725)

The following Sun optical mouse devices are not recommended for use on the Sun Fire X4100 or Sun Fire X4200 servers:

- Type 5c
- Type 6c

The following two keyboards are not recommended for use on the front bottom USB port on the Sun Fire X4200 server.

- Microsoft Digital Media Pro keyboard (this issue, 6304725, is fixed for this keyboard in Release 1.1, and it can be used in systems with the Release 1.1 upgrade).
- Belkin keyboard.

## Support for New 4-GB DIMMs Requires Gasket Installation and Upgrade to BIOS 36

---

**Note** – If you are installing 4-GB DIMMs to a Sun Fire X4100 or Sun Fire X4200 server that did not previously have 4-GB DIMMs installed, you must first have BIOS 36 or later installed. BIOS 36 was included with Software Release 1.2.1. Refer to the *Sun Fire X4100 and Sun Fire X4200 Servers Release Notes For Software Release 1.2.1*, 819-4344.

---



---

**Caution** – If you install 4-GB DIMMs in a Sun Fire X4100 or Sun Fire X4200 server that did not previously have 4 GB DIMMs, you must install gaskets on the main cover to ensure containment of electrical emissions.

---

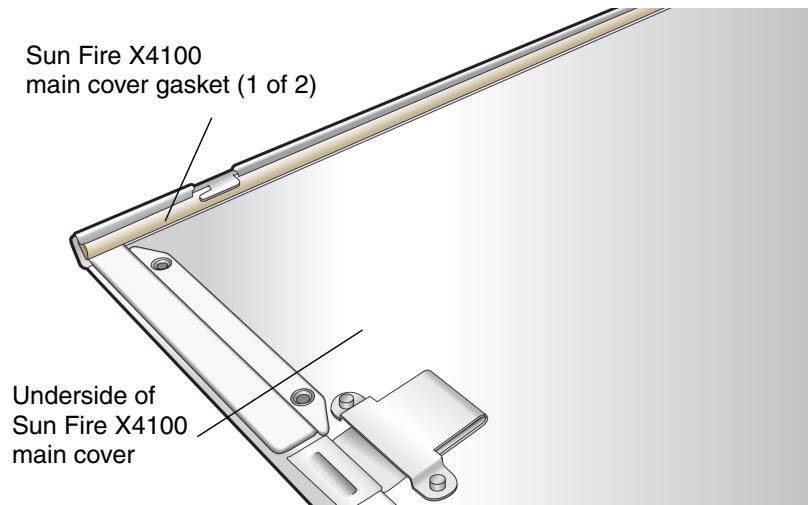
Use the following procedure to install the 4-GB DIMMs and gaskets.

1. Ensure that the DIMM slot ejectors at each end of the memory socket are fully open (rotated outward) to accept the new DIMM.
2. Align the notch in the bottom edge of the DIMM with the key in the DIMM socket.
3. Press down evenly on both top corners of the DIMM until the ejectors snap over the cutouts in the left and right edges of the DIMM.

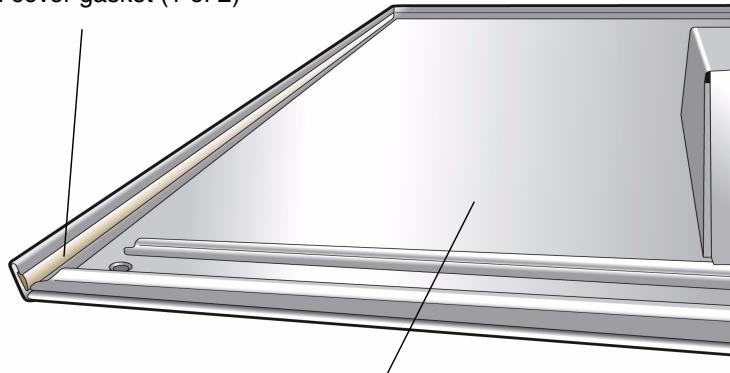
4. If you installed 4-GB DIMMs to a server that did not previously have 4 GB DIMMs installed, do one of the following:

  - If you have a Sun Fire X4200 server, skip to [Step c](#).
  - If you have a Sun Fire X4100 server, you must replace existing gaskets. Continue with [Step a](#).
- a. Remove the existing gaskets from the underside of the main cover. See [FIGURE 3](#) for the location.
- b. Remove any adhesive left from the old gaskets by cleaning the areas with isopropyl alcohol.
- c. Remove the backing strip from the adhesive on one of the new gaskets.
- d. Set the new gasket in place, being careful to align the end of the gasket with the front edge of the main cover. See [FIGURE 3](#).
- e. Press down on the gasket to remove any trapped air and secure it firmly to the main cover.

f. Install the remaining gasket on the main cover.



Sun Fire X4200  
main cover gasket (1 of 2)



Underside of Sun Fire X4200 main cover

**FIGURE 3** Location of Main Cover Gasket

---

## Preventative Maintenance Issue

### Heatsinks and Fans Can Become Clogged

System cooling might be affected by dust and contaminant build-up. Therefore, you should open and check systems approximately every six months (or more often in dirty operating environments). Check system heatsinks, fans, and air openings. If necessary, clean systems by carefully brushing, blowing, or vacuuming contaminants from the system.

---

### Hard-Disk Drive (HDD) Issues

#### Do not Mix HDD Capacities When Using RAID

You cannot use RAID if your Sun Fire X4100 or Sun Fire X4200 server contains hard-disk drives with differing capacities (for example, a 36-GB drive in the same server with a 73-GB drive).

---

**Note –** You *can* mix drives with differing capacities if you are not using RAID.

---

#### *Workaround*

None. This is expected behavior.

## HDD LEDs Bleed Through to Adjacent LEDs (6286872)

### *Issue*

When the HDD activity LED is blinking, it can appear that the adjacent fault LED is blinking.

### *Analysis*

This issue is caused by interconnection of the LED light-pipes.

### *Workaround*

A redesign of the LED light pipes was implemented on servers shipping after January 2006 to fix this problem.



# Documentation Issues

---

## Documentation Titles Changed

In the current documentation release, several of the document titles were changed to comply with corporate titling guidelines. The following table describes differences in the current documentation set. See the documentation set at this URL:

[http://www.sun.com/products-n-solutions/hardware/docs/Servers/x64\\_servers/x4100/index.html](http://www.sun.com/products-n-solutions/hardware/docs/Servers/x64_servers/x4100/index.html)

Doc Part Number	Old Doc Title	New Doc Title
819-1155	Sun Fire X4100 and Sun Fire X4200 Servers Setup Guide	Sun Fire X4100 and Sun Fire X4200 Servers Installation Guide
819-1157	Sun Fire X4100 and Sun Fire X4200 Servers Setup and Maintenance Guide	Sun Fire X4100 and Sun Fire X4200 Servers Service Manual
819-1160	Sun Fire X4100 and Sun Fire X4200 Servers System Management Guide	Integrated Lights-Out Manager (ILOM) Administration Guide
819-5464	New	ILOM Supplement for Sun Fire X4100 and Sun Fire X4200 Servers
819-1162	Sun Fire X4100 and Sun Fire X4200 Servers Release Notes	Sun Fire X4100 and Sun Fire X4200 Servers Product Notes
819-3284	Sun Fire X4100 and Sun Fire X4200 Servers Troubleshooting Guide	Sun Fire X4100 and Sun Fire X4200 Servers Diagnostics Guide
819-4153	Sun Fire X4100 and Sun Fire X4200 Servers Guide for Preinstalled Solaris 10 Operating System	Deleted. The content of this book is now in 819-1155, Sun Fire X4100 and Sun Fire X4200 Servers Installation Guide.
819-4346	New. Contains content that was previously in the Sun Fire X4100 and Sun Fire X4200 Servers Operating Installation Guide 819-1158.	Sun Fire X4000 Series Servers Windows Operating System Installation Guide



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