Sun Fire™ X4600 Server Product Notes

Sun Microsystems, Inc.
www.sun.com

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Contents

Preface

This document describes issues for the Sun Fire™ X4600 server.

Issues include information that you should know about, such as prerequisites, tips, troubleshooting hints, and change requests. Change requests have tracking numbers shown in parentheses. For updates on change requests and for patches, see the SunSolve℠ web site at http://sunsolve.sun.com.

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.

Product Updates

For product updates that you can download for the Sun Fire X4600 server, go to the following URL and navigate to the page for this product:
http://www.sun.com/servers

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

Related Documentation

For a description of the document set for the Sun Fire X4600 server, see the *Where To Find Documentation* sheet that is packed with your system and also posted at the product's documentation web page:

http://docs.sun.com/app/docs/coll/x4600

Translated versions of some of these documents are available in French, Simplified Chinese, Traditional Chinese, Korean, and Japanese.

http://docs.sun.com/app/docs/coll/x4600-fr?l=fr
http://docs.sun.com/app/docs/coll/x4600-zh?l=zh
http://docs.sun.com/app/docs/coll/x4600-zh_TW?l=zh_TW
http://docs.sun.com/app/docs/coll/x4600-ko?l=ko
http://docs.sun.com/app/docs/coll/x4600-ja?l=ja

English documentation is revised more frequently and might be more up-to-date than the translated documentation.

For all Sun software and hardware manuals, go to:

http://docs.sun.com

For other documentation, go to:

http://www.sun.com/documentation

Typographic Conventions

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

* The settings for your browser might differ from these settings.

Contacting Sun Technical Support

If you have technical questions about the server 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:

- A description of the problem, including the situation where the problem occurs and its impact on your operation
- The 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 Welcomes Your Comments

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http://www.sun.com/secure/products-n-solutions/hardware/docs/feedback/

Please include the title and part number of your document with your feedback:

Sun Fire X4600 Server Product Notes, part number 819-4347-19

CHAPTER 1

Introduction

This chapter provides a brief summary of software available on your server and other features.

Software

The following software is included with every Sun Fire X4600 server:

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. The Solaris OS is preinstalled on your server.

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. The Sun Java ES is preloaded on your server.

Online documentation for Java ES can be found at:

http://docs.sun.com/documentation

Sun xVM Ops Center

Sun xVM Ops Center is a highly scalable, unified management platform for physical and virtual environments. Use Sun xVM Ops Center to manage multi-platform x64 and SPARC systems distributed throughout a global datacenter and integrate with existing toolsets. Ready to facilitate many aspects compliance reporting (ITIL) and data center automation, Sun xVM Ops Center enables management of thousands of systems simultaneously.

MegaRAID Storage Manager

MegaRAID Storage Manager (MSM) configuration setup application enables you to configure, monitor, and maintain storage configurations on SAS106x Integrated RAID controllers. The graphical user interface (GUI) makes it easy for you to create and manage storage configurations. The application is available on the Tools and Drivers CD or the Tools and Drivers CD image on the product download site.

MSM enables you to easily configure the controllers, disk drives, and virtual disks on your system. The Configuration Wizard greatly simplifies the process of creating disk groups and virtual disks. The Configuration Wizard guides you through several simple steps to create your storage configurations.

For more information on MSM, see the *X64 Servers Utilities Reference Manual*, which is on the product documentation web site.

The Sun Fire X4600 server supports MSM on the Windows 2003 Server OS and on Linux.

LSI SNMP Utility

The LSI (SAS-IR) SNMP utility is used over SAS connections to monitor MSM-IR activity from a remote station for Windows Server 2003 systems. It is available on the Tools and Drivers CD or the Tools and Drivers CD image on the product download site.

For more information on LSI SNMP utility, see the *X64 Servers Utilities Reference Manual*, which is on the product documentation web site.

The Sun Fire X4600 server support LSI SNMP utility on the Windows 2003 Server OS.

Diagnosing Server Problems With the Bootable Diagnostics CD-ROM

The server is shipped with a bootable diagnostics CD-ROM. 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.

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

CHAPTER 1

Firmware and BIOS Issues

This chapter describes the LSI firmware, Sun Integrated Lights Out Manager (ILOM) service processor (SP), and BIOS issues related to the Sun Fire X4600 server. The numbers given in the section titles are internal tracking numbers for change requests related to the issues.

This chapter includes the following topics:

Service Processor Issues

Current Issues

SunCFG ILOM Options Cause System to Hang (6604690)

In Software 1.3, using any SunCFG with any ILOM options causes the system to hang. There is no workaround.

Service Processor Does Not Log Event or Provide Visual Alert After Hard Disk Is 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 because the service processor does not receive events from the LSI SAS controller when a disk drive is hot-plugged and visual alerts do not occur.

Workaround

None. This is expected behavior.

Recovery For Accidentally Flashing Wrong Platform Firmware on Sun Fire X4600 Server

There is no version checking from the Sun Fire X4600 firmware, so it is possible to flash the wrong platform firmware onto the server. If you do this, the server will not reboot at the end of the process.

Verify the server hardware version with the following command:

ipmitool -H *SP_IP_address* **-U** *username* **-P** *password* **fru**

The command returns output similar to the following:

```
FRU Device Description : p0.card.fru (ID 10)
Board Product         : ASSY,CPU BOARD,X4600 M2
Board Serial          : 002555
Board Part Number     : 501-7321-03
Board Extra           : 01
Board Extra           : G4_F_CPU
```

If the `Board Product` field lists something other than `ASSY,CPU BOARD,X4600`, then you have flashed a wrong firmware image by mistake on X4600. For example if it lists `ASSY,CPU BOARD,X4600 M2`, you have accidentally flashed the Sun Fire X4600 M2 firmware onto the Sun Fire X4600.

Recovery Steps

The system will not reboot, but the service processor is still functional so that you can return to the Sun Fire X4600 firmware. Use the following procedure:

1. **Download and flash the server to the latest version of the Sun Fire X4600 firmware.**

   At the end of the flash process, the following message might be displayed, which indicates that you are changing to a different platform firmware.

   ```
   Firmware image verification is complete.
   Image compatibility check is complete.
   Image is not compatible with this target.
   If incompatibility is caused by hardware replacement, type "y" to
   continue.
   If unsure type "n".
   Do you wish to continue ([n]/y)?
   Type y at this prompt to continue.
   ```

2. **Type `y` at the prompt to continue.**

3. **Reboot the server.**

4. **Verify the server hardware version with the following command:**

   `ipmitool -H` *SP_IP_address* **`-U`** *username>* **`-P`** *password* **`fru`**

   ```
   FRU Device Description : p0.card.fru (ID 10)
   Board Product : ASSY,CPU BOARD,X4600
   Board Serial : 002555
   Board Part Number : 501-7321-03
   Board Extra : 01
   Board Extra : G4_CPU
   ```

The `Board Extra` field should list `G4_CPU`, and the `Board Product` field should list `ASSY,CPU BOARD,X4600`.

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

Some MIBs Not Handled (6255301)

The SNMP agent does not 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.

Restart Web Browser or Remove Cookies When Downgrading from ILOM SW 1.1.1 to SW 1.0 (6477949)

After a downgrade, you might not be able to login to the ILOM web interface. This problem occurs because the web interface for ILOM in Software 1.0 does not understand browser cookies generated for ILOM in Software 1.1.1.

Workaround

Remove the ILOM web cookie. The easiest way to do this is to restart the web browser.

Resolved Issues

Unable to Set Multiple Properties in a Single Command (6554513)

(Fixed in Software 1.3.)

The ILOM CLI sometimes reports an internal error for a command that attempts to set multiple properties.

Workaround

Set properties one at a time.a

System Powers Off During Reboot After Thermal Shutdown (6494327)

(Fixed in Software 1.3.)

If overheating forces a system shutdown, the system might power off during reboot.

Workaround

After a thermal shutdown, be sure to give the system enough time to cool off (up to 30 minutes). If the system still powers down, power it back up. It might take 2 or 3 tries to reboot.

CLI Cannot Set ntp Server Address to Some IP Addresses (6543859)

(Fixed in Software 1.3.)

The ILOM CLI cannot set the ntp server address to an IP address with a 0 as the second or third octet, such as 10.13.0.20 or 10.0.60.20. These addresses are rejected as invalid.

Workaround

Use the WebGUI to set the ntp server address.o

Cannot Set Syslog IP Address When Zeros Are Used (6547470)

(Fixed in Software 1.3.)

An attempt to set the syslog IP address fails if the address contains an octet of 0. For example, 10.10.10.10 and 100.100.100.100 works, while 19.52.0.17 does not work.d

Wrong DIMM Fault LEDs Might Light After DIMM Error (6403209)

(Fixed in Software 1.2.)

The DIMM fault LEDs are designed to light the ejector levers of the paired DIMM slots that contain a faulty DIMM. However, because the DIMM failure event is not being correctly interpreted in the code that turns on the DIMM fault LED at this time, the wrong DIMM fault LEDs might be lit.

Workaround

Do not rely on the DIMM fault LEDs to isolate a faulty DIMM; use IPMItool instead.

ILOM CLI Queries of Blinking LEDs Return Asserted or Deasserted State As LED Blinks On and Off (6417946)

(Fixed in Software 1.2.)

Some LEDs on the system have a blinking state, for example, the Locate LEDs. ILOM query commands entered through the CLI report the LED state as either asserted or deasserted, depending on whether the ILOM finds the blinking LED on or off. For example, if you type the `show /SYS` command multiple times, you might see the LED as in either asserted or deasserted state, depending on whether the LED was blinking on or blinking off at the time.

Workaround

Do not rely on the CLI commands to query blinking LED states; use IPMItool commands instead. For example, to query the LED states on a server with default username `root` and default password `changeme`, use this command:

`ipmitool -U root -P changeme -H` *SP_IP_address* **`sunoem led get`**

ILOM GUI Does Not Show Correct Locate LED Status and Cannot Be Used to Turn Locate LED Off (6394706)

(Fixed in Software 1.2.)

The ILOM GUI does not show the correct status of the Locate LED. If you log in to the SP as `root` from a web browser, then click on System-Monitoring-->Locator-Indicator, the current status of the Locate LED always shows OFF.

Also, the Locate LED state can be turned to ON from the ILOM GUI, but it cannot be turned to OFF from the ILOM GUI.

Workaround

Do not rely on the ILOM GUI to read the state of the Locate LED, use IPMItool instead.

Although you can use the ILOM GUI to turn the Locate LED on, to turn it off, use IPMItool or the Power button on the chassis.

Misleading Error Messages when SNMP User Is Deleted (6284706)

(Fixed in Software 1.1.)

Misleading error message may be displayed 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 messaged can be ignored. However, scripted commands might not succeed.

Incorrect `sysUpTime` (6295609)

(Fixed in Software 1.2.)

The `sysUpTime` value might be incorrect. For example, a system that has been online only a few days might show an uptime of 51 days.

ILOM1.1.1 JavaRConsole Will Not Launch (6494290)

(Fixed in Software 1.3)

Under some circumstances, JavaRConsole fails to launch when the user clicks on the "Launch Redirection" link in the Web GUI.

Workarounds

There are two workarounds:

- Set the Service Processor's network gateway to "0.0.0.0". Refer to the *Integrated Lights Out Manager (ILOM) Administration Guide* (820-0280) for the procedure.
- Download and execute the Java Web Start file for JavaRConsole, as described below.

Downloading and Executing the Java Web Start File

1. Right-click the "Launch Redirection" link and choose "Save link as..."
2. A file save dialog appears, offering to save a file with a .jnlp extension. Save the file, being careful to note its name and location.
3. Execute the .jnlp file.

- If your system has the proper association with .jnlp files, you can execute the file simply by locating it with a file browser (such as Windows Explorer) and double-clicking the file name or icon.
- You can also execute the file from the command line using the javaws command. If this command is not in you execution path, you must invoke javaws by its full path name. For example:

```
"C:\Program Files\Java\jre1.5.0\javaws.exe" javarconsole.jnlp
```

Cannot Log In to Service Processor With 16-Character Passwords Using ILOM Web GUI or CLI (6286187)

(Resolved in Software 1.1)

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

Workaround

Choose a password containing fewer than 16 characters.

Hardware Component Data Reported by ILOM CLI Is Inconsistent With Data Reported by IPMItool (6371317)

(Fixed in Software 1.2.)

Hardware component data for field-replaceable units (FRUs) is not reported consistently when queried from the ILOM command-line interface (CLI) and from IPMItool. FRU data returned by CLI commands is sometimes incomplete. FRU data read from IPMItool is correct and complete.

Workaround

Do not rely on FRU data returned by CLI commands; use IPMItool to view FRU data instead.

BIOS Issues

Current Issues

Upgrade Past Software 1.3a Causes Device Enumeration For PCI Slots 5, 6, and 7 to Change (6719935)

A change in the sytem BIOS, introduced after Software 1.3a, changes the way the system enumerates PCIe cards in slots 5, 6, and 7, as well as the devices connected to these cards. Upgrading the BIOS can cause the names of disk partitions and network interfaces to change.

Workaround

BIOS 51, included with Software 1.5, contains a workaround for this problem. After flashing new system firmware, but before starting the host operating system, disable the following options in the system BIOS:

- Advanced/ACPI Configuration/Advanced IRQ0 Legacy Routing for HPET
- Advanced/CPU Configuration/Boot CPU APIC ID Lifting

Option ROM Space For PXE Booting Can Be Exhausted Before All Devices Can Be Scanned (6453144, 6403173, 6272514, 6393809, 6439856, 6462303)

The BIOS option ROM space is 128 KB. Of these 128 KB, approximately 80 KB are used by the VGA controller, the LSI controller, and the NIC. Approximately 48 KB remain for other option ROMs.

Depending on the number of PCI devices that are installed and being used for PXE booting, the option ROM space can be exhausted before the on-board NICs, the SAS controller, or the PCI cards installed late in the boot order can be scanned by the BIOS. This is expected behavior.

Possible Effects:

- Cannot PXE boot through the Ethernet ports and the following error message is displayed: `Not enough space to copy PCI Option ROM`
- Cannot PXE boot through the Ethernet ports and the following error message is displayed: `Base-Code ROM ID structure not found`
- PCI cards cannot PXE boot as desired if they are installed in a PCI slot that is scanned after the option ROM space is exhausted.
- HBA card and its attached HDD array are not detected if installed in a PCI slot that is scanned after the option ROM space is exhausted.

The devices and PCI slots are detected by the BIOS during startup in the following order (also see FIGURE 1-1 for the placement of the PCI slots):

1. PCI-E slot 2
2. PCI-E slot 3
3. PCI-E slot 4
4. On-board Intel NIC
5. PCI-X slot 0
6. PCI-X slot 1

7. On-board LSI SCSI controller
8. PCI-E slot 5
9. PCI-E slot 6
10. PCI-E slot 7

Workarounds

There are two possible workarounds to ensure that you have enough option ROM space to PXE boot from your devices as desired.

- If the device you want to boot from appears in the list of boot devices in the BIOS, perform Option 2 below to change the scanning order.
- If the device you want to boot from does not appear in the list of boot devices, perform Option 1 below so that the device appears in the list, then perform Option 2 to change the scanning order.

Option 1: Disable option ROM scanning on all devices that do not need to PXE boot. This will preserve the option ROM space for the devices that you do want to PXE boot. Use the following procedure.

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 fields to Disabled for those PCI cards or NICs 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.**

Option 2: Manually set the BIOS boot order so that the devices that you want to PXE boot from are early enough in the boot order to be scanned before the option ROM space is exhausted. Use the following procedure:

1. **Enter the BIOS Setup utility by pressing the F2 key while the system is booting and performing POST.**
2. **On the BIOS Main Menu screen, select the Boot tab to open the Boot menu main screen.**
3. **Select Boot Device Priority, or select Hard Disk Drives from the list to change hard-disk drives.**

4. **Change the selections for the boot devices or hard-disks drives to set the required device order.**
5. **Press and release the right arrow key until the Exit menu screen is displayed.**
6. **Follow the instructions on the Exit menu screen to save your changes and exit the Setup utility.**

Twelve-Boot-Device Limitation Can Be Exceeded Before All Devices Can Be Scanned By BIOS (6268877, 6439856)

The server BIOS can scan up to 12 devices, but depending on what is installed in the server, this limit can be exceeded before all devices in the server can be scanned. For example, if you install an HBA with an attached disk array into a PCI slot that is scanned before the on-board LSI SAS controller, the internal HDDs might not be scanned if the HBA and its attached HDDs exceed the 12-device limit.

This is expected behavior. Devices in excess of the 12-device limit will be seen at the OS level, but are not scanned by the BIOS during POST.

Possible Effects:

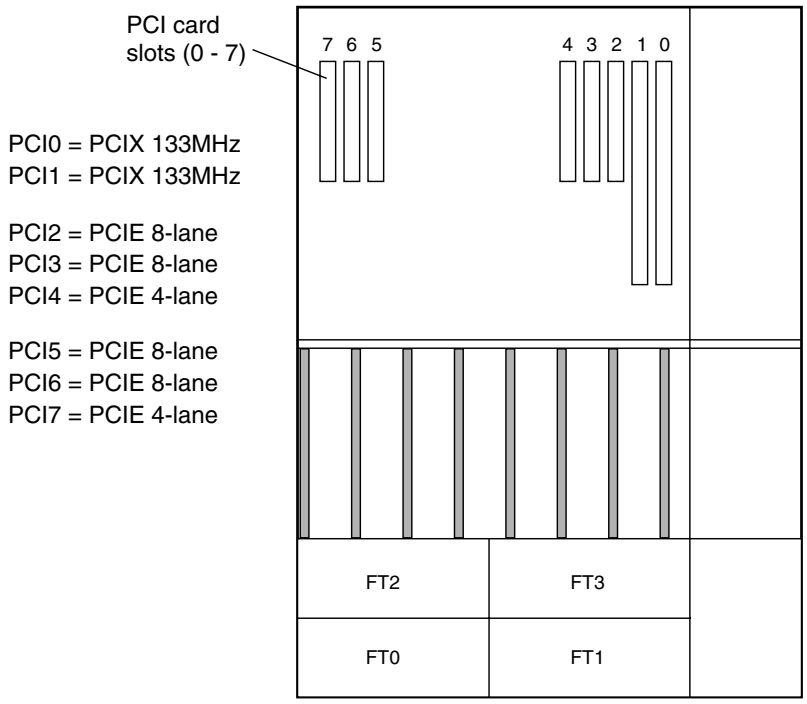
- Cannot boot from internal HDDs.
- NICs are not scanned and therefore cannot be used for PXE booting.

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

1. PCI-E slot 2
2. PCI-E slot 3
3. PCI-E slot 4
4. On-board Intel NIC
5. PCI-X slot 0
6. PCI-X slot 1
7. On-board LSI SCSI controller
8. PCI-E slot 5
9. PCI-E slot 6
10. PCI-E slot 7

Refer to FIGURE 1-1 for the locations of the PCI slots.

FIGURE 1-1 Sun Fire X4600 Designation and Speeds of PCI Slots



Workarounds

Perform Option 1 below so that the device appears in the list, then perform Option 2 to change the scanning order.

Option 1: Disable option ROM scanning on all devices that do not need to PXE boot. This will preserve the option ROM space for the devices that you do want to PXE boot. Use the following procedure.

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. **3. Change the fields to Disabled for those PCI cards or NICs 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.**

Option 2: Manually set the BIOS boot order so that the devices that you want to PXE boot from are early enough in the boot order to be scanned before the option ROM space is exhausted. Use the following procedure:

1. **Enter the BIOS Setup utility by pressing the F2 key while the system is booting and performing POST.**
2. **On the BIOS Main Menu screen, select the Boot tab to open the Boot menu main screen.**
3. **Select Boot Device Priority, or select Hard Disk Drives from the list to change hard-disk drives.**
4. **Change the selections for the boot devices or hard-disks drives to set the required device order.**
5. **Press and release the right arrow key until the Exit menu screen is displayed.**
6. **Follow the instructions on the Exit menu screen to save your changes and exit the Setup utility.**

Hard Disk Drive Order Changes in BIOS Settings After Installing or Removing HBA Card (6308569, 6450677)

After removing or installing a supported host bus adapter (HBA) card, the HDD order in the BIOS might be changed. A possible impact is that you might not be able to boot the system to OS level from an internal HDD if the HDDs that are attached to an HBA are scanned first.

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

1. PCI-E slot 2
2. PCI-E slot 3
3. PCI-E slot 4
4. On-board Intel NIC
5. PCI-X slot 0
6. PCI-X slot 1
7. On-board LSI SCSI controller
8. PCI-E slot 5

9. PCI-E slot 6
10. PCI-E slot 7

Refer to FIGURE 1-1 for the locations of the PCI slots.

Workaround

This is expected behavior. After installing or removing any supported HBA card that is connected to an external storage device, there are two possible workarounds to ensure that you can boot from your devices as desired.

- If the device you want to boot from appears in the list of boot devices in the BIOS, perform Option 2 below to change the scanning order.
- If the device you want to boot from does not appear in the list of boot devices, perform Option 1 below so that the device appears in the list, then perform Option 2 to change the scanning order.

Option 1: Disable option ROM scanning on all devices that do not need to PXE boot. This will allow the device you want to boot from to appear in the list. Use the following procedure.

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 fields to Disabled for those PCI cards or NICs 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.**

Option 2: Manually set the BIOS boot order so that the devices that you want to PXE boot from are early enough in the boot order to be scanned before the option ROM space is exhausted. Use the following procedure:

1. **Enter the BIOS Setup utility by pressing the F2 key while the system is booting and performing POST.**
2. **On the BIOS Main Menu screen, select the Boot tab to open the Boot menu main screen.**
3. **Select Hard Disk Drives from the list.**
4. **Change the selections for the boot devices to set the order of boot devices that you require.**

5. **Press and release the right arrow key until the Exit menu screen is displayed.**
6. **Follow the instructions on the Exit menu screen to save your changes and exit the Setup utility.**

Resolved Issues

BIOS Does Not Display System Serial Number (6522165)

(Fixed in Software 1.3.)

When the BIOS setup utility is used to query the system serial number, "Not available" is reported.

Workaround

Use IPMI to query the system serial number.

LSI Firmware Issues

Current Issues

RAID Volume Requires 64 Mbytes of Unpartitioned Hard-Disk Space for Metadata (6312581)

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

In servers shipped with the preinstalled Solaris 10 1/06 (and later) OS, the preinstall image includes more than 64 Mbytes of unpartitioned hard disk space for metadata. No further action is required.

Disk Resynchronization Restarts If Rebooted During Resynchronization (6507546)

If the system is rebooted during disk resynchronization, resynchronization restarts from the beginning.

Resolution

This is expected behavior. Avoid rebooting during resynchronization.

CHAPTER 2

Software Issues

This chapter describes software issues related to the Sun Fire X4600 server. The numbers given in the section titles are internal tracking numbers for change requests related to the issues.

This chapter includes the following topics:

Solaris Operating System Issues

Current Issues

X7280A Gigabit Ethernet Controller Causes Solaris Fault Management Error

When an X7280A Gigabit Ethernet controller is used, Solaris Fault Management may report "The Solaris Fault Manager received an event from a component to which no automated diagnosis software is currently subscribed." This message is due to a software bug and can be safely ignored.

Resolved Issues

Solaris 10 Installation From CD Media Hangs When Second Disc Inserted (6374024)

(Fixed in Solaris 10 6/06.)

During Solaris 10 installation from CD media, Solaris reports 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 OS Startup (6438926)

(Fixed in Solaris 10 8/07.)

Solaris AMD x64 support includes a boot-time check for the presence of a BIOS workaround for the AMD Opteron Erratum 131. If Solaris 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.
```

This warning message can be safely ignored. The BIOS implements a superset workaround that includes the workaround required for Erratum 131.

Linux Operating System Issues

Current Issues

RHEL 4.4 Panics After BIOS Upgrade

A change made in the system BIOS after Software 1.3a causes Red Hat Enterprise Linux 4.4 to panic.

Workaround

BIOS 51, included with Software 1.5, contains a workaround for this problem. After flashing new system firmware, disable the following options in the system BIOS:

- Advanced/ACPI Configuration/Advanced IRQ0 Legacy Routing for HPET
- Advanced/CPU Configuration/Boot CPU APIC ID Lifting

Sun StorageTek PCI-E Dual Channel Ultra320 SCSI HBA Prevents SLES10 From Booting from Internal Disk (6707074)

A system with a Sun StorageTek PCI-E Dual Channel Ultra320 SCSI HBA (SG-XPCIE2SCSIU320Z) installed in slot 5, 6, or 7 may be unable to boot SUSE Linux Enterprise Server 10 from internal disk. The HBA should not interfere with the boot, because it is in a slot that is scanned after the embedded HBA that controls the internal disks.

This problem was only observed with SLES10, not with SLES10 SP1.

Workaround

Edit `/etc/fstab` and `/boot/grub/menu.lst` to indicate the internal disk as the boot device. You will need to count the LUNs for external storage in order to calculate the internal disk ID.

Drivers Not Available for RHEL5 (6542146)

Drivers for Red Hat Enterprise Linux 5 are not available for the following Sun option cards:

- Sun Multithreaded 10-GbE Networking Card PCI-E (X1027A-z)
- Sun Dual Port 4x IB Host Channel Adapter PCI-E (X1236A-Z)
- Sun 10-GbE, 133-MHz PCI-X (X5544A-4)
- Sun Dual Port 4x IB Host Channel Adapter PCI-X (X1333A-4)
- Sun Quad Gigabit 4x Eternet UTP Low Profile Adapter PCI-E (X4446A-Z)

Idle CPUs Not Running at Minimum Speed (6551339)

CPUs with PowerNow! enabled should run at minimum speed when idle. This does not always occur on Linux systems because of problems with the `cpuspeed` daemon.

Workaround

Restart the `cpuspeed` daemon:

```
service cpuspeed restart
```

MSM Does Not Start (6609312)

When running under Linux, Megaraid Storage Manager (MSM) might not be able to start if run after `dhclient`.

Workaround

Restart the X Window system.

Mismatch Error on RHEL4 U3 When X Windows Server Starts Up (6459079)

The following error might appear when X Windows starts up on Red Hat Linux 4 U3:

```
mtrr: type mismatch for fd000000,800000 old: write-back new:
write-combining
```

Workaround

None. You can safely ignore this message. System functionality is not affected.

PCI Hotplug and Hotswap Capabilities not Supported (6357475)

The Sun Fire x4600 server does not support PCI/PCI-X/PCI-E Hotplug or Hotswap capabilities. The Linux kernel attempts to locate the support in the firmware. This probe then fails with the following messages:

```
Evaluate _OSC Set fails. Status = 0x0005
Evaluate _OSC Set fails. Status = 0x0005
pciehp: Both _OSC and OSHP methods do not exist
```

Workaround:

None. These messages from the kernel can safely be ignored.

RHEL4 U2 and U3 CD/DVD-ROM Packet Command Errors Caused by No Drive Tray (6397835, 6461354)

During the boot process of RHEL4 U2 on the Sun Fire x4600 server, the following error message might be displayed:

```
hda: packet command error: status=0x51 { DriveReady
SeekComplete Error }
hda: packet command error: error=0x50
ide: failed opcode was 100
```

This error is a known problem with how the IDE driver handles the trayless CD/DVD-ROM drive that is contained in your Sun Fire x4600. This error is caused by the fact that the driver is attempting to close the CD/DVD-ROM drive tray. Because this drive does not have a tray, an error is reported.

Workaround:

None. It is safe to ignore this error.

Ignorable Message, `event field not found`, Received When Booting the GUI in RHEL4 U2, RHEL4 U3, and SLES9-SP3 (6396561, 6404681)

On servers running RHEL4 U2, RHEL4 U3, or SLES9-SP3, when booting into the graphical user interface, the `dmesg` log might show the following error message more than once:

```
drivers/usb/input/hid-input.c: event field not found
```

During X initialization, some devices can get out of sync and some EV_REP events can get incorrectly interpreted as input events. This is caused by a bug in the HID driver. This message can be safely ignored.

Workaround:

None.

RHEL3_U9: Bad Support for USB 2.0 (6571085)

RHEL3_U9 does not have reliable support for USB 2.0. This makes it difficult to install the OS using an optical drive that defaults to USB 2.0.

Workaround

Change the BIOS settings so that all connections use USB 1.1.

RHEL4 U3 Does Not Support USB 2.0 (6396407)

The nVidia USB controller on the Sun Fire x4600 must have USB 2.0 structures mapped below 2GB of memory. When over 2GB of memory are used, undefined behaviors result. For USB 2.0 to work properly on RHEL4 U3, a future patch will be required. Until then, only USB 1.1 is supported.

Workaround:

Set the BIOS USB Controller Support option to USB 1.1 only:

1. **Enter the BIOS Setup utility by pressing the F2 key while the system is booting up and performing the power-on self-test (POST).**
2. **On the BIOS Main Menu screen, select the Advanced tab to open the Advanced Menu screen.**
3. **On the Advanced Menu screen, choose USB Configuration.**
4. **On the USB Configuration screen, change USB Controller Support to USB1.1.**
5. **Press and release the right arrow key until the Exit menu screen is displayed.**
6. **Follow the instructions on the Exit menu screen to save your changes and exit the Setup utility.**

Add-In Ethernet Cards Might Appear as `devXXXX` to Red Hat Linux (6406618)

When you install add-in Ethernet cards to the Sun Fire X4600 server in PCI slots 0–4, Red Hat Linux scans them first when assigning device names. If the Red Hat Linux OS was installed before installing the add-in Ethernet card, the new card might be reported as `devXXXX` (where *XXXX* is a number).

Workaround

1. **Shutdown the network:**

```
# /etc/init.d/network stop
```

2. **Remove the Kudzu database:**

   # **rm /etc/sysconfig/hwconf**

3. **Remove the** `ifcfg-eth` **files from the** `sysconfig` **directory:**

   # **rm -f /etc/sysconfig/network-scripts/ifcfg-eth***

   # **rm -f /etc/sysconfig/networking/devices/ifcfg-eth***

   # **rm -f /etc/sysconfig/networking/profiles/default/ifcfg-eth***

4. **Edit the** `modprobe.conf` **file for ethX references. Remove any lines that start with** `alias eth*` **or** `alias dev*` **entries.**

5. **Reboot the system.**

6. **Configure the network device on next boot with Kudzu.**

RHEL4 NMI Watchdog Timer Must Be Disabled In Servers With BIOS 38 (6486170)

The Non-Maskable Interrupt (NMI) Watchdog in RHEL4 is a mechanism used by software and hardware developers to detect system lockups during development. The NMI Watchdog periodically checks the CPU status to determine if a program is holding the CPU in an interrupted state for an extended period of time.

It has been observed in servers runnning BIOS 38 that the SMP kernel in RHEL4 will not boot without crashing when the NMI watchdog is enabled. If the watchdog timer is disabled, the server running RHEL4 will boot with no problems.

Workaround

Disable the watchdog timer on RHEL4 by performing the following steps:

1. **Log in as superuser (root).**

2. **Edit the** `/boot/grub/menu.lst` **file.**

3. **At the end of each line that begins with** `kernel`**, append this text:**

```
nmi_watchdog=0s
```

4. **Save the changes to the file.**

5. **Reboot the system.**

RHEL4 U4 Lost Timer Ticks Messages Can Be Safely Ignored (6481870, 6486383)

The message file and dmesg log file might show messages similar to the following:

```
Warning many lost ticks

Your time source seems to be unstable or some driver is hogging
interrupts.
```

This message is caused by the contention between different IRQ handlers, but there is no negative impact to the system.

Boot-Up ACPI Error Message for SLES9 SP3: Incorrect Return Object Type (6461361)

During SLES9 SP3 boot up, the following message is displayed:

```
ACPI-0201: *** Error: Return object type is incorrect
[SB_.LATA._CRS]
(Node 00000107fffdc180), AE_TYPE
```

This message can be safely ignored

Duplicate Boot-Up Messages for Floppy Driver for SLES9 SP3 (6461350)

During boot up, the SLES9 SP3 kernel prints the following message multiple times:

```
Attached scsi removable disk sdb at scsi2, channel 0, id 0, lun 0

Attached scsi generic sg2 at scsi2, channel 0, id 0, lun 0,  type 0

  Vendor: AMI       Model: Virtual Floppy    Rev: 1.00

  Type:   Direct-Access                      ANSI SCSI revision: 02
```

Each multiple message displays a different drive letter. In the example shown above, the drive letter is `sdb`.

Workaround

To access a floppy drive, use the drive letter from the first message and ignore the subsequent messages.

Error Message: `Not a Capable Intel Processor` for SLES9 SP3 (6461373)

During SLES9 SP3 system boot up the following message is displayed for all types of processors:

```
  IA-32 Microcode Update Driver: v1.13 <tigran@veritas.com>
microcode: CPU1 not a capable Intel processor
microcode: CPU0 not a capable Intel processor
```

The message is repeated for all the processors on the system. You can safely ignore this message.

SLES9 SP3 Graphical Mode Installation Displays `not enough memory` Message (6368933)

If you choose to install SLES9 SP3 from a CD using the graphical mode, you receive a text message informing you that there is less than the required 96 MB of memory available for installation in this mode.

Workaround

Switch to the text mode to install the product.

Warning Message Received When `cdrecord -scanbus` Command Is Issued on SLES9 SP3 (6461376)

On SLES9 SP3 systems, when you enter the `cdrecord -scanbus` command, you receive the following warning message:

```
  pg: module not supported by Novell, setting U taint flag.
pg: pg version 1.02, major 97
pga: Autoprobe failed
pg: No ATAPI device detected
```

Cannot Create 128 GB Swap Partition During SLES9 SP3 Installation (6480937)

When installing SLES9 SP3 using YaST, the hard disk preparation operation might return an error message that says:

```
Error: Could not set up swap partition /dev/sda1
```

Click on OK and the installation will finish with no problems. You can then set up your desired swap partition using the commands below.

Workaround

You can set the swap partition manually as described in the following steps.

1. **After SLES9 SP3 has finished installation and the server has booted, login as the root user.**
2. **Issue the following commands in a terminal window:**

mkswap <*swap partition space*>

swapon <*swap partition space*>

3. **In the** `/etc/fstab` **file, make an entry for swap partition (if it not already present), with option default. It should look like the following:**

```
/dev/sdj5 swap          swap defaults 0 0
```

Resolved Issues

PCI Gigabit Ethernet Driver Cannot Be Installed (6592540)

(Fixed in Software 1.3.

The driver for the Sun 10-GbE, 133-MHz PCI-X (X5544A-4) cannot be installed under RHEL4U5 or SLES10 SP1.

Disabling the RHEL4 NMI Watchdog Might Improve Performance In Servers With BIOS Earlier Than BIOS 38 (6428863)

(Fixed in Software 1.1.)

The Non-Maskable Interrupt (NMI) Watchdog in RHEL4 is a mechanism used by software and hardware developers to detect system lockups during development. The NMI Watchdog periodically checks the CPU status to determine if a program is holding the CPU in an interrupted state for an extended period of time.

To do this, the NMI Watchdog must be tied to an external timer source to know when to interrupt the CPU. This timer source for the AMD Opteron CPU is the Performance Counter, and the timer speed effectively increases as the processor performance increases. This can cause a large number of NMIs to be generated during very CPU-intensive situations. Therefore, it is recommended that you disable the NMI Watchdog timer in this type of situation.

Workaround

You can disable the timer on RHEL4 by performing the following steps:

1. **Log in as superuser (root).**
2. **Edit the** `/boot/grub/menu.lst` **file.**
3. **At the end of each line that begins with** **`kernel`****, append this text:**

   ```
   nmi_watchdog=0
   ```

4. **Save the changes to the file.**
5. **Reboot the system.**

You then will be able to boot the system.

VMware ESX Server Issues

Current Issues

ESX Server Message, `invalid vmkernel id`, Indicates Networking Failure (6471417)

The ESX Server Console Operating System (COS) might report the following error at the main menu screen:

```
0:00:00:31.223 cpu2:1038 init:I586: Invalid vmkernel id:0.
Distributed vmfs locking may not work.
```

This message indicates that networking for the COS is not attached or configured correctly.

Workaround

If using DHCP for network configuration, ensure that the network interface link is up and that the DHCP server is operational. Otherwise, ensure that the host name and IP address for the interface are correctly configured.

ESX Server Message, `Unexpected IO-APIC error` Can Be Safely Ignored (6471408)

The ESX Server message, `Unexpected IO-APIC error`, might appear in the `/var/log/dmesg` log file. There is no impact on performance or availability when this message appears.

ESX Server Dmesg Log Message, `BIOS reporting unknown devices,` Can Be Safely Ignored (6480821)

The `/var/log/dmesg` log file has numerous messages that say `BIOS reporting unknown devices`. This is because of the existence of onboard hardware that ESX Server does not control. This has no impact on system usability or performance, and these messages can be safely ignored.

ESX Server Message, `Syncing Hardware Clock to System Time [Failed],` Can Be Safely Ignored (6473366)

The message, `Syncing Hardware Clock to System Time [Failed],` is displayed during the ESX Server shutdown. This has no impact on system availability or performance and can be safely ignored.

ESX Server Message, `Unable to get COS default route,` Indicates That Default Route IP Address is Undefined (6486375)

The informational message, `Unable to get COS default route`, is displayed during bootup if no default route for the Console Operating System has been specified. Depending on the network topology, this may or may not have an impact on system usability and network access.

Workaround

You can specify the default route in the file `/etc/sysconfig/network` by creating a line with this format:

`DEFAULT=`*XXX.XXX.XXX.XXX*

(Where *XXX.XXX.XXX.XXX* is the default route IP address.)

ESX Server Message, `Inquiry EVPD Device ID Failed,` Can Be Safely Ignored (6473372)

ESX Server might report the message, `INQUIRY EVPD Device ID failed`, in the `/var/log/dmesg` log file when connecting some USB and SCSI storage devices.

Extended Vital Product Data (EVPD) is optional data provided by SCSI devices. Not all vendors program this data into their devices, resulting in this informational message from the SCSI system in ESX Server. This has no impact on system usability or performance.

Workaround

None.

ESX Server Does Not Virtualize the BMC Interface (6535312)

ESX Server does not virtualize the Baseboard Management Controller (BMC) interface. That means that guest OSs cannot load their BMC interface drivers. Also, IPMI utilities running cannot use the BMC interface to interact with the Service Processor.

Workaround

Error messages that occur when the BMC interface driver fails to load can be safely ignored. IPMI utilities must access the Service Processor over the network instead of using the BMC interface.

Resolved Issues

Cannot Boot VMware ESX Server 3.0.1 With Ultra320 SCSI HBA Installed (6520589)

(Fixed in Software 1.2.)

VMware ESX Server 3.0.1 cannot boot when the Sun StorageTek? PCI-E Dual Channel Ultra320 SCSI HBA is installed.

Workaround

None.

Utilities Issues

Current Issues

Cfggen Does Not Show Correct Synchronization Progress (6600993)

The synchronization progress reported by the cfggen status command is not accurate. This is a problem with the DOS version 2.00.18 of cfggen.

Cfggen Does Not Show Correct LSI MPT BIOS Version (6600458)

The LSI MPT BIOS version reported by the cfggen display command is not correct. This is a problem with the DOS version 2.00.18 of cfggen.

MSM Utilities Might Show Incorrect Disk Drive Count After Drive Inserted or Removed (6522536)

The MSM utilities might show incorrect disk drive counts after a drive is inserted or removed. This only occurs in non-RAID configurations.

Workaround

On Windows you can work around this defect by restarting the MSM utilities.

1. Close the MSM application.
2. Using the Windows Service Manager, restart MRMonitor and MSMFramework
3. Reopen the MSM application.

MSM Might Not Update Status Log When Disk Removed

In non-RAID configurations, MSM does not update its status log when a disk is removed. Refreshing with F5 does not help. The log is updated when the disk is re-inserted.

Cannot Create Test Schedule in Sun VTS 6.4

Attempting to create a test schedule using the Schedule Manager fails with an error dialog that says “Operation Failed.”

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 `stdperformeter` utility, which is not available for bootable diagnostics.

Workaround

None.

BMC Test Fails When Running SunVTS 6.2 Bootable Diagnostics CD (6449785)

BMC communication time is very slow over KCS when using early Solaris 10 operating system releases.

Workaround

Upgrade to the latest Solaris 10 release, which has better KCS support.

Resolved Issues

MSM Client Cannot Find Servers On Different Subnet (6533271)

(Fixed in Software 1.5.)

The MSM client is not able to find servers that are not on the same IP subnet as the client.

Workaround

Set the server IP address manually.

Windows Server 2003 Operating System Issues

Current Issues

Copying Large File To or From USB Device Can Cause Reboot (6707305)

Copying a large file (more than 6 GB) between an internal disk and a USB device can cause the system to reboot. This has been seen on Windows 2003 R2 SP2, 64-bit.

Workaround

BIOS 51, which is included in Software Release 1.5, contains a workaround for this problem. Because the workaround impairs I/O performance, it is not enabled by default.

To use this workaround, install Software Release 1.5 firmware as described in *Sun Fire X4600 Server Release Notes For Software Releases 1.4.1 and 1.5*. To enable the workaround, set the BIOS option "Chipset/SouthBridge Configuration/Force MMIO write non-Posted" to "Enabled."

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`.

CHAPTER 3

Hardware Notes and Issues

Current Issues

Cannot Boot From Local Disk With Sun Multithreaded 10 GbE Card in Slot 2, 3, or 4 (6711405)

A system with a Sun Multithreaded 10Gb Ethernet card (X1027A-z) in slot 2, 3, or 4 is unable to boot from the local disk.

Workaround

Use this card in slot 5, 6, or 7.

Spontaneous Reboot With "`OEM 0#x12 SEL`" Messages and No Memory Errors (6652566)

Spontaneous reboots can occur with no memory errors reported. This problem is associated with an entry in the System Event Log (SEL) labeled "`OEM #0x12`" followed by a series of entries labeled "`OEM record e0`". Here is an example:

```
6502 | 12/22/2007 | 07:41:21 | OEM #0x12 |  | Asserted
6602 | OEM record e0 | 00000000040f0c0200100000f2
6702 | OEM record e0 | 0100000004000000000000000
```

The hexadecimal value in "`OEM record e0`" entries may be different from those in the example.

If this problem occurs on your system, you should take basic steps to eliminate possible causes, as described below. If you take these steps, and the problem continues to occur, contact Sun Support for additional remediation.

Remedial Steps

The following steps may eliminate the problem. Retest the system after each step:

1. **Verify that the system BIOS, other system firmware, and PCI card firmware is up to date. For information on verifying and updating system BIOS and firmware, consult the Software Release Notes. To obtain this manual see** "Related Documentation" on page x**.**
2. **Remove all PCI cards and CPU modules. Use canned compressed air to clean their contacts and slots, then reseat them.**
3. **If PCI cards have been added to the system recently, try rearranging the PCI cards. Note any change in symptoms after the cards are rearranged.**

Hard Disk Drive Surfaces Might Be Hot During Operation and Removal (6483742)

Caution – Risk of injury: The metal surfaces of the hard disk drives can become very hot to the touch during operation. There is a chance of burning your fingers if you remove a drive and handle it during replacement.

Heatsinks and Fans Can Become Clogged

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

System Does Not Power Up If Different Part Numbers of Micron 1 GB DIMMs Are Installed (6480932)

All the 1 GB Micron DIMMs installed in the server must have the same part number or the server does not power up.

Workaround

Ensure all 1GB Micron DIMMs installed in the server have the same part number.

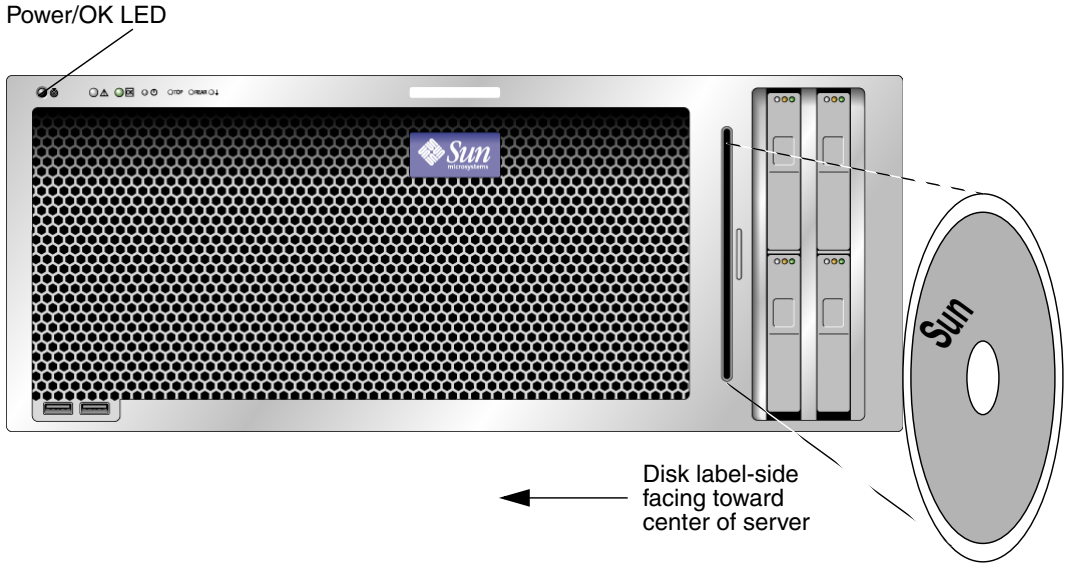
System Fans Take One or More Minutes to Slow Down After Initial Power On

Note – After initial power up of the server, the fans might take a minute or more to slow down from high-speed to normal running speed. This is expected behavior and does not indicate a problem.

When Inserting Disks Into DVD-ROM Drive, Label Side Must Face Left

Note – When you insert a disk into the vertical DVD-ROM drive slot, be sure to orient the disk so that the disk label faces left (toward the center of the server). See FIGURE 3-1.

FIGURE 3-1 Sun Fire X4600 Server Front Panel



Resolved Issues

Service Processor Incorrectly Indicates Power Supply Fault After Shutdown (6516944)

(Fixed in Software 1.3.)

On systems running Service Processor firmware 1.1.1, the power supply fault LED is lit when the system is powered down, even if there is no power supply problem. The LED behaves correctly when the system is powered up.

Workarounds

- Power up the system and re-check the power supply fault LED.
- Query the IPMI Sensor Data Record (SDR). (The SDR is accessible through IPMI, the SP GUI, and the SP command line.) Refer to the ps*X*.prsnt (present) and the ps*X*.vinok (voltage in OK) indicators.
- Query the IPM System Event Log.(SEL) to determine if critical power supply or voltage events have occurred.