Sun Fire X4100 M2/X4200 M2 Servers

Product Notes

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Preface

These product notes describe hardware, software, and documentation issues unique to the Oracle Sun Fire™ X4100 M2/X4200 M2 servers.

Product Updates

Product updates are available for download at:

http://www.oracle.com/technetwork/indexes/downloads/sun-az-index-095901.html#S

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

Related Documentation

Documentation for the Sun Fire X4100 M2 and X4200 M2 servers is available at:

http://docs.sun.com/app/docs/coll/x4100m2

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/x4100m2-fr?l=fr
http://docs.sun.com/app/docs/coll/x4100m2-zh?l=zh
http://docs.sun.com/app/docs/coll/x4100m2-zh_TW?l=zh_TW
http://docs.sun.com/app/docs/coll/x4100m2-ko?l=ko
http://docs.sun.com/app/docs/coll/x4100m2-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:

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Sun Fire X4100 M2/X4200 M2 Servers Product Notes, 819-5038-23

CHAPTER 1

Introduction

This chapter provides a brief overview of software and tools packaged with Sun Fire™ X4100 M2/X4200 M2 servers.

Software

The following software is included with the server:

- "Solaris™ 10 Operating System" on page 1
- "Solaris Adds Support For GRUB-Based Booting" on page 2
- "Sun Java™ Enterprise System" on page 2
- "suncfg Utility" on page 3
- "Hardware Error Report and Decode (HERD) Utility" on page 3
- "LSI cfggen Utility" on page 3
- "LSI SNMP Utility" on page 3
- "MegaRAID Storage Manager" on page 3
- "Sun xVM Ops Center" on page 4
- "Sun VTS On Bootable Diagnostics CD" on page 4
- "Supported DIMMs" on page 4
- "Windows BIOS Option to Save Network Configuration" on page 5

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 reinstall the Solaris 10 OS after removing it, you can download the DVD image.

To download the DVD image, visit:

http://www.oracle.com/technetwork/indexes/downloads/sun-az-index-095901.html#S

You can download the `raidctl` patch for Solaris OS (119851-13) from the SunSolve web site at:

http://support.oracle.com

Online documentation for Solaris 10 OS can be found at:

http://docs.sun.com

Solaris 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 or later in a GRUB-based environment, refer to the *Solaris 10 System Administration Guide: Basic Administration* (817-1985).

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 Java ES is preloaded on your server.

Online documentation for Java ES can be found at:

http://docs.sun.com

suncfg Utility

This utility performs SP and BIOS configuration tasks that are useful in automated deployment. For more information, refer to the *Sun LSI 106x RAID User's Guide* (820-4933).

Hardware Error Report and Decode (HERD) Utility

HERD is a tool for monitoring, decoding, and reporting correctable hardware errors. For more information, refer to the *x64 Servers Utilities Reference Manual,* 820-1120.

LSI cfggen Utility

The cfggen utility manages Integrated Mirroring (IM) on internal drives. Refer to the *x64 Servers Utilities Reference Manual*, 820-1120.

LSI SNMP Utility

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

These servers support the LSI SNMP utility on the Windows Server 2003 OS and on Linux.

For more information on LSI SNMP utility, see the *Sun LSI 106x RAID User's Guide* (820-4933).

MegaRAID Storage Manager

MegaRAID Storage Manage (MSM) configuration setup utility works in conjunction with the appropriate libraries and drivers to enable 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 details, refer to *Sun LSI 106x RAID User's Guide* (820-4933).

Sun xVM Ops Center

Sun xVM Ops Center is a highly scalable, unified management platform for physical and virtual environments. Sun xVM Ops Center manages multi-platform x64 and SPARC systems distributed throughout a global datacenter and integrates with existing toolsets. Sun xVM Ops Center facilitates many aspects of compliance reporting (ITIL), data center automation, and enables the simultaneous management of thousands of systems.

Sun VTS On Bootable Diagnostics CD

The Sun Fire X4100 M2/X4200 M2 Servers Bootable Diagnostics CD (705-1439) includes SunVTS diagnostic software. This CD enables the server to boot using the Solaris OS on the CD, and then start the SunVTS software. Diagnostic tests are run and output is written output to log files that the service technician can use to determine the problem with the server.

The Bootable Diagnostics CD is shipped 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.

Supported DIMMs

For a list of supported DIMMs on the system, see section "Replacing DIMMs" in the chapter "Maintaining the Sun Fire Servers" in *Sun Fire™ X4100/X4100 M2 and X4200/X4200 M2 Servers Service Manual*.

Windows BIOS Option to Save Network Configuration

On Windows, when updating a system from BIOS 44 (SW 1.4) (and also from other early versions) to BIOS 74 (SW 1.5), the system's network configurations get erased. This is CR 6778969.

To fix this issue, BIOS 104 has added the following option to save the IP configuration after a firmware update: Chipset -> SouthBridge Configuration -> nVidia NIC RevID. To use this option do the following:

1. **Update system to BIOS 104.**
2. **Start a remote console and see that IP addresses have changed and are now incorrect.**
3. **Reboot the OS, log into BIOS setting by using the F2 key. Choose the option,** `Chipset -> SouthBridge Configuration -> nVidia NIC RevID`**, choose** `Axh` **[default is** `Fxh`**].**
4. **Select the F10 key to save configuration changes. Exit setup.**
5. **After the OS bootup, see that the host IP addresses are now correct.**

CHAPTER 2

LSI Firmware, Service Processor, and BIOS Issues

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 8
  - "Resolved Issues" on page 8
- "ILOM and Service Processor (SP) Issues" on page 9
  - "Current Issues" on page 9
  - "Resolved Issues" on page 11
- "SNMP Issues" on page 18
  - "Current Issues" on page 18
  - "Resolved Issues" on page 19
- "BIOS Issues" on page 21
  - "Current Issues" on page 21
  - "Resolved Issues" on page 28
- "Accessibility Issues" on page 29

LSI Firmware Issues

Resolved Issues

RAID Volume Disk Space Requirement for Metadata (6312581)

To create a RAID volume, the firmware and BIOS must write metadata at the end of the volume. Therefore, allow at least 64 MB of unpartitioned disk space for the metadata. If you are using the preinstalled Solaris operating system, more than 64 MB of space is unpartitioned for metadata.

HDD Resynchronization Completion is 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

None. This is expected behavior in LSI firmware Version 1.08 or later.

ILOM and Service Processor (SP) Issues

Current Issues

Updating to Current LSI Firmware and BIOS Requires ILOM 2.x or Higher (6947881)

If you do not have ILOM 2.x or higher, you will not be able to update LSI firmware and BIOS.

Workaround

First upgrade firmware to ILOM 2.x and then upgrade the LSI firmware.

Incorrect Power Supply Events After Service Processor Reset (6499282)

After the service processor is reset or the system power is cycled, incorrect power supply events may appear in the System Event Log. Here are some examples:

```
6500 | 11/10/2006 | 16:21:21 | Power Supply ps1.vinok | State Asserted
6600 | 11/10/2006 | 16:21:22 | Entity Presence ps1.prsnt | Device Present
6700 | 11/10/2006 | 16:21:23 | Power Supply ps0.pwrok | State Asserted
6800 | 11/10/2006 | 16:21:24 | Power Supply ps0.vinok | State Asserted
6900 | 11/10/2006 | 16:21:26 | Entity Presence ps0.prsnt | Device Present
6a00 | 11/10/2006 | 16:21:26 | Power Supply ps1.pwrok | State Asserted
```

Workaround

Power supply events that occur immediately after a Service Processor reset can be safely ignored.

Service Processor Fails to Log Event or Provide Visual Alert After HDD is Removed (6306536)

If an HDD 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 an HDD is hot-plugged and visual alerts do not occur.

BIOS Labels Not Shown in FRU List for Some Interfaces

The server labels and reports NIC information (MAC address, interface label, Chip type) via the Windows OS, BIOS and Service Processor as shown below. Note that some of the BIOS labels read "Not shown in SP." This occurs even when the NICs are present.

Physical MAC	Windows OS	Chip	BIOS Label	BIOS MAC	Service Processor
Net 0 38	LAC4	Nvidia	0	38	mb.net0.fru
Net 1 39	LAC3	Nvidia	1	39	Not Shown in SP
Net 2 3A	LAC	Intel MT	2	3A	mb.net1.fru
Net 3 3B	LAC2	Intel MT	3	3B	Not Shown in SP

Workaround

Ignore the "Not shown..." message.

SP Does Not Handle SNMP Traps (6396525)

The SP 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 User's Guide for the ILOM version on your server for more information.

Resolved Issues

Resetting SP Without Rebooting OS Disables Console (6673674)

(Fixed in Software 2.0.)

If you reset the service processor without rebooting the operating system, you are unable to open a system console with the command `start /SP/console`.

Powering On With A Single Power Supply Lights Failure LED (6645564)

(Fixed in Software 1.4.)

Powering on the system with only one power supply in place causes a power supply failure error to be asserted. The front panel Power Supply Failure LED is lit, and the sensor `sys.psfail` is set.

Workaround

None.

ILOM 1.1.1 Console Speed, 115200 baud, Not Working (6499189)

(Fixed in Software 1.3.)

ILOM now supports configurable baud rates other than 9600. However, the 115200 setting does not work.

Workaround

Use a baud rate other than 115200.

Sun Fire X4200 M2: Nonexistent Fans Shown in CLI (6433119)

(Fixed in Software 1.3)

The ILOM service processor may show extra `F1` entries in the CLI that do not really exist.

Workaround

Ignore these entries.

Fan Speed is Nonzero if Fan is Removed or Stopped (6493168)

(Fixed in Software 1.3.)

The server contains no mechanism for detecting the removal or full stop of a fan, and therefore reports a low RPM in these situations.

Workaround

None.

Caution – If you see any indication that a fan is not performing properly, investigate the problem thoroughly to prevent system damage.

Incorrect Fan Speeds Recorded for `ft0.fm1.f0` and `ft0.fm2.f0` (6542869)

(Fixed in Software 1.3.)

CLI and WebGUI report incorrect fan speeds for `ft0.fm1.f0` and `ft0.fm2.f0`. All other reported fan speeds are correct.

Workaround

Use IPMItool to check the fan speeds.

`bp.locate.btn` and `fp.locate.btn` Are Asserted When Locate LEDs Are Not Blinking (6482084)

(Fixed in Software 1.2.)

IPMI service processor may report incorrect locate button state in the SDR.

Workaround

Please use the IPMI `sys.locate` entry to determine the state of the locate button.

Sun N1 System Manager Does Not Recognize System (6522517)

(Fixed in Software 1.1.)

Servers running ILOM 1.1.1 firmware, or later, cannot be discovered by N1 System Manager (N1SM) as managed nodes.

Workaround

Note – This workaround only applies to N1SM 1.3.2. Earlier versions of N1SM must be upgraded to version 1.3.2 first.

---

1. **Acquire root privileges.**
2. **Create a subdirectory called** `resources` **at the following location:**

   `/opt/sun/n1gc/drvrs/`
3. **Within** `resources`**, create a properties file called** `galaxy.properties`
4. **Add the following property to the file:**

```
modelNamePattern=product.+name\\s+=\\s+(SUN\\s+FIRE\\s+(X4\\d+00\\
s*M2|X4100|X4200|X4500|X4600))|(GALAXY\\s+\\d+|THUMPER)
```

5. **Restart N1SM using the following commands:**

```
# /opt/sun/n1gc/etc/n1sminit stop

# /opt/sun/n1gc/etc/n1sminit start
```

CLI `fault_state` Properties Do Not Reflect Actual Fault States (6479882)

(Fixed in Software 1.3.)

New `fault_state` properties added to the ILOM CLI are not fully functional. Avoid using them.

Workaround

Use the IPMI System Event Log (SEL) and detailed ILOM CLI properties to determine the fault state of the system or components.

ILOM 1.1.1 JavaRConsole Will Not Launch (6494290)

(Fixed in Software 1.3.)

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

Workarounds

Three workarounds are available:

- Download the new ILOM version (1.1.1.1 or later) from the product download web page and upgrade your SP. For details, refer to the software release notes.
- Set the Service Processor's network gateway to 0.0.0.0. See the User's Guide for the ILOM version on your server for more information.
- Download and execute the Java Web Start file for JavaRConsole, as described below.

Downloading the Java Web Start File

1. **Right-click the "Launch Redirection" link and choose "Save link as..."**

   A file save dialog appears, offering to save a file with a `.jnlp` extension.

2. **Save the file, being careful to note its name and location.**

3. **Execute the `.jnlp` file.**

4. **Select one of the following options to execute the file:**

- In Windows Explorer, double-click the file.
- Execute the file from the command line using the `javaws` command. If this command is not in your execution path, you must invoke `javaws` by its full path name. For example:

```
C:\path\javaws.exe javarconsole.jnlp
```

JavaRConsole Restart or Start Redirection Fails After AC Power Removed (6434210)

(Fixed in Software 1.1.)

If you are using JavaRConsole and the AC power is cut off from the system, the console fails to restart when you choose the *Restart* or *Start redirection* options.

Workaround

Wait until a Lost Connection popup window is displayed (indicating that the console has been disconnected), then choose the *Restart* or *Start redirection* option to restart JavaRConsole.

Serial Console Access Over SSH Freezes on `start -script` Command (6337909)

(Fixed in Software 1.0.)

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.

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

(Fixed in Software 1.1.)

When you exit a CLI session, the serial port speed is reset to 9600 bps. This might cause the serial port to fail after you exit a CLI session if the speed was set to a value other than 9600 bps.

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

(Fixed in Software 1.1.)

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

ILOM Web GUI Displays Incorrect Thresholds (6316706)

(Fixed in Software 1.1.)

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.

SP and USB Interactions Interrupt the OS (6277725)

(Fixed in Software 1.1.)

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 SP 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)

(Fixed in Software 1.1.)

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 removing the system power.

JavaRConsole Takes Too Long to Notify User of Disconnection (6487885)

(Fixed in Software 2.1.)

The JavaRConsole fails to notify the user that it has been disconnected in a timely manner.

Workaround

After changing the ILOM network configuration or resetting the SP, exit from any browser or client applications, then manually restart the SP connections.

Break Key Does Not Work in Secure Shell (SSH) Session or from JavaRConsole (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 JavaRConsole.

Workaround

None.

External Storage Redirection Error Messages Might Be Wrong

You can redirect remote storage devices to these servers by starting JavaRConsole 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.

SNMP Issues

Current Issues

SP Does Not Support 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.

Resolved Issues

Unimplemented SNMP Traps (6300437)

(Fixed in Software 1.1.)

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

Error Messages Are Unclear When Deleting an SNMP User (6284706)

(Fixed in Software 1.0.)

For example, you might see the message `Target cannot be deleted` when a user is being deleted soon after another activity.

Workaround

These error messages can be safely ignored. However, scripted commands might not succeed.

`sysUpTime` Values Might be Incorrect (6295609)

(Fixed in Software 1.1.)

For example, a system that has been assembled only a few days might show an uptime of 51 days.

Workaround

You can safely ignore these values.

SNMP Agent Does Not Support SETs (6255301)

The SNMP agent does not support SETs for the entity and Sun platform MIBs. This causes compliance tests involving SETs to fail.

Workaround

Use other services to perform the needed tasks.

BIOS Issues

Current Issues

NICs Are Removed from Boot-Priority List when Using `Ctrl` or `Alt` Commands to Enable the Option BIOS for Sun Cards (6462303)

This applies to the following PCI cards:

- Sun SG-XPCIE2FC-EM4-Z
- Sun SG-XPCIE1FC-EM4-Z
- Sun SG-XPCIE2FC-QF4
- Sun SG-XPCIE1FC-QF4

When you use the Ctrl-Q or Alt-E commands to enable the option BIOS for these PCI cards, the system removes the onboard Intel NICs from the boot-up priority list of the BIOS setup menu. In addition, if you use the Intel X4446A-Z NIC cards to access the installer, you see the following error message:

```
A disk read error occurred
Press ctrl + Alt + del to restart
```

Workaround

None.

HDD Order Changes in BIOS Settings After Installing or Removing HBA Card (6462303, 6450677, 6630185)

After removing or installing a supported host bus adapter (HBA) card, the HDD order in the BIOS might be changed. Therefore, you might not be able to boot the system off of an 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). This is a list of the devices:

1. PCIE Slot 0

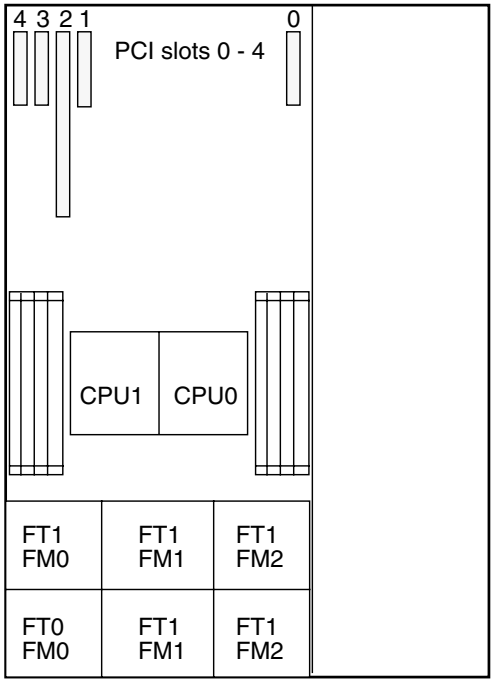
2. PCIE Slot 1
3. PCIE Slot 3
4. PCIE Slot 4
5. PCIX Slot 2
6. On-board NIC
7. On-board SAS controller
8. USB

Refer to FIGURE 2-1 for the locations of the PCI slots.

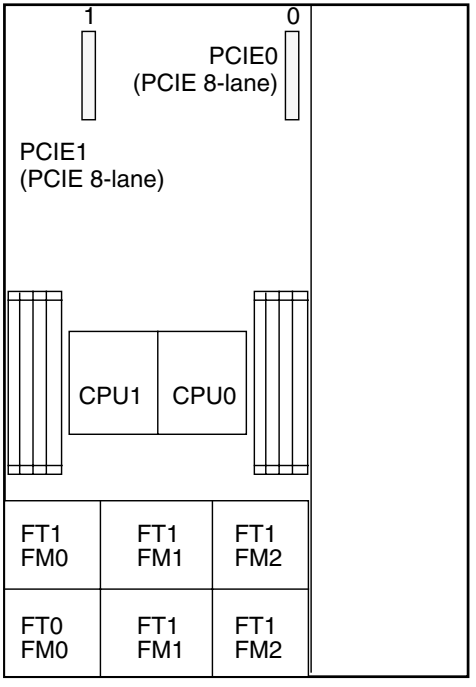
FIGURE 2-1 Designation and Speeds of PCI Slots

PCI0 = PCIE 8-lane

PCI1 = PCIE 8-lane
PCI2 = PCIX 133 MHz
PCI3 = PCIE 8-lane
PCI4 = PCIE 8-lane



Front panel of Sun Fire X4200 M2



Front panel of Sun Fire X4100 M2

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 16 boot devices in the BIOS, perform Option 2 to change the scanning order.
- If the device you want to boot from does not appear in the list of 16 boot devices, perform Option 1 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.**

Option ROM Space for PXE Booting Exhausted Before All Devices are Scanned (6453144, 6403173, 6272514, 6393809, 6439856, 6462303)

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 NIC. Approximately 48 KB remain for the option ROM.

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 BIOS scans devices in ascending order (from low PCI address to high PCI address). For scanning priority, see "HDD Order Changes in BIOS Settings After Installing or Removing HBA Card (6462303, 6450677, 6630185)" on page 21.

Refer to FIGURE 2-1 for the locations of the PCI slots.

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 16 boot devices in the BIOS, perform Option 2 to change the scanning order.
- If the device you want to boot from does not appear in the list of 16 boot devices, perform Option 1 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 HDDs.**
4. **Change the selections for the boot devices or HDDs 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.**

Sixteen-Boot-Device Limitation Exceeded Before All Devices are Scanned (6268877, 6439856)

The server BIOS can scan up to 16 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 16-device limit.

This is expected behavior. Devices in excess of the 16-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). For scanning priority, see "HDD Order Changes in BIOS Settings After Installing or Removing HBA Card (6462303, 6450677, 6630185)" on page 21.

Refer to FIGURE 2-1 for the locations of the PCI slots.

Workarounds

Perform Option 1 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 HDDs.**
4. **Change the selections for the boot devices or HDDs 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.**

When Downgrading BIOS From Software 2.2 to 2.1, BIOS 81, Jumper is Needed to Clear RTC Settings If System Freezes (6768214)

If the system freezes when downgrading from BIOS software 2.2 to BIOS software 2.1 (0ABJX081), clearing the CMOS connector (J9) does not power on the system.

Workaround: You must use the jumper to reset the RTC settings in the case of a system freeze.

1. Shut down the server.
2. Disconnect the power cords from the server.
3. Remove the main cover of the server.
4. Locate the RTC reset connector(J31) on the motherboard.
5. Install the jumper to the RTC reset connector(J31) pins.
6. Wait 10 seconds, then remove the jumper.
7. Reinstall the main cover to the server.
8. Reconnect power cords to the server.

A Disk Swap in RAID1/RAID1E Causes an Error Message (6766054, 6765998)

RAID1/RAID1E was created on a system. Then RHEL 5.2/SLES 10 SP2 and the latest MPT drivers were installed. After a reboot and pulling out and reinserting an HDD, error information results in system messages. The system message and OS log shows the error:

```
mptsas: ioc0: ERROR - mptsas_test_unit_ready: fw_channel=0 fw_id=1:
tur failed due to no device.
```

This does not affect RAID function.

Resolved Issues

POST Message Can be Safely Ignored: `Bank Interleave Requested But Not Enabled` (6464704)

This message appears during POST on a system that contains only one pair of single-rank DIMMs on one CPU. This type of configuration does not support bank interleaving.

Workaround

This message is for information purposes only and can be safely ignored.

BIOS Programming Of ProcODT/ODC Field Is Incorrect (6684970)

Processor ODT (termination) is incorrectly being programmed to 3 which is Reserved. This field `[29:28]` is found in the Output Driver Compensation Control Register and must be programmed as follows:

One DIMM per channel — 75 ohms = 10b

Two or more DIMMs per channel — 150 ohms = 01b

During Upgrade To Quad Core, System Does Not Display Console and Cannot Start SYS (6733354)

When upgrading the system from dual core to quad core, system does not display console and cannot start SYS during upgrade.

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/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 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)

CHAPTER 3

Software Issues

This chapter describes software issues related to the Sun Fire X4100 M2/X4200 M2 servers, and includes these topics:

- "General Software Issues" on page 32
  - "Current" on page 32
- "Utilities Issues" on page 33
  - "Current" on page 33
- "Solaris Operating System Issues" on page 36
  - "Current" on page 36
  - "Resolved" on page 36
- "Linux Operating System Issues" on page 39
  - "Current" on page 39
  - "Resolved" on page 41
- "Windows Server Issues" on page 49
  - "Current" on page 49
  - "Resolved" on page 50
- "VMware Issues" on page 51
  - "Resolved" on page 51

General Software Issues

Current

Ethernet Port Mapping Differs From Physical Port Mapping in Various OSs (6421259)

This issue is fully described in the *Service Manual*, 819-1157.

Workaround

None. This is expected behavior for the OSs in question.

Some X-option-card Drivers Not Available (6730873)

There are no drivers for these 10-Gb X-option cards on the following platforms:

Card	Platforms
IB-HCA (PN: 375-3382-01)	Windows 2008, SLES 9 SP 4
IB-HCA (PN: 375-3549-01)	Windows 2008, SLES 9 SP 4
10-Gb Ethernet PCI-E (PN: 501-7283-04)	RHEL 5.2, RHEL 4.6, Windows 2008, SLES 10 SP2, SLES 9 SP4
SAS 8-port HBA (PCI-E x8 LP) (PN:375-3487-01)	RHEL 5.2, SLES 10 SP 2, SLES 9 SP 4

Workaround: Please check the specified download URL for your card to determine if the driver has become available for download.

Pressing Locate LED Button For More Than 15 Seconds Results in SEL Log Messages (6773451)

When the locate LED button is pressed for more than 15 seconds, log messages are generated. The following steps were taken to cause this issue:

1. **Press the locate LED button for more than 15 seconds. This lights up all the LEDs.**
2. **After 15 seconds, all the LEDs return to their previous state.**
3. **Check the SEL log through** `ipmitool`**.**

Workaround

The log messages can be safely ignored.

Utilities Issues

Current

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.

MSM: Removing One HDD Causes Others to Disappear (6514389, 6487038, 6515371)

In a standard (non-RAID) configuration, if drive 1 of several is removed, the drives after it, for example, drives 2, 3, and 4 also disappear from the MSM screen. The problem is strictly visual; the drives are actually still present, are detected by the OS, and work properly.

This issue does not occur in RAID configurations. Do not use MSM to manage non-RAID HDD configurations.

MSM: Status Log Does Not Reflect Status When a Disk is Removed (6525291)

This is an LSI firmware issue that applies to 32- and 64-bit Windows 2003 servers where RAID arrays do not exist.

Prior to creating any RAID arrays, if a nonbootable disk is pulled from the system, the MSM log fails to reflect the actual disk's new status. The log is not updated until the drive is reinserted.

Do not use MSM to manage non-RAID HDD configurations.

SunCFG: Setting Strings Larger than 63 Characters Can Corrupt Other Strings (6686490, 6686513, 6686521)

In SunCFG 1.11, setting the following strings larger than 63 characters can corrupt other strings

- Type 1 manufacturing elements
- Type 3 asset tags
- Type 3 version elements

Workaround

Do not enter strings larger than 63 characters.

SunCFG: Cannot Set TYPE String (6686513)

In SunCFG 1.11, attempts to set the SMBIOS Type 3 TYPE string do not work.

Utilities Issues

Resolved

Error Messages During Boot from SunVTS CD Can Be Ignored

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
```

Meter Button in Bootable Diagnostics CD Version 2.1f Does Not Work

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.

Solaris Operating System Issues

Current

Cannot Boot with RHEA Card in PCI-E Slots 0 or 1 (6472670)

In systems with multiple root PCI buses, adding or removing a PCI card with a PCI-PCI bridge changes the unit-addresses assigned to some of the root buses, thereby invalidating the persistent boot path. As a result, the server fails to reboot. There is no workaround for this problem. If this condition occurs, you must completely reinstall the OS.

Solaris Installation Hangs if Multiple NIC cards are installed (6724474, 6673707)

The installation of Solaris with multiple NIC option cards installed may hang randomly. The workaround is removing option cards before installing Solaris, and plug-in them after Solaris installation finishes.

Resolved

Unnecessary BIOS Patch Recommended at Boot Time (6468360, 6447850)

The following message may appear at boot time:

> workaround applied for cpu erratum #122
>
> 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 recommendation to patch the BIOS can be safely ignored; CPUs on Sun Fire X4100 M2 and Sun Fire X4200 systems include a fix for Erratum 122.

FMA Errors for Intel X4446A-Z NICs (6601498)

(Fixed in Solaris 10 5/08.)

FMA errors may be reported for X4446A-Z HBAs on systems running Solaris 10 8/07. These error messages can be safely ignored.

NVIDIA Gigabit Ethernet Port Hangs Under Heavy Load (6500058, 6502876)

(Fixed in Solaris 8/07.)

An NVIDIA Gigabit Ethernet port can hang when under heavy load. To avoid this problem, install the latest version of patch 127891.

AMD Erratum 131 Warning Message Can Be Safely Ignored During OS Startup (6438926, 6468360, 6447850)

(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 Sun Fire X4100 M2/X4200 M2 BIOS implements a superset workaround that includes the workaround required for Erratum 131.

IB-HCA Card X4217A-Z Is Not Recognized (6724880)

On X4100 M2 and X4200 M2, the IB-HCA card X4217A-Z is not recognized on a system running Solaris. To support that card, you must install Solaris IB update 2. This update can be downloaded from:

`http://www.oracle.com/technetwork/indexes/downloads/sun-az-index-095901.html#S`

Solaris 10 OS 6/06: Connection to NVIDIA-Controlled NICs is Lost After Changing Port Speeds Using Netgear Switch (6419824, 6441359)

(Fixed in Software 1.2)

When using specific models of Netgear Gigabit switches with servers running Solaris 10 OS 6/06, the links between the NET0 and NET1 Ethernet ports (nge0 and nge1 in Solaris 10 OS) and the switch are not reestablished after the speed of the Netgear ports are changed from 1000 to 100. The models are Netgear switches on which this behavior has been observed are GS724TS and GS748T.

See "Ethernet Port Mapping Differs From Physical Port Mapping in Various OSs (6421259)" on page 32 for the physical location of the Ethernet ports.

Unknown `event e` Message in `messages` or `dmesg` Files (6459169)

Your server `/var/adm/messages` file or = file might display the following message:

```
mpt():unknown event e received.
```

This message is displayed when a `QUEUE FULL` event occurs (queue already contains the maximum number of messages allowed).

Workaround

No action is required. The LSI SAS controller firmware handles the situation.

Sudden Program Termination With Possible Data Corruption (6636513)

A program may terminate suddenly with a SIGPFE exception. This can cause data corruption. This problem is already solved in Solaris 10 5/08.

Workaround

If you are using an earlier Solaris version, please install the latest version of patch 127112 to avoid this problem.

I/O Processes Hang (6490454, 6469065)

A program does intensive I/O may hang or cause disk errors. This problem is already solved in Solaris 10 8/07. For earlier Solaris version, please install the latest version of patch 123776 to avoid this problem.

Linux Operating System Issues

Current

SLES: NVIDIA NIC Problem Causes Application Failure Under Heavy Load (6610532, 6653013)

Under SUSE Linux Enterprise Server (SLES) 10 SP1, SLES9 SP3, and SLES 9 SP4, a problem with the forcedeth driver may cause application failure under heavy load.

Workaround

Until an updated Linux kernel is available from Novell, avoid using the NICs labelled “NET0” and “NET1”, which use the NVIDIA forcedeth driver. Instead, use the NICs labeled “NET2” and “NET3”, which use the Intel driver.

RHEL 3: ACPI Error messages (6469965)

RHEL 3 appears to have problems correctly parsing ACPI tables. This results in numerous error messages. These messages do not reflect a real problem, and can be safely ignored.

RHEL 3U8: Performance on NVIDIA Ports is Very Slow Compared with Intel Ports (6503371)

This condition is due to an old version of Forcedeth that ships with the OS.

Upgrade the driver to Forcedeth version 0.60 from the NVIDIA website. The upgrade fully restores performance.

RHEL 3U8_64: Dmesg Shows `floppy0: no floppy controllers found` When a USB Diskette Drive is Attached (6513814)

Because of the way USB devices are probed, the OS may report that the floppy drive is missing, even when one is attached. This message can be safely ignored.

RHEL 3 U8: NUMA Disabled by Default (6502538)

In RHEL 3U8, the default setting for `/proc/sys/vm/numa_memory_allocator` is 0. As a result, large applications may experience "out of memory" errors.

Workaround

You can temporarily change this setting without rebooting:

```
# echo 1 > /proc/sys/vm/numa_memory_allocator
```

To change the setting permanently, add the following line to `/etc/sysctl.conf`:

```
vm.numa_memory_allocator = 1
```

RHEL 4 U5 Non-uniform Memory Access (NUMA) Applications Do Not Perform As Expected (6719368)

Applications that are controlled by Non-uniform Memory Access (NUMA) and applications that rely on `numactl` do no perform as expected on RHEL 4 through RHEL 4.7. These issues are due to NUMA recognizing only three CPU nodes instead of the actual four. See output below for the `numactl --show` command after `nodebind`:

```
# numactl --show
policy: default
preferred node: 0
interleavemask:
interleavenode: 0
nodebind: 0 1 2
membind: 0 1 2 3
cpubind: 0123456789101112131415
```

This issue does not impact newer applications that are able to use `/sys/devices/system/node/`.

Workaround: Configure the applications to use `/sys/devices/system/node`, or configure the applications to use NUMA's config file.

RHEL 5 U2 NIC Mapping is Different From Previous Versions (6770474)

If software is upgraded to RHEL 5 U2, some option card network port sequence will change and previous NIC settings for mapping changes.

Resolved

RHEL 5: Some Drivers Not Available (6558529)

(Fixed in Software 1.3)

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

- Sun Multithreaded 10-GbE Networking Card (X1027A-z)
- Sun 10-GbE, 133-MHz PCI-X (X5544A-4)

RHEL 5: OS Becomes a Read-Only File System After Removing a Disk From a RAID1 (6543466)

(Fixed in Software 1.2.)

If you remove disk 1 (slot 1) from a RAID1, the OS becomes a read-only file system, and Dmesg shows a lot of errors.

Solution

Install MPT driver 4.00.05.00-1, which is included in an RPM package on the Tools and Drivers CD.

RHEL 4: Servers Might Hang at `Enabling Swap Space` Message After Power Cycling (6470496)

(Fixed in Software 1.3.)

This applies to the following releases:

- RHEL 4_U4-86_64
- RHEL 4_U3-86_64

Following an AC power cycle, the OS might hang after the `Enabling swap space` boot message. This is apparently caused by a bug in Kudzu (refer to Red Hat Bugzilla entry 197722).

If the hang occurs, reboot the server and be sure to type "**`y`**" when prompted whether the file system should be checked during the reboot.

Workaround

You can avoid this problem by disabling Kudzu from the command line.

- To disable Kudzu for current session, type:

  `prompt>` **`service kudzu stop`**

- To disable Kudzu for future sessions:

  `prompt>` **`chkconfig --level 345 kudzu off`**

RHEL 4 U4_32: OS Installation Fails (6551551)

(Fixed in SW 1.2.)

The system hangs at `/sbin/loader` during OS installation.

Workaround

Prior to OS installation, configure the system to support only USB 1.1. After the successful OS installation, reconfigure the system to support USB 2.0. To set USB support, go to **BIOS Setup –> Advanced –> USB Configuration**.

RHEL 5.1: NVIDIA NIC Mishandles Message-Signaled Interrupts Under High Load (6644176)

(Fixed in Software 2.0.)

Under Red Hat Enterprise Linux 5.1, a problem with the forcedeth driver can cause Message-Signaled Interrupts (MSIs) to be mishandled.

Resolution

Two steps are required to resolve this problem:

1. **Download the updated Linux kernel provided by Red Hat:**

   http://rhn.redhat.com/errata/RHSA-2007-0993.html

2. **Add the following line to** `/etc/modprobe.conf`**:**

   ```
   options forcedeth msi=0
   ```

SIA Install of RHEL 5.1 Fails (6681828)

SIA Installations of RHEL 5.1 fails because of legacy dmraid information on supplied disks.

Workaround

The legacy dmraid information is on the last 2000 disk sectors. The following shell command overwrite these sectors with zeros:

```
dd if=/dev/zero of=/dev/sda bs=$(blockdev --getss /dev/sda) count=
2000 seek=$(expr $(blockdev --getsize /dev/sda) - 2000)
```

This issue will not be fixed.

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. This is not a defect.

RHEL 4/SLES 9: Error Message when Booting the GUI (6416608)

(Fixed in Software 2.1.)

This applies to the following OS releases:

- RHEL 4 U2, U3, and U4.
- SLES9-SP3

When booting the OS GUI, the `dmesg` log might show the following error message multiple times:

```
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.

RHEL 4: Intel Network Interface Card is Displayed with Inconsistent Logical Name After Bootup (6423182)

(Fixed in Software 1.0.)

This applies to the following releases:

- RHEL 4_U4-x86_64
- RHEL 4_U3-x86_64

If you install an Intel Ethernet card in a PCIE slot on a powered-off RHEL 4 U3-x86 (64-bit) system, then reboot the system, the slot's Intel network interface card (NIC) is displayed with a different logical name than that of other network devices. In addition, the card's instance number also changes.

Workaround

Perform the following steps to make the card name display consistent:

1. **Open a terminal window.**
2. **Stop the network:**

```
# service network stop
```

3. **Remove the Kudzu database:**

```
# rm /etc/sysconfig/hwconf
```

4. **Remove the** `ifcfg-eth` **files in 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*
```

5. **Edit the** `modprobe.conf` **to remove any lines that start with the following:**

```
alias eth* or alias dev*
```

6. **Reboot the system.**
7. **Use the** `neat` **command to reconfigure the network devices.**

RHEL 3U8_64: System Hangs Occasionally Under High Load with Many PCI I/O Devices Installed (6502242)

(Fixed in Software 1.2.)

RHEL 3 has a well-known issue with high load situations on the PCI bus.

RHEL 3, by default, scans only LUN 0 of any SCSI ID.

RHEL 3 U8_64: LSI Cards 22320/20320 Not Supported (6506460)

(Fixed in Software 1.2.)

The LSI 22320/20320 Dual Ultra320 SCSI cards (based on the LSI 53C1030 chip) are not supported on RHEL 3_U8_64.

SLES9_64 and SLES10_64: System Does Not Boot With Supported HBA Card in Slot 0 (6307424, 6343559)

(Fixed in Software 1.0.1.)

On systems running SLES9, if a host bus adapter (HBA) card is plugged into 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 into slots 1–4 because 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 into 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 edit `/etc/fstab`.

SLES9_SP3: Ignore Error Message when First Writing to an ext3 File System (6422442)

If you create a partition with an ext3 file system, then mount that file system and write a file, the following JBD warning message is displayed:

```
JBD: barrier-based sync failed on sd<X><Y> - disabling barriers
```

This message can be safely ignored.

Workaround:

To suppress the message, mount the ext3 file systems using either `data=writeback` or `barrier=none` command parameters.

RHEL 3_U9: Bad Support for USB 2.0 (6571085)

RHEL 3_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.

This issue will not be fixed.

RHEL 3_U8_64: INSMOD Error Messages (6501643)

(Fixed in Software 1.1.)

Messages similar to the following occur.

```
insmod: /lib/modules/2.4.21-
47.ELsmp/kernel/drivers/block/floppy.o: init_module: No such
device
```

```
kernel: PCI: No IRQ known for interrupt pin A of device 00:01.1
```

These messages have two causes:

1. The OS assumes that all systems have floppy drives and parallel ports.
2. The BIOS descriptions for IRQs are more current than those used by the OS.

These messages can be safely ignored.

RHEL 5: Some Drivers Not Available (6558529)

(Fixed in Software 1.2.)

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

- Sun Dual Port 4x IB Host Channel Adapter PCI-E (X1236A-Z)
- Sun Dual Port 4x IB Host Channel Adapter PCI-X (X1333A-4)

SLES9 SP3 (64-bit): lpfc Driver Does Not Work (6655761)

(Fixed in Software 2.2.)

The lpfc driver provided with SUSE Linux Enterprise Server 9 SP3 (64-bit) for Sun's PCI Express Dual Gigabit Ethernet fibre channel adapters does not work. An updated adapter is available from Novell:

http://forgeftp.novell.com/driver-process/pub/update/SUN/sle9/common/x86_64/update/SUSE-SLES/9/rpm/x86_64/emulex-lpfc-2.6.5_7.244_smp.x86_64.rpm

Tbench Fails On SLES and RHEL When Setting 128 Clients (6730796, 6728709)

With TAC, running tbench at three NICs (two Intel and one NVIDIA) and setting 128 clients, tbench usually fails only at the NVIDIA NICs. `ttcp-19990909/tcp`, `tcprr` and `tcpmaerts` usually fail at the same time, but running them separately results in a pass.

RHEL 3: Multiple Instances of Virtual AMI Floppy as "Unknown Device Type" With Additional Errors (6505341)

Some systems running RHEL 3 report multiples instances of a virtual AMI floppy drive, with additional error messages such as "resize_dma_pool: unknown device type 31". This is a known problem with RHEL 3 and will not be fixed.

RHEL 4.7 32-bit dmesg Reports "APIC error on CPU..." After Stress Test (6762301)

An APIC error is reported on the CPU after a stress test. The steps taken to reproduce this issue is as follows:

1. Install RHEL 4.7 32bit (PXE).

2. **Boot up the OS.**

3. **Ensure there are no errors in the `dmesg` log.**

4. **Run a TAC stress test.**

This results in "APIC error on CPU..." in `dmesg` log. After a reboot the OS, cannot find the "APIC error on CPU..." anymore.

Windows Server Issues

Current

Windows 2003 Guest Under SLES 10, SP 1/XEN Has Blue Screen Crash (6645567)

A Windows 2003 guest running under SUSE Linux Enterprise Server 10 via XEN can have a blue screen crash. This occurs when two virtual CPUs are configured.

Workaround

Configure a single virtual CPU. You should also obtain a patch for `xennet.sys` from Novell.

Windows 2003 Utility `mkfloppy.exe` Does Not Select Correct Diskette Drive if More than One Diskette 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 OS 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`.

Resolved

Servers with 4 GB of Memory or Less Cannot Resume from Hibernation Automatically (6458266)

(Fixed in Software 1.3.)

Servers with 4 GB of memory, or less, cannot resume from hibernation automatically.

Workaround

There are three workarounds:

- For servers with less than 4 GB of memory, manually restart the system after hibernation occurs.
- For servers with exactly 4 GB of memory, enable the Software Memory Hole BIOS setting in the BIOS Configuration Utility, then restart the system. If the BIOS setting is disabled, parts of physical memory cannot be remapped after hibernation, resulting in a total available memory of less than 4GB.
- For all servers, run the InstallPack.exe application to update system-specific drivers and disable hibernation states completely.

  For Sun Fire X4100/X4200 M2 servers, download the `InstallPack.exe` application at:

`http://www.oracle.com/technetwork/indexes/downloads/sun-az-index-095901.html#S`

Platform Resets When Data Is Copied From USB Storage to Internal Disks (6647109)

(Fixed in Software 2.0)

X4200 M2s running MS Windows Server 2003 (32 bit and 64 bit) with R2 SP2, experience platform resets when data is copied between USB storage device and internal disk.

SIA Install of Windows 2003 Does Not Include Option Card Drivers (6555748)

(Fixed in Software 1.3)

SIA is not currently able to install drivers for Sun options cards on Windows 2003. These must be installed manually.

Network Configuration Lost After BIOS Update (6778969)

See "Windows BIOS Option to Save Network Configuration" on page 5.

VMware Issues

Resolved

Two of Four NIC Ports Inoperable (6518982)

(Fixed in Software 1.3.)

Of the four network built in network interfaces, the bottom two NICs (labeled NET0 and NET1) do not function with VMware ESX 3.01.

Workaround

Use the top two network interfaces (labeled NET2 and NET3). If additional network interfaces are required, use a network option card.

Solution

Upgrade to VMware ESX 3.02, the version supported by Software 1.3.)

ESX Installation Stops (6549480)

While installing ESX Server 2.5.2, 2.5.3, or 2.5.4 in a boot from SAN configuration using an optical drive, the installation may stop after displaying `running /sbin/loader`.

Workaround

When booting from the CD, watch for the "boot:" prompt at the bottom of the screen. When it appears, type

```
bootfromsan nousb
```

and press the enter key. The system may also hang when booting from the SAN. Again, watch for the "boot:" prompt; this time, type

```
nousb
```

and press the enter key. To have this workaround happen automatically, edit `/etc/lilo.conf`. Add the keyword `nousb` to the beginning of every `append=` line in the file. If there is no `append=` line, add one:

```
append="nousb"
```

This issue will not be fixed.

CHAPTER 4

Hardware Issues

This chapter describes new hardware features and issues related to the Oracle Sun Fire X4100 M2/X4200 M2 servers.

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

This chapter contains the following sections:

- "Current Issues" on page 53
- "Resolved Issues" on page 55

Current Issues

Some 4-GB DIMMs Not Compatible With Quad Core Upgrade

Some 4-GB DIMMs supplied for use with dual-core systems can have single-bit or multiple bit errors after systems are upgraded to quad-core. Symptoms include sudden crashes and failure to boot. Not all existing 4GB DIMMs are affected.

If you are planning to upgrade your system to use quad-core processors, you should visually inspect any existing 4-GB DIMMs. Affected DIMMs have a a Micron label similar to the one below.

The affected DIMMs can be identified by the logo and the first two numbers on the label.

- The logo will be for a Micron product, as shown in the above illustration.
- The first number is the vendor's part number. On affected DIMMs it is MT36HTF51272PY-667E.
- The second number is the manufacturing date code. On affected DIMMs it is a value lower than 200832, indicating that the DIMM was manufactured before the 32nd week of 2008.

If the label matches the above description, it is not compatible with a quad-core processor. To obtain a replacement, contact Sun Service, and refer to FAB 244406.

Drivers for Option Cards

Option cards supported by operating systems are listed on the platform-specific product webpage under Companion Products. To check if the driver of your option card is available for download, check the Option Cards link on the Product Page.

For example, to get information on the Sun Fire X4100 M2 server and related option cards, see:

http://www.oracle.com/technetwork/indexes/downloads/sun-az-index-095901.html#S

InfiniBand Card (4217A-Z Eagle) Cannot Be Used in Solaris 10 10/08 (6776581)

The InfiniBand card cannot be used on systems running Solaris 10 10/08.

Mixing DIMMs Impacts Memory Performance

For optimum performance, all DIMMs controlled by a given CPU should be the same capacity and all single-rank or dual-rank. Mixed configurations are supported, but could result in lower memory performance. Note that all supported 4-GB and 8-GB DIMMs are dual-rank. For 1-GB and 2-GB DIMMs, you can identify the type by counting the DRAMs; single-rank DIMMs have 18 DRAMs, while dual-rank DIMMs have 36 DRAMs.

Resolved Issues

Problems Reported with Specific Mice and Keyboards (6299692, 6317710, 6304725)

(Fixed in Software 1.1.)

Problems have been reported with the following Sun optical mice on the Sun Fire X4100/X4200 servers:

- Type 5c
- Type 6c

Problems have also been reported with the following keyboards when used in the front bottom USB port on the Sun Fire X4200 server.

- Microsoft Digital Media Pro keyboard.
- Belkin keyboard.

Wrong LEDs Light Up for Missing or Failed Fans on Sun Fire X4100 M2 (6505008)

(Fixed in Software 1.2.)

The servers have six fan modules (FMs) organized into two fan trays (FTs)—an upper (FT0) and a lower (FT1). If there is a failure in either FM1 *or* FM2 in FT0, the LEDs light up to indicate failure for *both* FM1 and FM2 modules.

Keyboard Does Not Respond in POST after BIOS Recovery (6635881)

(Fixed in Software 1.4.)

The keyboard on the X4200 server does not respond in POST after BIOS recovery.

X4100/4200M2 Need To Apply Workaround of PCI-e Performance For CK8/IO4 Erratum (6604971)

(Fixed in Software 2.0.)

The workaround for all platforms with CK8/IO4 is to do the following:

1. DsNpReqLmt = 0x01 (in northbridges).
2. Disable P2P-PW = 0; clear Bus0,Dev0,Fun0,Offset 0x74, bit11.
3. Set rate balancing: Bits 25:24 of NV_XVR_VEND_XP1 (offset 0xF04) to 1.

Unexplained Reboots With Hyper Transport Sync Flood Errors (6615927)

(Fixed in Software 2.0.)

Servers running software version 2.1 at the time of reboot and with PowerNow disabled, IPMI information shows the hyper transport sync flood errors on both systems.

System Shuts Down While Attempting to Boot After a Thermal Shutdown (6494327)

(Fixed in Software 2.0.2.1)

When the system attempts to reboot after a thermal shutdown, it might shut down during the boot process. This is because over-heated system needs extra time to cool down.

Resolution

Correct the cause of the overheating, then wait until the system is cool before restarting it.

Caution – Investigate and remedy overheating before resuming normal operation. Otherwise, the system may be damaged.

High Failure Rate on 4-GB DIMM (6733371)

Higher than expected failure rate is experienced with 4-GB DIMM on an X4100 system.

Extremely Low Temperatures Reported for Idle Processors (6554392)

When PowerNow is enabled, idle processors shut down to conserve power. This disables the sensor, causing extremely low temperatures to be reported:

```
# ipmitool -H td60-sp -U root -P changeme sdr | grep t_core
p0.t_core        | 1 degrees C       | ok
p1.t_core        | 1 degrees C       | ok
```

This is a feature of the AMD processor and cannot be changed.