

Sun Ultra[™] 40 Workstation Product Notes

Sun Microsystems, Inc. www.sun.com

Part No. 819-3954-18 April 2007

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Sun Ultra 40 Workstation Product Notes

For the latest version of these release notes and other Sun Ultra 40TM Workstation documentation, visit the following URL:

```
http://www.sun.com/products-n
solutions/hardware/docs/Workstation_Products/Workstations/ultra_
40/
```

Please note the following issues and considerations for the Sun Ultra 40 Workstation:

- General Information
 - "Operating System Support" on page 4
 - "Documentation URL" on page 4
 - "Documentation URL" on page 4
 - "Accessing and Updating BIOS Versions" on page 5
 - "Accessing and Updating BIOS Versions" on page 5
- Hardware/BIOS Issues
 - "Supplemental CD v1.0 Contains Old BIOS Version" on page 6
 - "CMOS Checksum Error When Updating the BIOS" on page 6
 - "BIOS Setting Might Change When Updating the BIOS" on page 6
 - "PCI Card BIOS Requirements" on page 7
 - "LSI SAS Controller That Requires BIOS v1.40" on page 7
 - "LSI Controller Boot Order Might Change When Updating the BIOS" on page 7
 - "SATA Controller RAID Configuration Map" on page 8
 - "SATA RAID and Option Card Limitations" on page 8
 - "Setting Up the BIOS for the Secondary PCIe Graphics Slot" on page 8
 - "Sun Type 7 Keyboard Might Not Work on Left Front USB Port" on page 9

- "BIOS Support for 2GB and 4GB DIMMs" on page 9
- "Increased Fan Speed for 2GB and 4GB DIMMs" on page 9
- "Pc-Check Diagnostic Issues" on page 10
 - "Pc-Check Version 6.05d Available" on page 10
 - "Graphics Card Test Only Recognizes One Card in a Two-Card System" on page 10
 - "Digital Audio (SPDIF) Diagnostic Test" on page 10
 - "TPM Diagnostic Test" on page 10
- Solaris Issues
 - "Nvidia Video Driver 9755 Available" on page 12
 - "Solaris 10 Telnet Vulnerability Issue" on page 12
 - "Security Advisory for NVIDIA 1.0-8774 Linux and Solaris Drivers" on page 12
 - "(Solaris 10 6/06 Only) NVIDIA Drivers 8756 or Later Required" on page 13
 - "Using Two Graphics Cards with Solaris 10, 1/06" on page 13
 - "Enabling Solaris Xserver Secondary Display (6357217)" on page 14
 - "Warning: Failed to Program IO Space" on page 14
 - "cdrw Patch for DVD+RW and DVD-RW Media" on page 14
 - "Solaris 10x86 Patch for Daylight Savings Time" on page 14
 - "System Hang Using Two Graphics Cards with Solaris 10 1/06" on page 15
 - "Solaris 10 Preinstalled Software Image" on page 15
 - "White Screen After Running install.sh With NVIDIA FX1400 Graphics Card" on page 15
 - "Time of Day Clock Error When Running sys-unconfig" on page 15
 - "Resolution of a Sun 24-inch LCD Monitor Low With Preinstalled Solaris 10 Operating System" on page 16
- Windows XP Issues
 - "Windows XP Reburn Version 1.4 Available" on page 17
 - "Blank Screen After Booting XP Installation CD" on page 17
- Linux Issues
 - "Nvidia Video Driver 9755 Available" on page 17
 - "Security Advisory for NVIDIA 1.0-8774 Linux and Solaris Drivers" on page 12
 - "Linux TPM Driver Only Supports RHEL 32-bit 2.6 Kernels" on page 18
 - "White Screen When Using NVIDIA FX1400 Card With RHEL 4 Updates 1 and 2" on page 19
 - "Sound Card Lost When Running Sound Card Detection Program for RHEL 3" on page 19

- "Blank Screen With SMP Kernel RHEL 4, 32-bit Update 2 After Running install.sh Script" on page 20
- "Xserver Fails to Start With ACPI Enabled on RHEL4, Update 2, 32-bit EL Kernel" on page 20
- "GART Error Reported on RHEL3 Update 6 (64-bit)" on page 21
- "Kudzu Periodically Detects Wrong Graphics Driver After Installing Video Drivers" on page 22
- "Superfluous RHEL4, Update 2 (64-bit) Message" on page 22
- "ATA Timeout Message on RHEL4, Update 2 (32-bit) EL Kernel" on page 23
- "System Hang After Running init 3 on RHEL3, Update 6 (32-bit)" on page 23
- "PnPBIOS Error Reported on SLES 9 SP3 32-bit" on page 23
- "Superfluous SLES 9 Message" on page 24
- "Error Message With SLES 9 SP 3 and Seagate Hard Disk" on page 24
- "System Hang During OS Installation on Configurations with Two NVIDIA Quadro FX4500 VGA Cards and 16GB of Memory" on page 18

General Information

Operating System Support

The following operating system (OS) versions are supported for the Sun Ultra 40 Workstation at the time of publication of this document:

- Pre-installed Solaris 10, 6/06
- Red Hat Enterprise Linux (RHEL) 4 32-bit/64-bit Update 3
- RHEL 3 32-bit/64-bit Update 7
- SUSE Linux Enterprise (SLES9) 32-bit/64-bit SP3
- Windows XP SP2 32-bit and Windows XP 64-bit

For the most recent list of supported operating systems, see http://sun.com/ultra40

Documentation URL

The most recent versions of Sun Ultra 40 Workstation documentation is available at the following URL:

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http://www.sun.com/products-n-solutions/hardware/docs/
Workstation_Products/Workstations/ultra_40/index.html
```

Accessing and Updating BIOS Versions

Accessing BIOS Versions

The BIOS versions mentioned in this document are available on the following versions of the Sun Ultra 40 Workstation Supplemental CD or Sun Ultra 40 Workstation Tools and Drivers CD:

Note – The Supplemental CD was renamed Sun Ultra 40 Workstation Tools and Drivers CD.

- BIOS v1.05 is available on Supplemental CD v1.0a.
- BIOS v1.10 is available on Supplemental CD v1.1.
- BIOS v1.20 is available on Supplemental CD v1.2.
- BIOS v1.40 is available on Sun Ultra 40 Workstation Tools and Drivers CD v1.4.
- BIOS v1.50 is available on Sun Ultra 40 Workstation Tools and Drivers CD v1.5.
- BIOS v1.60 is available on Sun Ultra 40 Workstation Tools and Drivers CD v1.6.

You can download the ISO image of each of these versions at:

http://www.sun.com/desktop/workstation/ultra40/downloads.jsp

Updating BIOS Versions

Use the following procedure to update the BIOS on your Sun Ultra 40 Workstation:

- 1. Insert the Sun Ultra 40 Workstation Tools and Drivers CD/DVD (or Supplemental CD/DVD) into the DVD drive.
- 2. Reboot the system.

The system boots from the CD and a boot menu appears.

3. Select option 2 to flash the system BIOS and reboot the system.

Hardware/BIOS Issues

The following hardware and BIOS issues apply to the Sun Ultra 40 Workstation hardware and BIOS, regardless of the OS used.

Supplemental CD v1.0 Contains Old BIOS Version

The Sun Ultra 40 Workstation Supplemental CD v1.0 contains BIOS v1.0. Do *not* flash the system BIOS from this CD. Instead, flash the system BIOS to a more current version. Refer to "Accessing and Updating BIOS Versions" on page 5 for instructions on how to obtain the latest version of the Tools and Drivers CD.

CMOS Checksum Error When Updating the BIOS

After updating the BIOS using Sun Ultra 40 Workstation Supplemental CD or the Sun Ultra 40 Workstation Tools and Drivers CD, the system might report a CMOS checksum error.

If this happens, access the BIOS Setup Utility and load setup defaults:

- 1. Press the F2 key to go into the BIOS Setup Utility.
- 2. Select Load Setup Defaults.
- 3. Press the F10 key to save your settings and exit.

BIOS Setting Might Change When Updating the BIOS

After updating the BIOS using Sun Ultra 40 Workstation Supplemental CD or the Sun Ultra 40 Workstation Tools and Drivers CD, the BIOS settings might change back to the defaults. If you had changed any BIOS settings, such as enabling RAID, do the following:

After flashing the BIOS, press the F2 key when the system boots to enter the BIOS Setup Utility. Check your settings and restore any that may have changed to the default.

PCI Card BIOS Requirements

The following PCIe card requires BIOS v1.40 to operate properly:

■ The Dual Port U-SCSI 320 PCIe card (P/N SG-XPCIE2SCSIU320Z) requires BIOS v1.40.

The following PCI cards require BIOS v1.10 to operate properly:

- The Sun Gigabit Ethernet 1-Port Copper (GigaSwift) PCI card (P/N 501-6719) requires BIOS v1.10 or later.
- The Sun Single Ultra-320 (1-Port) SCSI PCI-X card (P/N 375-3255) card requires BIOS v1.10 or later.

See "Accessing and Updating BIOS Versions" on page 5.

LSI SAS Controller That Requires BIOS v1.40

The following LSI SAS controller requires BIOS v1.40 to operate properly:

LSI SAS controller (371-2094-01).

See "Accessing and Updating BIOS Versions" on page 5

LSI Controller Boot Order Might Change When Updating the BIOS

After you update to BIOS v1.40, the boot order of the LSI controller might change. To correct the LSI controller boot order, or to ensure that it has not changed, perform the following steps:

- 1. After you flash the BIOS, reboot the system.
- **2. Press the F2 key when you have a choice of pressing F1 or F2 to continue.** You will enter the BIOS setup screen.
- 3. Select the boot menu.
- 4. Make any setting changes you require.
- 5. Press the F10 key to save changes and exit.

SATA Controller RAID Configuration Map

For RAID configurations, the following table shows the mapping of the SATA controller to the physical disk drive:

Drive	Controller
Physical Drive 0	Master SATA1 Primary
Physical Drive 1	Master SATA1 Secondary
Physical Drive 2	Master SATA0 Primary
Physical Drive 3	Master SATA0 Secondary

SATA RAID and Option Card Limitations

You must disable SATA RAID if the option card's expansion ROM is greater than the available shadow memory.

For example, you can only use the Single Ultra-320 (1-Port) SCSI PCI-X card when onboard SATA RAID is disabled in the BIOS.

Enabling RAID for the onboard SATA drives with a U320 SCSI card installed will result in an expansion ROM not initialized BIOS error message and the U320 SCSI card might not function correctly.

Setting Up the BIOS for the Secondary PCIe Graphics Slot

The primary PCI-Express slot is the PCIe1 Slot. If you would like to use the secondary PCIe x16 slot (PCIe3), make the following changes to the BIOS:

- **1.** Boot the workstation with the video display connected to the primary graphics card slot.
- 2. When you see the Sun logo screen displayed, press F2 to enter the BIOS Setup Utility.
- 3. Select the Advanced menu.

The entry PCIe X16 VGA CARD SELECT defines which slot is the primary graphics slot. POST and BOOT information will be displayed to this card only.

- 4. Select PCI Express Slot 3 to enable the PCIe 3 graphics slot.
- 5. Press the F10 key to save your changes and exit the BIOS.

The next time you reboot the workstation, the secondary graphics card will display output.

Sun Type 7 Keyboard Might Not Work on Left Front USB Port

When the Type 7 keyboard is plugged into left front USB port and a device is plugged into the right front USB port, the Sun Type 7 keyboard might not function, or the OS might report a keyboard error.

Users should avoid this configuration and to plug the Type 7 keyboard into the rear USB ports.

BIOS Support for 2GB and 4GB DIMMs

The Sun Ultra 40 Workstation Supplemental CD v1.2, and later versions of the Supplemental CD and Tools and Drivers CD, contains BIOS support for 2GB and 4GB DIMMs. For instructions on obtaining and updating your system BIOS, see "Accessing and Updating BIOS Versions" on page 5.

Increased Fan Speed for 2GB and 4GB DIMMs

The Sun Ultra 40 Workstation Supplemental CD v1.2, and later versions of the Supplemental CD and Tools and Drivers CD, provides BIOS-level control over the speed of the system's cooling fans. While changes to the fan speed are automatic and based on the detected DIMM configuration, it is possible to adjust the speed via the BIOS menu. The speed will increase as follows:

- If four 2GB DIMMs are detected on one of the processors, the fan speed will increase up to 15% duty cycle.
- If four 4GB DIMMs are detected on one of the processors, the fan speed will increase up to 20% duty cycle.
- If additional cooling is needed, you can increase the fan duty cycle from 20% to 50%, in 10% increments via the BIOS Setting Menu.

Pc-Check Diagnostic Issues

The following issues apply to the PC-Check Diagnostic software available on the Sun Ultra 40 Workstation Supplemental CD and Sun Ultra 40 Workstation Tools and Drivers CD.

Pc-Check Version 6.05d Available

Pc-Check v6.05d is available on the Sun Ultra 40 Workstation Tools and Drivers CD v1.6. For information on obtaining the Tools and Drivers CD, see "Accessing and Updating BIOS Versions" on page 5.

Graphics Card Test Only Recognizes One Card in a Two-Card System

Pc-Check only recognizes the primary graphics card when running the graphics test. In order to test both cards in a two-card system, switch the primary graphics card display to the secondary graphics card (see "Setting Up the BIOS for the Secondary PCIe Graphics Slot" on page 8) and then run the graphics diagnostic test again. A future release of Pc-Check may contain the functionality to test two cards.

Digital Audio (SPDIF) Diagnostic Test

The initial release of Pc-Check does not contain a specific test for the SPDIF ports.

This test is available in the Pc-Check version on Supplemental CD v1.1 and later versions of the Supplemental CD and the Sun Ultra 40 Workstation Tools and Drivers CD.

See "Accessing and Updating BIOS Versions" on page 5.

TPM Diagnostic Test

The initial release of Pc-Check does not contain a TPM test.

This test is available in the Pc-Check version on Supplemental CD v1.1 and later versions of the Supplemental CD and the Sun Ultra 40 Workstation Tools and Drivers CD.

See "Accessing and Updating BIOS Versions" on page 5.

Solaris Issues

The following issues apply to Sun Ultra 40 Workstations running the Solaris 10 operating system.

Nvidia Video Driver 9755 Available

The Nvidia video driver 9755 is available on the Sun Ultra 40 Workstation Tools and Drivers CD v1.6. For information on obtaining the Tools and Drivers CD see "Accessing and Updating BIOS Versions" on page 5.

Solaris 10 Telnet Vulnerability Issue

Solaris 10 6/06 and 11/06 has security vulnerability in the in.telnetd(1M) daemon that might allow unauthorized remote users to gain access to a Solaris Host. Patch-ID# 120069-02 addresses this issue. The patch is available on Sun Ultra 40 Workstation Tools and Drivers CD v1.6 (see "Accessing and Updating BIOS Versions" on page 5).

Apply the patch manually or run the install.sh script on all Solaris 10 6/06 and 11/06 systems. For more information, refer to Sun Security Alert 102802. You can also access this patch (and related patches) at:

http://www.sun.com/sunsolve

Security Advisory for NVIDIA 1.0-8774 Linux and Solaris Drivers

A recent Security Advisory for the 8774 Nvidia Graphics driver for Solaris and Linux is posted at:

http://download2.rapid7.com/r7-0025/

Solaris and Linux users with systems that contain NVIDIA graphics cards and the 1.0-8774 video driver should update the driver to a later version. A later version Nvidia video driver, 1.0-8776, is available on the Tools and Drivers CD v1.4a. Additionally, newer Nvidia drivers and installation procedures are available at:

http://www.nvidia.com/object/unix.html

(Solaris 10 6/06 Only) NVIDIA Drivers 8756 or Later Required

Solaris OS might panic if the NVIDIA drivers version 8172 are installed. Ensure that version 8756 or later is installed.

Using Two Graphics Cards with Solaris 10, 1/06

This issue only applies to a clean reinstall of Solaris 10 1/06. This issue does not apply to the pre-installed image that comes with your Sun Ultra 40 Workstation. When you log in to a new Solaris 10 1/06 installation, the login attempt will fail and will result in garbled display graphics. There are two workarounds for this issue. Choose from one of the following workarounds:

- Workaround 1:
- 1. Reboot the system, but do not log in to the system.
- 2. Select the Options button, then select Reset Login Screen.

The screen will reset, and you can then login as usual.

If your screen displays garbled text, you need to reset the Xserver by simultaneously pressing **CNTL, ALT, BACKSPACE**.

- Workaround 2: Install the unbundled NVIDIA display drivers contained on the Sun Ultra 40 Workstation Supplemental CD or the Sun Ultra 40 Tools and Drivers CD as follows:
- 1. Use the command prompt to log in as root (superuser).
- 2. Insert the Tools and Drivers CD into the CD-ROM drive.
- 3. Run install.sh from the /cdrom/cdrom0/drivers/sx86 directory.
- 4. Reboot the workstation.
- 5. Log in to the workstation using the CDE desktop one time before attempting to log in using JDS.

All subsequent JDS logins will work.

Enabling Solaris Xserver Secondary Display (6357217)

The Solaris 10 Xserver default configuration only enables a primary display. To enable a primary and a secondary display simultaneously, you need to install the Nvidia drivers from the Sun Ultra 40 Workstation Tools and Drivers CD v1.4. You should use the install.sh script to add the second display to /etc/X11/xorg.conf.

Warning: Failed to Program IO Space

When the Solaris OS starts, the following console message might appear when using BIOS versions prior to v1.40:

WARNING: failed to program IO space [0/1/1] BAR@0x10 length 0x20

You can safely ignore this message or upgrade to BIOS v1.40

cdrw Patch for DVD+RW and DVD-RW Media

The cdrw utility that shipped with Solaris 10 1/06 does not fully support writing on DVD+RW and DVD-RW media. Patch-ID# 120888-06, and subsequent related patches, addresses this issue.

You can access the patch at http://www.sun.com/sunsolve

Solaris 10x86 Patch for Daylight Savings Time

A Solaris patch has been released to address the change in daylight savings time. Patch-ID# 118669-05, and subsequent related patches, addresses this issue.

You can access the patch at http://www.sun.com/sunsolve

System Hang Using Two Graphics Cards with Solaris 10 1/06

This issue only applies to a clean install or reinstall of Solaris $10 \ 1/06$. The system will hang at the NFS message prompt. If this happens, reboot the workstation.

Solaris 10 Preinstalled Software Image

If you move a card from one PCI-Express slot to another, the OS will still remember the instance for the old slot as nvidia0 and will assign the new slot as nvidia1.

The two workarounds are:

- Change the /dev/nvidia0 link to point to /dev/fbs/nvidia1 or
- Update the /etc/path_to_inst file as follows:
 - a. Open the /etc/path_to_inst file in a text editor.

For example:

vi /etc/path_to_inst

- b. Remove any nvidia entries from the file.
- c. Save and close the file.
- **d.** Do a configuration reboot by typing **b** -**r** at the boot command prompt. This assigns nvidia0 to the new slot.

White Screen After Running install.sh With NVIDIA FX1400 Graphics Card

After running install.sh on Solaris 10 1/06, the screen might turn white after the reboot. If this happens, reboot the workstation again.

Time of Day Clock Error When Running sys-unconfig

A time of day clock error message might occur after running sys-unconfig and after subsequent date and time configurations.

• Press F2 to continue the Solaris 10 Operating System configuration.

Resolution of a Sun 24-inch LCD Monitor Low With Preinstalled Solaris 10 Operating System

The preinstalled Solaris 10 OS that comes with the Ultra 40 Workstation has a conservative Xserver setting that facilitates the out-of-box configuration for a variety of monitors. However, the preinstalled Solaris 10 OS limits the maximum resolution to 1280x1024. The Sun 24-inch LCD monitor runs at a native resolution of 1920x1200.

To improve the resolution and match the 1920x1200 24-inch LCD monitor, do the following:

- 1. Log in to the system as root (superuser).
- 2. Open the /etc/X11/xorg.conf file in a text editor.
- 3. Look for the Modes line in the Screen section. There are four Modes settings, one for each color depth which look like this:

Modes "1280x1024" "1024x768" "800x600" "640x480"

4. Add the 24-inch display resolution to the front of the list as in the following example:

Modes "1920x1200" "1280x1024" "1024x768" "800x600" "640x480"

5. Log out of the workstation and log back in again.

The 24-inch display will now run at 1920x1200.

Windows XP Issues

The following issue applies to Sun Ultra 40 Workstations running a supported Windows OS.

Windows XP Reburn Version 1.4 Available

Windows XP reburn v1.4 is available on the Sun Ultra 40 Workstation Tools and Drivers CD v1.6. For information on obtaining the Tools and Drivers CD, see "Accessing and Updating BIOS Versions" on page 5.

Blank Screen After Booting XP Installation CD

This can happen if there are certain Linux partitions on the hard disk. If this happens, erase the Linux partitions on the hard disk.

To erase the boot disk partitions

- 1. Reboot the workstation with the Sun Ultra 40 Workstation Supplemental CD or Tools and Driver CD
- 2. Choose option 3 for the Erase Primary Boot Disk utility to wipe the entire disk clean.

Linux Issues

The following issues apply to Sun Ultra 40 Workstations running a supported Red Hat or SUSE operating system.

Nvidia Video Driver 9755 Available

The Nvidia video driver 9755 is available on the Sun Ultra 40 Workstation Tools and Drivers CD v1.6. For information on obtaining the Tools and Drivers CD see "Accessing and Updating BIOS Versions" on page 5.

System Hang During OS Installation on Configurations with Two NVIDIA Quadro FX4500 VGA Cards and 16GB of Memory

During installation of Linux OS on systems configured with two NVIDIA Quadro FX4500 VGA cards and 16GB of memory, the system hangs and the installation does not complete. Before installing Linux on a system matching this configuration you must update the BIOS to v1.5, which is available on the Sun Ultra 40 Workstation Tools and Drivers CD 1.5.

For more information, see "Accessing and Updating BIOS Versions" on page 5

Security Advisory for NVIDIA 1.0-8774 Linux and Solaris Drivers

A recent Security Advisory for the 8774 Nvidia Graphics driver for Solaris and Linux has been posted at:

http://download2.rapid7.com/r7-0025/

Solaris and Linux users with systems that contain NVIDIA graphics cards and the 1.0-8774 video driver should update the driver to a later version. A later version Nvidia video driver, 1.0-8776, is available on the Tools and Drivers v1.4a CD. Additionally, newer Nvidia drivers and installation procedures are available at:

http://www.nvidia.com/object/unix.html

Linux TPM Driver Only Supports RHEL 32-bit 2.6 Kernels

The TPM 1.2 driver for Linux on the Supplemental CD v1.1 only supports RHEL 2.6 32-bit kernels.

See "Accessing and Updating BIOS Versions" on page 5.

White Screen When Using NVIDIA FX1400 Card With RHEL 4 Updates 1 and 2

There is a bug in the built-in nv drivers in some Linux distributions which might cause the screen to turn white during installation.

If this happens on your system with an FX1400 card, do the following:

- 1. Install the operating system in text mode or select the VESA graphics driver during the installation.
- 2. After installation is complete, run the install.sh file on the Sun Ultra 40 Workstation Supplemental CD or Tools and Drivers CD to install the updated NVIDIA display drivers.

This bug has been fixed in the open source nv driver.

Sound Card Lost When Running Sound Card Detection Program for RHEL 3

After running install.sh, the modules.conf file will contain updated information for the NVIDIA sound driver.

During execution, the Linux sound detection program updates the modules.conf file with the incorrect information. As a result, the NVIDIA sound driver will not work.

Workaround:

1. Add the following lines to the /etc/modules.conf file:

```
alias scsi_hostadapter sata_nv
alias usb-controller usb-ohci
alias usb-controller1 ehci-hcd
alias eth0 nvnet
alias eth1 nvnet
alias sound-slot-0 nvsound
alias snd-intel8x0 off
alias i810_audio off
```

2. Reboot the workstation.

This issue is resolved in RHEL 4.

Blank Screen With SMP Kernel RHEL 4, 32-bit Update 2 After Running install.sh Script

This bug only applies to the RHEL 4, 32-bit, Update 2, SMP Kernel version 2.6.9-22. This is the default kernel for RHEL 4 Update 2.

Before running the install.sh script with a RHEL 4, 32-bit, Update 2 installation, do the following:

- 1. Download the 2.6.9-22-3 (or later) SMP kernel update from the following site: http://people.redhat.com/~jbaron/rhel4/RPMS.kernel/
- 2. Install both the kernel and kernel-devel rpms.
- 3. Reboot the workstation.
- 4. Run install.sh from the Supplemental or Tools and Drivers CD.

This kernel update fixes the following issues:

- Xserver fails to start after running install.sh
- Killing glxgears or other applications results in a system lock up

Xserver Fails to Start With ACPI Enabled on RHEL4, Update 2, 32-bit EL Kernel

To fix this issue, disable ACPI by adding **acpi=off** to the kernel command line in /etc/grub.conf as in the following example:

title Red Hat Enterprise Linux AS-up (2.6.9-22.EL)
root (hd0,0)
kernel /vmlinuz-2.6.9-22.EL ro ... rhgb quiet acpi=off
initrd /initrd-2.6.9-22.EL.img

GART Error Reported on RHEL3 Update 6 (64-bit)

The system reports the following message on the console or in the system log on RHEL 3 Update 6 (64-bit):.

```
Northbridge status a6000001:00050016
Error gart error
Gart TLB error generic level
err CPU 1
processor context corrupt
error uncorrectible
previous error lost
NB error address 000000037FF0000
```

Kudzu Periodically Detects Wrong Graphics Driver After Installing Video Drivers

This issue happens infrequently and might only happen with the NVIDIA 7676 display drivers, which are *not* contained on the Supplemental CD or Sun Ultra 40 Workstation Tools and Drivers CD.

Rebooting after running install.sh might cause Kudzu to incorrectly redetect the graphics card. When this happens, it might list the video card as nv41.

Workaround:

• Choose Ignore, rather than Configure, when prompted by Kudzu.

Selecting Configure automatically updates the xorg.conf file and replaces "nvidia" with "vesa" as shown in the following excerpt from the xorg.conf file:

```
Section "Device"
Identifier "VideoCard"
Driver "vesa"
VendorName "Video Card Vendor"
BoardName "Nvidia Quadro FX540"
```

If this happens, edit the xorg.conf file and change "vesa" back to "nvidia".

Tip – Choose Ignore to avoid having to edit the xorg.conf file.

Superfluous RHEL4, Update 2 (64-bit) Message

The following console message might appear multiple times:

K8-bus.c bus 254 has empty cpu mask.

ATA Timeout Message on RHEL4, Update 2 (32bit) EL Kernel

The following console message might appear multiple times:

ata2: command 0x35 timeout, stat 0xd0 host_stat 0x20 error You can safely ignore this message.

System Hang After Running init 3 on RHEL3, Update 6 (32-bit)

Periodically, the system hangs after changing from run level 5 to run level 3 using the init 3 command.

If this happens, reboot the workstation.

PnPBIOS Error Reported on SLES 9 SP3 32-bit

The system reports the following message in dmesg on SLES 9 SP3 32-bit:

```
PnPBIOS: Scanning system for PnP BIOS support.
PnPBIOS: Found PnP BIOS installation structure at 0xc00f7960
PnPBIOS: PnP BIOS version 1.0, entry 0xf0000:0xb3d3, dseg 0x400
PNPBIOS fault. attempting recovery.
PnPBIOS: Warning! Your PnP BIOS caused a fatal error. Attempting
to continue
PnPBIOS: You may need to reboot with the "nobiospnp" option to
operate stably
PnPBIOS: Check with your vendor for an updated BIOS
PnPBIOS: dev_node_info: unexpected status 0x28
PnPBIOS: Unable to get node info. Aborting.
```

Superfluous SLES 9 Message

The following console message might appear when running SUSE Linux Enterprise Server 9 (SLES 9):

linux kernel: driver/usb/input/hid-input.c: event field not found

You can safely ignore this message.

Error Message With SLES 9 SP 3 and Seagate Hard Disk

If you are running SLES 9 SP2, you might notice the following error message in the console or after running the **dmesg** command.

```
Vhde: drive_cmd: status=0x51 { DriveReady SeekComplete Error }
hde: drive_cmd: error=0x04 { DriveStatusError }
ide: failed opcode was: 0xef
hde: task_no_data_intr: status=0x51 { DriveReady SeekComplete
Error }
hde: task_no_data_intr: error=0x04 { DriveStatusError }
ide: failed opcode was: 0xef
```