



Sun Fire™ V445 Server Product Notes

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Important Information About the Sun Fire V445 Server

These product notes contain important and late-breaking information about your Sun Fire V445 server.

For additional information, read the release notes which come with your Solaris documentation, as well as the latest *Solaris 10 Sun Hardware Platform Guide*. Also, check the documentation web page for any additional supplements to this book.

The most up-to-date information is posted at <http://www.sun.com/documentation/>

This document contains the following sections:

- “Obtaining the Latest Patches” on page 2
- “Minimum Required Software Patches” on page 3
- “Minimum Supported Release of SNMP Management Agent” on page 3
- “Hardware Issues” on page 4
- “Software Issues” on page 12
- “Documentation Errata” on page 16

Obtaining the Latest Patches

Complete the following to register your system and use the Sun Update Connection to obtain the latest Solaris OS patches.

1. **Copy the** `/usr/lib/breg/data/RegistrationProfile.properties` **to** `/tmp/myreg.profile` **directory.**
2. **Edit the** `/tmp/myregprofile` **to add your user name, password, and, if necessary, a network proxy.**
3. **Register your system by typing:**

```
# sconadm register -a -r /tmp/myreg.profile
```

4. **Obtain the correct patches for your system by typing:**

```
# smpatch set patchpro.patchset=sfv445
```

5. **Display a list of patches to be installed by typing:**

```
# smpatch analyse
```

6. **Install the downloaded patches by typing:**

```
# smpatch update
```

7. **For more information about the Sun Update Connection, see your Solaris OS documentation.**

Minimum Required Software Patches

To download the latest software patches, see the SunSolve web site at <http://sunsolve.sun.com>.

Solaris 10 6/06 Patches

The following minimum revision Solaris operating system (Solaris OS) patches are required for a fresh Solaris 10 6/06 installation on the Sun Fire V445:

- 118833-22 — Install this patch first.
- 119850-18
- 122027-04
- 122363-01
- 122523-03
- 122525-02
- 123360-01
- 123526-01
- 123334-01

SunVTS 6.2 Patch

The following minimum revision patch is required for SunVTS 6.2:

- 123745-01

Minimum Supported Release of SNMP Management Agent

The minimum supported release of SNMP Management Agent is SNMP Management Agent 1.4 Update 2. This release will be available no later than September 12, 2006.

Hardware Issues

The following bugs and defects affect the Sun Fire V445 server hardware or components.

The ALOM System Controller May Fail to Initialize (CR 6464206)

Normally, the ALOM system controller initializes as soon as the system is connected to a live AC circuit. However, under some conditions, the ALOM system controller may fail to boot following a power interruption or during AC power on. This will prevent you from powering on the system. (Issue fixed in ALOM 1.6.1).

Workaround

To correct this issue, disconnect the system from AC power, wait ten seconds, and reconnect the system. The ALOM system controller boots normally, and you can power on the system.

False Power Supply Failure Errors May Occur Upon Power On (CR 6461756)

An attempt to power on the system may fail with false power supply errors. (Issue fixed in ALOM 1.6.3).

Workaround

To correct this issue, reset the ALOM system controller and reissue the `poweron` command.

Type the following:

```
sc> resetsc  
sc> poweron
```

The ALOM showenv Command Might Indicate Power Supply Service Required Indicator Status as unknown (CR 6403845)

The ALOM showenv command correctly indicates a power supply fault, but the command output does not correctly display the status of the power supply indicators in the affected power supply. (Issue fixed in ALOM 1.6.1).

```
sc> showenv
...
-----
SC Alert: PSU @ PS3 has FAULTED.
-----
Power Supply Indicators:
-----
Supply      Active  Standby  Service
-----
PS0         ON      ON        OFF
PS1         ON      ON        OFF
PS2         ON      ON        OFF
PS3         UNKNOWN UNKNOWN   OFF
```

However, the power supply *status* is correctly displayed:

```
-----
Power Supplies:
-----
Supply Status      Underspeed  Overtemp  Overvolt  Undervolt
Overcurrent
-----
PS0    OK              OFF        OFF        OFF        OFF        OFF
PS1    OK              OFF        OFF        OFF        OFF        OFF
PS2    OK              OFF        OFF        OFF        OFF        OFF
PS3    FAULTED         ON         ON         ON         ON         ON
```

Check the physical power supply status indicators when servicing the system.

ALOM `showkeyswitch` Command Reports Incorrect State (CR 6460727)

The ALOM `showkeyswitch` command does not report the correct state. (Issue fixed in OPB 4.22.19).

Workaround

To make sure that the `keyswitch` variable is set as desired, use the `setkeyswitch` command. See the ALOM documentation for more information about the `setkeyswitch` command.

Some Keyboards May Not Work When Connected to the Front USB Port (CR 6358718)

Some system keyboards are unresponsive after the system is brought down to the `ok` prompt under the following conditions:

- The `output-device` variable is set to `screen`
- The `input-device` variable is set to `keyboard`
- The keyboard is connected to the front panel USB port

All keyboards work correctly when connected to the back panel USB port. (Issue fixed in Solaris 10u4_01).

PCI Device Properties are Not Listed in a Device Node Dump (CR 6391998)

The following PCIe and PCI-X properties are not captured in a device node dump (using the `.properties` command):

- Clock frequency (`clock-frequency`)
- Slot name (`slot-names`)
- Bus range (`bus-master-capable`)

There is no loss of device functionality.

Correctable Fabric Errors Occur Between XVR-2500 and PLX Switch (CR6393859)

Systems equipped with the XVR-2500 (P25) frame buffer cards sometimes indicate that a correctable error has occurred. This error is harmless, and does not compromise data integrity.

Workaround

To correct this issue, append the following lines to the `/etc/system` file:

```
set pcie:pcie_aer_ce_mask=0x11C1
set pcie_expected_ce_mask=0x11C1
```

Reboot the system to implement the changes.

Sometimes after adding these lines to the `/etc/system` file, the following message appears during Solaris boot:

```
sorry, variable 'pcie_expected_ce_mask' is not defined in the
'kernel'
```

If you experience this error message, delete the final line in the `/etc/system` file (**set pcie_expected_ce_mask=0x11C1**), and reboot the system.

Host Resets When System `keyswitch` Variable is Set to `diag` (CR 6404798)

If your system resets repeatedly, do the following:

1. **Change the system `keyswitch` variable:**

```
sc> setkeyswitch normal
```

2. **Reboot the system.**

(Issue fixed in OBP 4.22.13).

Under Certain Configurations, the Console May Become Unresponsive After Issuing a `boot -v` Command (CR 6413637)

On rare occasions, the console may become unresponsive following a `boot -v` command under certain configurations.

Workaround

If your console becomes unresponsive following a `boot -v` command, use the `rlogin` command to access and reboot the system.

Using the `asr-disable` command on Empty DIMM Slots Causes Extra DIMM Entries in `prtdiag` (CR 6422484)

If you use the `asr-disable` command on empty DIMM slots, the empty DIMM slots appear as extra entries in `prtdiag`. For example:

```
ok asr-disable dimm7
ok .asr
dimm7                               Disabled by USER
                                     No reason given
...
# prtdiag
...
Memory Module Groups:
-----
ControllerID  GroupID  Labels                Status
-----
0              0        MB/P0/B0/D0
0              0        MB/P0/B0/D1
1              1        -disabled
1              1        -disabled
1              0        MB/P1/B0/D0          disabled
1              0        MB/P1/B0/D1          disabled
```

Do not use the `asr-disable` command on empty DIMM slots. Read the section, “About DIMMs” in the *Sun Fire V445 Server Administration Guide* to determine proper DIMM addresses.

The picl Subsystem Does Not Acknowledge Fan Tray Removal During a Hot-Swap Procedure (CR 6425335)

The `picl` subsystem does not acknowledge a fan tray removal during a hot-swap procedure.

The ALOM system controller accurately acknowledges fan tray removal and insertion events, and can be used in place of the `picl` subsystem to obtain fan tray status. (Issue fixed in Solaris 10u4_01).

Workaround

To obtain accurate fan tray status via the `picl` driver, restart the `picl` subsystem:

```
# svcadm restart picl
```



Caution – To retain N+1 redundancy, working fan trays must be installed in all fan tray slots. If you cannot install a replacement fan tray immediately, keep a failed fan tray in its slot until a replacement fan tray is available.

The picl Subsystem Does Not Report Power Supply Status After a Hot-Swap Procedure (CR 6430436)

The `picl` subsystem should report power supply status (temperature, current, voltage and indicator state) after a hot-swap procedure. However, it only reports that a power supply is present.

In addition, during a hot-swap event, the `prtdiag` command and SunMC should report that a power supply has been removed. Instead, they report that the power supply affected is still present. (Issue fixed in Solaris 10u3_07).

Workaround

To obtain accurate power supply status, restart the `picl` driver:

```
# svcadm restart picl
```

Sun Management Center Software Does Not Report Failed Fan Tray (CR 6442366)

Though failed fan trays are reported by the `picl` subsystem and by ALOM, the Sun Management Center (SunMC) software does not report failed fan trays.

Use the `picl` subsystem and the ALOM software to monitor fan trays. Investigate any Service Required alerts using the system status indicators or ALOM software. You can also use SunMC to diagnose a failed fan tray if you monitor fan tachometer settings in conjunction with the ALOM software. (Issue fixed in Sun Management Center 3.6.1).

OpenBoot PROM Update Fails from 4.22.11 to a Later Version (CR 6450457)

When updating OpenBoot PROM from 4.22.11 to a later version, the update fails with the following error:

```
The flash device is write protected
```

(Issue fixed in OPB 4.22.19).

Workaround

If you encounter this error, set the `keyswitch` variable to `normal`.

1. **Switch from the system console to the ALOM system controller prompt. Type:**

```
ok #.  
sc>
```

2. **Change the `keyswitch` system variable to `normal`. Type:**

```
sc> setkeyswitch normal
```

3. Return to the system console to update the OpenBoot PROM image. Type:

```
sc> console  
  
ok
```

Continue with the OpenBoot PROM update. (Issue fixed in OBP 4.22.19).

System Panics When Using Time of Day (TOD) Device as Root (CR 6455769)

When a root user attempts to use the time of day (TOD) device to schedule an automatic power-on event, the system will panic. Automatic power on is not supported on the Sun Fire V445. Do not use the TOD (`powerd`) feature. (Issue fixed in Solaris 10 u3_07).

The `prtfru` and `showfru` Commands Show Old Dates for Some Devices (CR 6457661, CR 6458712)

The Customer Data Record timestamp in each system component should contain the date of the most recent update to the Customer Data Record. This field is initialized to an invalid value by the manufacturer, which is displayed either as a UNIX zero date or with an error message. The Solaris `prtfru` and ALOM `showfru` utilities display invalid dates in this field until the Customer Data Record timestamp is changed. For example:

```
# prtfru  
/frutree  
/frutree/chassis (fru)  
/frutree/chassis/MB?Label=MB  
/frutree/chassis/MB?Label=MB/system-board (container)  
  SEGMENT: FD  
    /Customer_DataR  
    /Customer_DataR/UNIX_Timestamp32: Wed Dec 31 19:00:00 EST 1969  
    /Customer_DataR/Cust_Data:
```

This field displays a meaningful value after the Customer Record is updated. (Issue fixed in Solaris 10u4_01).

Software Issues

The following bugs and defects affect the Sun Fire V445 server software, or the Solaris operating system (Solaris OS) release supporting this server.

NFS/RDMA: No Free Buffers at Server (CR 6229077)

This bug can occur under heavy load on systems being used as NFS/RDMA servers over an infiniband device. If you are using the Sun Fire V445 as an NFS server, use the IP over Infiniband protocol. See your Solaris OS documentation for more information about how to configure IP over Infiniband.

“Permission Denied” Errors While Using Disk Drive Format Utility (CR 6401174)

When using the format utility in Solaris 10 U2, the following error occurs:

```
Specify disk (enter its number): 1
selecting c1t3d254
[disk formatted]
Error occurred with device in use checking: Permission denied
```

This error can be ignored.

Workaround

You can avoid this warning message by typing the following command before using the format utility:

```
# export NOINUSE_CHECK=1
```

Under Heavy Load, Intel Northstar dual-Gigabit Cards Running the e1000g Driver Experience Errors (CR 6432894)

Under heavy load, Intel Northstar dual-Gigabit Ethernet cards experience errors, such as the following:

```
fire.dmc.eq_over ereports
```

(Issue fixed in Solaris 10u3).

Workaround

To fix this error, append the following line to the `/kernel/drv/e1000g.conf` file:

```
MSIEnable=0,0,0,0,0,0,0,0;
```

Errors Occur During Broadcom Gigabit Ethernet Link Initialization When Configured for IPMP (CR 6436499)

Initialization link errors may occur in systems equipped more than one bge device installed and configured for Internet protocol multi-pathing (IPMP). The system erroneously reports an IPMP link failure before all of the bge devices have come online.

Wait a few seconds after system startup before initializing the IPMP subsystem (`in.mpathd`). (Issue fixed in Solaris 10u3_07).

Secondary Disk Appears as unconfigured After Creating a RAID Volume Using `cfgadm` (CR 6447043)

The `cfgadm` command shows the secondary disk as `unconfigured` after creating a RAID volume. This erroneous secondary disk line does not appear after rebooting the system, and the RAID array functions normally.

Workaround

To avoid this error, create RAID volumes using the `raidctl` command, or restart the `picl` subsystem.

System Panics Under Stress When Equipped with the Intel Northstar dual-Gigabit Cards Running the `e1000g` Driver (CR 6450683)

On rare occasions, the system panics under severe stress when equipped with the Intel Northstar dual-Gigabit card running the `e1000g` driver. (Issue fixed in Solaris 10u3_01).

Workaround

You can avoid this error by adding the following line to the `/etc/system` file:

```
set e1000g:e1000g_dma_type=3
```


Possible Data Integrity Issues on Solaris 10 Systems Using the e1000g Driver for the Intel Gigabit NIC (CR 6462893)

Solaris 10 systems that have the `e1000g` driver configured for use with the Intel Gigabit NIC might experience data integrity issues during periods of high stress on the network interfaces.

When the system is under high network stress, application data could be corrupted. It can only be detected by the application or the user when unexpected application data is seen. (Issue fixed in Solaris 10u3_09).

Workaround

You must determine that the `e1000g` driver is configured. If the driver is configured, you must then add an entry to the `/etc/system` file to check the data integrity.

▼ To Workaround Possible Data Corruption if the e1000g Driver Is Configured

1. Use the `uname(1M)` command to identify the version of the Solaris OS running on the server:

```
# uname -r
```

The output should read 5.10.

2. Use the `ifconfig(1M)` command to verify that an `e1000g` interface is configured.

```
# ifconfig -a
```

The output should read `e1000gX` where `X` is the number of the interface (for instance, 0, 1, or 2).

3. Add the following line to the `/etc/system` file.

```
set ip:dohwcksum=0
```

A patch is being developed. After you install the patch, the entry in the `/etc/system` file should be removed. If not removed, the system performance will be lower.

OpenBoot PROM POST Might Fail When AC Power is Restored (CR 6491132)

When the auto poweron feature is enabled and AC power is restored to a system running OpenBoot™ PROM revision 4.22.11, POST might encounter read errors. (Issue fixed in OBP 4.22.23).

Workaround

To avoid this bug, chose one of two options; disable the auto poweron feature in ALOM, or install SunSolve_{sm} patch 121680-02.

To disable the auto poweron feature in ALOM, type this command:

```
sc> sc_powerstatememory false
```

If you chose to install the SunSolve patch, you must also change the `diag-level` or `verbosity` parameters to something other than the default. For example, from the Openboot console prompt, type:

```
ok> setenv diag-level min
      setenv verbosity max
```

Documentation Errata

Pages 5 and 53 of the *Sun Fire V445 Server Installation Guide (819-3743)* incorrectly states that the rackmounting kit supports installing the server in to a 4-Post EIA-compliant rack up to 34 inches in depth. The standard rackmounting kit supports installation of the server in to a 4-Post EIA compliant rack up to 31 inches in depth. Rackmount kits that support racks depths from 31 to 34 inches are available by request.

Page 8 of the *Sun Fire V445 Server Administration Guide (819-3741)* omits the following new feature:

- New SAS configuration available that frees up PCI-X slot 4 by adding an onboard SAS controller.

Table 4-2 on page 79 of the *Sun Fire V445 Server Administration Guide (819-3741)* incorrectly lists the PCI slot capacities of Slot 6 and Slot 7. The correct capacities are:

Slot 6 x8 (wiredx4)

Slot 7 x8 (wiredx4)

Pages 120, 127, 128, 172, 173, 177, 179, and 188 of the *Sun Fire V445 Server Administration Guide (819-3741)* contain sample data that refers to the Alternate SAS controller configuration.

Page 111 of the *Sun Fire V445 Server Administration Guide (819-3741)* includes a procedure to enable the hardware watchdog mechanism using the `set watchdog_enable` command. This manual procedure is no longer necessary because Solaris automatically performs this procedure during the boot process.

Forcing the `set watchdog_enable=1` command generates an error message, but does no harm to the system. Solaris will properly configure this parameter later in the boot process, and the system will function normally.

Pages 2, 3, 29, 44, 46, 78, and 99 of the *Sun Fire V445 Server Administration Guide (819-3741)* provide incorrect information about the Sun Fire V445 server serial management port (TTYA). This port is a dedicated non-POSIX compliant serial port that does not support modems.

Sun Server Site Planning Guide

The *Sun Server Site Planning Guide* provides background information and methodology for configuring and equipping your data center to support Sun servers. Use it in conjunction with the Site Planning Data Sheet which comes with your server to calculate power, cooling, airflow and maintenance requirements for your server.

The *Sun Server Site Planning Guide* is available on the Sun documentation web site at <http://www.sun.com/documentation>.

