Sun Fire™ T2000 Server Product Notes

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Contents

Important Information About the Sun Fire T2000 Server

These product notes contain important and late-breaking information about the Sun Fire™ T2000 server.

Refer to the following sections for details:

-
-

Instructions for installing, administering, and using the Sun Fire T2000 server are provided in the Sun Fire T2000 server documentation set. The entire documentation set is available for download from the following web site:
`http://www.sun.com/documentation`

Information described in these product notes supersedes the information in the Sun Fire T2000 documentation set.

Note – Some server output displays the string "Sun Fire T200," but should display "Sun Fire T2000." For more information, read change request (CR) 6331169.

Identifying the Notes for Your Server

The product notes for the Sun Fire T2000 server are presented in the following categories:

- "Information For All Sun Fire T2000 Servers" on page 3 (this chapter)
- "Notes for Servers With Part Number 501-7501" on page 15 (Chapter 2)
- "Notes For Servers With Part Number 501-6843" on page 23 (Chapter 3)

Start by reviewing the general information in this chapter, and then review the notes in the chapter that apply to your server based on its part number.

▼ To Determine the Part Number and Which Notes Apply to Your Server

1. **Gain Access to the ALOM CMT system controller prompt (**sc>**).**

   At the Sun Fire T2000 console, type #. (Pound Period).

2. **Perform the** showfru **command as follows:**

```
sc> showfru -s MB
SEGMENT: SD
/ManR
/ManR/UNIX_Timestamp32:      TUE APR 24 18:57:57 2006
/ManR/Description:           ASSY,Sun-Fire-T2000,CPU Board
/ManR/Manufacture Location:  Sriracha,Chonburi,Thailand
/ManR/Sun Part No:           Sun_Partnumber
/ManR/Sun Serial No:         PC1234
/ManR/Vendor:                Celestica
/ManR/Initial HW Dash Level: 01
/ManR/Initial HW Rev Level:  02
/ManR/Shortname:             T2000_MB
/SpecPartNo:                 885-0689-01
sc>
```

3. Use the *Sun_Partnumber* **from** Step 2 **and** TABLE 1 **to determine which notes apply to your server.**

TABLE 1   Sun Fire T2000 Sun Part Numbers

Sun_Partnumber	Refer to Notes
5016843	"Notes For Servers With Part Number 501-6843" on page 23
5017501	"Notes for Servers With Part Number 501-7501" on page 15

Information For All Sun Fire T2000 Servers

The remaining sections in this chapter describe information that applies to all Sun Fire T2000 Servers.

HBA Cards Installed in PCI-E Slots on Sun Fire T2000 Servers Are Not Recognized by OBP or During Boot (CR 6479274, 6513604, 6513621, 6514875)

When PCI-E cards with X1, X2, or X4 lane widths have been installed in PCI-E slots (this problem does not affect X8 PCI-E cards), intermittent failures to recognize the cards can occur in Sun Fire T2000 servers. These failures are intermittent and occur during device training.

Normally, PCI-E devices are recognized by OpenBoot firmware as:

```
PCI-E slot 0:   /pci@780/pci@0/pci@8/SUNW,device_name@0
PCI-E slot 1:   /pci@7c0/pci@0/pci@8/SUNW,device_name@0
PCI-E slot 2:   /pci@7c0/pci@0/pci@9/SUNW,device_name@0
```

When these failures occur, OpenBoot firmware does not show some of the PCI-E devices in the device tree (displayed using the show-devs command at the ok prompt). After the Solaris OS boots, the cards will be missing from the output of the prtdiag -v command, as well. The system may also report a generic FMA message:

```
SUNW-MSG-ID: SUNOS-8000-1L
```

Workaround: Without the patches described below, reboot the system repeatedly until the system can see all devices (usually 1 or 2 reboots are necessary).

The issue is resolved on the following platforms:

- Sun Fire T2000 systems running system firmware prior to version 6.1.13 with patch 122430-06 or later.
- Sun Fire T2000 systems running system firmware prior to version 6.3.2 with patch 124750-03 or later.

Note – The firmware patches should be applied to each Sun Fire T2000 system with PCI-E cards installed in one or more of the PCI-E slots.

Sun Now Offers and Supports Sun 4 GByte DIMMs for Sun Fire T2000 Servers

Instructions for installing DIMMs are provided in the *Sun Fire T2000 Server Service Manual*.

4 GByte DIMMs may not be mentioned in the service manual, but the DIMM installation instructions apply to all supported DIMMs (512 MB, 1 GB, 2 GB, and 4 GB).

New Features Released in System Firmware 6.3.0

System Firmware 6.3.0 includes ALOM CMT v1.3. There are several new features in ALOM CMT v1.3:

- New default value for POST diag_level (new default value: min).
- New option added to the break command. Use the -D option to force a coredump.
- New sys_eventlevel variable. Use this variable to specify the level of ALOM events that you want ALOM CMT to send to the host server.

- New `sys_autorestart` variable option (`reset`). Use this option to specify how ALOM CMT should handle expiration of the Solaris watchdog timer (default value: `reset`).

- SSH encryption key type (`rsa` or `dsa`) must be specified when using the `ssh-keygen` command to display or generate encryption keys.

For further information on the new features of ALOM CMT v1.3, refer to the *Advanced Lights Out Management (ALOM) CMT v1.3 Guide* (819-7981-10).

Preparing for Changes to the Networking Framework

Changes to the networking framework in upcoming software releases might require system administrators or developers to update references to ipge interfaces. To prepare for this change, note the locations of all references to the names of networking frameworks. For example, if you reference the name of an ipge interface in a system configuration file, note the location now. Alternatively, you might choose to limit the number of applications explicitly configured to use this interface.

Mandatory `/etc/system` File Entries

This section describes mandatory `/etc/system` file entries that must be listed in this file to ensure the optimal functionality of the server. These entries resolve CRs 6274126[*] and 6344888 (see Chapter 3, TABLE 3-3).

The following entry must be in the `/etc/system` file:

```
set pcie:pcie_aer_ce_mask=0x1
```

If you have a Sun Fire T2000 Server with part number 501-6843 and it is running the Solaris™ 10 3/05 HW2 Operating System, you must also have the following entry:

```
set segkmem_lpsize=0x400000
```

Replace Motherboards With Approved Replacements

Over time, different motherboards were manufactured for this server, and not all motherboards are interchangeable. If you replace the motherboard, you must replace it with a motherboard that has the same part number or an approved alternative motherboard (approved alternative part numbers are listed on the Sun Services Substitution List). The part number of the motherboard can be determined by visual inspection of the part number label on the motherboard or by using the `showfru` SC command.

▼ To Check and Create the Mandatory `/etc/system` File Entries

Perform this procedure in the following circumstances:

- Check that the entries are present before deploying the server.
- Create the entries after the Solaris OS is installed or updated.

1. **Log in as superuser.**

2. Check the `/etc/system` **file to see if the mandatory lines are in the file.**

```
# more /etc/system
*ident  "@(#)system     1.18 05/06/27 SMI" /* SVR4 1.5 */
*
* SYSTEM SPECIFICATION FILE
.
.
.
set pcie:pcie_aer_ce_mask=0x1
set segkmem_lpsize=0x400000          <--See footnote*
.
```

* Only needed on Sun Fire T2000 Servers with part number 501-6843 and running the Solaris 10 3/05 HW2 OS.

3. If the entries are not there, add them.

Use an editor to edit the `/etc/system` file and add both lines.

Reboot the server.

Sun Explorer Requires the Tx000 Option

When running Sun Explorer 5.2 or greater, you must specify the Tx000 option to collect the data from the ALOM CMT commands on the Sun Fire T2000 server. The script is not run by default. The following example shows how to run the script.

```
# /opt/SUNWexplo/bin/explorer -w default,Tx000
```

For more details, refer to the troubleshooting document, Using Sun Explorer on the Tx000 Series Systems. This document is available on the SunSolve web site: http://www.sun.com/sunsolve

Running SunVTS CPU Tests ... Causes Shutdown Due to Watchdog Timeout (CR 6498483)

Coolthreads servers running SunVTS cpu tests have encountered Solaris watchdog timeouts leading to system shutdown.

Workaround: Set the ALOM CMT sys_autorestart variable to none while running SunVTS, so that ALOM CMT issues a warning message but does not reset the server.

T2000 Correctable Memory Errors in POST can be confusing (CR 6479408)

POST error messages regarding unsupported memory configurations can be misleading. In situations where memory rank 0 (zero) is fully populated, the following message can be ignored safely.

ERROR: Using unsupported memory configuration

Recognizing Erroneous Error Messages

The implementation of the Solaris Predictive Self-Healing (PSH) software provided on this release of Sun Fire T2000 systems causes most systems to display a few erroneous error messages.

Erroneous Boot Time Messages

The following messages usually occur two or three times when the system is booted. These errors are logged and can be viewed with the fmdump command as shown in the following example:

```
# fmdump -ev

TIME                     CLASS                    ENA

Nov 04 10:56:06.6096 ereport.io.fire.pec.rto     0x00002d1a86f87002
Nov 04 10:56:06.6100 ereport.io.fire.pec.rto     0x00002d1a9d2f2002
Nov 04 10:56:06.6100 ereport.io.fire.pec.rnr     0x00002d1a9d2f2002
```

These errors are not an indication of faulty devices. Once you confirm that your messages match the example shown, you can ignore them. If you see different error messages, contact your Sun Service representative for support.

Fault Messages Displayed While Booting From Disk, After Booting From the Network (CR 6424812)

If you boot from the hard drive (`boot disk`) after booting from the network (`boot net`), and your server is using System Firmware Version 6.1.9, PSH fault messages might be displayed.

Disregard these messages. You can clear the messages from the PSH fault logs by following the instructions in the *Sun Fire T2000 Server Service Manual* (819-2548).

Example of the fault messages displayed at boot time:

```
SUNW-MSG-ID: SUN4-8000-5A, TYPE: Defect, VER: 1, SEVERITY:
Critical
EVENT-TIME: Fri May 12 09:37:06 EDT 2006
PLATFORM: SUNW,Sun-Fire-T200, CSN: -, HOSTNAME: wgs94-181
SOURCE: eft, REV: 1.13
EVENT-ID: c788de32-a378-cc46-ad4b-97ce105fb175
DESC:
A problem was detected in the PCI-Express subsystem software.
  Refer to http://sun.com/msg/SUN4-8000-5A for more information.
AUTO-RESPONSE: This fault does not have an automated response agent
and thus requires interaction
from the user and/or Sun Services.
IMPACT: Loss of services provided by the device instances
associated with
this problem
REC-ACTION: Ensure latest driver and patch are installed.  Use
fmdump -v -u &lt;EVENT_ID&gt; to identify the module/package, or
contact Sun for support.
```

Example of displaying the messages with the `fmdump` command:

```
# fmdump -v -u 755528c5-0bcd-4810-fd86-a34baead30c8
TIME                    UUID                             SUNW-MSG-ID
May 11 17:07:10.3877 755528c5-0bcd-4810-fd86-a34baead30c8 SUN4-
8000-5A
   50%  defect.io.fire.pciex.driver
         FRU: pkg:///SUNWcakr
         rsrc: mod:///mod-name=px/mod-id=25

   50%  defect.io.fire.pciex.driver
         FRU: pkg:///SUNWipged
         rsrc: mod:///mod-name=ipge/mod-id=119
```

Example of displaying the System Firmware Version from the Service
Controller:

```
sc> showhost version
System Firmware 6.1.9 Sun Fire[TM] T2000 2006/03/27 08:05

Host flash versions:
   Reset V1.1.4
   Hypervisor 1.1.1 2006/02/24 06:38
   OBP 4.20.3 2006/03/21 14:46
   Sun Fire[TM] T2000 POST 4.20.2 2006/03/02 19:31
sc>
```

Erroneous Messages Displayed After a Repair (CR 6369961)

The Solaris PSH facility automatically detects the replacement of the motherboard
and DIMMs. However, erroneous fault messages might be displayed when the
system is booted, and these messages can mislead you to think that a problem
persists when it is actually fixed. To correct this situation, you must install the Sun
Fire T2000 mandatory patch, 119578-2

Erroneous Fault Messages Displayed After a Solaris OS JumpStart Installation

If you perform a Solaris JumpStart™ installation of a Sun Fire T2000 server, the
server will display erroneous PSH fault messages at boot time. To correct this
situation, you must install the Sun Fire T2000 mandatory patches and make changes
to the /etc/system file. In addition, you should also clear the PSH and ALOM
CMT fault logs to prevent the erroneous messages from being reported again. The
steps to do this are described in "To Configure the System After a JumpStart
Installation" on page 12.

Example of Erroneous Fault Messages at boot time:

```
SUNW-MSG-ID: SUN4-8000-0Y, TYPE: Fault, VER: 1, SEVERITY: Critical
EVENT-TIME: Fri Jan 27 22:17:36 GMT 2006
PLATFORM: SUNW,Sun-Fire-T200, CSN: -, HOSTNAME: xx
SOURCE: eft, REV: 1.13
EVENT-ID: d79b51d1-aca0-c786-aa50-c8f35ea0fba3
DESC: A problem was detected in the PCI-Express subsystem.
Refer to http://sun.com/msg/SUN4-8000-0Y for more information.
AUTO-RESPONSE: One or more device instances may be disabled
IMPACT: Loss of services provided by the device instances
associated with this fault
REC-ACTION: Schedule a repair procedure to replace the affected
device. Use fmdump -v -u EVENT_ID to identify the device or contact
Sun for support.
```

Example of displaying the messages with the fmdump command:

```
# fmdump -v -u d79b51d1-aca0-c786-aa50-c8f35ea0fba3
TIME UUID SUNW-MSG-ID
Jan 27 22:01:58.8757 d79b51d1-aca0-c786-aa50-c8f35ea0fba3 SUN4-
8000-0Y 100% fault.io.fire.asic
FRU: hc://product-id=SUNW,Sun-Fire-T200/component=IOBD
rsrc: hc:///ioboard=0/hostbridge=0/pciexrc=0
Jan 27 22:17:36.5980 d79b51d1-aca0-c786-aa50-c8f35ea0fba3 SUN4-
8000-0Y
100% fault.io.fire.asic
FRU: hc://product-id=SUNW,Sun-Fire-T200/component=IOBD
rsrc: hc:///ioboard=0/hostbridge=0/pciexrc=0
```

▼ To Configure the System After a JumpStart Installation

This procedure describes how to configure the Sun Fire T2000 server after a jumpstart installation so that erroneous fault messages are not reported.

1. **Install the mandatory patches on the server.**

2. **Update the** /etc/system **file.**

   See "Mandatory /etc/system File Entries" on page 6.

3. **Use the** fmadm faulty **command to list the UUID of each erroneous fault.**

   ```
   # fmadm faulty
   ```

4. **Clear each fault that was listed in the preceding step.**

```
# fmadm repair d79b51d1-aca0-c786-aa50-c8f35ea0fba3
```

5. **Clear the persistent logs as shown in the following example.**

```
# cd /var/fm/fmd
# rm e* f* c*/eft/* r*/*
```

6. **Reset the Solaris PSH modules as shown.**

```
# fmadm reset cpumem-diagnosis
# fmadm reset cpumem-retire
# fmadm reset eft
# fmadm reset io-retire
```

7. **Reset the faults at the ALOM CMT prompt:**

   a. **Gain access to the ALOM CMT** sc> **prompt.**

   Refer to the *Advanced Lights Out Management (ALOM) CMT v1.3 Guide* for instructions.

   b. **Run the** showfaults -v **command to see the UUID of any faults.**

```
sc> showfaults -v
ID Time                   FRU                    Fault
0 Jan 27 22:01 hc://product-id=SUNW,Sun-Fire-T200/component=
IOBD Host detected fault, MSGID:
SUN4-8000-0Y UUID: d79b51d1-aca0-c786-aa50-c8f35ea0fba3
```

   c. **Run the** **clearfault** **command with the UUID provided in the** showfaults **output:**

```
sc> clearfault d79b51d1-aca0-c786-aa50-c8f35ea0fba3
Clearing fault from all indicted FRUs...
Fault cleared.
```

8. If faults continue to be reported, the server might have a faulty component. Refer to the *Sun Fire T2000 Server Service Manual* for diagnostic procedures.

Documentation Errata

Error Regarding Date Synchronization in the ALOM CMT Guide

There is an error in the documentation of the `showdate` command in published versions of the ALOM CMT guide. The erroneous text follows:

Displays the ALOM CMT date. The Solaris OS and ALOM CMT time are synchronized, but ALOM CMT time is expressed in Coordinated Universal Time (UTC) rather than local time.

The correct text should be:

Displays the ALOM CMT date. ALOM CMT time is expressed in Coordinated Universal Time (UTC) rather than local time. The Solaris OS and ALOM CMT time are not synchronized.

Typographic Error in Translated Versions of the *Sun Fire T2000 Server Installation Guide*

There might be a typographical error in the translated versions of the *Sun Fire T2000 Server Installation Guide*. The error is not present in the English version.

The error is located in Chapter 2, in the section titled, "To Boot the Solaris Operating system, in the example in Step 2.

The incorrect example shows the following:

```
ok boot / pci@7c0/pci@0/pci@2/pci@0,2/LSILogic,sas@4/disk@0,0p
```

There is a space after the first / that should not be there.

The following line shows the correct example:

```
ok boot /pci@7c0/pci@0/pci@2/pci@0,2/LSILogic,sas@4/disk@0,0p
```

Notes for Servers With Part Number 501-7501

This chapter describes the important information that applies to Sun Fire T2000 Servers with a part number of 501-7501.

To determine the part number of your server, see "To Determine the Part Number and Which Notes Apply to Your Server" on page 2.

Refer to the following sections for details:

Supported Firmware and Software Versions

The following firmware and software versions are the minimum supported versions for the Sun Fire T2000 server with part number 501-7501:

- Solaris 10 1/06 operating system (OS)
- Java™ Enterprise Systems (Java ES) 2005Q4 software
- Sun System Firmware 6.1, which includes Advanced Lights Out Manager (ALOM) CMT 1.1 software
- SunVTS 6.1 software
- Sun™ Management Center 3.6 software

Required Patches

The following table lists the required patches

TABLE 2-1   Mandatory Patches for Servers With Part Number 501-7501

Solaris OS	Patch ID	Notes
Solaris 10 1/06	119578-22 or greater	
	118833-24 or greater	
	119850-14 or greater	Required for hardware RAID support. This patch is already installed with the preinstalled Solaris OS on servers with part number 501-7501. However, if you reinstall a previous Solaris OS, and you plan to use the hardware RAID feature, you must obtain and install this patch.
	121130-01 or greater	Required for Hardware RAID support for the Solaris 10 1/06 OS or prior Solaris releases only.
Solaris 10 6/06	118833-24 or greater	
Solaris 10 11/06	N/A	

If you have option cards added to your server, refer to the documentation and README files for each card to determine if additional patches need to be installed.

Patches are available from http://www.sun.com/sunsolve.

Note – Before contacting Sun for support, ensure that the mandatory patches are installed on your server. In addition to installing these patches, Sun recommends that you check the SunSolve web site on a regular basis for the availability of new patches.

Known Issues

This section describes issues that are known to exist for this release of the Sun Fire T2000 server with Part Number 501-7501.

General Functionality Issues

TABLE 2-2 lists features that are not available at the time of this release of the Sun Fire T2000 server.

TABLE 2-2 Functionality Issues for the Sun Fire T2000 Server with Part Number 501-7501

Feature	Comment
Solaris™ Predictive Self-Healing (PSH) feature	The Solaris PSH implementation is not fully implemented in this release of the product. If a PSH message with a message ID of `FMD-8000-0W` occurs, refer to the instructions at: http://www.sun.com/msg/FMD-8000-0W.
Sun Explorer utility	This server is supported by the Sun™ Explorer 5.2 data collection utility, but is not supported by earlier releases of the utility. Installing Sun™ Cluster or Sun Net Connect software from the pre-installed Java ES package will automatically install an earlier version of the utility on your system. After installing any of the Java ES software, determine whether an earlier version of the Sun Explorer product has been installed on your system by typing the following:
	`# `**`pkginfo -l SUNWexplo`**
	If an earlier version exists, uninstall it and install version 5.2, or later. To download Sun Explorer 5.2, go to:
	`http://www.sun.com/sunsolve`

Specific Issues and Workarounds

TABLE 2-3 lists known issues for which a change request ID (CR ID, formerly known as a bug ID) has been assigned. The table also lists possible workarounds for these issues.

For more information about these CRs, visit the SunSolve web site.

TABLE 2-3 Specific Issues for the Sun Fire T2000 Server with Part Number 501-7501

CR ID	Description	Workaround
6310384	The SunVTS USB keyboard test (`usbtest`) reports that a keyboard is present when there is no keyboard attached to the server.	Do not run the `usbtest`.
6312364	When accessing the host through the ALOM CMT `console` command, you might experience slow console response.	For optimum responsiveness, access the host through the host network interfaces as soon as the host has completed booting the OS.
6314590	Executing the ALOM CMT `break` and `go` commands might cause the system to hang.	If the console hangs, reset the system.
6315238	Recycling AC power results in the following erroneous message: `Preceding SC reset due to watchdog`	Disregard this message.
6317382	Typing unrecognized commands or words at the `ok` prompt causes the system to return the following erroneous error: `ERROR: Last Trap` and might hang the server.	Disregard this erroneous error message. If the server hangs, reset the server from the system console.
6318208	Whenever the system resets, including after a POST reset, you might see the following message: `Host system has shut down`	Disregard this message. The system will be reset and display the OBP `ok` prompt as expected.
6318235	PCI-X slots cannot be disabled individually.	If you need to disable PCIX0 or PCIX1 you must disable both slots.
6325271	The console history boot and run logs are the same.	At this time, no workaround is available for this issue.
6331169	The OBP and Solaris banners display a product name of Sun Fire T200.	The correct product name should read Sun Fire T2000. This issue has no impact on the system.
6336040	After a failed DIMM was cleared from the `asr` database, ALOM CMT might not properly reboot and returns the following error message: `No valid MEMORY configuration`	Wait 10 seconds after executing the `clearasrdb` command before executing the `resetsc` command. Refer to the *Sun Fire T2000 Server Service Manual* for information about clearing DIMM-related faults.

CR ID	Description	Workaround
6338365	Sun Net Connect 3.2.2 software does not monitor environmental alarms on the Sun Fire T2000 server.	To receive notification that an environmental error has occurred, use the ALOM CMT `mgt_mailalert` feature to have ALOM CMT send an email when an event occurs. To check whether or not the environmental status of the server is ok, log on to ALOM CMT and run the `showfaults` command. To view a history of any events the server encountered, log on to ALOM CMT and run the `showlogs` command.
6338962	The system might hang after a panic when the `sync` command is used.	If the server hangs, reset the server from the system console.
6341045	If a CPU or memory fault occurs while the server is running a trap handler, the system might panic with a bad trap instead of providing a CPU or memory fault message. In such cases, memory scrubbing is not performed.	Reset the server, and check the server for possible faults using the `showfaults` command.

6343294	When a Solaris PSH error is detected and reported, the following erroneous message (in addition to the correct message) might be reported:
	`msg = warning: bad proto frame`
	`implies corrupt/lost msg(s)`
		Disregard the erroneous message.

6342192	The server does not answer incoming calls on the ALOM CMT serial management port.	Do not connect a modem to the ALOM CMT serial port.

6347456	SunVTS memory tests, in rare cases, might log a warning message similar to the following when the ECC Error Monitor (`errmon`) option is enabled:
	`WARNING: software error encountered`
	`while processing /ar/fm/fmd/errlog`
	`Additional-Information: end-offile`
	`reached`
		Do not enable the `errmon` option. The `errmon` option is disabled by default.

6344888	The system might generate erroneous fault messages with the following message IDs:
	`SUN4-8000-ER`
	`SUN4-8000-OY`
	`SUN4-8000-75`
	`SUN4-8000-D4`
		Make sure that the following line is in the `/etc/system` file:
		`set pcie:pcie_aer_ce_mask=0x1`
		See "Mandatory `/etc/system` File Entries" on page 6.

TABLE 2-3 Specific Issues for the Sun Fire T2000 Server with Part Number 501-7501 *(Continued)*

CR ID	Description	Workaround
6356620	The `raidctl` command, which provides a status of the hardware RAID volumes, might report an incorrect disk target ID for a disk that is removed from the chassis and the system is rebooted.	The `raidctl` command will report the correct target ID when the disk is reinstalled.
6368136	The ALOM `showlogs -p p` command displays a lot of data and could slow down the ALOM CLI.	To display the persistent log, use the following command instead: `showlogs -e x` where *x* specifies the number of lines (most recent log entries) to be displayed.
6362690	When SunVTS testing is stopped while the `dtlbtest` is running, the test might fail with the following error: `No CPUs to test`	Upgrade to SunVTS 6.1 PS1. This release of SunVTS is available from: http://www.sun.com/oem/products/vts
6368944	At the ok prompt, you can only enter text up to 114 characters.	Do not attempt to enter more than 114 characters at the ok prompt.
6369961	System fault messages and ALOM CMT alerts continue to be generated at boot time after the fault has been repaired.	This issue is fixed when the mandatory patch, 119578-22 or greater, is installed. See "Required Patches" on page 16. If this patch is not installed, you can clear system fault messages by performing the procedure described in the *Sun Fire T2000 Server Service Manual*.
6380987	When a grounding wire is connected to the grounding pin on the rear of the chassis, it is not possible to change rear blower without removing the ground connection.	If you need to replace the rear blower unit, and there is a grounding wire connected, remove the grounding wire to access the blower unit.
6381064	The system cannot boot if a Sun type-7 keyboard is plugged into one of the front USB ports.	Do not plug a type-7 keyboard into any of the front USB ports. Instead, use a different kind of keyboard, or use the rear USB ports.
6383666	USB support is only provided when you install the Entire Distribution +OEM Solaris cluster.	If you plan to use the onboard USB interfaces, make sure you choose the Entire Distribution +OEM (SUNWCXall) cluster when you install the Solaris OS.
6391218	The `probe-scsi` command does not probe devices connected to onboard disk controller.	Instead, use the `probe-scsi-all` command.
6400117	The DVD drive does not perform write operations using a speed of x24.	When using the `cdrw` command to write to the DVD drive, do not use the following command: `cdrw -p24` Instead, use one of the following speeds: • `cdrw -p16` • `cdrw -p10`

TABLE 2-3   Specific Issues for the Sun Fire T2000 Server with Part Number 501-7501 *(Continued)*

CR ID	Description	Workaround

6405137	Intermittently, upon a system host power-on or reset, the system powers down with the following message:
	`HV Abort: JBI Error (22) -`
	`PowerDown`
		Disregard this message. If the server hangs, reset the server from the system console.

6408619	The server fails to boot from a Linux tftp boot server on the network.	Use a Solaris OS tftp boot server.
6410532	The ALOM `disablecomponent` command does not disable the Ethernet ports.	Do not use the `disablecomponent` command to disable the Ethernet ports.

6424812	The following PSH fault messages might be displayed while booting from disk, after booting from the network:
	`SUNW-MSG-ID: SUN4-8000-5A, TYPE:`
	`Defect, VER: 1, SEVERITY:`
	`Critical`
		See "Fault Messages Displayed While Booting From Disk, After Booting From the Network (CR 6424812)" on page 10.

n/a	X-option and replacement hard drives might not have an electronic disk label.	If you plan to replace or add a hard drive to your server, the drive might not have an electronic disk label and you must run the Format utility to label the drive. Instructions for labeling the drive are provided in a document titled *Labeling Unlabeled Hard Drives* (part number 819-3805), which is posted with the Sun Fire T2000 server documentation at: `http://www.sun.com/documentation`

Notes For Servers With Part Number 501-6843

This chapter describes the important information that applies to Sun Fire T2000 Servers with a part number of 501-6843. To determine the part number of your server, see "To Determine the Part Number and Which Notes Apply to Your Server" on page 2.

Refer to the following sections for details:

Note – For hardware RAID support, you must install Patch 121130-01 or greater for the Solaris 10 1/06 OS. Hardware RAID support is enabled by default with the Solaris 10 6/06 (or later) OS. See "Hardware RAID Support" on page 35.

Supported Firmware and Software Versions

Latest Versions

The following firmware and software versions are preinstalled on the server:

- Solaris 10 1/06 OS
- Java Enterprise Systems (Java ES) 2005Q4 software
- Sun System Firmware 6.1, which includes Advanced Lights Out Manager (ALOM) CMT 1.1 software
- SunVTS 6.1 software
- Sun Management Center 3.6 software

Minimum Versions

If you decide to reinstall software or firmware on your server, be aware of the following minimum supported versions for the Sun Fire T2000 server with part number 501-6843:

- Solaris 10 3/05 HW2 Operating System (Solaris 10 1/06 OS is recommended)
- Java™ Enterprise Systems (Java ES) 2005Q1 software
- Sun System Firmware 6.0, which includes Advanced Lights Out Manager (ALOM) CMT 1.0 software
- SunVTS 6.0PS3 software
- Sun™ Management Center 3.6 software

Required Patches

This section describes the required patches for the Sun Fire T2000 server (with part number 501-6843). These patches must be installed on the server before you deploy the server. You must install these patches on servers that use the factory preinstalled Solaris OS, and on servers where the Solaris OS is installed at the site.

Patches are available from http://www.sun.com/sunsolve.

Use TABLE 3-1 to determine which patches are required on your server.

TABLE 3-1   Mandatory Patches for Servers With Part Number 501-6843

	Solaris 10 3/05 HW2 OS	Solaris 10 1/06 OS	Solaris 10 6/06 OS	Solaris 10 11/06 OS
General	• 118822-23 or greater • 119578-22 or greater • 121236-01 or greater • 121265-01 or greater • 119981-05 or greater • 120824-03 or greater • 120849-02 or greater • 118918-09 or greater	• 119578-22 or greater • 118833-24 or greater	• 118833-24 or greater	N/A
Hardware RAID support*	• 121130-01 (see "Hardware RAID Support" on page 35) • 119850-14 or greater • 122165-01 or greater	• 121130-01 (see "Hardware RAID Support" on page 35) • 119850-14 or greater • 122165-01 or greater		

* Patches listed in this row are only needed if you plan to use hardware RAID with this server.

If you have option cards added to your server, refer to the documentation and README files for each card to determine if additional patches need to be installed.

Whether you use the preinstalled version of the Solaris OS, or you reinstall the Solaris OS on this server, you must modify the /etc/system file to ensure optimum functionality. See "Mandatory /etc/system File Entries" on page 6.

Note – Before contacting Sun for support, ensure that the mandatory patches are installed on your server. In addition to installing these patches, Sun recommends that you check the SunSolve web site on a regular basis for the availability of new patches.

▼ To Apply Patches to the Boot Disk

1. Determine whether the patches have been installed on your system.

For example, using the showrev command, type the following:

```
# showrev -p | grep "Patch: 118822"
```

- If you see patch information listed for the queried patch, and the dash extension (the last two digits) matches or exceeds the required version, your system has the proper patches already installed and no further action is required.

  For example, if patch 118822–23 or later is installed, your system has the required version of this patch.

- If you do not see patch information listed for the queried patch, or if the dash extension precedes the required version, go to Step 2.

  For example, if no version of the 118822 patch, or a version with an extension of -22 or earlier is installed, you must download and install the new patch.

2. Go to http://www.sun.com/sunsolve **to download the patches.**

Using the SunSolve PatchFinder tool, specify the base Patch ID number (the first six digits) to access the current release of a patch.

Follow the installation instructions provided in a specific patch's README file.

Known Issues

This section describes issues that are known to exist for this release of the Sun Fire T2000 server.

General Functionality Issues

TABLE 3-2 lists features that are not available at the time of this release of the Sun Fire T2000 server.

TABLE 3-2 Functionality Issues for the Sun Fire T2000 Server with Part Number 501-6843

Feature	Comment
Hardware RAID	Hardware RAID is only supported on servers that have the following patches installed: • 121130-01 or greater for the Solaris 10 1/06 OS only, not required for the Solaris 10 6/06 (or later) OS. • 119850-14 or greater • 122165-01 or greater See "Hardware RAID Support" on page 35.
Java Enterprise System (Java ES) software—Network Security Services (NSS) and RSA keys	The NSS shared component in the Java ES 2005Q1 software release might be adversely affected by the single-threaded floating point unit in the UltraSPARC® T1 processor on Sun Fire T2000 servers. This can result in less than optimal performance during the initial negotiation of RSA keys. If your application relies heavily on RSA negotiation, consider installing Java ES 2005Q4 and the latest recommended patches. This software is available for download at the following web site: `http://www.sun.com/software/javaenterprisesystem/`
Solaris™ Predictive Self-Healing (PSH) feature	The Solaris PSH implementation is not fully implemented in this release of the product. If a PSH message with a message ID of `FMD-8000-0W` occurs, refer to the instructions at: `http://www.sun.com/msg/FMD-8000-0W`

TABLE 3-2   Functionality Issues for the Sun Fire T2000 Server with Part Number 501-6843
(Continued) (Continued)

Feature	Comment

Sun Explorer utility	This server is supported by the Sun™ Explorer 5.2 data collection utility, but is not supported by earlier releases of the utility. Installing Sun™ Cluster or Sun Net Connect software from the pre-installed Java ES package will automatically install an earlier version of the utility on your system. After installing any of the Java ES software, determine whether an earlier version of the Sun Explorer product has been installed on your system by typing the following:
	
	 `# pkginfo -l SUNWexplo`
	
	 If an earlier version exists, uninstall it and install version 5.2, or later. To download Sun Explorer 5.2, go to:
	
	 `http://www.sun.com/sunsolve`

Sun[SM] Net Connect	The version of Sun Net Connect software included with the Java ES 2005Q1 release does not fully support Sun Fire T2000 servers. Do not install this version of the Sun Net Connect software on your Sun Fire T2000 server. If this version is inadvertently installed on this system, uninstall it. The Sun Fire T2000 server requires Sun Net Connect version 3.2.2 or later. You can download this version from the following web site: `http://www.sun.com/service/netconnect/` See CR 6338365 for an identified known issue for Sun Net Connect 3.2.2 software.

Specific Issues and Workarounds

TABLE 3-3 lists known issues for which a change request ID (CR ID, formerly known as a bug ID) has been assigned. The table also lists possible workarounds for these issues.

For more information about these CRs, visit the SunSolve web site.

TABLE 3-3   Specific Issues for the Sun Fire T2000 Server with Part Number 501-6843

CR ID	Description	Workaround
6214403[*]	The SunVTS™ netlbtest does not show up in the SunVTS user interface.	In the SunVTS config file (`/opt/SUNWvts/lib/conf/netlbtest.conf`), add the following line: `ipge ipge 1gbaseT`
6274126[*]	Large page sizes can create stale entries in the translation storage buffer (TSB).	In the `/etc/system` file, add the following line: `set segkmem_lpsize=0x400000` This reduces the page size used for the large page kernel heap from 256MB to 4MB. See "Mandatory `/etc/system` File Entries" on page 6. Note: This issue is fixed in the Solaris 10 1/06 OS release.
6274641[*]	The SunVTS cputest might fail when you run both SunVTS functional memory tests (pmemtest and vmemtest) at the same time.	Do not run the SunVTS cputest and the SunVTS functional memory tests (pmemtest and vmemtest) at the same time. Note: This bug is fixed in the SunVTS 6.1 release.
6285190	The ALOM CMT showplatform command cannot distinguish the system state between the OpenBoot™ PROM (OBP) state and the OS running state.	Do not use the showplatform command to determine the state of the system.
6287524[*]	If POST detects a failed I/O device, the failure information is not passed to the system controller for further processing.	If you suspect that a faulty I/O device was detected by POST, contact your service representative for support.
6310384	The SunVTS USB keyboard test (usbtest) reports that a keyboard is present when there is no keyboard attached to the server.	Do not run the usbtest.
6312364	When accessing the host through the ALOM CMT console command, you might experience slow console response.	For optimum responsiveness, access the host through the host network interfaces as soon as the host has completed booting the OS.
6314590	Executing the ALOM CMT break and go commands might cause the system to hang.	If the console hangs, reset the system.

CR ID	Description	Workaround
6314837*	After using the `bootmode reset_nvram` command, the system console displays the following alert: `NVRAM contents invalid`	Check the OBP variables and set them to your desired settings.
6315238	Recycling AC power results in the following erroneous message: `Preceding SC reset due to watchdog`	Disregard this message.
6315592*	ALOM CMT does not detect FRU replacements performed while the server is in standby mode.	After replacing a FRU (for example, DIMMs) when the server is in standby mode, issue the `resetsc` command. This resets the system controller and results in the detection of the replaced FRU.
6316899*	The `SunVTS dtlbtest` currently tests unsupported page sizes and returns the following error message: `Subtest skipped due to failure to allocate memory`	Disregard this message. Note: This bug is fixed in the SunVTS 6.1 release.
6317382	Typing unrecognized commands or words at the `ok` prompt causes the system to return the following erroneous error: `ERROR: Last Trap` and might hang the server.	Disregard this erroneous error message. If the server hangs, reset the server from the system console.
6318208	Whenever the system resets, including after a POST reset, you might see the following message: `Host system has shut down`	Disregard this message. The system will be reset and display the OBP `ok` prompt as expected.
6318226*	If you attempt to disable the ttya port using the `disablecomponent` command, the port will not be disabled.	Do not disable the ttya port.
6318235*	PCI-X slots cannot be disabled individually.	If you need to disable PCIX0 or PCIX1 you must disable both slots.
6323510*	The PCIEa or PCIEb components cannot be enabled or disabled using the `enablecomponent` and `disablecomponent` commands.	At this time, no workaround is available for this issue.
6324014*	POST does not run if `diag_trigger` is set to `all-resets`.	To ensure that POST runs, use the `setkeyswitch` command to control how POST runs. Do not set `diag_trigger` to `all-resets`.
6325271	The console history boot and run logs are the same.	At this time, no workaround is available for this issue.
6325313*	If networking is disabled by setting `if_network` to `false`, subsequent system console resets return VxDiag errors.	At this time, no workaround is available for this issue.

CR ID	Description	Workaround
6327331[*]	The ASR `disablecomponent` command does not disable the pcix0 slot.	Do not attempt to disable the PCIX 0 slot. Also see CR 6318235[*]. Note: the SAS disk controller is installed in the PCIX 0 slot.
6331169	The OBP and Solaris OS banners display a product name of Sun Fire T200.	The correct product name should read Sun Fire T2000. This issue has no impact on the system.
6333003[*]	During an ALOM CMT password recovery procedure, there is a lot of writing activity on the system controller card. The activity might cause a timeout that results in the following erroneous system controller messages: SC Alert: SCC has been removed. SC Alert: SCC has been inserted.	Disregard these erroneous error messages.
6334098[*]	If ALOM CMT `resetsc` is executed too soon after `clearasrdb` or `enablecomponent`, the system might return the following error: `No valid MEMORY configuration`	Wait several seconds after the `clearasrdb` or `enablecomponent` command completes before executing `resetsc`.
6336040	After a failed DIMM was cleared from the asr database, ALOM CMT might not properly reboot and returns the following error message: `No valid MEMORY configuration`	Wait 10 seconds after executing the `clearasrdb` command before executing the `resetsc` command. Refer to the *Sun Fire T2000 Server Service Manual* for information about clearing DIMM-related faults.
6336420[*]	The SunVTS `cryptotest` might hang when SunVTS testing is stopped.	Terminate the SunVTS `cryptotest` process manually before running SunVTS tests again. Note: This bug is fixed in the SunVTS 6.1 release.
6338365	Sun Net Connect 3.2.2 software does not monitor environmental alarms on the Sun Fire T2000 server.	To receive notification that an environmental error has occurred, use the ALOM CMT `mgt_mailalert` feature to have ALOM CMT send an email when an event occurs. To check whether or not the environmental status of the server is ok, log on to ALOM CMT and run the `showfaults` command. To view a history of any events the server encountered, log on to ALOM CMT and run the `showlogs` command.
6338962	The system might hang after a panic when the `sync` command is used.	If the server hangs, reset the server from the system console.
6341045	If a CPU or memory fault occurs while the server is running a trap handler, the system might panic with a bad trap instead of providing a CPU or memory fault message. In such cases, memory scrubbing is not performed.	Reset the server, and check the server for possible faults using the `showfaults` command.

TABLE 3-3 Specific Issues for the Sun Fire T2000 Server with Part Number 501-6843 *(Continued)*

CR ID	Description	Workaround
6343294	When a Solaris PSH error is detected and reported, the following erroneous message (in addition to the correct message) might be reported: `msg = warning: bad proto frame implies corrupt/lost msg(s)`	Disregard the erroneous message.
6342192	The server does not answer incoming calls on the ALOM CMT serial management port.	Do not connect a modem to the ALOM CMT serial port.
6344537[*]	Disabling the CPU or memory components with the ASR `disablecomponent` command causes POST to fail.	Do not run the ASR `disablecomponent` command.

6344888	The system might generate erroneous fault messages with the following message ID:
	`SUN4-8000-ER`
	`SUN4-8000-0Y`
	`SUN4-8000-75`
	`SUN4-8000-D4`
		Make sure that the following line is in the `/etc/system` file:
		`set pcie:pcie_aer_ce_mask=0x1`
		See "Mandatory `/etc/system` File Entries" on page 6.

6346813[*]	For a small percentage of correctable memory errors, POST might not isolate the correct DIMM.	If you replace a reported faulty DIMM and memory errors persist, replace the other DIMM from the following DIMM pairs: J1101 – J1201 J1301 – J1401 J2101 – J2201 J2301 – J2401
6347456	SunVTS memory tests, in rare cases, might log a warning message similar to the following when the ECC Error Monitor (`errmon`) option is enabled: `WARNING: software error encountered while processing /ar/fm/fmd/errlog Additional-Information: end-offile reached`	Do not enable the `errmon` option. The `errmon` option is disabled by default.
6353459	The server might not power on when power supply 0 (PS0) is not installed in the chassis. The following error is displayed on the console: `No CPU Signon`	Do not remove PS0. If PS0 fails, leave it installed until you are ready to replace it. If you replace PS0, shut the operating system down and power off the server. This problem is not relevant for PS1. Therefore, PS1 can be hot swapped.

CR ID	Description	Workaround
6356620	The `raidctl` command, which provides a status of the hardware RAID volumes, might report an incorrect disk target ID for a disk that is removed from the chassis and the system is rebooted.	The `raidctl` command will report the correct target ID when the disk is reinstalled.
6362690	When SunVTS testing is stopped while the `dtlbtest` is running, the test might fail with the following error: `No CPUs to test`	Upgrade to SunVTS 6.1 PS1. This release of SunVTS is available from: `http://www.sun.com/oem/products/vts`
6368136	The ALOM `showlogs -p p` command displays a lot of data and could slow down the ALOM CLI.	To display the persistent log, use the following command instead: `showlogs -e` *x* where *x* specifies the number of lines (most recent log entries) to be displayed.
6368944	At the ok prompt, you can only enter text up to 114 characters.	Do not attempt to enter more than 114 characters at the ok prompt.
6369961	System fault messages and ALOM CMT alerts continue to be generated at boot time after the fault has been repaired.	This issue is fixed when the mandatory patch, 119578-22 or greater, is installed. See "Required Patches" on page 25. If this patch is not installed, you can clear fault messages by performing the procedure described in the *Sun Fire T2000 Server Service Manual*.
6380987	When a grounding wire is connected to the grounding pin on the rear of the chassis, it is not possible to change rear blower without removing the ground connection.	If you need to replace the rear blower unit, and there is a grounding wire connected, remove the grounding wire to access the blower unit.
6381064	The system cannot boot if a Sun type-7 keyboard is plugged into one of the front USB ports.	Do not plug a type-7 keyboard into any of the front USB ports. Instead, use a different kind of keyboard, or use the rear USB ports.
6383666	USB support is only provided when you install the Entire Distribution +OEM Solaris cluster.	If you plan to use the onboard USB interfaces, make sure you choose the Entire Distribution +OEM (SUNWCXall) cluster when you install the Solaris OS.
6391218	The `probe-scsi` command does not probe devices connected to the onboard disk controller.	Instead, use the `probe-scsi-all` command.
6400117	The DVD drive does not perform write operations using a speed of x24.	When using the `cdrw` command to write to the DVD drive, do not use the following command: `cdrw -p24` Instead, use one of the following speeds: • `cdrw -p16` • `cdrw -p10`

CR ID	Description	Workaround

6405137	Intermittently, upon a system host power-on or reset, the system powers down with the following message:
	
	`HV Abort: JBI Error (22) –`
	`PowerDown`
		Disregard this message. If the server hangs, reset the server from the system console.

6408619	The server fails to boot from a Linux tftp boot server on the network.	
6410532	The ALOM `disablecomponent` command does not disable the Ethernet ports.	Do not use the `disablecomponent` command to disable the Ethernet ports.
n/a	X-option and replacement hard drives might not have an electronic disk label.	If you plan to replace or add a hard drive to your server, the drive might not have an electronic disk label and you must run the `Format` utility to label the drive. Instructions for labeling the drive are provided in a document titled *Labeling Unlabeled Hard Drives* (part number 819-3805), which is posted with the Sun Fire T2000 server documentation at: `http://www.sun.com/documentation`

* This issue does not apply to systems running with the latest OS, System Firmware, and SunVTS versions. See "Latest Versions" on page 24.

Hardware RAID Support

RAID technology allows for the construction of a logical volume, made up of several physical disks, to provide data redundancy, increased performance, or both. The Sun Fire T2000 server onboard disk controller supports the following RAID configurations:

- Integrated Stripe, or IS volumes (RAID 0)
- Integrated Mirror, or IM volumes (RAID 1)

You must have the following patches installed on the server before you create RAID volumes:

- 121130-01 or greater (for the Solaris 10 1/06 OS only) – provides updated hardware RAID support. This patch is not required for the Solaris 10 6/06 or later OS.

- 119850-14 or greater – provides updates to the `mpt` device driver and `raidctl` utility.

- 122165-01 or greater – provides updated FCODE to the PCI-X SAS disk controller card.

For information on how to implement hardware RAID on the server, refer to the *Sun Fire T2000 Server Administration Guide* (part number 819-2549). This document is available alongside the other Sun Fire T2000 manuals at `http://www.sun.com/documentation.`