Sun SPARC® Enterprise T2000 Server Product Notes

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www.sun.com

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Important Information About the Sun SPARC Enterprise T2000 Server

These product notes contain important and late-breaking information about the SPARC Enterprise T2000 server.

The following sections are included:

- "Support for the SPARC Enterprise T2000 Server" on page 1
- "Supported Versions of Firmware and Software" on page 2
- "Required Patches" on page 3
- "Known Issues and Workarounds" on page 3

Support for the SPARC Enterprise T2000 Server

This section includes where to obtain technical support, software, and documentation.

Technical Support

If you have any technical questions or issues that are not addressed in the SPARC Enterprise T2000 server documentation, contact your local support services representative. For customers in the U.S. or Canada, call 1-800-USA-4SUN (1-800-872-4786). For customers in the rest of the world, find the World Wide Solution Center nearest you by visiting the web site:

`http://www.sun.com/service/contacting/solution.html`

Software Resources

The Solaris™ Operating System and Sun Java™ Enterprise System software are preinstalled on your SPARC Enterprise T2000 server.

If it becomes necessary to reload the software, go to the following web site. You will find instructions for downloading software.

http://www.sun.com/software/preinstall/

Downloading Documentation

Instructions for installing, administering, and using your SPARC Enterprise T2000 server are provided in the SPARC Enterprise T2000 server documentation set. The entire documentation set is available for download from the following web site:

http://www.sun.com/documentation/

Note – Information in these product notes supersedes the information in the SPARC Enterprise T2000 documentation set.

Supported Versions of Firmware and Software

These are the minimum supported versions of firmware and software for this release of the SPARC Enterprise T2000 server:

- Solaris 10 11/06 Operating System (OS)
- Sun Java Enterprise System software (Java ES 2005Q4)
- System firmware 6.3.5, which includes Advanced Lights Out Manager (ALOM) CMT 1.3.5 software and OpenBoot™ 4.25.3 firmware.

Updating System Firmware

Firmware updates are available from SunSolve℠ (`sunsolve.sun.com`) through patch releases. For details on how to update your system firmware, see Appendix A of the *Sun SPARC Enterprise T2000 Server Installation Guide*. For more details on the `flashupdate` command, see the *Advanced Lights Out Management (ALOM) CMT v1.x Guide*.

Note – Updating your system firmware also updates your ALOM CMT software and OpenBoot firmware.

Required Patches

At this time, there are no mandatory patches for SPARC Enterprise T2000 servers.

When required patches are available from `http://www.sun.com/sunsolve`.

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

Patches for Option Cards

If you add option cards to your server, refer to the documentation and README files for each card to determine if additional patches are needed.

Known Issues and Workarounds

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

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.

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

```
set pcie:pcie_aer_ce_mask=0x2001
```

▼ 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=0x2001
.
```

3. **If the entry is not there, add it:**
   a. **Use an editor to edit the /etc/system file and add both lines.**
   b. **Reboot the server.**

General Functionality Issues

These are the functionality issues for this release.

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.

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-OW` occurs, refer to the instructions at: `http://www.sun.com/msg/FMD-8000-0W`.

Supported Sun Explorer Utility Version

The SPARC Enterprise T2000 server is supported by the Sun Explorer 5.7 (or later) data collection utility, but is not supported by earlier releases of the utility. Installing Sun Cluster or Sun Net Connect software from the preinstalled Java ES package could 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 5.7, or later. To download version 5.7, go to:

`http://www.sun.com/sunsolve`

SPARC Enterprise T2000 Correctable Memory Errors in POST Can Be Misleading (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
```

Erroneous Fault Messages Displayed After a Solaris OS JumpStart Installation

If you perform a Solaris JumpStart™ installation of a Sun SPARC Enterprise T2000 server, the server will display erroneous PSH fault messages at boot time. To correct this situation, you must install the SPARC Enterprise 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 6.

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,SPARC-Enterprise-T2000, 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,SPARC-Enterprise-T2000/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,SPARC-Enterprise-T2000/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 SPARC Enterprise 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 4.
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.x 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,SPARC-Enterprise-
T2000/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 SPARC Enterprise T2000 Server Service Manual* for diagnostic procedures.

Specific Issues and Workarounds

TABLE 1 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 1 Specific Issues for the SPARC Enterprise T2000 Server *(1 of 5)*

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.
6325271	The console history boot and run logs are the same.	At this time, no workaround is available for this issue.
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 SPARC Enterprise T2000 Server Service Manual* for information about clearing DIMM-related faults.

TABLE 1 Specific Issues for the SPARC Enterprise T2000 Server *(2 of 5)*

CR ID	Description	Workaround
6338365	Sun Net Connect 3.2.2 software does not monitor environmental alarms on the SPARC Enterprise 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=0x2001`
		See "Mandatory `/etc/system` File Entries" on page 4.

TABLE 1 Specific Issues for the SPARC Enterprise T2000 Server *(3 of 5)*

CR ID	Description	Workaround
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.
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.
6408619	The server fails to boot from a Linux tftp boot server on the network.	Use a Solaris OS tftp boot server.
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 SPARC Enterprise T2000 server documentation at: `http://www.sun.com/documentation`

6520334	If SSH is not enabled, executing the `ssh-keygen -l` command to print keys generates the following error message:
	`sc> ssh-keygen -l -t rsa`
	`Fingerprint file can't be opened error 380003`
	This error message should read as follows:
	`ssh is not enabled.`
		Enable SSH.

6508432	Many correctable errors (CE) could occur, and although these errors are correctable, the system could panic.	Add the following entry to `/etc/system` to avoid the problem: `set pcie:pcie_aer_ce_mask = 0x2001` See "Mandatory `/etc/system` File Entries" on page 4.

TABLE 1 Specific Issues for the SPARC Enterprise T2000 Server *(4 of 5)*

CR ID	Description	Workaround

6538717	The `showfru` command reports Micron DIMMs as Seagate DIMMs. For example:
	`[LE2]FRU_PROM at MB/CMP0/CH0/R0/D0/SEEPROM`
	`/SPD/Timestamp: MON APR 17 12:00:00 2006`
	`/SPD/Description: DDR2 SDRAM, 1024 MB`
	`/SPD/Manufacture Location:`
	`/SPD/Vendor: Seagate` <--should say Micron
		Currently no workaround.

6520334	If SSH is not enabled, executing the `ssh-keygen -l` command to print keys generates the following error message:
	`sc> ssh-keygen -l -t rsa`
	`Fingerprint file cant be opened error 380003`
	This error message should read as follows:
	`ssh is not enabled.`
		Enable SSH.

6472072	When a panic dump is taken by `Break-D` of ALOM, the panic message displays as follows: `Unrecoverable hardware error.`	Hardware error does not occur. This message can be safely ignored.
6500293, 6502078	After executing `boot-r`, the `prtdiag-v` command. might not display host bus adaptors on Sun SPARC Enterprise T1000 or T2000 servers.	Reboot the system without reconfiguration.

TABLE 1 Specific Issues for the SPARC Enterprise T2000 Server *(5 of 5)*

CR ID	Description	Workaround
n/a	When the following devices are connected with `ttya` (Dsub 9pin) on Sun SPARC Enterprise T1000 or T2000 servers, you cannot install the Solaris OS. • SH4124T (Dsub 9pin) • Cisco Catalyst2960 (RJ45) • SPARC Enterprise T2000 (Dsub 9pin)	Install Solaris OS with nothing connected with `ttya` (Dsub 9pin).
n/a	When the following devices are connected with `ttya` (Dsub 9pin) on SPARC Enterprise T1000 or T2000 servers, you cannot log into the ALOM console. • SH4124T (Dsub 9pin) • Cisco Catalyst2960 (RJ-45) • SPARC Enterprise T2000 Server (Dsub 9pin)	Log into the ALOM console with nothing connected with `ttya` (Dsub 9pin). Or, connect to ALOM with an RJ-45 cable when you use it.
6542956	Under heavy load, systems with UltraSPARC T1 1.4GHz processors could display false warnings in the MB/V_VCORE parameter of the `showenvironment` table. This occurs because the `showenvironment` command, to provide timely results, does not perform value averaging. Thus, it could appear that a sensor or environmental reading exceeded a threshold and did not generate a fault. If this occurs, system logs and the `showenvironment` table will not match.	Currently no workaround available.

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 SPARC Enterprise T2000 Server Installation Guide*

There might be a typographical error in the translated versions of the *Sun SPARC Enterprise 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
```