FUJITSU

SPARC Enterprise T1000 Server Product Notes

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Contents

Preface

These product notes contain late-breaking information about the SPARC Enterprise T1000 server hardware, software, or documentation errata.

Note – The information indicated in this document will be updated as needed. Check the following web site on a regular basis for the availability of a newer edition when using the SPARC Enterprise T1000 server.
http://www.fujitsu.com/sparcenterprise/manual/

Software Resources

The Oracle Solaris Operating System (Solaris OS) and Sun Java Enterprise System software are preinstalled on your SPARC Enterprise T1000 server.

For the important information about preinstalled software, visit the following web sites:

- Global Site

  http://www.fujitsu.com/sparcenterprise/manual/notes/

- Japanese Site

  http://primeserver.fujitsu.com/sparcenterprise/manual/notes/

Note – For the information on how to get the patch releases, contact your sales representative.

Downloading Documentation

The documentation set of SPARC Enterprise T1000 server is available on the following web sites:

- Global Site

  http://www.fujitsu.com/sparcenterprise/manual/

- North American Site

  https://download.computers.us.fujitsu.com/

- Japanese Site

  http://primeserver.fujitsu.com/sparcenterprise/manual/

Note – Information in these product notes supersedes the information in the SPARC Enterprise T1000 server documentation set.

Documentation Feedback

If you have any comments or requests regarding this document, or if you find any unclear statements in the document, please state your points specifically on the form at the following URL.

http://www.fujitsu.com/global/contact/computing/sparce_index.html

Important Information About the SPARC Enterprise T1000 Server

These product notes contain important and late-breaking information about the SPARC Enterprise T1000 server.

The following sections are included:

Note – Information in these product notes supersedes the information in the SPARC Enterprise T1000 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 T1000 server:

- Solaris 10 11/06 Operating System
- 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

For details on how to update your system firmware, see Appendix A of the *SPARC Enterprise T1000 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.

Patch Information

Mandatory Patches

At this time, there are no mandatory patches for SPARC Enterprise T1000 servers.

Note – Contact a sales representative or a certified service engineer for the latest patch information.

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 T1000 server.

Mandatory /etc/system File Entry

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 entry.**

   b. **Reboot the server.**

Hardware Installation and Service Issues

Notes on the Use of 200V Power Supply

For the servers that have the plug with lock function, confirm that a 15A overcurrent protection device is available outside the server. If one is not available, prepare an external 15A overcurrent protection that can be achieved by means of no-fuse breakers (NFBs) or fuses. The plug with lock function refers to plugs other than grounding-type ones with two parallel blades, such as the NEMA L6-30, L6-20, L6-15, and L5-15.

For details of the power cord type for your server, contact your authorized service engineer.

Chassis Cover Might Be Difficult to Remove (CR 6376423)

The chassis cover might be very difficult to remove. If you press too hard on the cover lock button, the front edge of the cover might warp and bind. Also, elastic gasket material on the sides of the chassis might prevent the cover from sliding freely.

To remove the cover, lightly hold down the cover lock button and push the cover slightly toward the *front* of the chassis (this assists the unlocking action), then slide the cover approximately one half inch (12 mm) toward the rear of the chassis. You can now lift the cover off the chassis.

General Functionality Issues

RAID Function

A hardware RAID function is provided as standard in SPARC Enterprise T1000 servers. However, with regard to data protection, reliability, and serviceability, Fujitsu DOES NOT support this function.

Fujitsu recommends use of software RAID functions for internal disks as specified below:

- PRIMECLUSTER GDS
- Solaris Volume Manager (included in Solaris OS)

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 T1000 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 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.

System Will Not Power On With an Invalid Memory Configuration (CR 6300114)

The system will not power on if memory rank 0 is not populated. Rank 0 sockets must always be filled.

Disk Drive Write Cache Enabled By Default

Read caching and write caching are both enabled by default for the SPARC Enterprise T1000 server disk drive (this issue applies to SATA drives only). The use of the caches increases the read and write performance of the disk drive. However, data in the write cache might be lost if system AC power is interrupted. (A loss of AC power does not present a problem for the read cache.)

If you prefer to disable write caching, use the Solaris `format -e` command:

Caution – These settings are not saved permanently. You must reset the write cache setting every time the system boots.

▼ To Disable the Write Cache

1. **In the Solaris environment, enter the format expert mode by typing:**

```
# format -e
Searching for disks...done
AVAILABLE DISK SELECTIONS:
       0. c0t0d0 <ATA-HDS ...
```

2. **Specify disk number 0.**

```
Specify disk (enter its number): 0
selecting c0t0d0
...
```

   The `format` menu is displayed.

3. **Select the `cache` option by typing:**

```
format> cache
```

4. **Select the `write_cache` option by typing:**

```
cache> write_cache
WRITE_CACHE MENU:
...
```

5. **Display the current setting for the write cache.**

```
write_cache> display
Write Cache is enabled
```

6. **Disable the write cache.**

```
write_cache> disable
This setting is valid until next reset only. It is not saved
permanently.
```

7. **Verify the new setting.**

```
write_cache> display
Write Cache is disabled
```

8. **Exit from the write_cache mode.**

```
write_cache> quit
CACHE MENU:
...
```

9. **Exit from the cache mode.**

```
cache> quit
FORMAT MENU:
...
```

10. **Exit from the `format` command.**

```
format> quit
```

Specific Issues and Workarounds

TABLE 1 lists known issues. The table also lists possible workarounds for these issues.

TABLE 1 Specific Issues and Workarounds

CR ID	Description	Workaround
6997177	When you use the `console` command of ALOM to log in to OS via the virtual console device, and then use an editor such as vi to cut & paste a large amount of data to a file, that virtual console may hang.	**Note -Fixed in System Firmware 6.7.12 or later.** None. If you would like to cut & paste a large amount of data to a file on OS, log in to OS via TELNET or SSH and use the relevant editor. When this event occurred, use the OS shutdown command to normally stop the system and then execute the ALOM reset operation. For the execution example, see "Virtual Console May Hang When You Using vi Editor (CR 6997177)" on page 13.

6949047	After the `shutdown -i5` command was executed, though Solaris OS normally terminates, system power-off process may fail to complete.
	
	Event example in failure:
	`# shutdown -i5 -g0 -y`
	
	`Shutdown started. Thu May 19 10:32:49 JST 2011`
	
	`Changing to init state 5 - please wait`
	`Broadcast Message from root (console) on XXXXXX Thu May 19 10:32:49...`
	`THE SYSTEM erie0 IS BEING SHUT DOWN NOW ! ! !`
	`Log off now or risk your files being damaged`
	
	`# svc.startd: The system is coming down. Please wait.`
	`svc.startd: 106 system services are now being stopped.`
	`May 19 10:33:38 XXXXXX syslogd: going down on signal 15`
	`svc.startd: The system is down.`
	`syncing file systems... done`
		Note - Fixed in System Firmware 6.7.12 or later.
		This can be avoided according to the following procedures.
		1. From OS, execute the `shutdown -i0` (init 0) command
		2. From ALOM, execute the `poweroff` command
		
		This event can be recovered by executing the `poweroff` command from ALOM.

TABLE 1 Specific Issues and Workarounds *(Continued)*

CR ID	Description	Workaround
6929662	After you execute the `prtdiag` command, the output may stop at the screen of environmental data.	**Note - Fixed in System Firmware 6.7.11 or later.** None. After the ALOM reset, you can recover by restarting picld. If not recovered, restart the Solaris OS.
6886045	Start of the FMA (Fault Management Architecture) service may not complete. And due to the derived event, the Solaris OS shutdown may not terminate. For details, see "Start of FMA Service May Not Complete (CR 6886045)" on page 14.	**Note - Fixed in System Firmware 6.7.8 or later.** None.
6861787	When you use the download command of System Firmware (`sysfwdownload`) with the `-u` option, the host does not start automatically after the update completes.	**Note -Fixed in System Firmware 6.7.8 or later.** None. Execute the `poweron` command and manually start the host.
6835857	After the system power-on, when Solaris OS started, the "`chip reset error!`" message may appear and Solaris OS may fail to start.	**Note -Fixed in System Firmware 6.7.8 or later.** Power off the system, wait for about 180 seconds, and then power on the system.
6834363	While Solaris OS is running, when you use the `poweroff` command of the system controller to order the system power-off, panic occurs in Solaris OS and the system power stops.	**Note -Fixed in System Firmware 6.7.8 or later.** Use the `shutdown` command to stop Solaris OS and then execute the system power-off order of the system controller.

6781815	After the ALOM reset or the power cord removal and insertion, when the server powered on, Solaris OS startup at the `ok` prompt of OBP (OpenBoot PROM) using the `boot` command may fail.
	Error output example:
	`{0} ok` **`boot`**
	`ERROR: All device paths in boot-device have failed. (*)`
	`{0} ok`
	It cannot refer to the device paths that configured in the OBP environmental variable `boot-device` and fails to start Solaris OS.
		Note - Fixed in System Firmware 6.7.5 or later.
		After the ALOM reset or the power cord removal and insertion, when you power on the server, check the OBP environmental variable. Especially, in case the OBP environmental variable `use-nvramrc?` has been set to true, it is necessary in advance of starting the Solaris OS to see the `ok` prompt and check that `use-nvramrc?` has been set to true and then execute the `boot` command.
		Confirmation example:
		`{0} ok` **`printenv use-nvramrc?`**
		`use-nvramrc? = true`
		`{0} ok`

TABLE 1 Specific Issues and Workarounds *(Continued)*

CR ID	Description	Workaround

6757066	After downgrading System Firmware 6.6.x or later to System Firmware 6.3.X or earlier, the `showhost` command output displays the firmware information prior to the downgrade. It has no impact on the operation, as system is actually working with the downgraded firmware. Ignore the display.
	
	showhost output example:
	`sc> **showhost**`
	`SPARC-Enterprise-T1000 System Firmware 6.3.12 2008/04/06 15:50`
	
	`Host flash versions:`
	`Hypervisor 1.3.4 2007/03/28 06:03`
	`OBP 4.25.12 2008/03/23 13:27`
	`POST 4.25.12 2008/03/23 13:53`
	`Hypervisor 1.6.7.a 2008/09/29 09:29`
	`POST 4.29.0.a 2008/09/15 12:27`
	`sc>`
		None.

6676561	When Solaris OS is started, BAD TRAP might occur and the Solaris OS might panic. Message example: `panic[cpu12]/thread=300044434c0: BAD TRAP: type=31 rp=2a101c83320 addr=8 mmu_fsr=0 occurred in module "<unknown>" due to a NULL pointer dereference`	**Note -Fixed in System Firmware 6.6.7 or later.** None.

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
		None.

TABLE 1 Specific Issues and Workarounds *(Continued)*

CR ID	Description	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.

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 Entry" on page 3.
6500293 6502078	After executing `boot -r`, the `prtdiag -v` command. might not display host bus adaptors on SPARC Enterprise T1000 or T2000 servers.	Reboot the system without reconfiguration.
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.
6405226	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 Solaris OS.
6389912	False error messages are logged during poweron or system reset. The error messages include this segment: `ereport.io.fire.pec.lup`	Ignore the messages.
6376423	The chassis cover might be extremely difficult to remove.	See "Chassis Cover Might Be Difficult to Remove (CR 6376423)" on page 4.
6372709	The maximum size of the FMA `fltlog` file might be restricted.	Remove the restrictions by changing the default log rotation options for the Solaris `logadm`(1M) command.
6370233	The Dtrace function might return inaccurate CPU xcalls.	Although they are not stable interfaces, putting Dtrace `fbt` probes on `send_one_mondo` and `send_mondo_set` could be used as a workaround. For `send_mondo_set`, extract the number of CPUs being sent cross calls from the `cpuset_t` argument.

TABLE 1 Specific Issues and Workarounds *(Continued)*

CR ID	Description	Workaround
6368944	The virtual-console does not accept paste buffers that are greater than 114 characters. This causes the wanboot NVRAM parameter, `network-boot-arguments` to not be set.	Cut and paste in chunks smaller than 114 characters, or don't use cut and paste.
6363820	The `showcomponent` command hangs if you repeatedly loop on the `disablecomponent` and `enablecomponent` commands.	Reset ALOM CMT with the `resetsc` command.
6356449	The `poweron` command does not power on the system when issued immediately after the ALOM CMT resets.	If you use a script to reset the ALOM CMT and power on the system, insert a 1-second delay before the `poweron` command.
6348070	False Ereport error messages might be generated for PCI devices.	There is no workaround at this time.
6346170	The ALOM CMT `showfru` command displays epoch timestamps of `THU JAN 01 00:00:00 1970`.	Ignore timestamps with this date. There is no workaround at this time.
6346149	The maximum throughput of the system network ports decreases unexpectedly as the network load increases.	There is no workaround at this time.
6331819	SunVTS memory or CPU tests could fail due to lack of system resources. When too many instances of SunVTS functional tests are run in parallel on UltraSPARC T1 CMT CPU-based (sun4v) entry-level servers with low memory configurations, SunVTS tests might fail due to lack of system resources. For example, you could see an error message similar to the following: `System call fork failed; Resource temporarily unavailable`	Decrease the number of SunVTS test instances or perform SunVTS functional tests separately. In addition, you can increase the delay value for CPU tests or increase the test memory reserve space.
6318208	POST or `OBP reset-all` generates the alert, `Host system has shut down`.	This is normal behavior following a `reset-all` command. The message does not indicate a problem in this situation.
6317382	Typing unrecognized commands or words at the `OBP` prompt causes the system to return an erroneous error and might hang the server. This behavior only occurs when you drop into the OBP prompt from Solaris. The erroneous error message is: `ERROR: Last Trap`	Ignore this message. If the console hangs or panics, use the ALOM CMT `reset` command to reset the system.
6314590	Executing the ALOM CMT `break` command and the OpenBoot PROM `go` command might cause the system to hang or panic.	If the console hangs or panics, use the ALOM CMT `reset` command to reset the system.
6310384	The SunVTS USB keyboard test (`usbtest`) might report that a keyboard is present when there is no keyboard attached to the server.	Do not run `usbtest`.

TABLE 1 Specific Issues and Workarounds *(Continued)*

CR ID	Description	Workaround
6297813	Upon boot up, the following messages might be displayed: • `svc.startd[7]: [ID 122153 daemon.warning] svc:/system/power:default: Method or service exit timed out. Killing contract 51.` • `svc.startd[7]: [ID 636263 daemon.warning] svc:/system/power:default: Method "/lib/svc/method/svc-power start" failed due to signal KILL.`	If Solaris power management is required, restart power management manually or reboot the server. If Solaris power management is not required, no action is needed.
n/a	When the following devices are connected with `ttya` (Dsub 9pin) on 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.

Virtual Console May Hang When You Using vi Editor (CR 6997177)

This issue has been fixed in System Firmware 6.7.12 or later.

When you use the console command of ALOM to log in to OS via the virtual console device, and then use an editor such as vi to cut & paste a large amount of data to a file, that virtual console may hang.

Workaround:

None. If you would like to cut & paste a large amount of data to a file on OS, log in to OS via TELNET or SSH and use the relevant editor.

When this event occurred, use the OS shutdown command to normally stop the system and then execute the ALOM reset operation.

System shutdown execution example:

1. **Log in to Solaris OS via TELNET or SSH, and then execute** `shutdown -i5` **command to stop the system.**

```
# shutdown -i5 -g0 -y
```

2. **Execute** `showplatform` **command from ALOM to confirm that system is stopped.**

```
sc> showplatform
SUNW,SPARC-Enterprise-T2000
Chassis Serial Number: 0546NNN0PL

Domain Status
------ ------
S0     OS Standby
sc>
```

3. **Execute** `resetsc` **command from ALOM to reset ALOM.**

```
sc>  resetsc

Are you sure you want to reset the SC [y/n]?  y
```

Start of FMA Service May Not Complete (CR 6886045)

This issue has been fixed in System Firmware 6.7.8 or later.

Start of the FMA (Fault Management Architecture) service may not complete. And due to the derived event, the Solaris OS shutdown may not terminate.

- Event 1

Start of the FMA service may not complete. When you executed the `svcs`(1M) command and the FMA service is offline, and if there exist two fmd processes as the `ps`(1M) command execution result, this event has been occurred.

Command output example of Event 1:

```
# svcs svc:/system/fmd:default
STATE          STIME    FMRI
offline*       14:44:42 svc:/system/fmd:default

# ps -ef | grep fmd
   root   665   606   0 14:44:44 ?         0:00 /usr/lib/fm/fmd/fmd
   root   606     7   0 14:44:43 ?         0:00 /usr/lib/fm/fmd/fmd
    root 10898   476   0 08:58:47 console     0:00 grep fmd
```

- Event 2

After the above Event 1 occurred, when you execute the system shutdown and restart using the `shutdown`(1M) command and the `init`(1M) command, the Solaris OS shutdown may be suspended.

Example of Event 2 using the `shutdown -i0` option:

```
# /usr/sbin/shutdown -y -i0 -g0

Shutdown started.    Thu Oct 22 18:21:03 JST 2009

Changing to init state 6 - please wait
Broadcast Message from root (console) on xxxxx Thu Oct 22 18:21:...
THE SYSTEM xxxxx IS BEING SHUT DOWN NOW ! ! !
Log off now or risk your files being damaged
*snip*
svc.startd: The system is coming down.  Please wait.
svc.startd: 105 system services are now being stopped.
Oct 22 18:22:13 xxxxx syslogd: going down on signal 15

<-- Shutdown stops at this point and does not shift to ok prompt.
```

To recover from this event, system restart by forced panic is required. If not recovered, reset ALOM.

Workaround: None.

Documentation Errata

SPARC Enterprise T1000 Server Site Planning Guide

Erroneous Description in "Airflow Considerations"

There is an error in the following description of open area in "Airflow Considerations"

- Ensure that ventilation openings such as cabinet doors, for both the inlet and exhaust of the server provide a minimum open area of 33.3 $in.^2$ (215 cm^2) each. This equates to a 60% open area perforation pattern across the front and rear area of the server (17.5 in. x 3.2 in. = 445 mm x 81 mm). The impact of other open area characteristics that are more restrictive should be evaluated by the user.

The correct description is as follows:

- Ensure that ventilation openings such as cabinet doors, for both the inlet and exhaust of the server provide a minimum open area of 17.6 $in.^2$ (110 cm^2) each. This equates to a 60% open area perforation pattern across the front and rear area of the server (16.8 in. x 1.75 in. = 425 mm x 43 mm). The impact of other open area characteristics that are more restrictive should be evaluated by the user.

Advanced Lights out Management (ALOM) CMT v1.3 Guide

Error Regarding Date Synchronization

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 description is as follows:

> 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.

Complement to the Description Regarding diag_trigger

In "To Use the `setsc` Command to Change the diag_trigger Variable," the following description is missing.

The Solaris OS restart using the Solaris OS `shutdown` command or the reset on OpenBoot PROM never runs diagnostics (POST). If you want to run POST, you need to perform system reset (`reset`) or system power off/on (`poweroff`, `poweron`) from ALOM.