SPARC T4-4 Server

Product Notes

Part No.: E23413-14
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Contents

Using This Documentation

This document provides late-breaking information about Oracle's SPARC T4-4 server.

Related Documentation

Documentation	Links
All Oracle products	http://docs.oracle.com
SPARC T4-4 server	http://www.oracle.com/pls/topic/lookup?ctx=SPARCT4-4
Oracle Integrated Lights Out Manager (ILOM)	http://www.oracle.com/goto/ILOM/docs
Oracle Solaris 11 OS	http://www.oracle.com/goto/Solaris11/docs
Oracle Solaris 10 OS	http://www.oracle.com/goto/Solaris10/docs
Oracle VM Server for SPARC	http://www.oracle.com/goto/VM-SPARC/docs
Oracle VTS	http://www.oracle.com/goto/VTS/docs
Oracle Enterprise Manager Ops Center	http://www.oracle.com/pls/topic/lookup?ctx=oc122

Note – See http://docs.oracle.com for specific information about supported I/O cards and other peripherals.

Feedback

Provide feedback on this documentation at:

http://www.oracle.com/goto/docfeedback

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info, or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

CHAPTER 1

Late-Breaking Information

These product notes contain important and late-breaking information about Oracle's SPARC T4-4 server.

Preinstalled Software

The preinstalled Oracle Solaris OS is installed on a ZFS file system, as described in the TABLE 1-1.

TABLE 1-1 Preinstalled Software

Software	Location	Function
Oracle Solaris 11.1 OS with SRU 3.5.1 or later	Root disk Slice 0	Operating system
Oracle VM Server for SPARC 3.1.1	`/opt/SUNWldm`	Manages logical domains
System firmware no earlier than 8.5.1	Service processor	Oracle ILOM operations
	Host processor	All other firmware operations

Note – Refer to the Customer Information Sheet shipped with your server to identify which version of Oracle Solaris OS is preinstalled.

Note – In addition to reading the product notes for your server, always review the latest version of the Oracle Solaris OS release notes when installing or using the server. The release notes provide important installation, runtime, and update information that you should consider when installing or running the Oracle Solaris OS. The release notes also list the known OS problems and provide workarounds when available.

Find the release notes for your version of the OS on the following web site:
http://docs.oracle.com

Supported Versions of Oracle Solaris OS, Firmware, and Software

If you configure the server with Oracle VM Server for SPARC, you can install various combinations of the minimum (or later) versions of the OS. For example, you can use Oracle Solaris 11.1.4.6 for the control domain, and Oracle Solaris 10 9/10 in guest domains.

Note – Oracle Solaris 11 is the recommended OS for T4 servers. The advantages of Oracle Solaris 11 include simplified installation and maintenance, enhanced virtualization capabilities and performance enhancements. A more detailed list may be found at: http://www.oracle.com/technetwork/server-storage/solaris11/overview/solaris-matrix-1549264.html

Note – Oracle VM Server for SPARC 3.1.1 requires firmware version 8.4.2.d. Oracle Solaris 11.1 SRU 17 contains Oracle VM Server for SPARC 3.1.1.

TABLE 1-2 Supported Versions of the Oracle Solaris OS and Firmware

Software	Supported Versions
Operating System	• Oracle Solaris 11.1 or later OS • Oracle Solaris 11 11/11 OS • Oracle Solaris 10 1/13 OS • Oracle Solaris 10 8/11 OS with required patchsets • Oracle Solaris 10 9/10 OS with the Solaris 10 8/11 SPARC Bundle and required patchsets • Oracle Solaris 10 10/09 OS with the Solaris 10 8/11 SPARC Bundle and required patchsets
Oracle VM Server for SPARC (LDoms)	• 3.1.1 or later with Solaris 11.1 SRU 17 • 2.2 or later with Solaris 11 • 2.1 or later with Solaris 10
Electronic Prognostics on the server host	1.1 with Oracle Solaris 10*
System firmware	8.1.1.c or later

* Electronic Prognostics is integrated into all versions of Oracle Solaris 11.

OS Package and Patch Updates

Note – You should install the latest patches or package updates available for the version of the Oracle Solaris OS installed on your system.

Determining Oracle Solaris 11 OS Package Update Version

Updates to Oracle Solaris 11 are provisioned using package updates called Support Repository Updates (SRUs) instead of patches. SRUs are part of a new OS provisioning scheme called the Image Packaging System (IPS).

To determine the package version of the Oracle Solaris 11 OS installed on your system, run the `pkg info kernel` command and then interpret the FMRI value displayed in the output. This is an example:

```
# pkg info kernel
          Name: system/kernel
       Summary: Core Kernel
   Description: Core operating system kernel, device drivers and other modules.
      Category: System/Core
         State: Installed
     Publisher: solaris
       Version: 0.5.11
 Build Release: 5.11
        Branch: 0.175.0.2.0.2.1
Packaging Date: Wed Oct 19 07:57:11 2011
          Size: 17.99 MB
          FMRI: pkg://solaris/system/kernel@0.5.11,5.11-0.175.0.2.0.2.1:
                  20111128T20503
```

Then evaluate the following three fields in the FMRI value:

- 175—The value 175 indicates that the system has Oracle Solaris 11 OS installed. This value is a constant for Oracle Solaris 11.
- 0—The first field to the right of "175" indicates the update release. In this example, there have been no updates to the initial release.
- 2—The next field contains the SRU value. In this example, the second patch bundle (called SRU2) has been installed on Oracle Solaris 11, update 0.

You can ignore the other fields in the FMRI package description.

When you know which version of the OS is installed, you can access a list of all the packages contained in that release from the following web page:

`http://pkg.oracle.com/solaris/release/en/index.shtml`

To list the packages contained in a particular Oracle Solaris 11 release, select that release in the Release and Branch pull-down menu and press the Browse button. Or you can search for individual packages in the Search for: window.

Determining Oracle Solaris 10 Patch Revision

If your system is currently running Oracle Solaris 10, you can find its patch level with the commands `showrev`(1M) and `uname(1)`. This is shown in the following example:

```
# showrev
Hostname: *********
Host id: *********
Release: 5.10
Kernel architecture: sun4v
Application architecture: sparc
Hardware provider: Sun_Microsystems
Domain: Ecd.East.Sun.COM
Kernel version SunOS 5.10 Generic_142909-17
# uname -a
SunOS ********* Generic_142909-17 sun4v sparc sun4v
# showrev -p | tail -3
Patch: 143525-01 Obsoletes: Requires: 118833-36, 127127-11 Incompatibles:
    Packages:SUNWcsu
Patch: 143125-01 Obsoletes: 138079-01 138089-01 Requires: 120011-14
    Incompatibles: Packages: SUNWcsu
Patch: 121557-01 Obsoletes: Requires: Incompatibles: Packages: SUNWpiclu
#
```

Minimum Required Patchset for Oracle Solaris 10 8/11 OS

Install the patches listed in TABLE 1-3 before using the server with the Oracle Solaris 10 8/11 OS.

TABLE 1-3 Minimum Required Patchset for Oracle Solaris 10 8/11

147440-03
147149-01
147153-01
147707-01
147159-03

In addition, you should download and install “Recommended OS Patchset Solaris 10 SPARC”. This patchset contains Oracle Solaris 10 OS patches that address current Sun Alerts.

Note – The download of the Solaris 10 8/11 SPARC Bundle is identified by the number 14158708 at http://support.oracle.com.

Minimum Required Patchsets and SPARC Bundle for Oracle Solaris 10 9/10 OS

To use the server with the Oracle Solaris 10 9/10 OS, install the patches listed in TABLE 1-3, as well as the Oracle Solaris 10 8/11 SPARC Bundle. In addition, you should download and install "Recommended OS Patchset Solaris 10 SPARC". This patchset contains Oracle Solaris 10 OS patches that address current Sun Alerts.

Note – The download of the Solaris 10 9/10 SPARC Bundle is identified by the number 13153809 at http://support.oracle.com.

Minimum Required Patchsets and SPARC Bundle for Oracle Solaris 10 10/09 OS

To use the server with the Oracle Solaris 10 10/09 OS, install the patches listed in TABLE 1-3, as well as the Oracle Solaris 10 8/11 SPARC Bundle. In addition, you should download and install "Recommended OS Patchset Solaris 10 SPARC". This patchset contains Oracle Solaris 10 OS patches that address current Sun Alerts.

Note – The download of the Solaris 10 09/10 SPARC Bundle is available at http://support.oracle.com.

Installing and Booting Oracle Solaris 11 From Devices Connected to a USB Port

To install Oracle Solaris 11 without using an IPS AutoInstall server on the network, you can use Oracle Solaris media in a DVD drive, either built into the server or attached to a USB port. You also can boot from an ISO image copied to a DVD disk, hard disk, or SSD.

Starting with Oracle Solaris 11.2 and System Firmware 8.5.1.b, you can install the OS on this server from an image copied to a USB flash drive. That USB image is available for download at the same location as the ISO images:

http://www.oracle.com/technetwork/serverstorage/solaris11/downloads/index.html

You also can create a persistent device alias for a device connected to a USB port.

For more information see "Installing Oracle Solaris 11.2 Systems" at:

http://docs.oracle.com/cd/E36784_01

You can boot Oracle Solaris 11 from drives installed in the server (hard disk, SDD, or DVD) or from devices connected to a USB port.

For the path to identify a USB port in a boot command, refer to this table:

USB Port	Path
USB 0 (Back panel top)	/pci@400/pci@1/pci@0/pci@8/pci@0/usb@0,2/hub@3/device@1
USB 1 (Back panel bottom)	/pci@400/pci@1/pci@0/pci@8/pci@0/usb@0,2/hub@3/device@2
USB 2 (Front panel top)	/pci@400/pci@1/pci@0/pci@8/pci@0/usb@0,2/hub@2/device@1
USB 3 (Front panel bottom)	/pci@400/pci@1/pci@0/pci@8/pci@0/usb@0,2/hub@2/device@2

Support for New 16 Gbyte and 32 Gbyte DIMMs

The server supports the following new DIMM architectures:

- 4Rx4 32-Gbyte DDR3 DIMMs
- 2Rx4 16-Gbyte DDR3 DIMMs

Note – These new DIMM options require system firmware no earlier than 8.2.1.b.

For specific DIMM installation and configuration instructions, see the *SPARC T4-4 Server Service Manual*.

Support for 1.5 TByte Memory Configuration

The SPARC T4-4 server supports a 1.5 TByte memory configuration.

Note – The 1.5 TByte configuration requires system firmware no earlier than 8.3.0.b.

For specific DIMM installation and configuration instructions, see the *SPARC T4-4 Server Service Manual*.

CHAPTER 2

Known Product Issues

The following issues are known to affect Oracle's SPARC T4-4 server at the time of this release.

Hardware Issues

This section describes issues related to SPARC T4-4 server components.

Maximizing Memory Bandwidth

To maximize processor module memory bandwidth, Oracle recommends that only fully-populated memory configurations—as opposed to half-populated configurations—be considered for performance-critical applications.

For specific memory installation and upgrade instructions, see the *SPARC T4-4 Server Service Manual*.

Direct I/O Support

Only certain PCIe cards can be used as direct I/O endpoint devices on an I/O domain. You can still use other cards in your Oracle VM Server for SPARC environment, but these other cards cannot be used with the Direct I/O feature. Instead, other PCIe cards can be used for service domains and for I/O domains that have entire root complexes assigned to them.

For the most up-to-date list of supported PCIe cards, refer to https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&doctype=REFERENCE&id=1325454.1

Note – Not all cards listed on the Direct I/O web page are supported in the SPARC T4-4 server. Check the server hardware compatibility list before installing any PCIe cards.

Use Links Labeled SPARC T3 to Download `sas2ircu` Software for SPARC T4 Servers

To download `sas2ircu` firmware and documentation for SPARC T4-4 server from the current LSI web site, you must use links labeled SPARC T3-1 and T3-2. The software and documentation is the same for both sets of servers.

This is the web site for downloading sas2ircu software from LSI:

http://www.lsi.com/sep/Pages/oracle/index.aspx

This is the web site for downloading `sas2ircu` documentation from LSI:

http://www.lsi.com/sep/Pages/oracle/sparc_t3_series.aspx

Sun Type 6 Keyboards Are Not Supported by SPARC T4 Series Servers

Sun Type 6 keyboards cannot be used with SPARC T4 series servers.

Hardware RAID 1E Not Supported

Although hardware RAID 0 and 1 are supported on the SPARC T4-4 server, hardware RAID 1E is not supported. Other RAID formats are available through software RAID.

Server Panics When Booting From a USB Thumbdrive Attached to the Front USB Ports (Bug ID 15667682)

Note – This issue was originally listed as CR 6983185.

When attempting to boot a USB thumbdrive inserted in either front USB port (USB2 or USB3), the server might panic.

Workaround: Use the server's rear USB ports (USB0 or USB1) whenever booting from an external USB device.

Performance Limitations Occur When Performing a Hot-Plug Installation of a x8 Card Into a Slot Previously Occupied With a x4 Card (Bug ID 15671185)

Note – This issue was originally listed as CR 6987359.

If you hot-plug a Dual 10GbE SFP+ PCIe2.0 EM Network Interface Card (NIC) (part number 1110A-Z) into a PCI Express Module slot that had previously held a 4-Port (Cu) PCIe (x4) ExpressModule (part number (X)7284A-Z-N), the expected performance benefit of the Dual 10GbE SFP+ PCIe2.0 NIC might not occur.

This problem does not occur if the slot was previously unoccupied, or if it had been occupied by any other option card. In addition, this problem occurs if the card is present when the system is powered on.

Workaround: Hotplug the Dual 10Gbe SFP+ PCIe2.0 EM card a second time, using one of the following methods.

- Use the `cfgadm`(1m) command to disconnect, then reconnect, the card:

```
# cfgadm -c disconnect slot-name
# cfgadm -c configure slot-name
```

- Use the `hotplug`(1m) command to disable and poweroff the device, and then poweron and enable the device:

```
# hotplug disable device-path slot-name
# hotplug poweroff device-path slot-name
# hotplug poweron device-path slot-name
# hotplug enable device-path slot-name
```

- Use the Attention (ATTN) button on the card to deconfigure and then reconfigure the card.

Note – You don't need to physically remove and re-insert the card as part of the second hot plug operation.

Unrecoverable USB Hardware Errors Occur In Some Circumstances (Bug ID 15677875, Bug ID 15765407)

Note – This issue was originally listed as CR 6995634.

In some rare instances, unrecoverable USB hardware errors occur, such as the following:

```
usba: WARNING: /pci@400/pci@1/pci@0/pci@8/pci@0/usb@0,2 (ehci0): Unrecoverable
USB Hardware Error
usba: WARNING: /pci@400/pci@1/pci@0/pci@8/pci@0/usb@0,1/hub@1/hub@3 (hubd5):
Connecting device on port 2 failed
```

Workaround: Reboot the system. Contact your service representative if these error messages persist.

PSH Might Not Clear a Retired Cache Line on a Replaced CPU Module (Bug ID 15705327, Bug ID 15713018)

Note – This issue was originally listed as CR 7031216.

Note – This issue was fixed in Oracle Solaris 11.1.

When a CPU module is replaced to repair a faulty CPU, PSH might not clear retired cache lines on the replacement FRU. In such cases, the cache line remains disabled.

Workaround: Manually clear the disabled cache line by running the following command:

```
# fmadm repaired fmri | label
```

For example:

```
# fmdump -avNov 03 10:34:56.6192 e1ee44ed-72f7-c32b-855b-e9f4b03144af SUN4V-
8002-V3
TIME                 UUID                                 SUNW-MSG-IDProblem in:
hc://:product-id=ORCL,SPARC-T4-4:product-sn=xxxxyyyxxx:server-id=
xxxxx:chassis-id=xxxxyyyxxx/chassis=0/cpuboard=0/chip=0/l3cache=0/cacheindex=
256/cacheway=7Affects: hc://:product-id=ORCL,SPARC-T4-4:product-sn=
xxxxyyyxxx:server-id=xxxxx:chassis-id=xxxxyyyxxx/chassis=0/cpuboard=0/chip=
0/l3cache=0/cacheindex=256/cacheway=7
 FRU: hc://:product-id=ORCL,SPARC-T4-4:product-sn=xxxxyyyxxx:server-id=
xxxxx:chassis-id=xxxxyyyxxx:serial=465769T+1115H50061:part=7013822:revision=
01/chassis=0/cpuboard=0
# fmadm repaired hc://:product-id=ORCL,SPARC-T4-4:product-sn=xxxxyyyxxx:server-
id=xxxxx:chassis-id=xxxxyyyxxx/chassis=0/cpuboard=0/chip=0/l3cache=
0/cacheindex=256/cacheway=7Location: /SYS/PM0
100%  fault.cpu.generic-sparc.cacheline
fmadm: recorded repair to of hc://:product-id=ORCL,SPARC-T4-4:product-sn=
xxxxyyyxxx:server-id=xxxxx:chassis-id=xxxxyyyxxx/chassis=0/cpuboard=0/chip=
0/l3cache=0/cacheindex=256/cacheway=7
# fmdump -aTIME                 UUID                                 SUNW-MSG-ID
Nov 03 10:34:56.6192 e1ee44ed-72f7-c32b-855b-e9f4b03144af SUN4V-8002-V3
Nov 03 10:37:40.3545 e1ee44ed-72f7-c32b-855b-e9f4b03144af FMD-8000-4M
RepairedNov 03 10:37:40.3610 e1ee44ed-72f7-c32b-855b-e9f4b03144af FMD-8000-6U
Resolved
```

PCIe Correctable Errors Might Be Reported (Bug ID 15720000, 15722832)

Note – This issue was originally listed as CR 7051331.

Note – This issue was fixed in Oracle Solaris 11.

In rare cases, PCI Express Gen2 or low-profile PCIe devices in the server might report I/O errors that are identified and reported by PSH. For example:

```
--------------- ------------------------------------  -------------- ---------
TIME            EVENT-ID                              MSG-ID         SEVERITY
--------------- ------------------------------------  -------------- ---------
Aug 10 13:03:23 a7d43aeb-61ca-626a-f47b-c05635f2cf5a  PCIEX-8000-KP  Major

Host        : dt214-154
Platform    : ORCL,SPARC-T4-4  Chassis_id  :
Product_sn  :

Fault class : fault.io.pciex.device-interr-corr 67%
              fault.io.pciex.bus-linkerr-corr 33%
Affects     : dev:////pci@400/pci@1/pci@0/pci@c
              dev:////pci@400/pci@1/pci@0/pci@c/pci@0
                  faulted but still in service
FRU       : "/SYS/MB" (hc://:product-id=ORCL,SPARC-T4-4:product-sn=xxxx:server-
id=xxxx:chassis-id=0000000-0000000000:serial=xxxx:part=541-424304:revision=
50/chassis=0/motherboard=0) 67%
              "FEM0" (hc://:product-id=ORCL,SPARCT4-4:product-sn=xxxxx:server-
id=xxxxx:chassis-id=0000000-0000000000/chassis=0/motherboard=0/hostbridge=
0/pciexrc=0/pciexbus=1/pciexdev=0/pciexfn=0/pciexbus=2/pciexdev=12/pciexfn=
0/pciexbus=62/pciexdev=0) 33%
                  faulty

Description : Too many recovered bus errors have been detected, which indicates
              a problem with the specified bus or with the specified
              transmitting device. This may degrade into an unrecoverable
              fault.
              ...
```

```
Response    : One or more device instances may be disabled

Impact      : Loss of services provided by the device instances associated with
              this fault

Action      : If a plug-in card is involved check for badly-seated cards or
              bent pins. Otherwise schedule a repair procedure to replace the
              affected device.  Use fmadm faulty to identify the device or
              contact Sun for support.
```

These errors might be an indication of a faulty or incorrectly seated device. Or these errors might be erroneous.

Workaround: Ensure that the device is properly seated and functioning. If the errors continue, apply patch 147705-01 or higher.

L2 Cache Uncorrectable Errors Might Lead to an Entire Processor Being Faulted (Bug ID 15727651, Bug ID 15732875, Bug ID 15732876, Bug ID 15733117)

Note – This issue was originally listed as CR 7065563.

Note – This issue was fixed in System Firmware 8.1.4.

An L2 cache uncorrectable error might lead to an entire processor being faulted when only specific core strands should be faulted.

Workaround: Schedule a service call with your authorized Oracle service provider to replace the processor module containing the faulty core. Until it is replaced, you can return the strands related to the functioning cores to service using the following procedure. This restores as much system functionality as the active cores provide.

1. Identify the faulty core:

```
# fmdump -eV -c ereport.cpu.generic-sparc.l2tagctl-uc
```

The `detector` portion of the `fmdump` output is displayed as follows.

Note – Key elements in the example are highlighted for emphasis. They would not be highlighted in the actual output.

```
      detector = (embedded nvlist)
           nvlist version: 0
                   version = 0x0
                   scheme = hc
                   hc-root =
                   hc-list-sz = 4
                   hc-list = (array of embedded nvlists)
                   (start hc-list[0])
                   nvlist version: 0
                           hc-name = chassis
                           hc-id = 0
                   (end hc-list[0])
                   (start hc-list[1])
                   nvlist version: 0
                         hc-name = cpuboard
                         hc-id = 1
 (start hc-list[2])
(end hc-list[1])
hc-name = chip
nvlist version: 0
hc-id = 2
                    (end hc-list[2])
 (start hc-list[3])
nvlist version: 0
hc-name = core
hc-id = 19
                  (end hc-list[3])

           (end detector)
```

In this example, the faulted chip is indicated by the following FMRI values:

- Chassis = 0
- CPU Board = 1
- Chip = 2
- Core = 19

The following table includes additional examples with corresponding Nomenclature Architecture Council (NAC) names.

Sample `fmdump` Output	Corresponding NAC Name
`cpuboard=0/chip=0/core=0`	`/SYS/PM0/CMP0/CORE0`
`cpuboard=1/chip=2/core=16`	`/SYS/PM1/CMP0/CORE0`
`cpuboard=1/chip=2/core=19`	`/SYS/PM1/CMP0/CORE3`

For example, given a FMRI of chassis=0/cpuboard=x/chip=y/core=z, the corresponding NAC name for `/SYS/PM`*a*`/CMP`*b*`/CORE`*c* can be derived as follows:

- *a* = x
- *b* = (y mod 2)
- *c* = (z mod 8)

2. Halt the Oracle Solaris OS, and power off the server.
3. Disable the faulty core. From the Oracle ILOM CLI:

```
-> cd /SYS/PM1/CMP0/CORE0
/SYS/PM1/CMP0/CORE0
-> show /SYS/PM1/CMP0/CORE01331
-> set component_state=disabled Targets:
                P0
                P1
                P2
                P3
                P4
                P5
                P6
                P7
                L2CACHE
                L1CACHE

           Properties:
                type = CPU Core
                component_state = Enabled

           Commands:
                cd
                set
                show
```

4. Power on the server, and restart the Oracle Solaris OS.

   Refer to the *SPARC T4 Series Servers Administration Guide* for information on powering on the server from the Oracle ILOM prompt.

5. Override the FMA diagnosis manually.

   The faulty component's UUID value is provided in the first line of the `fmdump` output.

```
# fmadm repair uuid-of-fault
```

L2 Cache UEs Are Sometimes Reported as Core Faults Without Any Cache Line Retirements (Bug ID 15731176)

Note – This issue was originally listed as CR 7071237.

When a processor cache line encounters an uncorrectable error (UE), the fault manager is supposed to attempt to retire the cache line involved in the error. Because of this defect, the fault manager might not retire the faulty cache line and instead report the entire chip as faulted.

Workaround: Schedule a replacement of the FRU containing the faulty component. For additional information about UEs in processor cache lines, search for message ID SUN4V-8002-WY on the Oracle support site, `http://support.oracle.com`.

Upon a Reboot After an Unrecoverable Hardware Error, CPUs Might Not Start (Bug ID 15733431)

Note – This issue was originally listed as CR 7075336.

In rare cases, if the server or sever module experiences a serious problem that results in a panic, when the server is rebooted, a number of CPUs might not start, even though the CPUs are not faulty.

Example of the type of error displayed:

```
rebooting...
Resetting...

ERROR: 63 CPUs in MD did not start
```

Workaround: Power cycle the server.

```
-> stop /SYS
Are you sure you want to stop /SYS (y/n)? y
Stopping /SYS
-> start /SYS
Are you sure you want to start /SYS (y/n) ? y
Starting /SYS
```

Intermittent Power Supply Faults Occur During Power On (Bug ID 15727974)

Note – This issue was originally listed as CR 7066165.

In rare instances, the system FRU power-up probing routine might fail to list all installed system power supplies. The power supplies themselves are not faulted, but commands listing system FRUs do not show the presence of the non-probed power supply.

The fault sets the system fault LED, but no power supply fault LED is illuminated. To find the fault, use the `fmadm` utility from the ILOM fault management shell.

Start the `fmadm` utility from the ILOM CLI:

```
-> start /SP/faultmgmt/shell
 Are you sure you want to start /SP/faultmgmt/shell (y/n)? y
faultmgmtsp>
```

To view the fault, type the following:

```
faultmgmtsp> fmadm faulty
------------------- ------------------------------------ -------------- ------
Time                UUID                                 msgid          Severity
------------------- ------------------------------------ -------------- ------
2011-09-21/13:59:35 f13524d6-9970-4002-c2e6-de5d750f4088 ILOM-8000-2V   Major

Fault class : fault.fruid.corrupt

FRU         : /SYS/PS0
              (Part Number: 300-2159)
              (Serial Number: 476856F+1115CC0001)

Description : A Field Replaceable Unit (FRU) has a corrupt FRUID SEEPROM
```

```
Response    : The service-required LED may be illuminated on the affected
              FRU and chassis.

Impact      : The system may not be able to use one or more components on
              the affected FRU.  This may prevent the system from powering
              on.

Action      : The administrator should review the ILOM event log for
              additional information pertaining to this diagnosis.  Please
              refer to the Details section of the Knowledge Article for
              additional information.
```

Workaround: From the fault management shell prompt, clear the fault, exit the fault management shell, and reset the SP. For example:

```
-> start /SP/faultmgmt/shell
Are you sure you want to start /SP/faultmgmt/shell (y/n)? y
faultmgmtsp> fmadm repair /SYS/PS0
faultmgmtsp> exit

-> reset /SP
Are you sure you want to reset /SP (y/n)? y
```

After the SP has reset, verify that all installed power supplies appear in the list of system devices:

```
-> ls /SYS
```

If the problem occurs again after applying this workaround, contact your authorized Oracle Service Provider for further assistance.

Non-Critical Power Supply Threshold Messages Occur Under Heavy Load (Bug ID 15728319)

Note – This issue was originally listed as CR 7066726.

In some instances under heavy load, power supply threshold messages similar to the following appear in the `/var/adm/messages` file:

```
SC Alert: [ID 579591 daemon.notice] Sensor | minor: Power Unit : /SYS/VPS : Upper
Non-critical going high : reading 2140 >= threshold 2140 Watts
SC Alert: [ID 807701 daemon.notice] Sensor | minor: Power Unit : /SYS/VPS : Upper
Non-critical going low  : reading 2100 <= threshold 2140 Watts
```

Workaround: From the fault management shell prompt, clear the fault, exit the fault management shell, and reset the SP. For example:

```
-> start /SP/faultmgmt/shell
Are you sure you want to start /SP/faultmgmt/shell (y/n)?
yfaultmgmtsp> fmadm repair /SYS/PS0
faultmgmtsp> exit

-> reset /SP
Are you sure you want to reset /SP (y/n)? y
```

Spurious Power Supply Errors Might Be Reported (Bug ID 15800916)

Note – This issue was originally listed as CR 7180259.

In some cases, the Oracle ILOM firmware identifies and reports spurious power supply errors. For example:

```
ereport.chassis.voltage-lnc-glo@/sys/rio /SYS/RIO/VDD_+1V0
ereport.chassis.voltage-lnc-glo@/sys/rio /SYS/RIO/VDD_+1V8
ereport.chassis.voltage-lnc-glo@/sys/rio /SYS/RIO/VDD_+3V3
ereport.chassis.voltage-lnc-glo@/sys/rio /SYS/RIO/VDD_+5V0
fault.chassis.power.missing
```

Workaround: Update the server to System Firmware 8.2.0.f. If these errors persist, they indicate a power supply fault. Refer to the *SPARC T4-2 Server Service Manual* for service instructions.

Oracle Solaris OS Issues

This section describes issues related to the Oracle Solaris OS.

The `cfgadm -al` Command Takes a Long Time to Print Output (Bug ID 15631390, Bug ID 15723609)

Note – This issue was originally listed as CR 6937169.

Note – This issue was fixed in Oracle Solaris 11.

The `cfgadm`(1m) command for configuring or unconfiguring hot-plug devices takes a long time to complete. For example, the `cfgadm -al` command could take more than five minutes before it lists the attachment points for all the hot-plug devices.

Workaround: Use the `hotplug`(1M) command to manage PCIe hot-plug devices.

Note – The workaround using the `hotplug` command instead of `cfgadm -al` only works for PCIe devices.

- Use the `hotplug list -l` command to list the status of all hot-plug PCIe slots. For example:

```
# hotplug list -l | grep PCI-EM
/pci@400/pci@2/pci@0/pci@1 [PCI-EM0] (EMPTY)
/pci@400/pci@1/pci@0/pci@4 [PCI-EM2] (EMPTY)
/pci@400/pci@1/pci@0/pci@4 [PCI-EM2] (EMPTY)
/pci@400/pci@2/pci@0/pci@2 [PCI-EM1] (EMPTY)
/pci@400/pci@2/pci@0/pci@3 [PCI-EM3] (ENABLED)
/pci@500/pci@1/pci@0/pci@1 [PCI-EM8] (EMPTY)
/pci@500/pci@1/pci@0/pci@2 [PCI-EM10] (ENABLED)
/pci@500/pci@2/pci@0/pci@2 [PCI-EM9] (ENABLED)
/pci@500/pci@2/pci@0/pci@3 [PCI-EM11] (EMPTY)
/pci@600/pci@1/pci@0/pci@4 [PCI-EM4] (EMPTY)
/pci@600/pci@1/pci@0/pci@5 [PCI-EM6] (ENABLED)
/pci@600/pci@2/pci@0/pci@0 [PCI-EM7] (EMPTY)
/pci@600/pci@2/pci@0/pci@5 [PCI-EM5] (EMPTY)
/pci@700/pci@1/pci@0/pci@4 [PCI-EM14] (EMPTY)
/pci@700/pci@2/pci@0/pci@3 [PCI-EM12] (ENABLED)
/pci@700/pci@2/pci@0/pci@4 [PCI-EM13] (EMPTY)
/pci@700/pci@2/pci@0/pci@5 [PCI-EM15] (EMPTY)
```

- Use the `hotplug disable` command to disable a PCIe card.

  For example, to disable the EM card in PCI-EM3 and confirm that it is no longer enabled:

```
# hotplug disable /pci@400/pci@2/pci@0/pci@3 PCI-EM3
# hotplug list -l | grep PCI-EM3/pci@400/pci@2/pci@0/pci@3 [PCI-
EM3] (POWERED)
```

  You may now physically remove the EM card.

- Use the `hotplug list` command to verify that a card is removed.

  For example:

```
# hotplug list -l | grep PCI-EM...
/pci@400/pci@2/pci@0/pci@3 [PCI-EM3] (EMPTY)
...
```

- Use the `hotplug poweron` command to power on a PCIe card.

  For example, to power on the EM card in PCI-EM3 and confirm that it has moved to the POWERED state:

```
# hotplug poweron /pci@400/pci@2/pci@0/pci@3 PCI-EM3
# hotplug list -l | grep PCI-EM3
/pci@400/pci@2/pci@0/pci@3 [PCI-EM3] (POWERED)
```

- Use the hot-plug enable command to enable a PCIe card.
- For example, to enable the EM card in PCI-EM3 and confirm that it has moved to the ENABLED state:

```
# hotplug enable /pci@400/pci@2/pci@0/pci@3 PCI-EM3
# hotplug list -l | grep PCI-EM3
/pci@400/pci@2/pci@0/pci@3 [PCI-EM3] (ENABLED)
```

Note – For more information about the `hotplug` command, see the `hotplug`(1M) man page.

Spurious Interrupt Message in System Console (Bug ID 15651697, Bug ID 15771956, Bug ID 15771958)

Note – This issue was originally listed as CR 6963563.

Note – This issue was fixed in System Firmware 8.2.0.a.

During the normal operation of the server, and when running the Oracle VTS system exerciser, you might see the following message in the system console:

```
date time hostname px: [ID 781074 kern.warning] WARNING: px0:
spurious interrupt from ino 0x4
date time hostname px: [ID 548919 kern.info] ehci-0#0
date time hostname px: [ID 100033 kern.info]
```

Workaround: You can safely ignore this message.

Spurious Error Message During Initial Oracle Solaris OS Installation (Bug ID 15658412)

Note – This issue was originally listed as CR 6971896.

The miniroot is a bootable root file system that includes the minimum Oracle Solaris OS software required to boot the server and configure the OS. The miniroot runs only during the installation process.

When the server boots the miniroot for the initial configuration, you might see the following messages in the system console:

```
Fatal server error:
InitOutput: Error loading module for /dev/fb

giving up.
/usr/openwin/bin/xinit: Network is unreachable (errno 128):
unable to connect to X server
/usr/openwin/bin/xinit: No such process (errno 3): Server error.
```

The messages indicate that the Xsun server in the Oracle Solaris OS miniroot cannot find a supported driver for the AST graphics device in the service processor. These messages are legitimate, as the miniroot contains only the Xsun environment, and the AST framebuffer (`astfb`) is supported only in the Xorg environment. The Xorg environment is included in the installed system, so the graphics device might be used when running the installed Oracle Solaris OS.

Workaround: You can safely ignore this message.

When `diag-switch?` Is Set to `true`, Oracle Solaris OS Fails to Update EEPROM for Automatic Rebooting (Bug ID 15666767)

Note – This issue was originally listed as CR 6982060.

When installing the Oracle Solaris OS to a device when the OBP `diag-switch?` parameter is set to `true`, the Oracle Solaris OS installer fails to update the `bootdevice` parameter with the new device path where the OS was installed. Therefore, this new device path will not be used during the subsequent automatic system reboots.

Under these conditions, the server will display the following error message, and you will not be able to reboot from the device:

```
Installing boot information
       - Installing boot blocks (cxtxdxsx)
       - Installing boot blocks (/dev/rdsk/cxtxdxsx)
       - Updating system firmware for automatic rebooting
WARNING: Could not update system for automatic rebooting
```

On previous systems, the OBP `diag-device` parameter was used to set the new device path to the boot device when the `diag-switch?` parameter was set to `true`. On SPARC T4 systems, the `diag-device` parameter is no longer supported, and the Oracle Solaris OS installer warns that setting the OBP `boot-device` parameter is not possible.

Workaround: From the ILOM prompt, set the OBP `diag-switch?` parameter to `false`:

```
-> set /HOST/bootmode script="setenv diag-switch? false"
```

Alternatively, you can set this parameter at the OBP `ok` prompt:

```
ok setenv diag-switch? false
```

Memory Allocation Issues With Emulex 8Gb HBAs in a Magma I/O Expansion Box (Bug ID 15666779)

Note – This issue was originally listed as CR 6982072.

Memory allocation errors might occur when four or more 8Gb FC PCI-Express HBA, Emulex cards are used in a Magma I/O expansion box connected to an Oracle SPARC T4 series server. The following is an example of the types of messages that might be logged in `/var/adm/messages` with this configuration:

```
date time hostname emlxs: [ID 349649 kern.info] [ 8.019A]emlxs22:  ERROR: 301: Memory
alloc failed. (BPL Pool buffer[1760]. size=1024)
date time hostname emlxs: [ID 349649 kern.info] [ 8.019A]emlxs20:  ERROR: 301: Memory
alloc failed. (BPL Pool buffer[2765]. size=1024)
date time hostname emlxs: [ID 349649 kern.info] [ 8.019A]emlxs24:  ERROR: 301: Memory
alloc failed. (BPL Pool buffer[3437]. size=1024)
date time hostname emlxs: [ID 349649 kern.info] [13.0363]emlxs22:  ERROR: 201:
Adapter initialization failed. (Unable to allocate memory buffers.)
date time hostname emlxs: [ID 349649 kern.info] [ 5.064D]emlxs22:  ERROR: 201:
Adapter initialization failed. (status=c)
date time hostname emlxs: [ID 349649 kern.info] [ B.1949]emlxs22:  ERROR: 101: Driver
attach failed. (Unable to initialize adapter.)
date time hostname emlxs: [ID 349649 kern.info] [13.0363]emlxs20:  ERROR: 201:
Adapter initialization failed. (Unable to allocate memory buffers.)
date time hostname emlxs: [ID 349649 kern.info] [ 5.064D]emlxs20:  ERROR: 201:
Adapter initialization failed. (status=c)
date time hostname emlxs: [ID 349649 kern.info] [ B.1949]emlxs24:  ERROR: 101: Driver
attach failed. (Unable to initialize adapter.)
date time hostname emlxs: [ID 349649 kern.info] [13.0363]emlxs24:  ERROR: 201:
Adapter initialization failed. (Unable to allocate memory buffers.)
date time hostname emlxs: [ID 349649 kern.info] [ 5.064D]emlxs24:  ERROR: 201:
Adapter initialization failed. (status=c)
date time hostname emlxs: [ID 349649 kern.info] [ B.1949]emlxs24:  ERROR: 101: Driver
attach failed. (Unable to initialize adapter.)
```

Workaround: Add the following line in the `/kernel/drv/emlxs.conf` file:

```
num-iotags=1024;
```

Reboot the server for the changes to take effect.

The Fault Management Suite Sometimes Sends Resolved Cases to the SP (Bug ID 15667874, Bug ID 15741999)

Note – This issue was originally listed as CR 6983432.

Note – This issue is fixed in Patch 147790-01: SunOS 5.10: fmd patch, and in Oracle Solaris 11.

This defect results in previously diagnosed and repaired PSH faults from the server to reappear in Oracle ILOM when the host reboots. It manifests itself as an incorrect report of a PSH-diagnosed fault represented through the Oracle ILOM CLI, BUI, and fault LED.

Tip – You can identify this defect by checking to see if the same PSH fault was reported from the server as well. If it was reported *only* by Oracle ILOM and not from the server, it is probably an example of this defect.

Recovery Action: Use the Oracle ILOM diagnostic and repair tools to identify the error condition and correct it. The following example illustrates how to diagnose and repair a PSH fault diagnosed by the server. This example is based on the Oracle ILOM fault management shell. You could instead use the Oracle ILOM CLI or BUI to accomplish the same results.

1. Display the fault information.

```
faultmgmtsp> fmadm faulty
------------------- ------------------------------------ -------------- -------
Time                UUID                                 msgid          Severity
------------------- ------------------------------------ -------------- -------
2011-09-16/15:38:19 af875d87-433e-6bf7-cb53-c3d665e8cd09 SUN4V-8002-6E  Major

Fault class : fault.cpu.generic-sparc.strand

FRU         : /SYS/MB
              (Part Number: 7015272)
              (Serial Number: 465769T+1130Y6004M)
```

```
Description : A fault has been diagnosed by the Host Operating System.

Response    : The service required LED on the chassis and on the affected
              FRU may be illuminated.

Impact      : No SP impact.  Check the Host OS for more information.

Action      : The administrator should review the fault on the Host OS.
              Please refer to the Details section of the Knowledge Article
              for additional information.
```

2. Check for faults on the server.

```
# fmadm fault
#                        <-- Server displays no faults
```

3. Verify that the fault shown by Oracle ILOM was repaired on the server.

```
# fmdump
TIME                 UUID                                 SUNW-MSG-ID
Sep 16 08:38:19.5582 af875d87-433e-6bf7-cb53-c3d665e8cd09 SUN4V-8002-6E
Sep 16 08:40:47.8191 af875d87-433e-6bf7-cb53-c3d665e8cd09 FMD-8000-4M Repaired
Sep 16 08:40:47.8446 af875d87-433e-6bf7-cb53-c3d665e8cd09 FMD-8000-6U Resolved
#
```

4. Flush the previously faulty component from the server resource cache.

```
# fmadm flush /SYS/MB
fmadm: flushed resource history for /SYS/MB
#
```

5. Repair the fault in Oracle ILOM.

```
faultmgmtsp> fmadm repair /SYS/MB
faultmgmtsp> fmadm faulty
No faults found
faultmgmtsp>
```

Gigabit Ethernet (nxge) Driver Not Loading on Systems With Oracle Solaris 10 10/09 OS and Solaris 10 9/10 Patch Bundle (Bug ID 15677751)

Note – This issue was originally listed as CR 6995458.

A problem in the Oracle Solaris 10 10/09 package installation process prevents the kxge alias definition for the SPARC T4 series servers from be entered in the `/etc/driver_aliases` file. If this alias is not properly defined, the `nxge` cannot be attached.

Workaround: To correct this problem, perform the steps described below.

Note – You must be logged in as `root` to edit the `driver_aliases` file.

1. Add the following line to the `/etc/driver_aliases` file:

```
nxge "SUNW,niusl-kt"
```

2. Reboot the server.

3. Configure the network interfaces.

nxge Driver Warning Messages Displayed After Reboot (Bug ID 15710067, Bug ID 15777789, Bug ID 15777790)

Note – This issue was originally listed as CR 7037575.

Note – This issue is fixed in Oracle Solaris 11.1.

During reboot, `nxge` warnings such as the following are displayed in the `/var/adm/messages` log:

```
Apr 18 08:35:56 san-t4-4-0-a nxge: [ID 752849 kern.warning]
 WARNING: nxge3 : nxge_nlp2020_xcvr_init: Unknown type
[0x70756f88] detected
Apr 18 08:36:16 san-t4-4-0-a nxge: [ID 752849 kern.warning]
WARNING: nxge7 : nxge_nlp2020_xcvr_init: Unknown type [0x70756f88]
detected
```

Workaround: These messages can be ignored.

The `trapstat -T` Command Causes Bad Watchdog Resets at TL2 (Bug ID 15720390)

Note – This issue was originally listed as CR 7052070.

In some instances, servers equipped with Solaris 10 10/09 or Solaris 10 09/10 might panic when running the `trapstat -T` command.

Workaround: Add the missing SUNWust1 and SUNWust2 packages from the Solaris 10 10/09 or Solaris 10 09/10 media. The Solaris 10 ISO image is available at https://support.oracle.com/epmos/faces/DocumentDisplay?id=1277964.1

Watchdog Timeouts Occur With Heavy Workloads and Maximum Memory Configurations (Bug ID 15737671, Bug ID 15744469, Bug ID 15771943)

Note – This issue was originally listed as CR 7083001.

Note – This issue is fixed in KU 147440-05, and in Oracle Solaris 11.

With certain unusual heavy workloads, especially where a highly processor-intensive workload is bound to `CPU 0`, the host might appear to suddenly reset back to OBP without any sign of a crash or a panic, with the Oracle ILOM event log containing a "Host watchdog expired" entry. The problem is more prevalent on select systems with full memory configurations.

If you see this sort of sudden reset, display the SP event log using this command from the Oracle ILOM CLI:

```
-> show /SP/logs/event/list
```

If you encounter this error, the event list includes an entry labeled "Host watchdog expired."

Workaround: If you encounter this error, contact your authorized service provider to see if a fix is available.

You can also work around this problem by extending the watchdog period by adding this entry to the Oracle Solaris `/etc/system` file:

```
set watchdog_timeout = 60000
```

This extends the watchdog timeout period to 1 minute (60000 milliseconds).

In extreme cases, you can also disable the watchdog timeout altogether by adding this entry to the `/etc/system` file:

```
set watchdog_enabled = 0
```

A reboot is required for any `/etc/system` modification to take effect.

If you do not want to reboot the system immediately after editing `/etc/system`, you can apply an additional temporary workaround that takes effect immediately. As `root`, type:

```
# psrset -c -F 0
```

This command creates a temporary processor set containing only CPU 0, preventing application workloads from using this processor and preventing this issue from occurring.

Note – This command unbinds any threads that were bound to CPU 0.

This temporary processor set will be removed on the next operating system reboot, at which point the `/etc/system` workaround described above will take effect.

ereport.fm.fmd.module Generated During a Reboot of an SDIO Domain (Bug ID 15738845, Bug ID 15742069)

Note – This issue was originally listed as CR 7085231.

Note – This issue is fixed in Oracle Solaris 11.1.

The server module might generate an `ereport.fm.fmd.module` message during a reboot of an SDIO domain. This ereport indicates that an error occurred on one of the fmd modules, but the `fmdump` command does not display a valid message (`msg`).

For example:

```
# fmdump -eV -c ereport.fm.fmd.module
TIME                           CLASS
Sep 27 2011 06:27:19.954801492 ereport.fm.fmd.module
 ena = 0x425fc9b065404001
nvlist version: 0
msg = cannot open write-only transport
__ttl = 0x1
version = 0x0
class = ereport.fm.fmd.module
__tod = 0x4e81cf37 0x38e91d54
detector = (embedded nvlist)
        nvlist version: 0
                version = 0x0
                scheme = fmd
                authority = (embedded nvlist)
                nvlist version: 0
                        version = 0x0
                        product-id = ORCL,SPARC-T4-1
                        server-id = c193-133
               (end authority)

                mod-name = etm
                mod-version = 1.2
        (end detector)
```

Workaround: You can safety ignore `ereport.fm.fmd.module` ereports.

Oracle VTS `dtlbtest` Hangs When the CPU Threading Mode Is Set to `max-ipc` (Bug ID 15743740, Bug ID 15744945)

Note – This issue was originally listed as CR 7094158.

The Oracle VTS component stress `dtlbtest` hangs when `max-ipc` threading mode is set. This issue is not specific to any processor type, and can happen when both the following cases are true:

- Only one CPU per core is online.
- The total number of online CPUs is less than or equal to 128.

Workaround: Do not run the Oracle VTS Processor test in high stress mode when Oracle VM for SPARC is set to `max-ipc` mode.

Some pciex8086,105f Devices Fail to Attach On Servers Equipped with System Firmware 8.2.0.b (Bug ID 15774699)

Note – This issue was originally listed as CR 7147940.

Note – This issue is fixed in Oracle VTS 7.0, ps13.

In some cases, the server becomes unresponsive after it is upgraded from System Firmware from 8.1.0.e or earlier to System Firmware 8.2.1.b or later. Log entries such as the following appear:

```
e1000g: [ID 801725 kern.warning] WARNING: pciex8086,105f - e1000g[0] : Mapping
registers failed
```

Workaround: Download and install Patch ID 148233-02 before updating the system firmware. This patch is available at `http://support.oracle.com`.

L2 Cache Uncorrectable Errors Causing a Reboot Abort (Bug ID 15826320)

On rare occasions, when rebooting a server running Oracle Solaris 11, an error similar to the following appears in the system console:

```
ABORT: ../../../greatlakes/n2/src/err_subr.s, line 0x291: strand_in
```

In addition, if you perform the `fmdump -eV` command, the following error appears:

```
ereport.cpu.generic-sparc.l2data-uc@/host proxied
```

This error appears on servers running Oracle VM Server for SPARC 2.1.x, which is embedded in all versions of Oracle Solaris 11 up to Oracle Solaris 11 SRU 8. This uncorrectable memory error occurs in the memory scrubbing process during system shutdown, and is not a data corruption or memory loss.

Workaround: If you encounter this issue, contact your authorized and upgrade to Oracle VM Server for SPARC 2.2.x.

Firmware Issues

This section describes issues related to system firmware.

`create-raid10-volume` Command Fails to Create a RAID 10 Volume on a Sun Storage 6 Gb SAS PCIe HBA (Bug ID 15635981)

Note – This issue was originally listed as CR 6943131.

Note – This issue is fixed in LSI Firmware 1.0.55.

The Sun Storage 6 Gb SAS PCIe HBA supports RAID types 0, 1, and 10. However, the Oracle OpenBoot `create-raid10-volume` command fails when attempting to create a RAID 10 volume. There is no Oracle OpenBoot command that allows you to create a RAID 10 volume.

Workaround:A RAID 1E volume is an enhanced RAID 1 volume that includes mirroring and striping.

Use the Oracle OpenBoot `create-raid1e-volume` command to create a RAID 1E volume.

Timestamp for an ILOM Fault/Critical Event Might Be Off by One Hour (Bug ID 15802097)

Note – This issue was originally listed as CR 6943957.

Note – This issue is fixed in System Firmware 8.3.0.

The timestamp reported in an email generated in an Oracle ILOM Fault/critical event might be one hour later than the timestamp recorded in the event log.

Recovery Action: Check the timestamp recorded in the event log. If the timestamp does not match the timestamp reported in the email, use the event log time.

Missing Interrupt Causes USB Hub Hot-plug Thread to Hang, Resulting In Process Hangs (Bug ID 15655752)

Note – This issue was originally listed as CR 6968801.

When running Oracle VTS on T4 series platforms, it is possible (although rare) for a Oracle VTS test to hang. If this happens, it might cause other processes and commands to hang, including `fmadm` and `prtconf`. The hung processes cannot be killed.

Workaround: Reboot the server. If the problem repeats, contact your authorized service provider. Avoid running Oracle VTS in production environments.

Message From `cpustat` Refers to Processor Documentation Incorrectly (Bug ID 15717099, Bug ID 15717100, Bug ID 15749141)

Note – This issue was originally listed as CR 7046898.

Note – This issue is fixed in Oracle Solaris 11.

A message displayed by the `cpustat` command says:

```
See the "SPARC T4 User's Manual" for descriptions of these events.
Documentation for Sun processors can be found at:
http://www.sun.com/processors/manuals
```

This document and web site listed in this message do not exist.

`reboot disk` Command Occasionally Fails When `disk` Argument Picks Up Extra Characters (Bug ID 15816272, Bug ID 15719738)

Note – This issue was originally listed as CR 7050975.

Note – This issue is fixed in Oracle Solaris 11.1

When running the `reboot` disk command, extraneous characters are occasionally added to the disk argument before it reaches the OpenBoot PROM (OBP). These extra character result in a failure to boot.

Recovery Action: Repeat the boot request.

Blue LED On Drive Does Not Light When the Drive Is Ready to Remove (Bug ID 15737491)

Note – This issue was originally listed as CR 7082700.

When you attempt to unconfigure a drive for removal, the drive's blue LED that indicates the drive is ready for removal might not light. This happens after you place a drive in a slot in place of a drive that had a different WWID.

Workaround: If you inserted a drive after booting the server, realize that the blue LED will not perform this function until the server has booted again.

Cold Reset Adds One Day to System Time (CR 15764743, Bug ID 15765255, Bug ID 15765770)

Note – This issue was originally listed as CR 7127740.

Note – This issue is fixed in System Firmware version 8.2.0.a.

After a cold reset, the server might add one day to the Oracle Solaris OS date andtime. This possible date change will only occur on the first cold reset after the first day of a leap year (for example, January 1, 2012). Once you set the correct date using the Oracle Solaris OS `date`(1) command, the corrected date and time will persist across future resets.

Note – This extra day error condition returns if the clock offset stored in the SP is cleared for any reason. For example, the clock offset is lost if you replace the battery, if you reset Oracle ILOM, or if you perform a system firmware update without saving and then restoring the system configuration data.

A cold reset occurs when you halt the OS and restart the service processor (SP). For example, you can use one of the following Oracle Solaris OS commands to halt the OS:

```
# shutdown -g0 -i0 -y
```

```
# uadmin 1 6
```

```
# init 5
```

```
# poweroff
```

Then, at the ILOM prompt, use the following commands to reset the host:

```
-> stop /SYS
. . .
-> start /SYS
```

Refer to the service manual, the administration guide, and the Oracle Solaris OS documentation for more information.

Workaround: After the first cold reset of the system, verify that the system date and time are correct. If the date has been impacted by this issue, use the Oracle Solaris OS `date`(1) command to set the correct date and time.

For example, to set the date and time to be February 26, 9:00am, 2012, type:

```
# date 022609002012
```

Refer to the `date`(1) man page and the Oracle Solaris OS documentation for more information.