SPARC T4-2 Server

Product Notes

Part No.: E23080-13
July 2014

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Contents

Using This Documentation

This document contains late-breaking information and known issues for Oracle's SPARC T4-2 server.

Related Documentation

Documentation	Links
All Oracle products	http://docs.oracle.com
SPARC T4-2 server	http://www.oracle.com/pls/topic/lookup?ctx=SPARCT4-2
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
Oracle Dual Port QDR InfiniBand Adapter M3	http://www.oracle.com/goto/DUAL_PORT_QDR_INFINIBAND_M3/docs

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 T4-2 server.

Preinstalled Software

The preinstalled Oracle Solaris OS is installed on a ZFS file system, as described in 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 no earlier than version 8.4.2.c	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

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)	• 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 • 8.2.1.b or later with Sun Flash F40 card • No earlier than 8.4.0.b with Oracle Dual Port QDR InfiniBand Adapter M3

* 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 10/09 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.x, 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@b/pci@0/usb@0,2/hub@2/device@1
USB 1 (Back panel bottom)	/pci@400/pci@1/pci@0/pci@b/pci@0/usb@0,2/hub@2/device@2
USB 2 (Front panel left)	/pci@400/pci@1/pci@0/pci@b/pci@0/usb@0,2/hub@4/storage@1
USB 3 (Front panel right)	/pci@400/pci@1/pci@0/pci@b/pci@0/usb@0,2/hub@4/storage@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 8.2.1.b or later.

For specific DIMM installation instructions, see the *SPARC T4-2 Server Service Manual*.

Rules for I/O Slot Use by Certain Cards

Some optional I/O cards are restricted to specific I/O slots to meet system cooling requirements. Other I/O cards provide better performance when installed in particular slots. TABLE 1-4 lists these slot requirements and recommendations.

Note – This table lists only I/O cards that have specific slot or quantity restrictions or other requirements. It does not list I/O cards that are supported by the server but are not subject to slot or quantity restrictions.

TABLE 1-4 PCIe Slot Usage Rules for Certain I/O Cards

Description	Part Number	Maximum	Restrictions
Network Interface Card			
Sun Dual Port 10GBase-T Adapter	7100488	10 with Solaris 11 8 with Solaris 10	
10 Gb Network Module QFSP quad port XAUI adapter card	SE4X5XC1Z	1	
FCoE 10Gb/s Converged Network Adapter			

TABLE 1-4 PCIe Slot Usage Rules for Certain I/O Cards *(Continued)*

Description	Part Number	Maximum	Restrictions
Sun Storage 10 GbE PCIe FCoE Converged Network Adapter: QLogic low profile, dual port and SR optics	SG-XPCIEFCOE2-Q-SR	9	Either slot 4 or slot 5, but not both
Sun Storage 10 GbE PCIe FCoE Converged Network Adapter: Qlogic low profile, dual port and Twin-AX	SG-XPCIEFCOE2-Q-TA	9	Either slot 4 or slot 5, but not both
SAS Host Bus Adapter			
Sun Storage 6 Gb SAS PCIe RAID HBA, Internal: 8 port and 512 MB memory* †	SGX-SAS6-R-INT-Z	1	Slot 0
SAS cable kit for installation of internal RAID card	SE3X4A11Z	1	
Sun Storage 6 Gb SAS PCIe HBA: 8 port, Internal	SGX-SAS6-INT-Z	1	Slot 0
InfiniBand			
Sun InfiniBand QDR Host Channel Adapter PCIe	X4242A	4	Cannot be installed in slot 4 or 5
Oracle Dual Port QDR InfiniBand Adapter M3‡	7104074	4	Cannot be installed in slot 4 or 5. Not more than two cards installed in slots 0, 2, 6, or 8 combined. Not more than two cards installed in slots 1, 3, 7, or 9 combined.
Miscellaneous			
Sun Crypto Accelerator 6000 PCIe Card	X6000A-N	2	
Sun Flash F40 Card**	7104482	4	Slots 9, 8, 7, 0 (Slot 6 if Slot 0 is unavailable)
Flash Accelerator F80 Card	7107092	4	

* Requires SE3Y4A11Z cable kit.

† DVD drive is unusable if this card is installed.

‡ Requires system formware no earlier than 8.4.0.b

** Requires system firmware 8.2.1.b or later.

CHAPTER 2

Known Product Issues

The following issues are known to affect Oracle's SPARC T4-2 servers at the time of this release.

Hardware Issues

This section describes issues related to SPARC T4-2 server components.

Maximizing Memory Bandwidth

To maximize 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 T4-2 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 they cannot be used with the Direct I/O feature. Instead, they 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

Installing the Sun Storage 8-Port Internal 6 Gb SAS PCIe HBA in a Split Configuration

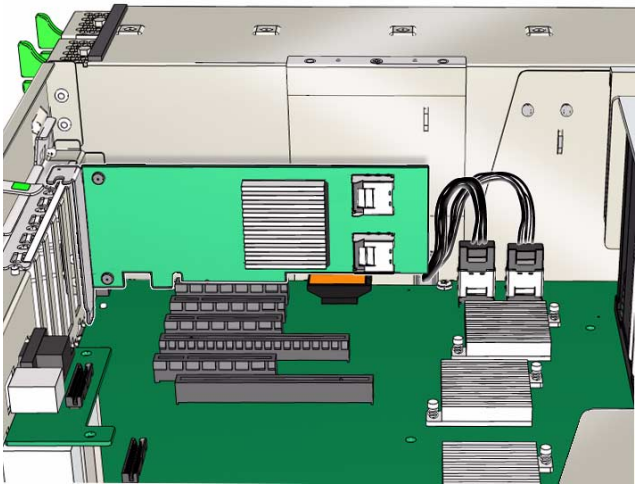
You can install the Sun Storage 8-Port Internal 6 Gb SAS PCIe HBA in a split configuration, as follows:

- Sun Storage 8-Port Internal 6 Gb SAS PCIe HBA:
  - HDD0
  - HDD1
  - HDD2
  - HDD3
- Onboard RAID controller:
  - HDD4
  - HDD5
  - Internal DVD

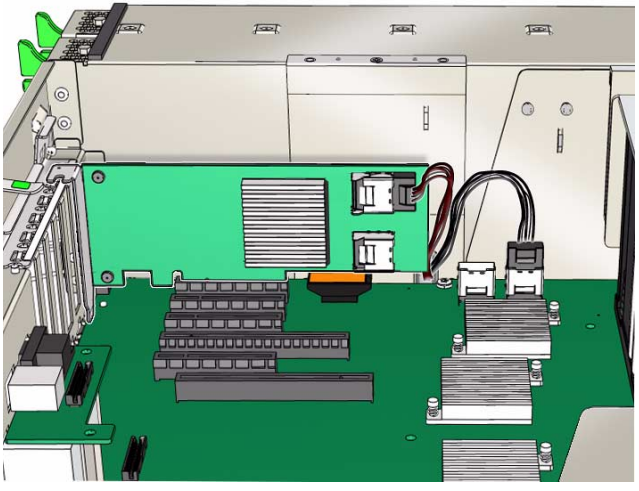
To install the Sun Storage 8-Port Internal 6 Gb SAS PCIe HBA in a split configuration, do the following:

1. Install the HBA, either in PCIe slot 0 or PCIe slot 1.

Note – If you install the HBA in PCIe slot 1, *PCIe slot 0 must remain unpopulated* to ensure proper system cooling.



2. Unplug the SAS data cable from the connector marked DISK0-3 on the motherboard.
3. Plug the SAS data cable into the upper connector on the HBA.



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

To download sas2ircu firmware and documentation for SPARC T4-1 and T4-2 servers 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.

RAID10 is Not Supported; Use RAID 1E Instead

RAID 10 is not supported on the SPARC T4-2 server. However, you can create a RAID 1E volume using an even number of disk drives to obtain the same functionality as RAID 10. For example:

```
ok 9 b c d create-raid1e-volume
Target 9 size is 583983104 Blocks, 298 GB
Target b size is 583983104 Blocks, 298 GB
Target c size is 583983104 Blocks, 298 GB
Target d size is 583983104 Blocks, 298 GB
The volume can be any size from 1 MB to 570296 MB
What size do you want?  [570296] 570296
Volume size will be 1167966208 Blocks, 597 GB
Enter a volume name:  [0 to 15 characters] VolumeTest
Volume has been created
ok probe-scsi-all
/pci@400/pci@2/pci@0/pci@e/scsi@0
ok select /pci@400/pci@2/pci@0/pci@e/scsi@0
ok show-volumes
Volume 0 Target 381  Type RAID1E (Mirroring Extended)
 Name VolumeTest  WWID 0576f2dfda831e3b
 Optimal  Enabled  Background Init In Progress
```

```
 4 Members                                  1167966208 Blocks, 597 GB
 Disk 0
  Member 0  Optimal
  Target 9      HITACHI  H106030SDSUN300G A2B0   PhyNum 0
 Disk 1
  Member 1  Optimal
  Target b      HITACHI  H106030SDSUN300G A2B0   PhyNum 1
 Disk 2
  Member 2  Optimal
  Target c      SEAGATE  ST930003SSUN300G 0B70   PhyNum 2
 Disk 3
  Member 3  Optimal
  Target d      HITACHI  H106030SDSUN300G A2B0   PhyNum 3
```

Refer to the *SPARC and Netra SPARC T4 Series Servers Administration Guide* for more about creating RAID volumes.

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.

Booting Solaris 11 from a USB thumbdrive is not supported.

Cannot Plumb Sun Quad GbE x8 PCIe Low Profile Adapter in PCIe Slot 0 When More Than Five Are Installed (Bug ID 15676454)

Note – This issue was originally listed as CR 6993897.

The Ethernet ports of a Sun Quad GbE x8 PCIe Low Profile adapter installed in PCIe slot 0 cannot be plumbed if there are more than five Sun Quad GbE x8 PCIe Low Profile adapters installed in the server. However, up to nine Sun Quad GbE x8 PCIe Low Profile adapters are supported in the server when one of these adapters is not installed in slot 0.

Workaround: Do not install a Sun Quad GbE x8 PCIe Low Profile adapter in PCIe slot 0.

Front-Panel Video Port Does Not Support Resolutions Greater Than 1024 x 768 (Bug ID 15698604)

Note – This issue was originally listed as CR 7021609.

The SPARC T4-2 server contains two video HD15 ports, one in the front of the server and one in the rear of the server. The front video port does not support screen resolutions greater than 1024 x 768.

If you require screen resolutions greater than 1024 x 768, connect the monitor to the server's rear video port. The rear video port supports resolutions up to 1280 x 1024. Refer to the *SPARC T4 Series Servers Administration Guide* and the fbconfig(1M) man page for instructions on using a local graphics monitor.

PSH Might Not Clear a Retired Cache Line on a Replaced Motherboard (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.

If you replace the replacement enclosure to repair faulty cache on the motherboard, PSH might not clear the cache on the replacement. The cache line remains disabled.

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

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

Restrictions on Placement of HBAs in Slot 4 and Slot 5 (Bug ID 15717157)

Note – This issue was originally listed as CR 7046966.

Follow these rules for placement of the following cards in the server.

You can place the following FCoE 10Gb/s Converged Network Adapters in either slot 4 or slot 5, but not in both slots:

- SG-XPCIEFCOE2-Q-SR
- SG-PCIEFCOE2-Q-SR
- SG-XPCIEFCOE2-Q-TA
- SG-PCIEFCOE2-Q-TA

You can place the following Fibre Channel I/O Adapters in either slot 4 or slot 5, but not in both slots:

- SG-XPCIE2FC-QF8-N
- SG-PCIE2FC-QF8-Z
- SG-XPCIE2FC-EM8-N
- SG-PCIE2FC-EM8-Z

Workaround: You can populate both slot 4 and slot 5 with HBA cards if you install the cards before doing a fresh reinstallation of the Oracle Solaris OS.

PCIe Correctable Errors Might Be Reported (Bug ID 15720000, Bug ID 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 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-T3-1B  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-T3-1B:product-sn=
1052NND107:server-id=dt214-154:chassis-id=0000000-0000000000:serial=1005LCB-
1052D9008K:part=541-424304:revision=50/chassis=0/motherboard=0) 67%
              "FEM0" (hc://:product-id=ORCL,SPARC-T3-1B:product-sn=
1052NND107:server-id=dt214-154: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.
              Refer to http://sun.com/msg/PCIEX-8000-KP for more information.

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 containing the faulty core. Until the processor is replaced, you can return the strands related to the functioning cores to service using the following procedure. This procedure restores as much system functionalty as the active cores provide.

1. Identify the faulty core:

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

The following example shows the `detector` portion of the `fmdump` output for a SPARC T4-2 server.

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 = motherboard
                  hc-id = 0
            (end hc-list[1])
            (start hc-list[2])
            nvlist version: 0
                   hc-name = chip
                  hc-id = 1
            (end hc-list[2])
            (start hc-list[3])
            nvlist version: 0
                   hc-name = core
                  hc-id = 10
            (end hc-list[3])

 (end detector)
```

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

- Chassis = 0
- Motherboard = 0
- Chip = 1
- Core = 10

These FMRI values correspond to the NAC name:

`/SYS/MB/CMP1/CORE2`

Note – The NAC `CORE` value is rhe FRMI `core` value modulo 8.

The following NAC name equivalents are for all CMP cores in a SPARC T4-2 server.

FMRI Values for Cores	Corresponding NAC Name
chassis=0 / motherboard=0 / chip=0 /core=0	`/SYS/MP/CMP0/CORE0`
chassis=0 / motherboard=0 / chip=0 /core=1	`/SYS/MP/CMP0/CORE1`
chassis=0 / motherboard=0 / chip=0 /core=2	`/SYS/MP/CMP0/CORE2`
chassis=0 / motherboard=0 / chip=0 /core=3	`/SYS/MP/CMP0/CORE3`

FMRI Values for Cores	Corresponding NAC Name
chassis=0 / motherboard=0 / chip=0 /core=4	/SYS/MP/CMP0/CORE4
chassis=0 / motherboard=0 / chip=0 /core=5	/SYS/MP/CMP0/CORE5
chassis=0 / motherboard=0 / chip=0 /core=6	/SYS/MP/CMP0/CORE6
chassis=0 / motherboard=0 / chip=0 /core=7	/SYS/MP/CMP0/CORE7
chassis=0 / motherboard=0 / chip=1 /core=8	/SYS/MP/CMP1/CORE0
chassis=0 / motherboard=0 / chip=1 /core=9	/SYS/MP/CMP1/CORE1
chassis=0 / motherboard=0 / chip=1 /core=10	/SYS/MP/CMP1/CORE2
chassis=0 / motherboard=0 / chip=1 /core=11	/SYS/MP/CMP1/CORE3
chassis=0 / motherboard=0 / chip=1 /core=12	/SYS/MP/CMP1/CORE4
chassis=0 / motherboard=0 / chip=1 /core=13	/SYS/MP/CMP1/CORE5
chassis=0 / motherboard=0 / chip=1 /core=14	/SYS/MP/CMP1/CORE6
chassis=0 / motherboard=0 / chip=1 /core=15	/SYS/MP/CMP1/CORE7

2. Save the UUID value provided in the first line of the `fmdump` output.

   You will use this UUID value in the final step of this procedure.

3. Halt the Oracle Solaris OS, and power off the server.

   Refer to the Administration Guide for information on powering off the server when the OS is running.

4. At the Oracle ILOM prompt, change directory to the faulty core.

   The following example continues from earlier steps in which the faulty core had a FMRI value of core=10.

```
-> cd /SYS/MB/CMP1/CORE2
/SYS/MB/CMP1/CORE2
-> show /SYS/MB/CMP1/CORE2
Targets:
P0
P1
P2
P3
P4
P5
P6
P7
L2CACHE
L1CACHE

Properties:
```

```
type = CPU Core
component_state = Enabled

Commands:
cd
set
show
```

5. Disable the faulty core.

```
->set component_state = disabled
```

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

   Refer to the Administration Guide for information on powering on the server from the Oracle ILOM prompt.

7. Override the FMA diagnosis manually:

   The faulty component's UUID value is provided in the first line of `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 reports 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: Log in to Oracle ILOM on the SP and power cycle:

```
-> 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
```

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:

```
date time ereport.chassis.power.insufficient asserted@/sys/ps2
/SYS/PS2/POWER_MISSING
date time ereport.chassis.power.insufficient-deasserted@/sys/ps2
/SYS/PS2/POWER_MISSING
```

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

Oracle Solaris OS Issues

This section describes issues related to the Oracle Solaris OS in this release.

Custom `nvalias` Settings Do Not Change During a System Reconfiguration

If you use the nvalias OBP command to make custom system settings, you must update these settings if the system reconfigures itself after a hardware failure.

For example, if the system experiences a hardware failure such as a failed CMP, the system will reconfigure the I/O device paths during the next reboot. If you set a custom device path to a boot drive using the nvalias command, the system will not reconfigure the custom device path and the server will not boot the operating system.

Workaround: You must rediscover the device path to the boot drive and update the `nvalias` setting accordingly.

Cannot Boot Oracle Solaris 10 10/09 OS From the Internal DVD

The internal DVD cannot be used to boot the Oracle Solaris 10 10/09 release.

Note – Later updates of Oracle Solaris 10 do not have this limitation.

Workaround: Remote CD-ROM/DVD (Storage part of rKVMS) can be used to boot the DVD media itself or the iso image. An external USB DVD drive can also be used to boot the media.

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 PCI 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 can 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 `hotplug 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 10 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 the Xsun server in the Oracle Solaris 10 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 would set the new device path to the boot device when the `diag-switch?` parameter was set to `true`. SPARC T4 systems no longer support`diag-device` parameter, so the Oracle Solaris OS installer warns that setting the OBP `boot-device` parameter is not possible.

Workaround: From the Oracle 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: Limit the number of 8Gb FC PCI-Express HBA, Emulex cards in a Magma I/O expansion box to no more than three.

Fault Management 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 causes previously diagnosed and repaired PSH faults from the host 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 host as well. If it was reported *only* by Oracle ILOM and not from the host, 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 host. 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 host.

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

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

```
# 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 host 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 a Solaris 10 9/10 Patchset or Solaris 10 8/11 Patchset (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 `nxge` alias definition for SPARC T4 series servers from being entered in `/etc/driver_aliases`. Without this alias being properly defined, the `nxge` cannot be attached.

Recovery Action: To correct this problem, perform the following steps.

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

---

1. Add the following entry to `/etc/driver_aliases`:

```
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 appear 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 Seen 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, and the Oracle ILOM event log contains a "Host watchdog expired" entry. This issue is more prevalent on select systems with full memory configurations.

If you encounter 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 are encountering this error, the event list includes 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 a temporary workaround that will take 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 – If any threads had been bound to `cpu 0`, they will be unbound.

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.

Benign Error Message: `mptsas request inquiry page 0x83 for target:a, lun:0 failed!` (Bug ID 15809005)

Note – This issue was originally listed as CR 7092982.

You might see the following error message in `/var/adm/messages` when the system boots:

```
mptsas request inquiry page 0x83 for target:a, lun:0 failed!
```

Workaround: You can safely ignore this message.

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/strand per core is enabled or online.
- The total number of online CPUs/strands 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 (Bug ID 15774699)

Note – This issue was originally listed as CR 7147940.

Note – This issue is fixed in Oracle Solaris 11.1.

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 the system firmware.

Performing First-Time Boot On Servers Equipped With the Sun Storage 6 Gb SAS PCIe 8-Port Internal RAID HBA

On servers ordered with the Sun Storage 6 Gb SAS PCIe 8-Port Internal RAID HBA card preinstalled, you must specify the full device path when performing first-time boot.

1. Set the *auto-boot* parameter to *false*:

```
sc> set /HOST/bootmode script="setenv auto-boot? false"
```

2. Use the full device path when performing first-time boot:

```
ok boot /pci@400/pci@2/pci@0/pci@8/LSI,mrsas@0/disk@0,0
```

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 SPARC T4 series platforms, it is possible (although rare) for an 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 system. If the problem repeats, contact your authorized service provider. Avoid running Oracle VTS in production environments.

Units Used to Define the MIB Power Management Time Limit Are Reported in Seconds (Bug ID 15675720)

Note – This issue was originally listed as CR 6993008.

The MIB should report the `sunHwCtrlPowerMgmtBudgetTimelimit` in milliseconds, but the value displayed is in seconds.

Workaround: Understand that the value reported for `sunHwCtrlPowerMgmtBudgetTimelimit` is in seconds.

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 are not available.

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

Note – This issue was originally listed as CR 7050975.

Note – This issue is fixed in Oracle Solaris 10 08/11.

When running the `reboot disk` command, extraneous characters are occasionally added to the disk argument before it reaches the OpenBoot PROM (OBP). This results 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 8.1.4.e.

After a cold reset, the server might add one day to the Oracle Solaris OS date and time. This possible date change will only occur on the first cold reset after 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.

A cold reset is 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.

System Shuts Down Following a false `SYS_POK_GLITCH` Error (Bug ID 15774378)

Note – This issue was originally listed as CR 7146062.

Note – This issue is fixed in System Firmware version 8.1.5.

In some cases, the server could report a `false VCORE_POK_GLITCH` error, followed by a system shutdown. A line similar to the following appears in the ILOM ereport log prior to system shutdown:

```
ereport.chassis.power.glitch-fatal@/sys/mb /SYS/MB/CMP0/VCORE_POK_GLITCH
```

Workaround: Install System Firmware 8.1.5 or later.

If the issue persists even after updating the system firmware, the server is encountering a real hardware error. Contact your authorized service provider.

In Some Instances, a PCIe Card Might Disappear From the Device Tree Upon Reboot or During Power-On (Bug ID 15849720)

In some cases, a PCIe card might disappear from the device tree upon reboot or during power-on. The PCIe card reappears in the device tree when the system is power cycled or reset.

Workaround: Do one of the following:

- Power cycle the sever.
- Perform a system reset:

```
ok reset-all
```

Note – If the PCIe card does not reappear even after a power cycle or system reset, the PCIe card might be faulty

System Firmware 8.2.0 Contains a New Version of the `scvar` Database (Bug ID 16184046)

A new version of the `scvar` database was introduced in system firmware 8.2.0. Upgrading the system firmware from a version prior to 8.2.0 to system firmware version 8.2.0 or later reverts the `scvar` database to default settings after the installation completes. This also erases any date/time offsets that have not been saved in an LDOMs `spconfig` file, making it necessary to re-set the date/time on affected domains.

System Firmware 8.3.0.b Incompatible with the Sun Flash Accelerator F40 PCIe Card (Bug ID 16813726)

Servers equipped with System Firmware 8.3.0.b might exhibit severe performance degradation due to thermal limiting of the Sun Flash Accelerator F40 PCIe Card.

Workaround: If your server is equipped with the Sun Flash Accelerator F40 PCIe Card, do not not upgrade to System Firmware 8.3.0.b. If you have already upgraded a server equipped with a Sun Flash Accelerator F40 PCIe Card to System Firmware 8.3.0.b and are encountering thermal-related performance degradation, downgrade to System Firmware 8.2.2.c.