

SPARC T3-1B Server Module

Product Notes



Part Number: E23584-02
November 2011

Review late-breaking information about the server module.

Copyright © 2010, 2011, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related software documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS. Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Copyright © 2010, 2011, Oracle et/ou ses affiliés. Tous droits réservés.

Ce logiciel et la documentation qui l'accompagne sont protégés par les lois sur la propriété intellectuelle. Ils sont concédés sous licence et soumis à des restrictions d'utilisation et de divulgation. Sauf disposition de votre contrat de licence ou de la loi, vous ne pouvez pas copier, reproduire, traduire, diffuser, modifier, breveter, transmettre, distribuer, exposer, exécuter, publier ou afficher le logiciel, même partiellement, sous quelque forme et par quelque procédé que ce soit. Par ailleurs, il est interdit de procéder à toute ingénierie inverse du logiciel, de le désassembler ou de le décompiler, excepté à des fins d'interopérabilité avec des logiciels tiers ou tel que prescrit par la loi.

Les informations fournies dans ce document sont susceptibles de modification sans préavis. Par ailleurs, Oracle Corporation ne garantit pas qu'elles soient exemptes d'erreurs et vous invite, le cas échéant, à lui en faire part par écrit.

Si ce logiciel, ou la documentation qui l'accompagne, est concédé sous licence au Gouvernement des Etats-Unis, ou à toute entité qui délivre la licence de ce logiciel ou l'utilise pour le compte du Gouvernement des Etats-Unis, la notice suivante s'applique :

U.S. GOVERNMENT RIGHTS. Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

Ce logiciel ou matériel a été développé pour un usage général dans le cadre d'applications de gestion des informations. Ce logiciel ou matériel n'est pas conçu ni n'est destiné à être utilisé dans des applications à risque, notamment dans des applications pouvant causer des dommages corporels. Si vous utilisez ce logiciel ou matériel dans le cadre d'applications dangereuses, il est de votre responsabilité de prendre toutes les mesures de secours, de sauvegarde, de redondance et autres mesures nécessaires à son utilisation dans des conditions optimales de sécurité. Oracle Corporation et ses affiliés déclinent toute responsabilité quant aux dommages causés par l'utilisation de ce logiciel ou matériel pour ce type d'applications.

Oracle et Java sont des marques déposées d'Oracle Corporation et/ou de ses affiliés. Tout autre nom mentionné peut correspondre à des marques appartenant à d'autres propriétaires qu'Oracle.

Intel et Intel Xeon sont des marques ou des marques déposées d'Intel Corporation. Toutes les marques SPARC sont utilisées sous licence et sont des marques ou des marques déposées de SPARC International, Inc. AMD, Opteron, le logo AMD et le logo AMD Opteron sont des marques ou des marques déposées d'Advanced Micro Devices. UNIX est une marque déposée d'The Open Group.

Ce logiciel ou matériel et la documentation qui l'accompagne peuvent fournir des informations ou des liens donnant accès à des contenus, des produits et des services émanant de tiers. Oracle Corporation et ses affiliés déclinent toute responsabilité ou garantie expresse quant aux contenus, produits ou services émanant de tiers. En aucun cas, Oracle Corporation et ses affiliés ne sauraient être tenus pour responsables des pertes subies, des coûts occasionnés ou des dommages causés par l'accès à des contenus, produits ou services tiers, ou à leur utilisation.



Please
Recycle



Adobe PostScript

Contents

1. General Information 1

Supported Chassis 2

▼ Identify the Chassis Midplane Version 2

Supported Modular Components 3

Important Firmware Upgrade Required Prior to Mixing SAS-1 and SAS-2
Components 5

Supported Versions of Oracle Solaris OS, Firmware, and Software 6

Required Patches and Package Updates 6

▼ Access OS, Patch, and Firmware Updates 6

Oracle Solaris 10 OS Patches 7

Oracle Solaris 11 OS Package Updates 7

Oracle Solaris OS Has Changed how It Specifies Logical Device Names 7

Oracle Solaris Jumpstart Example 9

Interactive Installation Example 10

2. Late-Breaking Information 11

Hardware Issues 11

Server Module Might Hang or Power Off When Hot-Plug Inserting a Drive
Into HDD0-3 While a Storage Drive Is Being Accessed Through the Front
USB Device Connection (CR 7078120) 11

Direct I/O Support 12

Server Module Might Panic During Hot-Plugging of the 10GbE Dual Port SFP+ ExpressModule (CR 6974235)	12
Replace Faulty DIMMs With Uncorrectable Errors as Soon as Possible (CR 6996144)	13
Not Oracle Certified DIMM Warning Message (CR 7034912)	13
System Firmware Issues	14
Link Width x8 Link Speed GEN1 Warning Displayed During Power Up (CR 6958263)	14
Disabling /SYS/MB/FEM0 From the SP Level Does Not Work Correctly for Certain FEMs (CR 6980646)	14
ILOM Issues	15
ILOM Fails to Display Properties (CR 6992917)	15
picld Messages Logged (CR 6992903)	15
Solaris Issues	16
prtdiag Labels the Server Module Serial Number as the Chassis Serial Number (CR 6669159)	16
Oracle VTS disktest Might Fail on USB Devices (CR 6873719)	16
False nxge Warning Messages (CR 6938085)	16
fault.memory.memlink-uc Interconnect Fault Did Not Cause Panic as Stated by Knowledge Article (CR 6940599)	17
Degraded Network Performance When Using Sun Dual 10GbE PCIe EMs (CR 6943558)	17
Spurious Interrupt Message in System Console (CR 6963563)	17
Spurious Error Message During Initial Oracle Solaris OS Installation (CR 6971896)	18
Hot-Plug Removal of PCIe EMs Might Generate devfsadmd Errors (CR 6973637)	18
Error Report Event (ereport) Not Generated for a Degraded Service Processor (CR 6978171)	19
False Error Report Events (ereport) Generated When System Is Booted With a Degraded Service Processor (CR 6981297)	19

Oracle Enterprise Manager Process Hangs and Becomes Unkillable (CR
6994300) 19

nxge Driver Not Loaded (CR 6995458) 20

Documentation Issues 20

Hardware RAID Guidelines are Missing from Administration Guide 20

SPARC T3-1B Server Module Getting Started Guide 21

General Information

These product notes provide important and late-breaking information about Oracle's SPARC T3-1B server module.

This document is for system administrators, technicians, service providers, and users who have experience administering computer systems.

Documentation for the SPARC T3-1B server module is available online:

<http://www.oracle.com/pls/topic/lookup?ctx=E19332-01>

This chapter provides the following general information about the SPARC T3-1B server module:

- "Supported Chassis" on page 2
- "Supported Modular Components" on page 3
- "Important Firmware Upgrade Required Prior to Mixing SAS-1 and SAS-2 Components" on page 5
- "Supported Versions of Oracle Solaris OS, Firmware, and Software" on page 6
- "Required Patches and Package Updates" on page 6
- "Oracle Solaris OS Has Changed how It Specifies Logical Device Names" on page 7

Supported Chassis

The server module is supported in the modular system chassis listed in the following table.

Modular System Chassis	Supported Features
Sun Blade 6000 modular system with PCIe 2.x midplane*	The server module supports SAS-1 and SAS-2 modular components. Gen2-capable PCIe EMs and NEMs connected to the SPARC T3-1B server module run at Gen2 speeds. Gen1-capable devices run at Gen1 speeds. Note - See “Important Firmware Upgrade Required Prior to Mixing SAS-1 and SAS-2 Components” on page 5.
Sun Blade 6000 modular system with PCIe 1.x midplane*	The server module functions with the following requirements and limitations: <ul style="list-style-type: none">• PCIe EMs and NEMs connected to the SPARC T3-1B server module run at Gen1 speeds regardless of their Gen1 or Gen2 capabilities.• Any SAS-1 NEMs installed in the chassis require a firmware upgrade. See “Important Firmware Upgrade Required Prior to Mixing SAS-1 and SAS-2 Components” on page 5.• Storage devices on the server module that are connected to an on-board SAS-2 REM are supported and operate at SAS-2.• On-board SAS-2 REMs cannot be connected to SAS-1 disk or storage modules.

* See [“Identify the Chassis Midplane Version”](#) on page 2.

▼ Identify the Chassis Midplane Version

1. Log into CMM ILOM.

2. Type:

```
-> show /CH/MIDPLANE
```

3. View the `fru_part_number` field.

- 511-1298-xx identifies a PCIe 2.x type midplane.
- 511-1487-xx identifies a PCIe 2.x type midplane.
- 501-7376-xx identifies a PCIe 1.x type midplane.

For further details, refer to the *Sun Blade 6000 Modular System Product Notes*.

Supported Modular Components

The following table lists the modular components that are supported with the modular server.

Note – For the latest information on hardware component requirements, refer to the product notes for your component.

Product Model Number and Name	Requirements
Network Express Modules (NEMs)	
7100091 (ATO) / 7100090 (PTO) – Sun Blade 6000 Virtualized 40 GbE Network Express Module	This NEM requires the following: <ul style="list-style-type: none">• For chassis requirements, refer to the <i>Sun Blade 6000 Virtualized 40 GbE Network Express Module Product Notes</i>.• The server module must use system firmware 8.0.4.c (minimum), which is provided by patch 145666-04.• For network connectivity – FEM 7100283 (ATO) / 7100633 (PTO).• For storage connectivity – SG-SAS6-REM-Z.
NEM X4338A-N – Sun Blade 6000 Virtualized Multi-Fabric 10GbE M2 Network Express Module	This NEM requires the following: <ul style="list-style-type: none">• For SAS-2 functionality, the server module and NEM X4338A-N must be installed in a chassis with a PCIe 2.x midplane. See “Supported Chassis” on page 2.• For 10GbE network connectivity – FEM X4263A-N.• For storage connectivity – SG-SAS6-REM-Z.
NEM X2073A-N – Sun Blade 6000 Ethernet Switched NEM 24p 10GbE	This NEM requires the following: <ul style="list-style-type: none">• For SAS-2 functionality, the server module and NEM X2073A-N must be installed in a chassis with a PCIe 2.x midplane. See “Supported Chassis” on page 2.• For 10GbE network connectivity – FEM X5735A or FEM 4871A-Z-N.• For storage connectivity – SG-SAS6-REM-Z.
NEM X4238A-N – Sun Blade 6000 Virtualized Multi-Fabric 10GbE Network Express Module	This NEM requires the following: <ul style="list-style-type: none">• For 10GbE network connectivity – FEM X4263A-N.• For storage connectivity – SG-SAS6-REM-Z.
NEM X4236A-N – Sun Blade 6000 10GbE Multi-Fabric Network Express Module	This NEM requires the following: <ul style="list-style-type: none">• For 10GbE network connectivity – FEM X5735A or FEM X4871A-Z-N.• For storage connectivity – SG-SAS6-REM-Z.

Product Model Number and Name	Requirements
X4250A-N – Sun Blade 6000 Network Express Module 10-port GbE pass through NEM	This NEM requires the following: <ul style="list-style-type: none"> • For internal storage connectivity – SG-SAS6-REM-Z. Note - No FEM is required for network connectivity.
RAID Express Modules (REMs)	
SG-SAS6-REM-Z – Sun Blade 6000 RAID 0/1 SAS2 HBA REM	This REM requires the following: <ul style="list-style-type: none"> • Prior to installation, update firmware on SAS-1 components. See “Important Firmware Upgrade Required Prior to Mixing SAS-1 and SAS-2 Components” on page 5.
Fabric Expansion Modules (FEMs)	
7100283 (ATO) / 7100633 (PTO) – PCIe-2 Pass-Through FEM	This FEM requires the following: <ul style="list-style-type: none"> • Must be installed in FEM 0 and FEM 1 motherboard connectors. • The server module must use system firmware 8.0.4.c (minimum), which is provided by patch 145666-04. • The server module must be part number 7027112 or 7027109. If you have an earlier model of the server module (part number 541-4243 or 541-4197), contact your Oracle Service Provider before installing this FEM inside the server module. <p>To see the server module’s part number, type: ->show /SYS/MB fru_part_number</p>
X5735A – 10GbE XAUI Pass-Through FEM	Must be installed in FEM X and FEM 0 motherboard connectors.
X4871A-Z – Dual 10GbE PCIe 2.0 FEM (Intel)	Must be installed in the FEM 0 motherboard connector.
X4263A-N – Dual 10GbE Pass-Through FEM	Must be installed in FEM 0 and FEM 1 motherboard connectors.
PCIe Expansion Modules (PCIe EMs)	
SGX-SAS6-EM-Z – SAS2 Dual Port Express Module	
SG-XPCIEFCGBE-Q8-Z – 2x8Gb FC and 2xGbE Combo Express Module	Must have part number 371-4522-02 or a higher dash level.
X7283A-Z-N – 1GbE Dual Port ExpressModule, Fiber	

Product Model Number and Name	Requirements
X7284A-Z-N – 1GbE Quad Port ExpressModule, Copper	
X1110A-Z – 10GbE Dual Port SFP+ Express Module	
X4243A – QDR IB HCA Connect X-2	

Important Firmware Upgrade Required Prior to Mixing SAS-1 and SAS-2 Components

You must upgrade the firmware of your SAS-1 components (SAS-1 NEMs and disk modules) to a firmware version that supports SAS-1/SAS-2 coexistence.

You must perform this upgrade before you insert a SAS-2 component such as this server module into the chassis.

At a minimum, you must upgrade all SAS expanders for SAS-1 NEMs and Sun Blade 6000 disk modules to firmware revision 5.04.03 (or later). This firmware revision enables SAS-1/SAS-2 devices to coexist in the Sun Blade 6000 modular system chassis. Using older firmware revisions might result in SAS-2 devices hanging.

Refer to the *SAS-1/SAS-2 Compatibility Upgrade Guide* for details on which devices require the upgrade, how to obtain the firmware, and perform the upgrade. This guide is available at:

<http://www.oracle.com/pls/topic/lookup?ctx=E19332-01&id=homepage>

Supported Versions of Oracle Solaris OS, Firmware, and Software

The OS and firmware are preinstalled at the factory. The following table lists the supported versions of Oracle Solaris OS, firmware, and software.

Software	Supported Versions
Oracle Solaris OS on the server module host	<ul style="list-style-type: none">• 11• 10 8/11• 10 9/10• (Minimum) 10 10/09 OS with Oracle Solaris 10 9/10 Patch Bundle
Electronic Prognostics on the server module host	<ul style="list-style-type: none">• 1.1 <p>Note - This software provides early warning of the potential for specific FRU faults.</p>
System firmware on server module (patch ID that provides this version)	Minimum version: 8.0.1.c (includes ILOM 3.0) (patch ID 145666-01 or later)
Oracle VM Server for SPARC (logical domains))	Minimum version: 2.0
Chassis management module (CMM) Software	Software release 3.3 or later

Required Patches and Package Updates

Note – Oracle Solaris 11 OS uses package updates rather than patches.

▼ Access OS, Patch, and Firmware Updates

- Access the latest OS, patches, and firmware information from:

<http://support.oracle.com>

Oracle Solaris 10 OS Patches

Any patches that were known to be needed at the time your server module was prepared for shipment were installed at the factory. However, if you reinstall the OS, see the following lists to understand which patches you need to install.

Required patches for Oracle Solaris 10 9/10 OS:

- 143647-08 or later
- 144488-03 or later
- 144567-01 or later
- 145868-01 or later
- 145961-01 or later

Required patches for Oracle Solaris 10 10/09 OS:

- Oracle Solaris 10 9/10 Patch Bundle
- All required patches for Oracle Solaris 10 9/10 OS (listed above)

Oracle Solaris 11 OS Package Updates

No package updates are required at this time to use Oracle Solaris 11 OS with this server module.

You should install an Oracle Solaris 11 Support Repository Update (SRU), if available. Use the `pkg` command or the package manager GUI to download any available SRU from:

<https://pkg.oracle.com/solaris/support>

Oracle Solaris OS Has Changed how It Specifies Logical Device Names

The Oracle Solaris OS now uses world wide ID (WWID) in place of the `tn` (target ID) field in logical device names for all SAS 2.0 storage controllers including the Sun Blade 6000 RAID 0/1 SAS2 HBA REM (SG-SAS6-REM-Z) when installed in this server module.

Note – Refer to the *SPARC T3 Series Server Administration Guide* for more information about device IDs.

This change affects how you identify the target disk when downloading the OS over a network. The following points are key to understanding the impact of this change:

- When downloading the OS over a network, specify the disk in HDD slot 0 as the download destination. OBP uses this disk as the default boot device.
- Before the change to using WWIDs, this disk was known to the OS by the logical name `c0t0d0`.

With the change, the device identifier for the default boot device is now referred to as `c0tWWIDd0`, where *WWID* is a hexadecimal value. This WWID value does not map in a predictable way to the physical ID of the disk in HDD slot 0.

To reliably specify HDD slot 0 for the OS download operation, you must determine the correspondence between the WWID value for that drive and its physical location.

Oracle Solaris 10 8/11 OS includes a `diskinfo (1M)` command that is the easiest way of finding the WWID for the device at a physical location. For example,

```
# diskinfo -a

Enclosure path:      0703NNY01U-physical-hba-1
Chassis Serial Number: 0703NNY01U-physical-hba-1
Chassis Model:      ORCL,SPARC-T3-1B

Label      Disk name      Vendor  Product      Vers
-----
/SYS/HDD0  c0t5000CCA0150CA5F0d0  HITACHI  H103030SCSUN300G  A2A8
/SYS/HDD1  c0t5000CCA0150C9D58d0  HITACHI  H103030SCSUN300G  A2A8

#
```

If you are using a release of Oracle Solaris that does not provide the `diskinfo` command, or if you need this information when you are not at the Oracle Solaris level, you also can determine the WWID value for a disk at a physical location by running `probe-scsi-all` and reading the output.

In the `probe-scsi-all` output, look for the following disk identifiers:

- `SASDeviceName` – This is the WWID that the Oracle Solaris OS recognizes.
- `SASAddress` – This is the WWID that the OpenBoot PROM references.
- `PhyNum` – This is the physical HDD slot that the disk occupies. This number is also expressed as a hexadecimal value.

Your server module has one on-board SAS controller, which controls all four connected drives. The following example shows `probe-scsi-all` output for a SPARC T3-1B server module with two drives.

Note – In the example, the disk installed in HDD slot 0 has a PhyNum value of 0, the SASDeviceName is 5000c500231694cf, and the Target number is 9.

```
{0} ok probe-scsi-all
/pci@400/pci@1/pci@0/pci@7/pci@0/usb@0,2/hub@5/storage@3
  Unit 0   Removable Disk       smiUnigen  PSA4000           1100

/pci@400/pci@1/pci@0/pci@7/pci@0/usb@0,2/hub@3/storage@2
  Unit 0   Removable Read Only device   AMI         Virtual CDROM     1.00

/pci@400/pci@1/pci@0/pci@2/LSI,sas@0      <===== SAS Controller

MPT Version 2.00, Firmware Version 4.05.52.00

Target 9
  Unit 0   Disk       SEAGATE ST930003SSUN300G0868   585937500 Blocks, 300 GB
  SASDeviceName 5000c500231694cf SASAddress 5000c500231694cd  PhyNum 0
Target a
  Unit 0   Disk       SEAGATE ST973402SSUN72G 0603   143374738 Blocks, 73 GB
  SASDeviceName 5000c50003d37fcb SASAddress 5000c50003d37fc9  PhyNum 1
```

Oracle Solaris Jumpstart Example

The following Oracle Solaris Jumpstart profile example shows how to use the WWID syntax when installing the OS on a specific disk drive. The SASDeviceName is taken from the previous configuration listing.

Note – The Oracle Solaris syntax rules require all alpha characters to be capitalized.

```
#
install_type flash_install
boot_device c0t5000C500231694CFd0 preserve

archive_location nfs
129.148.94.249:/export/install/media/solaris/builds/s10u9/flar/latest.flar

# Disk layouts
#
partitioning explicit
fileys rootdisk.s0          free /
fileys rootdisk.s1         8192 swap
```

Interactive Installation Example

In an interactive installation, you are asked to specify one or more disks as the targets for the OS installation. The purpose of this step is to ensure that enough disk capacity is provided for the installation. For this step, specify the disk with the WWID value corresponding to the drive on which you want to install the software.

These WWID values are illustrated in the following interactive example,. The drive selected as the install target is located in HDD slot 0, the default OBP location.

Note – If some other disk is preferred, you can specify it instead of the one in HDD slot 0.

```
_ Select Disks_

On this screen you must select the disks for installing Solaris software. Start
by looking at the Suggested Minimum field; this value is the approximate space
needed to install the software you've selected. Keep selecting disks until the
Total Selected value exceeds the Suggested Minimum value.
NOTE: ** denotes current boot disk

Disk Device                               Available Space
=====
[ ] c0t5000C50003D37FCBd0                 286090 MB
[X] c0t5000C500231694CFd0                 286090 MB (F4 to edit)

                                Total Selected: 286090 MB
                                Suggested Minimum: 5032 MB

-----
Esc-2_Continue F3_Go Back   F4_Edit   F5_Exit   F6_Help
```

Late-Breaking Information

This chapter provides the following late-breaking information for the SPARC T3-1B server module:

- [“Hardware Issues” on page 11](#)
- [“System Firmware Issues” on page 14](#)
- [“ILOM Issues” on page 15](#)
- [“Solaris Issues” on page 16](#)
- [“Documentation Issues” on page 20](#)

Hardware Issues

Server Module Might Hang or Power Off When Hot-Plug Inserting a Drive Into HDD0-3 While a Storage Drive Is Being Accessed Through the Front USB Device Connection (CR 7078120)

Workaround: Do not hot-plug insert a drive in slots HDD0 through HDD3 while a device is connected to the USB connector on the dongle cable.

In certain other situations, when you hot-plug a drive, warning messages are displayed that are similar to these:

```
tvt-230 scsi: WARNING: /scsi_vhci/disk@g5000cca00a603b38 (sd0):  
tvt-230          Error for Command: write(10)          Error Level: Retryable  
tvt-230 scsi:   Requested Block: 26998912          Error Block: 26998912
```

```

tvt-230 scsi: Vendor: HITACHI Serial Number: 1005GPMUE
tvt-230 scsi: Sense Key: Unit Attention
tvt-230 scsi: ASC: 0x29 (power on occurred), ASCQ: 0x1, FRU: 0x16
tvt-230 scsi: WARNING: /scsi_vhci/disk@g5000cca00a603b38 (sd0):
tvt-230 Error for Command: write(10) Error Level: Retryable
tvt-230 scsi: Requested Block: 26998912 Error Block: 26998912
tvt-230 scsi: Vendor: HITACHI
tvt-230 scsi: Sense Key: Not Ready
tvt-230 scsi: ASC: 0x4 (LUN is becoming ready), ASCQ: 0x1, FRU: 0x2
tvt-230 scsi: WARNING: /scsi_vhci/disk@g5000cca00a603b38 (sd0):
tvt-230 Error for Command: write(10) Error Level: Retryable
tvt-230 scsi: Requested Block: 26998912 Error Block: 26998912
tvt-230 scsi: Vendor: HITACHI Serial Number: 1005GPMUE
tvt-230 scsi: Sense Key: Not Ready
tvt-230 scsi: ASC: 0x4 (LUN is becoming ready), ASCQ: 0x1, FRU: 0x2

```

If a device was not connected to the USB connector on the dongle cable, these messages are harmless and can be safely ignored.

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>

Server Module Might Panic During Hot-Plugging of the 10GbE Dual Port SFP+ Express Module (CR 6974235)

Initiation of a hot-plug removal of a 10GbE Dual Port SFP+ Express Module connected to a SPARC T3-1B server module by using the Express Module's ATTN button might cause the Oracle Solaris OS that is running on the server module to panic.

You can safely use the ATTN button to hot-plug insert the same Express Module into a slot that connects to a SPARC T3-1B server module.

Workaround: Do not use the PCIe EM ATTN button. Instead, use the Oracle Solaris `cfgadm(1M)` command to hot-plug remove a 10GbE Dual Port SFP+ Express Module connected to a SPARC T3-1B server module.

For example, to hot-plug remove an express module in slot PCI-EM1 using `cfgadm`, perform the following commands in the Oracle Solaris instance connected to the Express Module:

```
# cfgadm -c unconfigure PCI-EM1  
# cfgadm -c disconnect PCI-EM1
```

Replace Faulty DIMMs With Uncorrectable Errors as Soon as Possible (CR 6996144)

This issue is fixed in the Oracle Solaris 10 8/11 OS.

If a DIMM has an uncorrectable error (UE), the server will generate a `fault.memory.bank` error that labels a DIMM as faulty. You can view this error using the Oracle ILOM `show faulty` command or using the `fmddump -v` command.

If a DIMM in your system contains a persistent uncorrectable error (an error that continually occurs even after multiple reboots), replace this DIMM as soon as possible to avoid any server downtime.

Workaround: Replace faulty DIMMs as soon as possible.

Not Oracle Certified DIMM Warning Message (CR 7034912)

After installing supported optional component DIMMs shipped from Oracle Corporation or from a certified Oracle reseller, or after replacing a failed DIMM with a field-replaceable unit (FRU) DIMM, you might see warning messages similar to the following:

```
[CPU 0:0:0:] WARNING: /SYS/MB/CMP0/BOB0//CH0/D0: Not Oracle Certified
```

The system displays these messages because optional component and FRU DIMMs have not been marked as certified. Oracle certifies only DIMMs that ship installed in a system from the factory. Although Oracle has not certified these DIMMs, they are still supported. You can safely ignore these warning messages.

System Firmware Issues

Link Width x8 Link Speed GEN1 Warning Displayed During Power Up (CR 6958263)

This is fixed in SysFW 8.0.4.c and higher.

On rare occasions while powering up a SPARC T3-1B server module, the following error message might be displayed just before the system reaches the OBP prompt:

```
WARNING: ios0, peun Link Width x8 Link Speed GEN1.
```

Workaround: Reset the system at the OBP prompt as follows:

```
ok reset-all
```

Disabling /SYS/MB/FEM0 From the SP Level Does Not Work Correctly for Certain FEMs (CR 6980646)

To disable SPARC T3-1B NIU 10GbE ports connected through a 10GbE XAUI Pass-Through FEM, do not use the /SYS/MB/FEM0 NAC name from the ILOM DMTF CLI.

Workaround: Instead use /SYS/MB/CMP0/NIUx.

For example, to disable NIU port 0, use the following command from the SP:

```
-> set /SYS/MB/CMP0/NIU0 component_state=Disabled  
Set 'component_state' to 'Disabled'
```

ILOM Issues

ILOM Fails to Display Properties (CR 6992917)

On rare occasions, the ILOM CLI on the server module's service processor might be unable to display the `power_state` and other such properties as shown in the following example:

```
-> show -display properties /SYS power_state
show: No matching properties found.
```

Workaround: Perform one of the following workarounds:

- If you are accessing the ILOM CLI through the serial console, retry the command.
- If you are accessing the ILOM CLI through an ssh connection, re-establish the connection and retype the command.
- In the rare case where the above workarounds do not mitigate the issue, reset the service processor as follows:

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

picld Messages Logged (CR 6992903)

Occasionally, the following warning messages might be logged in the `/var/adm/messages` file:

```
picld[177]: [ID 629468 daemon.warning] PICL snmpplugin: cannot get
entPhysicalName (row=xxx)
```

Workaround: These messages are harmless and can be safely ignored.

Solaris Issues

prtdiag Labels the Server Module Serial Number as the Chassis Serial Number (CR 6669159)

The last few lines of the `prtdiag -v` output display the server module serial number as the `Chassis Serial Number`. This label is misleading because it might be interpreted as the modular system chassis serial number.

Workaround: Be aware that the `prtdiag Chassis Serial Number` is the server module serial number.

Oracle VTS `disktest` Might Fail on USB Devices (CR 6873719)

Note – Oracle VTS was formerly known as SunVTS.

USB disks connected to the front dongle cable or the internal USB port might fail after running the Oracle VTS `disktest` for over 5 hours.

Workaround: Stop any application that is using the USB. Then reset the USB port with the `cfgadm -x usb_reset [...]` command.

False `nxge` Warning Messages (CR 6938085)

This issue is fixed in the Oracle Solaris 10 8/11 OS.

During the normal operation of your server, you might see the following warning messages in the system console or in the Oracle Solaris `/var/adm/messages` file:

```
date/time machinename nxge: [ID 752849 kern.warning] WARNING: nxge0 :  
nxge_hio_init: hypervisor services version 2.0
```

Workaround: These messages are harmless, and you can ignore them.

fault.memory.memlink-uc Interconnect Fault Did Not Cause Panic as Stated by Knowledge Article (CR 6940599)

When a `fault.memory.memlink-uc` interconnect fault is detected, the system should shut down to protect memory integrity. On intermittent occasions, this fault has been reported during boot operations without the system shutting down.

Although it is possible that this irregular behavior indicates that the system was able to recover from the memory link error and restore a healthy boot-up state, the safest action is to perform a power-down and power-up sequence.

Recovery: Power cycle the server module.

Degraded Network Performance When Using Sun Dual 10GbE PCIe EMs (CR 6943558)

Excessive packet loss can occur when two or more ports are used across multiple Sun Dual 10GbE PCIe 2.0 PCIe EMs. As a result, transmit and receive performance is significantly degraded.

Workaround: Enable flow control in the `ixgbe` driver by performing the following procedure. This action greatly reduces packet loss and improves performance.

As superuser, add the following line in the `/kernel/drv/ixgbe.conf` file:

```
flow_control = 3;
```

Then reboot the server module.

Spurious Interrupt Message in System Console (CR 6963563)

During normal operation and when running the Oracle VTS system exerciser, you might see the following message in the system console or in the `/var/adm/messages` file:

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

Workaround: You can safely ignore these messages.

Spurious Error Message During Initial Oracle Solaris OS Installation (CR 6971896)

This issue only occurs when you are performing an installation using a keyboard, mouse, and monitor.

The miniroot is a bootable root file system that includes the minimum Oracle Solaris OS software required to boot the server module and configure the OS. The miniroot runs only during the installation process. When the server module 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 expected because the miniroot contains only the Xsun environment, and the AST frame buffer (`astfb`) is supported only in the Xorg environment. The Xorg environment is included in the installed OS. Therefore, you can use the graphics device when running the installed OS.

Workaround: You can safely ignore these messages.

Hot-Plug Removal of PCIe EMs Might Generate `devfsadmd` Errors (CR 6973637)

For PCIe EMs connected to this server module, using the ATTN button to prepare a PCIe EM for hot-plug removal might generate the following error:

```
devfsadmd[202]: failed to lookup dev name for
/pci@400/pci@2/pci@0/pci@1/.....
```

Workaround: You can safely ignore these errors.

Error Report Event (ereport) Not Generated for a Degraded Service Processor (CR 6978171)

This issue is fixed in the Oracle Solaris 10 8/11 OS.

The following incorrect event error report (ereport) is generated if the service processor is operating in a degraded state:

```
ereport.fm.fmd.module
```

However, a degraded service processor should generate the following ereport:

```
ereport.chassis.sp.unavailable
```

To view ereport events, use the `fmdump -eV` command. Refer to the `fmdump(1M)` man page for instructions.

Workaround: Clear all service processor faults to ensure that the service processor operates in a normal state.

False Error Report Events (ereport) Generated When System Is Booted With a Degraded Service Processor (CR 6981297)

This issue is fixed in the Oracle Solaris 10 8/11 OS.

If the system boots with a degraded service processor, the system generates an error report event (ereport) that does not accurately state the problem. The ereport should state that it cannot make a connection to the service processor instead of the following false ereport:

```
msg = error: bad conn open during ver negot: errno 5
```

To view ereport events, use the `fmdump -eV` command. Refer to the `fmdump(1M)` man page for instructions.

Workaround: Clear all service processor faults to ensure that the service processor operates in a normal state.

Oracle Enterprise Manager Process Hangs and Becomes Unkillable (CR 6994300)

This issue is fixed in the Oracle Solaris 10 8/11 OS.

The Oracle Enterprise Manager Java process can hang and become unkillable on the server module. When the Enterprise Manager process hangs, it continues to listen on its web UI port, which makes the process unkillable. This problem has been seen on servers running both the Java SE 5.0 version that is bundled with Oracle Database software and with the most recent downloadable Java SE 6 Update 22 version.

Workaround: Reboot the system. If the problem repeats, contact your authorized service provider.

nxge Driver Not Loaded (CR 6995458)

If Oracle Solaris 10 10/09 is installed on a SPARC T3-1B server module along with Oracle Solaris 10 9/10 Patch Bundle, the SPARC T3 NIU ports might be unusable on Oracle Solaris.

Workaround: Add the following entry to the `/etc/driver_aliases` file and then reboot Oracle Solaris.

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

Documentation Issues

Hardware RAID Guidelines are Missing from Administration Guide

The following points are important to understand when configuring RAID volumes on a SPARC T3-1B server module:

- Before configuring and using RAID disk volumes on a SPARC T3-1B server module, ensure that you have installed the latest patches for your operating system from here:

<https://pkg.oracle.com/solaris/support>

- Volume migration (relocating all RAID volume disk members from one SPARC T3-1B server module to another) is not supported. If you must perform this operation, contact your authorized Oracle service provider.



Caution – Creating RAID volumes using on-board disk controllers destroys all data on member disks.

This information is not provided in the current version of the *SPARC T3 Series Servers Administration Guide*.

SPARC T3-1B Server Module Getting Started Guide

The procedure “Access ILOM on the Server Module SP” on page 4 of the *SPARC T3-1B Server Module Getting Started Guide* (821-1923-10) might not provide sufficient detail for successful completion of this task.

Workaround: Refer to a more recent release of the *SPARC T3-1B Server Module Getting Started Guide*. Or refer to the “Connect Through the Ethernet Port of the Modular System CMM (Web Interface)” procedure in the *SPARC T3-1B Server Module Installation Guide*. Also refer to that manual for details on using other connection methods for installation.

