Netra SPARC T3-1 Server

Product Notes

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Netra SPARC T3-1 Server Product Notes

This document contains the following information and late-breaking news about Oracle's Netra SPARC T3-1 server:

- "Preinstalled Software For Standard Configurations" on page 2
- "Oracle Solaris OS Support" on page 2
- "Patch Information" on page 3
- "ALOM CMT Compatibility Shell Not Supported" on page 4
- "Known Product Issues" on page 4

Preinstalled Software For Standard Configurations

The following table lists the software preinstalled on your server. Any patches that were known to be needed at the time your server was prepared for shipment were installed at the factory.

For the latest information about all patches, including those for the preinstalled software, go to the My Oracle Support web site:

https://support.oracle.com/

Note – The preinstalled Oracle Solaris OS is installed on a ZFS file system.

Software	Location	Function
Oracle Solaris 10 9/10 OS	Root disk Slice 0 (and on Slice 3 in the ABE)	Operating system
Oracle VM Server for SPARC 2.0	`/opt/SUNWldm`	Manages logical domains

Oracle Solaris OS Support

The server's first drive is preinstalled with a copy of the Oracle Solaris 10 9/10 OS. The OS is ready to be configured at the appropriate point when you first apply power to the server.

The server supports the following Oracle Solaris OS release:

- Oracle Solaris 10 9/10 OS (preinstalled on the server) with patches. See "Patch Information" on page 3 for more information.

For the latest information about patches for the server, optional components, and software, go to the Oracle Support web site:

https://support.oracle.com/

Note – When using the Oracle VM Server software, both the control and guest domains support these minimum Oracle Solaris OS releases.

Refer to the Oracle Solaris documentation for instructions on installing and configuring the Oracle Solaris OS.

Patch Information

All required patches are installed prior to shipment. If you reinstall the Oracle Solaris OS on the server, you must install the required patches for the OS, the server, and for any optionally installed hardware or software.

When this document was published, the server required the following Oracle Solaris 10 9/10 OS patches. If you reinstall the Oracle Solaris 10 9/10 OS, you must install the latest compatible versions of these patches.

- 143647-08
- 144486-04
- 144488-04
- 144567-02
- 145098-02
- 145786-02
- 145868-01
- 145961-01

To download the latest version of these patches, and to find the current list of required patches, go to the My Oracle Support web site:

https://support.oracle.com/

Note – For current information about required patches and updates for optional hardware and software, refer to the documentation for each product.

ALOM CMT Compatibility Shell Not Supported

The Netra SPARC T3-1 server does not support the Advanced Lights Out Manager (ALOM) CMT command-line compatibility shell (`cli_mode=alom`) that was available in previous platforms. For more information about the supported Oracle Integrated Lights Out Manager (ILOM) features, refer to the *Netra SPARC T3-1 Server Administration Guide*.

Known Product Issues

This section describes issues that are known to affect Oracle's Netra SPARC T3-1 server. The issue descriptions are organized as follows:

- "Hardware Issues" on page 4
- "Oracle Solaris OS Issues" on page 4
- "Firmware Issues" on page 11

Hardware Issues

There were no hardware-related issues at the time this document was released.

Oracle Solaris OS Issues

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

Oracle Solaris OS Has Changed How It Specifies Logical Device Names

The Oracle Solaris OS now uses SAS 2.0 World Wide ID (WWID) in place of the `t`*n* (target ID) field in logical device names. This change will affect 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, you should specify the disk in HDD slot 0 as the download destination. This is the disk that OBP uses as the default boot device.
- Before the change to using WWIDs, this disk would be 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 `c0t`*WWID*`d0`, 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.

Note – By default, the Oracle Solaris OS is installed on the disk in HDD slot 0. If you want to install the OS on a disk in another slot, specify the disk in the preferred slot number.

To reliably specify HDD slot 0 for the OS download operation, you must determine the correspondence between the WWID value for that disk and its physical location. You can do this 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 disk WWID that the Oracle Solaris OS recognizes.
- `SASAddress` – This is the disk WWID that the OBP references.
- `PhyNum` – This is the physical HDD slot that the disk occupies. It is also expressed as a hexadecimal value.
- `VolumeDeviceName` – This number is the RAID volume's WWID that the Oracle Solaris OS recognizes.
- `VolumeWWID` – This is the RAID volume's WWID that OBP references.

A Netra SPARC T3-1 server has one on-board SAS controller, which controls all four connected drives. The following example `probe-scsi-all` output is for a Netra SPARC T3-1 server with four drives.

Note – In the example `probe-scsi-all` output, the disk installed in HDD slot 0 has a `PhyNum` value of `0`, and the `SASDeviceName` is `5000c5001cb4a637`, and a Target number of `9`.

```
ok probe-scsi-all
/pci@400/pci@2/pci@0/pci@e/scsi@0 <---- SAS Controller

FCode Version 1.00.54, MPT Version 2.00, Firmware Version 5.00.17.00

Target 9
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb4a637  SASAddress 5000c5001cb4a635  PhyNum 0
```

```
Target a
  Unit 0   Removable Read Only device   TEAC    DV-W28SS-R      1.0C
  SATA device  PhyNum 7
Target b
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb477cb  SASAddress 5000c5001cb477c9  PhyNum 1
Target c
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb47f93  SASAddress 5000c5001cb47f91  PhyNum 2
Target d
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb47f7f  SASAddress 5000c5001cb47f7d  PhyNum 3

ok
```

The following `probe-scsi-all` example output shows a RAID 1 (mirroring) configuration. The RAID volume's `VolumeDeviceName` is `3ce534e42c02a3c0`.

```
ok probe-scsi-all
/pci@400/pci@2/pci@0/pci@e/scsi@0

FCode Version 1.00.54, MPT Version 2.00, Firmware Version 5.00.17.00

Target 9
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb4a637  SASAddress 5000c5001cb4a635  PhyNum 0
Target a
  Unit 0   Removable Read Only device   TEAC    DV-W28SS-R      1.0C
  SATA device  PhyNum 7
Target d
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb477cb  SASAddress 5000c5001cb477c9  PhyNum 1
Target e
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb47f93  SASAddress 5000c5001cb47f91  PhyNum 2
Target f
  Unit 0   Disk   SEAGATE  ST930003SSUN300G 0868    585937500 Blocks, 300 GB
  SASDeviceName 5000c5001cb47f7f  SASAddress 5000c5001cb47f7d  PhyNum 3
Target 389 Volume 0
  Unit 0   Disk   LSI      Logical Volume   3000    583983104 Blocks, 298 GB
  VolumeDeviceName 3ce534e42c02a3c0  VolumeWWID 0ce534e42c02a3c0

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

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 four-drive configuration listing.

Note – The Oracle Solaris syntax rules require all alpha characters in the WWID be capitalized.

```
#
install_type flash_install
boot_device c0t5000C5001CB4A637d0 preserve

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

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

Interactive Installation Example

In an interactive install, you will be 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 being 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, which is based on the same six-disk environment used in the previous examples. 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
================================================================================
[ ]    c0t5000C5001CB477CBd0                                    286090 MB
[ ]    c0t5000C5001CB47F7Fd0                                    286090 MB
[ ]    c0t5000C5001CB47F93d0                                    286090 MB
[X]    c0t5000C5001CB4A637d0                                   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
```

2x ereport.io.ddi.fm-capability Errors Are Generated on Boot on Systems with HBA Using MPT Driver (CR 6984308)

When booting to Oracle Solaris S10 9/10 on a SPARC T3 server containing a Rhea HBA card FMA reports 2x ereport.io.ddi.fm-capability errors against mpt driver.

Workaround:

You can safely ignore the error report. There is no functional impact to the system.

Spurious Error Message During Initial Oracle Solaris OS Installation (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 OS miniroot cannot find a supported driver for the AST graphics device in the service processor. These messages are fully expected, 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 may be used when running the installed Oracle Solaris OS.

Workaround:

You can safely ignore this message. There is no functional impact to the system.

Oracle Solaris OS Fails to Update EEPROM for Automatic Rebooting When `diag-switch?` is Set to `true` (CR 6982060)

When installing the Oracle Solaris OS to a device when the OPB `diag-switch?` parameter is set to `true`, the Oracle Solaris OS installer fails to update the `boot-device` 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.

When attempting to install the Oracle Solaris OS to a device when the `diag-switch?` parameter is set to `true`, 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 used to set the new device path to the boot device when the `diag-switch?` parameter was set to `true`. On SPARC T3 systems, the `diag-device` parameter is no longer supported and the Oracle Solaris OS installer warns that setting the OBP `boot-device` parameter is not possible.

Workaround:

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

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

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

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

Mptsas Request Inquiry Page 0x89 for SATA Target: A Failed (CR 6986482)

Error messages indicating a failed inquiry to page 0x89 for a SATA target may be logged when a system is rebooted. The following lines show an example of this message:

```
date time hostname genunix: [ID 936769 kern.info] mpt_sas5 is
/pci@400/pci@2/pci@0/pci@e/scsi@0/iport@80
date time hostname genunix: [ID 408114 kern.info]
/pci@400/pci@2/pci@0/pci@e/scsi@0/iport@80 (mpt_sas5) online
date time hostname scsi: [ID 243001 kern.warning] WARNING:
/pci@400/pci@2/pci@0/pci@e/scsi@0 (mpt_sas0)
date time hostname mptsas request inquiry page 0x89 for SATA
target:a failed!
```

Workaround:

You can safely ignore these messages.

Warning:fp(0)::fp_plogi_intr on NL Nodes (CR 6956269)

The following messages appear in `/var/adm/messages` for attached loop devices with loop_id ef & e8:

```
fctl: [ID 517869 kern.warning] WARNING:fp(0)::fp_plogi_intr: fp 1
pd ef
fctl: [ID 517869 kern.warning] WARNING:fp(1)::fp_plogi_intr: fp 1
pd e8
```

Workaround:

You can safely ignore these messages.

Unexpected mpt_sas error Message on Console After Raid Volume Created (CR 6977589)

When a volume is created, the following message will be printed on the console on booting: "/pci@400/pci@2/pci@0/pci@4/scsi@0 (mpt_sas1): send_sep act 0: ioc status:8001".

Workaround:

You can safely ignore these messages.

Firmware Issues

This section describes the known system firmware issues.

Server Seeing "Error Writing to PCA9535 Configuration Register" Message During ILOM Boot (CR 7006901)

During power on or after a reset of the SP, the customer might see the following message in the ILOM console output: "Error writing to PCA9535 configuration register".

Workaround:

You can safely ignore this message. There is no functional impact to the system.