Netra SPARC T4-1B Server Module

Installation Guide

Part No.: E25045-02
June 2012

Please
Recycle

Adobe PostScript

Contents

Using This Documentation

This document provides instructions and reference material to help you install Oracle's Netra SPARC T4-1B server module in Oracle's Sun Netra 6000 modular system.

Related Documentation

Documentation	Links
All Oracle products	http://www.oracle.com/documentation
Netra SPARC T4-1B server module	http://www.oracle.com/pls/topic/lookup?ctx=Netra_SPARCT4-1B
Sun Netra 6000 modular system	http://www.oracle.com/pls/topic/lookup?ctx=Netra6000
FEMs (Network Interface Cards)	http://www.oracle.com/technetwork/documentation/oracle-net-sec-hw-190016.html
REMs (Host Bus Adapters)	http://www.oracle.com/technetwork/documentation/oracle-net-sec-hw-190016.html
NEMs (Network Express Modules)	http://www.oracle.com/technetwork/documentation/oracle-blade-sys-190001.html

Documentation	Links
Oracle Integrated Lights Out Manager (Oracle ILOM)	http://www.oracle.com/technetwork/documentation/sys-mgmt-networking-190072.html
Oracle Solaris OS and other system software	http://www.oracle.com/technetwork/indexes/documentation/#sys_sw
Oracle VTS software	http://www.oracle.com/pls/topic/lookup?ctx=OracleVTS7.0

Feedback

Provide feedback on this documentation at:

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

Support and Accessibility

Description	Links
Access electronic support through My Oracle Support	http://support.oracle.com For hearing impaired: http://www.oracle.com/accessibility/support.html
Learn about Oracle's commitment to accessibility	http://www.oracle.com/us/corporate/accessibility/index.html

Understanding the Server Module

The following topics describe the server module and installation tasks.

Related Information

- "Confirming Server Module and Site Specifications" on page 7

Installation Task Overview

Perform the following tasks to install the server module.

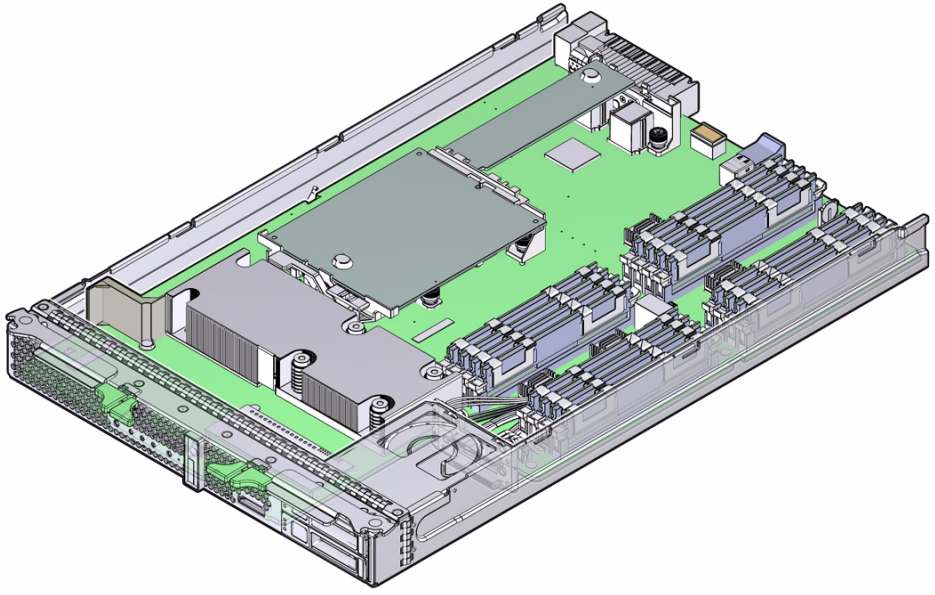
Step	Description	Links
1.	Review the product notes for any late-breaking news.	*Netra SPARC T4-1B Server Module Product Notes*
2.	Review the server module features and components.	"Server Module Overview" on page 2 "Front and Rear Panel Components" on page 4
3.	Review the server module requirements.	"Confirming Server Module and Site Specifications" on page 7
4.	Confirm that you received all the items you ordered.	"Inventory" on page 12
5.	Review safety and ESD precautions.	"Handling Precautions" on page 13 "ESD Precautions" on page 13
6.	Gather the required tools.	"Tools Needed for Installation" on page 14

Step	Description	Links
7.	Choose a method by which to connect to the server module during installation.	"Plan Communication With the Server Module During Installation" on page 15 "Dongle Cables" on page 17
8.	Install optional components in the server module and install the server module in the chassis.	"Installing the Server Module" on page 21
9.	Power on the server module for the first time.	"Powering On the Server Module for the First Time" on page 25
10.	Configure the OS on the host.	"Configuring the Oracle Solaris OS" on page 35

Related Information

- "Server Module Overview" on page 2
- "Front and Rear Panel Components" on page 4

Server Module Overview

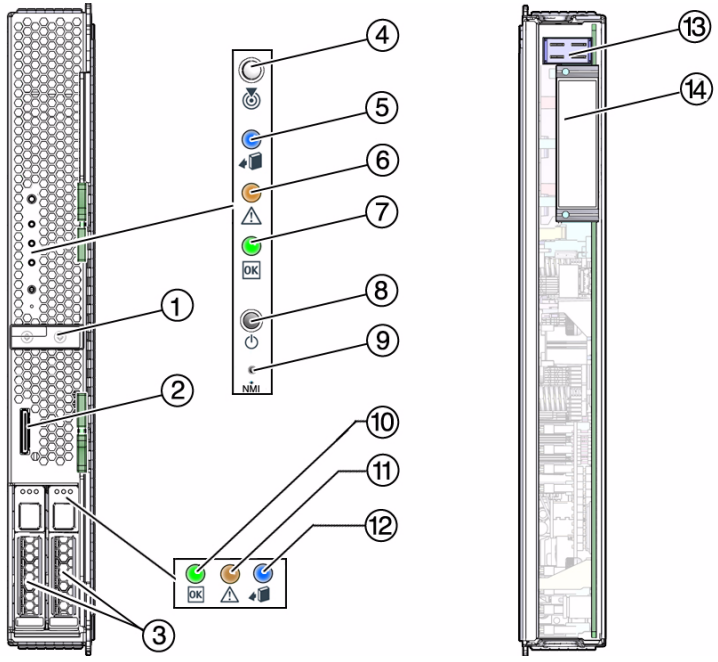


Feature	Description
Processor	One SPARC T4 multicore processor.
Memory	16 slots for DDR3 DIMMs.
Internal hard drives	Up to two hot-pluggable 2.5-inch SAS-2 hard drives.
REM	RAID expansion module (hard drive management) with RAID controller. Refer to the *Netra SPARC T4-1B Server Module Product Notes* for details about supported REMs.
UCP	One UCP in the front panel. Use a UCP-3 or UCP-4 dongle cable to access the following server module connectors: • USB 2.0 (two connections) • Serial • VGA video • Local KVMS support
Architecture	SPARC V9 architecture, ECC protected. Platform group: sun4v. Platform name: ORCL,Netra-SPARC-T4-1B.
Ethernet ports	Two 10/100/1000 Mb Intel 82576EB ports.
PCI I/O	Two Gen2-capable PCI EM slots.
FEM	Refer to the *Netra SPARC T4-1B Server Module Product Notes* for details about supported FEMs.
System firmware	Preinstalled on the SP. **Note -** Refer to the *Netra SPARC T4-1B Server Module Product Notes* for details on the latest firmware.
Operating system	Oracle Solaris OS **Note -** Refer to the *Netra SPARC T4-1B Server Module Product Notes* for details on software that is preinstalled and for information about required patches for supported Oracle Solaris OS releases.
Remote management	SP running the Oracle ILOM.
Power	The modular system chassis provides power.
Cooling	The modular system chassis provides environmental controls.

Related Information

- "Front and Rear Panel Components" on page 4
- "Installation Task Overview" on page 1
- "Confirming Server Module and Site Specifications" on page 7

Front and Rear Panel Components



No.	Description
1	RFID tag (provides the serial number of the server module)
2	Universal connector port (UCP)
3	Drive slots
4	White LED: Locator (functions as the physical presence switch)
5	Blue LED: Ready to Remove
6	Amber LED: Fault (Service Action Required)
7	Green LED: OK
8	Power button
9	Reset button: NMI (for service use only)
10	Green LED: Drive OK
11	Amber LED: Drive Fault (Service Action Required)
12	Blue LED: Drive Ready to Remove

No.	Description
13	Rear chassis power connector
14	Rear chassis data connection

Related Information

- "Server Module Overview" on page 2
- "Installation Task Overview" on page 1

Confirming Server Module and Site Specifications

Site-planning information is included in the documentation for the Sun Netra 6000 modular system. Refer to the *Sun Netra 6000 Modular System Installation Guide*.

These topics help you plan installation of the server module.

- "Physical Specifications" on page 7
- "Environmental Specifications" on page 8
- "Electrical Specifications" on page 9

Related Information

- "Installing the Server Module" on page 21
- "Installation Task Overview" on page 1
- "Server Module Overview" on page 2

Physical Specifications

Measure	U.S.	Metric
Height	12.9 in.	327.2 mm
Width	1.8 in.	44.5 mm
Depth	20.1 in.	511.7 mm
Weight*	16.4 lbs	7.4 kg

* Weight specifications vary based on the model and internal options.

Related Information

- "Environmental Specifications" on page 8
- "Electrical Specifications" on page 9

Environmental Specifications

Condition	Requirement
Operating temperature	5°C to 40°C (41°F to 104°F) short-term: -5°C to 55°C (23°F to 131°F)
Operating Relative Humidity	5% to 85%, non-condensing
Nonoperating temperature	-40°C (-40°F) to 65°C (149°F)
Short-Term Relative Humidity	5% to 90%, non-condensing, but not to exceed 0.024 kg water/kg dry air (0.053 lb. water/2.205 lbs. dry air)
Operating altitude	Up to 3000m/40°C, and 4000m /35°C
Non-operating Temperature	-40°C to 70°C (-40°F to 158°F)
Nonoperating Relative humidity	Up to 93%, noncondensing, 40°C (104°F)
Nonoperating altitude	Up to 12,000 m (40,000 ft.)
Acoustic Noise	Operating/idling 7.2 B (LwAd: 1 B = 10 dB)

Related Information

- "Physical Specifications" on page 7
- "Electrical Specifications" on page 9

Electrical Specifications

Measure	Value
Voltage (nominal)	12V main from chassis backplane 3.3V AUX from chassis backplane
Power (maximum)	540W (estimated)

Related Information

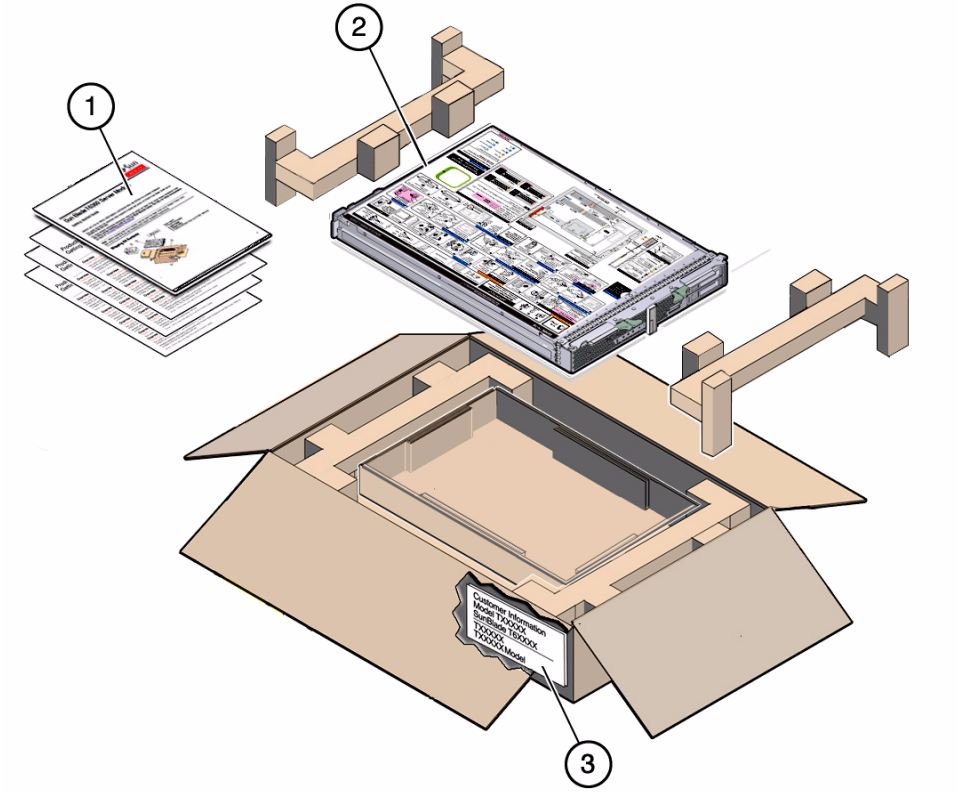
- "Physical Specifications" on page 7
- "Environmental Specifications" on page 8

Preparing for Installation

These topics help you prepare to install the server module.

Related Information

Inventory



No.	Description
1	Printed documentation, including *Getting Started Guide*.
2	Server module.
3	Customer information sheet (on outside of shipping carton). Save this sheet as a record of the MAC address and other information about installed hardware and software.

Related Information

- "Handling Precautions" on page 13
- "ESD Precautions" on page 13

- "Tools Needed for Installation" on page 14
- "Plan Communication With the Server Module During Installation" on page 15
- "Dongle Cables" on page 17

Handling Precautions

- Use both hands to carry the server module.
- Extend the ejector arms on the front panel only while they need to be in that position to perform a step in a task.

Related Information

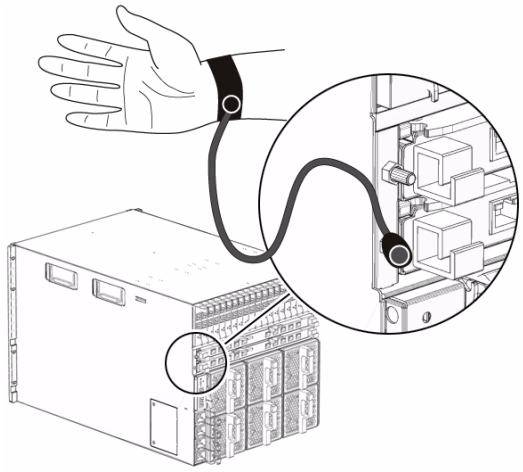
- "Physical Specifications" on page 7
- "Inventory" on page 12
- "ESD Precautions" on page 13
- "Tools Needed for Installation" on page 14
- "Plan Communication With the Server Module During Installation" on page 15
- "Dongle Cables" on page 17

ESD Precautions

Electronic equipment is susceptible to damage by static electricity. Use a grounded antistatic wrist strap, foot strap, or equivalent safety equipment to prevent ESD when you install the server module.

Caution – To protect electronic components from ESD, which can permanently disable the system, place components on an antistatic surface, such as an antistatic discharge mat, an antistatic bag, or a disposable antistatic mat. Wear an antistatic grounding strap connected to a metal surface on the chassis when you work on system components.

The following figure shows the modular system chassis ground connector for which you can connect antistatic equipment.



Related Information

- "Inventory" on page 12
- "Handling Precautions" on page 13
- "Tools Needed for Installation" on page 14
- "Plan Communication With the Server Module During Installation" on page 15
- "Dongle Cables" on page 17

Tools Needed for Installation

The following tools are sufficient for installing the server module, whether or not you need to install components inside the server module:

- Antistatic mat
- Antistatic wrist strap
- UCP-3 or UCP-4 dongle cable
- Terminal or terminal emulator
- Stylus (to press power button)

Related Information

- "Dongle Cables" on page 17
- "Handling Precautions" on page 13

- "ESD Precautions" on page 13
- "Plan Communication With the Server Module During Installation" on page 15
- "Inventory" on page 12

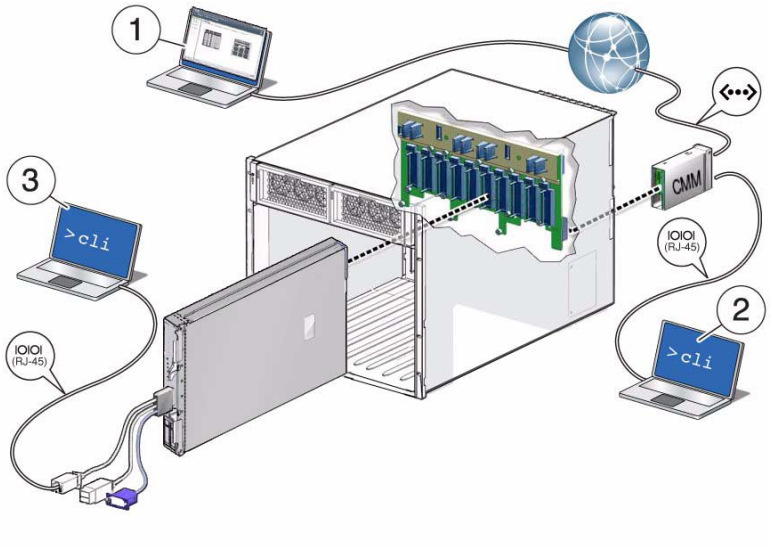
▼ Plan Communication With the Server Module During Installation

There are several methods to communicate with the server module during the initial installation. Plan which method you will use. Before you perform the installation, arrange to have the equipment, information, and permissions required by that method.

Note – For information about identifying and configuring IP and MAC addresses, refer to the configuring network addresses information in the *SPARC and Netra SPARC T4 Series Servers Administration Guide.*

- **Choose one of the connection methods to communicate with the server module SP.**

  The connection methods are shown in the figure and described in the table. Obtain the cables, monitoring devices, addresses, and passwords required for the method you choose.



Method	Connection Description	Connection Requirements	Supported Interfaces
1	Ethernet **From:** CMM NET MGT port **To:** Your network	The CMM NET MGT port must be connected to your network. You must know the IP addresses of the CMM. From your network, you must be able to log in to Oracle ILOM on the CMM using the IP address of the CMM. Then you can use the Oracle ILOM proxy to navigate to the server module SP Oracle ILOM interface. See "Method 1a – Power On the Host Through the CMM (Web Interface)" on page 26 and "Method 1b – Power On the Host Through the CMM (CLI)" on page 27.	a) CMM Oracle ILOM web interface b) CLI
2	Serial **From:** CMM SER MGT port **To:** Terminal device	A terminal device connected to the CMM SER MGT RJ-45 port. From this connection, you can use Oracle ILOM to navigate to the server module SP Oracle ILOM CLI interface. See "Method 2 – Power On the Host Through the CMM SER MGT Port (CLI)" on page 29.	CMM Oracle ILOM CLI
3	Serial **From:** Server module SP UCP port (dongle required) **To:** Terminal device	A UCP-3 dongle cable that connects directly to the server module and a terminal device connected to the RJ-45 connector on the dongle cable. See "Method 3 – Power On the Host Through the Front Panel (SP CLI)" on page 32.	SP Oracle ILOM CLI

Related Information

- "Dongle Cables" on page 17
- "Inventory" on page 12
- "Handling Precautions" on page 13
- "ESD Precautions" on page 13
- "Tools Needed for Installation" on page 14

Dongle Cables

For setup, testing, or service purposes, you can connect cables directly to the server module SP by first attaching a dongle cable to the UCP on the front panel of the server module.

Caution – Dongle cables should be removed when not in use. These cables have not been evaluated for electromagnetic compatibility compliance and are not to be used during normal system operation.

There are two types of dongle cables you can use:

- **UCP-3** – Three-connector dongle cable (preferred) ships with the server module. Use the RJ-45 connector to connect to the server module SP.
- **UCP-4** – Four-connector dongle cable (previous version). You must use the DB-9 connector to connect to the server module SP. The RJ-45 connector is not supported. If you need an RJ-45 connection, attach an optional DB-9-to-RJ-45 adapter to the DB-9 connector.

FIGURE: UCP-3 Three-Connector Dongle Cable

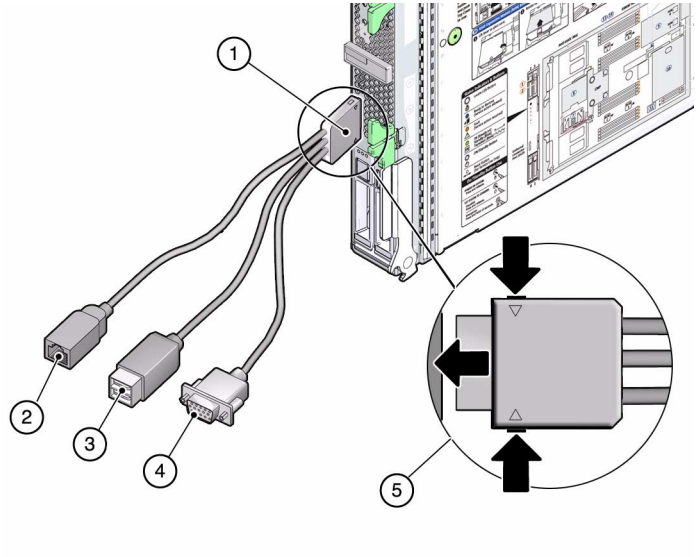


Figure Legend

1	Dongle connector attaching to the server module UCP
2	RJ-45 serial connector
3	USB 2.0 (two connectors)
4	VGA 15-pin female connector
5	Insertion and release buttons

FIGURE: UCP-4 Four-Connector Dongle Cable

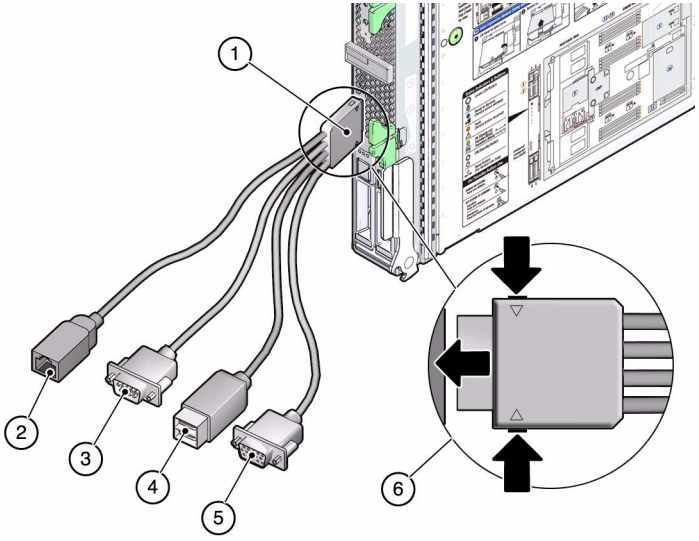


Figure Legend

1	Dongle connector attaching to the server module UCP
2	RJ-45 serial connector (Do not use this connector on the UCP-4)
3	DB-9 serial male connector (TTYA)
4	USB 2.0 (two connectors)
5	VGA 15-pin female connector
6	Insertion and release buttons

Related Information

- "Inventory" on page 12
- "Handling Precautions" on page 13
- "ESD Precautions" on page 13
- "Tools Needed for Installation" on page 14
- "Plan Communication With the Server Module During Installation" on page 15

Installing the Server Module

The following topics describe how to physically install the server module into the modular system.

Step	Description	Links
1.	Prepare the modular system chassis and server module for installation.	"Prepare the Modular System and Server Module" on page 21
2.	Install any optional components.	"Install Optional Components" on page 22
3.	Insert the server module into the chassis.	"Insert the Server Module Into the Chassis" on page 23

Related Information

- "Powering On the Server Module for the First Time" on page 25
- "Installation Task Overview" on page 1

▼ Prepare the Modular System and Server Module

You must install and configure the Sun Netra 6000 modular system (chassis) before installing the server module.

1. **Ensure that the modular system is installed and functional.**

   Satisfying the following conditions ensures a straightforward installation of the server module:

   a. **Install the modular system into its intended rack before installing server modules.**

b. **If you plan to manage the server modules through the modular system CMM, configure the CMM to run in your network.**

c. **Ensure that the modular system chassis is powered on and running.**

d. **Ensure that the modular system is running the latest version of Oracle's CMM ILOM firmware.**

Note – For more information about preparing the modular system and the CMM ILOM, refer to the *Sun Netra 6000 Modular System Installation Guide*.

---

2. **Unpackage the server module.**

   Be ready to insert the server module within 60 seconds of removing the filler panel.

3. **Install any optional components.**

   See "Install Optional Components" on page 22.

4. **Be prepared to communicate with the server module as quickly as possible after completing the physical installation.**

   As soon as you insert the server module in a powered modular system, power is supplied to the server module and the SP generates messages. If you want to see these messages, be ready to connect using one of the methods in "Plan Communication With the Server Module During Installation" on page 15.

Related Information

- "Install Optional Components" on page 22
- "Insert the Server Module Into the Chassis" on page 23

▼ Install Optional Components

Optional components that you order as part of the server module's initial configuration are installed in the server module before it is shipped. These optional components are identified on the customer information sheet included with the server module's packaging.

However, if you ordered optional components separately, you must install them in the server module before you install the server module in the modular system chassis.

1. **Install any optional components in the server module.**

   To install any optional components, refer to the *Netra SPARC T4-1B Server Module Service Manual* and to the documentation for the optional component.

2. **Close the server module.**

3. **Insert the server module into the chassis.**

   See "Insert the Server Module Into the Chassis" on page 23.

Related Information

- "Prepare the Modular System and Server Module" on page 21
- "Install Optional Components" on page 22

▼ Insert the Server Module Into the Chassis

1. **(If necessary) Prepare the modular system and server module.**

   See "Prepare the Modular System and Server Module" on page 21.

2. **(If necessary) Install any optional components.**

   See "Install Optional Components" on page 22.

3. **Remove the protective cover from the rear connector of the server module.**

4. **Locate the slot in the chassis where you plan to install the server module.**

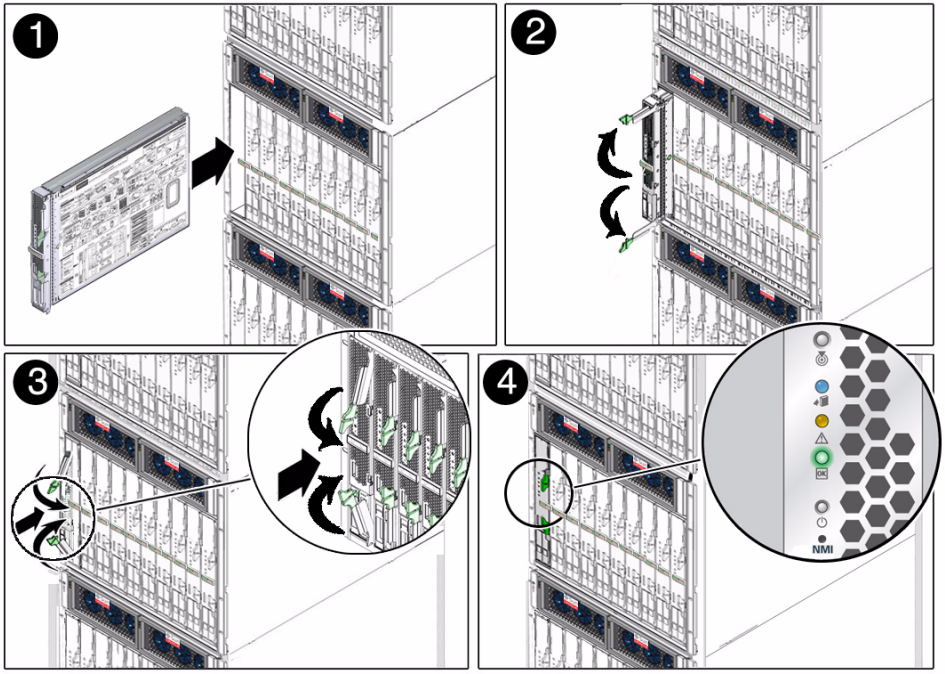
   A filler panel should remain in this slot until just before you are ready to insert the server module. All slots should remain filled with server modules or filler panels to ensure correct air flow, heat, and electromagnetic interference conditions in the modular system.

5. **Remove the filler panel from the selected chassis slot.**

   Pull down the ejector arm of the filler panel, then pull the panel straight out of the chassis.

Caution – Be ready to insert the server module within 60 seconds of removing the filler panel.

6. **Use both hands to position the server module vertically with the ejector arms on the right (panel 1).**



7. **Push the server module into the empty slot until the module extends about 1.5 cm (0.5 inch) from the chassis front (panel 2).**
8. **Pinch the ejector levers to open them (panel 2).**
9. **Push the server module into the chassis and close the ejector levers (panel 2 and 3).**
10. **Monitor status messages when power is applied to the server module (panel 4).**

    As soon as you insert the server module into a chassis that is connected to power, the server module goes into standby mode and its SP initializes. The front panel LEDs blink three times, then the green OK LED on the front panel blinks for a few minutes. See "Front and Rear Panel Components" on page 4.

Related Information

- "Prepare the Modular System and Server Module" on page 21
- "Install Optional Components" on page 22
- "Front and Rear Panel Components" on page 4

Powering On the Server Module for the First Time

After you install the server module in the modular system, you power on the server module host for the first time.

Based on the connection method you selected from "Plan Communication With the Server Module During Installation" on page 15, perform one of the tasks in this table to power on the server module:

Description	Links
Through a browser that is on the same network as the CMM, use the CMM ILOM web interface.	"Method 1a – Power On the Host Through the CMM (Web Interface)" on page 26
Through a terminal window on a system that is on the same network as the CMM, use the CMM ILOM CLI.	"Method 1b – Power On the Host Through the CMM (CLI)" on page 27
Through a terminal device connected to the CMM SER MGT port, use the CMM ILOM CLI.	"Method 2 – Power On the Host Through the CMM SER MGT Port (CLI)" on page 29
Through a terminal device connected to the front panel of the server module (using the dongle cable), use the server module SP ILOM CLI.	"Method 3 – Power On the Host Through the Front Panel (SP CLI)" on page 32

Related Information

- "Configuring the Oracle Solaris OS" on page 35
- "Installation Task Overview" on page 1
- *SPARC and Netra SPARC T4 Series Servers Administration Guide*

▼ Method 1a – Power On the Host Through the CMM (Web Interface)

You connect to the CMM through the RJ-45 NET MGT 0 Ethernet port. While this Ethernet connection supports both the CLI and the web interface to the CMM, this procedure uses the web interface. By default, the server module is configured to use DHCP to obtain the IP address for the SP.

1. **Ascertain the IP addresses for the CMM.**
2. **Ensure that the CMM is connected to the network you are on.**

   The network connection is through the RJ-45 connector labeled NET MGT 0 on the CMM.
3. **In a browser on the same network as the modular system, enter the IP address of the CMM.**

   For example, if your CMM has the IP address `129.99.99.99`, enter `http://129.99.99.99` into your browser.

   A login window for ILOM appears.
4. **Log into ILOM on the CMM by typing your user name and password.**

   The factory default ILOM `root` password is `changeme`, but might have been changed in your environment.

   You are logged in to the CMM ILOM web interface.
5. **If the Chassis View (image of the modular system) is not displayed in the web interface, select the Chassis entry in the left navigation panel.**
6. **Use one of the following methods to navigate to the server module SP.**
   - Select the newly installed server module in the Chassis View (image) of the modular system.
   - In the left Chassis navigation panel, select the newly installed server module (listed as Blade 0 - 9).
7. **If prompted to log in, enter the following factory default user name and password:**
   - User name: root
   - Password: changeme

   You are now connected to the server module SP.
8. **Open a Remote Console.**

a. **Select the Remote Control tab on the top menu.**

b. **Click on Use serial redirection.**

c. **Click on Launch Remote Console.**

This remote console will display host messages and prompts for installing the Oracle Solaris OS when you power on the server module.

9. **Power on the server module.**

a. **Select the Remote Power Control tab.**

b. **Click on the menu and select Power On.**

c. **Select Save.**

d. **Select OK when you see this prompt:** `Are you sure you want to perform a Power On of the server`**.**

The server module host is powered on for the first time.

10. **You can now configure the Oracle Solaris OS to meet your needs.**

See "Configuring the Oracle Solaris OS" on page 35.

Related Information

- "Plan Communication With the Server Module During Installation" on page 15

▼ Method 1b – Power On the Host Through the CMM (CLI)

You connect to the CMM through the RJ-45 NET MGT 0 Ethernet port. While this Ethernet connection supports both the CLI and the web interface to the CMM SP, this procedure uses the CMM CLI.

1. **Ascertain the IP addresses for the CMM.**

2. **Ensure that the CMM is connected to the network you are on.**

The network connection is through the RJ-45 connector labeled NET MGT 0 on the CMM.

3. **Log in to the CMM with the SSH client.**

```
$ ssh root@cmm_ip_address
```

Replace *cmm_ip_address* with the IP address of the CMM.

4. **Type your password for the CMM ILOM** `root` **account when prompted.**

The factory default ILOM `root` password is `changeme`, but might have been changed in your environment.

```
Password: CMM_ILOM_password
Oracle(TM) Integrated Lights Out Manager
Version 3.x.x
...
Warning: password is set to factory default.
->
```

You are now logged in to the CMM ILOM CLI.

Note – When you are ready to log out of the CMM ILOM, type `exit`.

---

5. **Navigate to the server module SP.**

```
-> cd /CH/BLn/SP/cli
```

Replace *n* with a number that identifies the chassis slot in the modular system where the target server module is installed.

6. **Access the server module SP.**

```
-> start
Are you sure you want to start /CH/BLn/SP/cli (y/n)? y
start: Connecting to /CH/BLn/SP/cli as user root
```

If you are prompted for a password for the `root` user on the server module SP, type `changeme` (the factory default password).

You are now logged into ILOM on the server module SP.

7. **At the server module ILOM prompt, type:**

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

The server module initializes.

8. **Switch communication to the server module host.**

When the ILOM prompt appears, type:

```
-> start /HOST/console
Are you sure you want to start /HOST/console (y/n)? y
Serial console started. To stop, type #.
...
```

The server module might take several minutes to complete POST. If a boot device installed with Oracle Solaris OS is accessible locally, the server module boots. Otherwise, the server module uses the `boot net` command to seek a boot device on the network.

You are now connected to the server module host.

9. **The server module hardware installation is now complete.**

You can now configure the Oracle Solaris OS to meet your needs. See "Configuring the Oracle Solaris OS" on page 35.

Related Information

- "Plan Communication With the Server Module During Installation" on page 15

▼ Method 2 – Power On the Host Through the CMM SER MGT Port (CLI)

You can access the server module SP by first accessing the chassis CMM ILOM through a terminal or terminal emulator connected to the RJ-45 serial port on the chassis. Then you can connect to the server module SP through the CLI of the CMM ILOM software.

1. **Verify that the terminal, laptop, or terminal server that will connect to the chassis is operational.**
2. **Configure the terminal device or terminal emulation software with these settings:**
   - 8N1 (eight data bits, no parity, one stop bit)
   - 9600 baud (the default, but can be set to any standard rate up to 57600)
   - Disable hardware flow control (CTS/RTS)
3. **Connect a serial cable from the chassis serial port to the terminal device.**

   Refer to the modular system chassis documentation for the location of the serial port.

   The serial port requires a cable with these pin assignments.

Pin	Signal Description
1	Request To Send (RTS)
2	Data Terminal Ready (DTR)
3	Transmit Data (TXD)
4	Ground
5	Ground
6	Receive Data (RXD)
7	Data Carrier Detect (DCD)
8	Clear To Send (CTS)

4. **Press Enter on the terminal device.**

   The connection between the terminal device and the CMM is established.

   If you connected to the serial port before the powering on the modular system, you will see boot messages. The CMM ILOM software displays its login prompt:

```
ORACLECMMnnnnnnnnnn login:
```

   The first string in the prompt is the default host name, which consists of the prefix `ORACLECMM` followed by the CMM ILOM MAC address. The MAC address for each CMM and SP is unique.

5. **Log into ILOM on the CMM by typing your user name and password.**

   The factory default ILOM `root` password is `changeme`, but might have been changed in your environment.

   You are now logged in to the CMM ILOM web interface.

   After you have successfully logged in, the CMM ILOM displays its default command prompt:

```
->
```

6. **Navigate to the server module:**

```
-> cd /CH/BLn/SP/cli
```

   Replace *n* with an integer that identifies the target server module (the slot for which the server module is installed).

7. **Start the server module's Oracle ILOM CLI:**

```
-> start
Are you sure you want to start /CH/BL0/SP/cli (y/n)? y
start: Connecting to /CH/BL0/SP/cli using Single Sign On
```

Note – The CMM ILOM logs into the server module ILOM using the user name in the `user` target under `/CH/BLn/SP/cli` (where *n* is the slot where the server module is installed).

---

8. **If prompted for a password, enter the default password** `changeme`**.**

9. **At the Oracle ILOM prompt, type:**

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

   The server module initializes.

10. **Switch communication to the server module host.**

    When the ILOM prompt appears, type:

```
-> start /HOST/console
Are you sure you want to start /HOST/console (y/n)? y
Serial console started. To stop, type #.
```

    The server module might take several minutes to complete POST. If a boot device installed with Oracle Solaris OS is accessible locally, the server module boots. Otherwise, the server module uses the `boot net` command to seek a boot device on the network.

    You are now connected to the server module host.

11. **The server module hardware installation is now complete.**

    You can now configure the Oracle Solaris OS to meet your needs. See "Configuring the Oracle Solaris OS" on page 35.

Related Information

- "Plan Communication With the Server Module During Installation" on page 15

▼ Method 3 – Power On the Host Through the Front Panel (SP CLI)

You can access the server module SP directly by connecting a dongle cable to the UCP on the front of the server module.

Caution – Dongle cables are intended for setup, testing, or service purposes and should be removed when not in use. These cables have not been evaluated for electromagnetic compatibility compliance and are not to be used during normal operation. See "Dongle Cables" on page 17.

1. **Configure the terminal device or terminal emulation software with these settings:**
   - 8N1 (eight data bits, no parity, one stop bit)
   - 9600 baud (the default, but can be set to any standard rate up to 57600)
   - Disable hardware flow control (CTS/RTS)

2. **Connect the dongle cable to the UCP connector on the front panel of the server module.**

   If possible, use a three-connector UCP-3 dongle cable rather than a four-connector UCP-4. See "Dongle Cables" on page 17 for details.

3. **Connect a terminal or terminal emulator to a dongle cable.**

   - For a UCP-3 dongle cable, use the RJ-45 connector.
   - For a UCP-4 dongle cable, use the DB-9 serial connector (TTYA). If you need to make an RJ-45 connection to a UCP-4, do so through a DB-9-to-RJ-45 adapter attached to the DB-9 connector.

   The Oracle ILOM login prompt is displayed on the terminal or terminal emulator.

4. **Type the user name and password when prompted.**

   The default user is `root`. The default password is `changeme`.

   You are now logged into Oracle ILOM on the server module SP.

5. **At the server module ILOM prompt, type:**

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

   The server module initializes.

6. **Switch communication to the server module host.**

   When the Oracle ILOM prompt appears, type:

```
-> start /HOST/console
Are you sure you want to start /HOST/console (y/n)? y
Serial console started. To stop, type #.
```

   The server module might take several minutes to complete POST. If a boot device installed with Oracle Solaris OS is accessible locally, the server module boots. Otherwise, the server module uses the `boot net` command to seek a boot device on the network.

   You are now connected to the server module host.

7. **The server module hardware installation is now complete.**

   You can now configure the Oracle Solaris OS to meet your needs. See "Configuring the Oracle Solaris OS" on page 35.

Related Information

- "Plan Communication With the Server Module During Installation" on page 15

- "Dongle Cables" on page 17

Configuring the Oracle Solaris OS

After you install the server module in the modular system, you can power on the server for the first time and begin configuration.

Description	Links
Configure the preinstalled Oracle Solaris OS.	"Configure the OS" on page 35 "Oracle Solaris Configuration Parameters" on page 36 "Assign a Static IP Address to the SP" on page 38
Install your own version of the Oracle Solaris OS.	"Install Oracle Solaris Software From the Network" on page 36 "Oracle Solaris Configuration Parameters" on page 36 "Assign a Static IP Address to the SP" on page 38

Related Information

- "Installation Task Overview" on page 1

▼ Configure the OS

This procedure assumes that you are using the Oracle Solaris OS software that was preinstalled on the drive in slot 0 of the server module. If you are installing the Oracle Solaris OS another way, complete the Oracle Solaris OS installation then resume this procedure.

- **Respond to configuration questions in the Oracle Solaris installation process.**

  See the configuration choices you planned, based on "Oracle Solaris Configuration Parameters" on page 36.

Related Information

- "Install Oracle Solaris Software From the Network" on page 36
- "Oracle Solaris Configuration Parameters" on page 36
- "Assign a Static IP Address to the SP" on page 38

▼ Install Oracle Solaris Software From the Network

If you choose to use Oracle Solaris OS software other than the preinstalled Oracle Solaris OS, you can install the operating system from the network.

- **Refer to the** *Solaris Installation Guide: Network-Based Installations* **for the version of Oracle Solaris OS that you plan to use.**

  You can obtain this guide in the Oracle Solaris OS documentation collections that are under the Systems Software category at:

  `http://http:www.oracle.com/technetwork/indexes/documentation/#sys_sw`

  This guide includes information about using a JumpStart server.

Related Information

- "Configure the OS" on page 35
- "Oracle Solaris Configuration Parameters" on page 36
- "Assign a Static IP Address to the SP" on page 38

Oracle Solaris Configuration Parameters

You are prompted to provide these parameters when configuring the Oracle Solaris OS on the server module.

Parameter	Description
Language	Select a number from the displayed language list.
Locale	Select a number from the displayed locale list.

Terminal Type	Select a terminal type that corresponds with your terminal device.
Network?	Select Yes.
Multiple Network Interfaces	Select the network interfaces that you plan to configure. If you are not sure, select the first interface in the list.
DHCP?	Select Yes or No according to your network environment.
Host Name	Enter the host name for the server.
IP Address	Enter the IP address for this Ethernet interface.
Subnet?	Select Yes or No according to your network environment.
Subnet Netmask	(If subnet was Yes) Enter the netmask for the subnet for your network environment.
IPv6?	Specify whether or not to use IPv6. If you are not sure, select No to configure the Ethernet interface for IPv4.
Security Policy	Select either standard UNIX security (No) or Kerberos Security (Yes). If you are not sure, select No.
Confirm	Review the onscreen information and change it if needed. Otherwise, continue.
Name Service	Select the name service according to your network environment. Note – If you select a name service other than None, you will be prompted for additional name service configuration information.
NFSv4 Domain Name	Select the type of domain name configuration according to your environment. If you are not sure, select Use the NFSv4 domain.
Time Zone (Continent)	Select your continent.
Time Zone (Country or Region)	Select your country or region.
Time Zone	Select the time zone.
Date and Time	Accept the default date and time or change the values.
`root` **Password**	Enter the `root` password twice. This password is for the superuser account for the Oracle Solaris OS on this server. This password is not the SP password.

Related Information

- "Configure the OS" on page 35
- "Install Oracle Solaris Software From the Network" on page 36
- "Assign a Static IP Address to the SP" on page 38

▼ Assign a Static IP Address to the SP

By default, the server module is configured to obtain an IP address from DHCP services in your network. If the network your server module is connected to does not support DHCP for IP addressing, perform this procedure.

To configure the server module to support DHCP, refer to the Oracle ILOM documentation.

1. Set the SP to accept a static IP address.

```
-> set /SP/network pendingipdiscovery=static
Set 'pendingipdiscovery' to 'static'
```

2. Set the IP address for the SP.

```
-> set /SP/network pendingipaddress=service-processor-IPaddr
Set 'pendingipaddress' to 'service-processor-IPaddr'
```

3. Set the IP address for the SP gateway.

```
-> set /SP/network pendingipgateway=gateway-IPaddr
Set 'pendingipgateway' to 'gateway-IPaddr'
```

4. Set the netmask for the SP.

```
-> set /SP/network pendingipnetmask=255.255.255.0
Set 'pendingipnetmask' to '255.255.255.0'
```

This example uses `255.255.255.0` to set the netmask. Your network environment subnet might require a different netmask. Use a netmask number most appropriate to your environment.

5. Verify that the pending parameters are set correctly.

```
-> show /SP/network
  /SP/network
     Targets:
     Properties:
        commitpending = (Cannot show property)
        dhcp_server_ip = xxx.xxx.xxx.xxx
        ipaddress = xxx.xxx.xxx.xxx
        ipdiscovery = dhcp
        ipgateway = xxx.xxx.xxx.xxx
```

```
          ipnetmask = 255.255.255.0
          macaddress = 00:21:28:C1:6E:C5
          managementport = /SYS/MB/SP/NETMGMT
          outofbandmacaddress = 00:21:28:C1:6E:C5
          pendingipaddress = service-processor-IPaddr
          pendingipdiscovery = static
          pendingipgateway = gateway-IPaddr
          pendingipnetmask = 255.255.255.0
          pendingmanagementport = /SYS/MB/SP/NETMGMT
          sidebandmacaddress = 00:21:28:C1:6E:C4
          state = enabled
```

6. Commit the changes to the SP network parameters.

```
-> set /SP/network commitpending=true
Set 'commitpending' to 'true'
```

Note – You can type the `show /SP/network` command again to verify that the parameters have been updated.

---

7. Set the static IP address when you configure the Oracle Solaris OS.

See "Configure the OS" on page 35.

Related Information

- "Configure the OS" on page 35
- "Install Oracle Solaris Software From the Network" on page 36
- "Oracle Solaris Configuration Parameters" on page 36

Glossary

A

ANSI SIS American National Standards Institute Status Indicator Standard.

ASF Alert standard format (Netra products only).

ASR Automatic system recovery.

AWG American wire gauge.

B

blade Generic term for server modules and storage modules. *See server module and storage module*.

blade server Server module. See *server module*.

BMC Baseboard management controller.

BOB Memory buffer on board.

C

chassis For servers, refers to the server enclosure. For server modules, refers to the modular system enclosure.

CMA Cable management arm.

CMM Chassis monitoring module. The CMM is the service processor in the modular system. Oracle ILOM runs on the CMM, providing lights out management of the components in the modular system chassis. *See Modular system and Oracle ILOM*.

CMM Oracle ILOM Oracle ILOM that runs on the CMM. *See Oracle ILOM*.

D

DHCP Dynamic Host Configuration Protocol.

disk module or disk blade Interchangeable terms for storage module. *See storage module*.

DTE Data terminal equipment.

E

EIA Electronics Industries Alliance.

ESD Electrostatic discharge.

F

FEM Fabric expansion module. FEMs enable server modules to use the 10GbE connections provided by certain NEMs. *See NEM*.

FRU Field-replaceable unit.

H

HBA Host bus adapter.

host The part of the server or server module with the CPU and other hardware that runs the Oracle Solaris OS and other applications. The term *host* is used to distinguish the primary computer from the SP. *See SP*.

I

ID PROM Chip that contains system information for the server or server module.

IP Internet Protocol.

K

KVM Keyboard, video, mouse. Refers to using a switch to enable sharing of one keyboard, one display, and one mouse with more than one computer.

L

LwA Sound power level.

M

MAC Machine access code.

MAC address Media access controller address.

Modular system The rackmountable chassis that holds server modules, storage modules, NEMs, and PCI EMs. The modular system provides Oracle ILOM through its CMM.

MSGID Message identifier.

N

name space Top-level Oracle ILOM CMM target.

NEBS Network Equipment-Building System (Netra products only).

NEM Network express module. NEMs provide 10/100/1000 Mbps Ethernet, 10GbE Ethernet ports, and SAS connectivity to storage modules.

NET MGT Network management port. An Ethernet port on the server SP, the server module SP, and the CMM.

NIC Network interface card or controller.

NMI Nonmaskable interrupt.

O

OBP OpenBoot PROM.

Oracle ILOM Oracle Integrated Lights Out Manager. Oracle ILOM firmware is preinstalled on a variety of Oracle systems. Oracle ILOM enables you to remotely manage your Oracle servers regardless of the state of the host system.

Oracle Solaris OS Oracle Solaris operating system.

P

PCI Peripheral component interconnect.

PCI EM PCIe ExpressModule. Modular components that are based on the PCI Express industry-standard form factor and offer I/O features such as Gigabit Ethernet and Fibre Channel.

POST Power-on self-test.

PROM Programmable read-only memory.

PSH Predictive self healing.

Q

QSFP Quad small form-factor pluggable.

R

REM RAID expansion module. Sometimes referred to as an HBA *See HBA*. Supports the creation of RAID volumes on drives.

S

SAS Serial attached SCSI.

SCC System configuration chip.

SER MGT Serial management port. A serial port on the server SP, the server module SP, and the CMM.

server module Modular component that provides the main compute resources (CPU and memory) in a modular system. Server modules might also have onboard storage and connectors that hold REMs and FEMs.

SP Service processor. In the server or server module, the SP is a card with its own OS. The SP processes Oracle ILOM commands providing lights out management control of the host. *See host*.

SSD Solid-state drive.

SSH Secure shell.

storage module Modular component that provides computing storage to the server modules.

T

TIA Telecommunications Industry Association (Netra products only).

Tma Maximum ambient temperature.

U

UCP Universal connector port.

UI User interface.

UL Underwriters Laboratory Inc.

US. NEC United States National Electrical Code.

UTC Coordinated Universal Time.

UUID Universal unique identifier.

W

WWN World wide name. A unique number that identifies a SAS target.

Index