

SPARC T4-1B Server Module

Installation Guide



Part No.: E22738-03
May 2012

Copyright © 2011, 2012 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 END USERS. Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

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 © 2011, 2012, 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 END USERS. Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

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.



Contents

Using This Documentation v

Understanding the Server Module 1

- Installation Task Overview 1
- Server Module Overview 2
- Front and Rear Panel Components 4

Confirming Server Module and Site Specifications 7

- Physical Specifications 7
- Environmental Specifications 8
- Electrical Specifications 8

Preparing for Installation 11

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

Installing the Server Module 21

- ▼ Prepare the Modular System and Server Module 21
- ▼ Install Optional Components 23
- ▼ Insert the Server Module Into the Chassis 23

Powering On the Server Module for the First Time 27

- ▼ Method 1a – Power On the Host Through the CMM (Web Interface) 28
- ▼ Method 1b – Power On the Host Through the CMM (CLI) 29
- ▼ Method 2 – Power On the Host Through the CMM SER MGT Port (CLI)
31
- ▼ Method 3 – Power On the Host Through the Front Panel (SP CLI) 34

Configuring the Oracle Solaris OS 37

- ▼ Configure the OS 37
- ▼ Install Oracle Solaris Software From the Network 38
- Oracle Solaris Configuration Parameters 38
- ▼ Assign a Static IP Address to the SP 40

Glossary 43

Index 49

Using This Documentation

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

- "Related Documentation" on page v
- "Feedback" on page vi
- "Support and Accessibility" on page vi

Related Documentation

| Documentation | Links |
|--|---|
| All Oracle products | http://www.oracle.com/documentation |
| SPARC T4-1B server module | http://www.oracle.com/pls/topic/lookup?ctx=SPARCT4-1B |
| Sun Blade 6000 modular system | http://www.oracle.com/pls/topic/lookup?ctx=E19938-01 |
| Oracle Integrated Lights Out Manager (Oracle ILOM) | http://www.oracle.com/pls/topic/lookup?ctx=ilom30 |
| 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 |
| SAS-1/SAS-2 Compatibility | http://www.oracle.com/pls/topic/lookup?ctx=E22513_01 |

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.

- [“Installation Task Overview” on page 1](#)
- [“Server Module Overview” on page 2](#)
- [“Front and Rear Panel Components” on page 4](#)

Related Information

- [“Confirming Server Module and Site Specifications” on page 7](#)

Installation Task Overview

Perform the following tasks to install the server module.

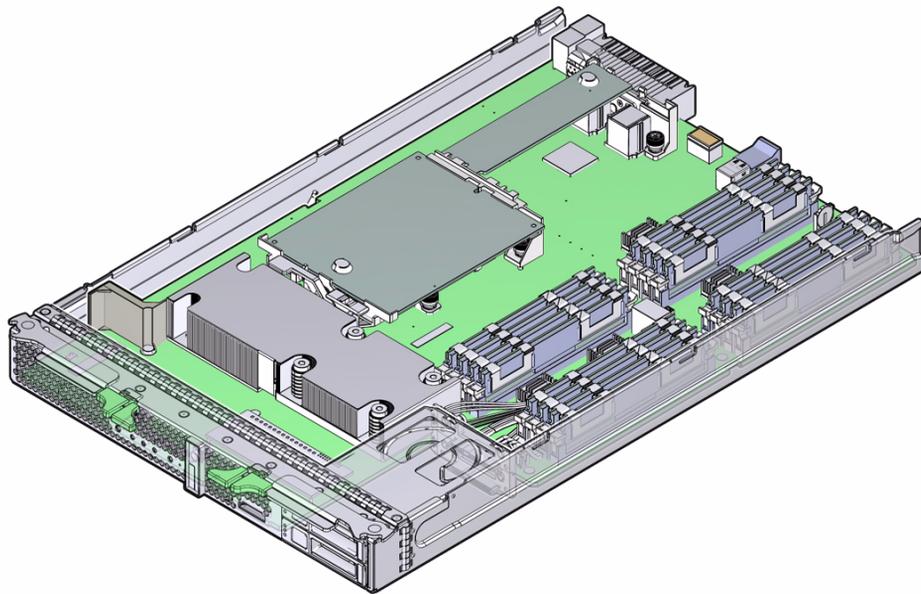
| Step | Description | Links |
|------|--|---|
| 1. | Review the product notes for any late-breaking news. | SPARC T4-1B Server Module Product Notes |
| 2. | Review the server module features and components. | “Server Module Overview” on page 2 “Front and Rear Panel Components” on page 4 |
| 3. | Review 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 27 |
| 10. | Configure the OS on the host. | “Configuring the Oracle Solaris OS” on page 37 |

Related Information

- [“Server Module Overview”](#) on page 2
- [“Front and Rear Panel Components”](#) on page 4

Server Module Overview

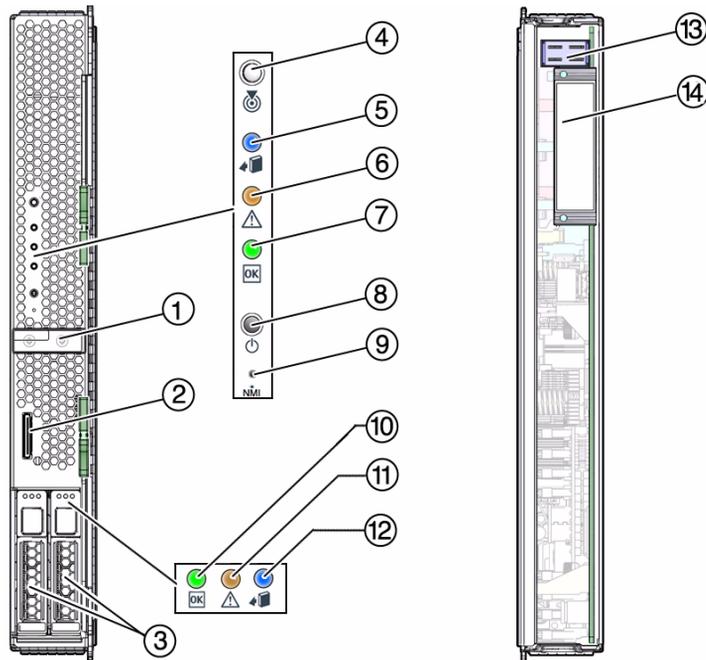


| Feature | Description |
|----------------------|--|
| Processor | One SPARC T4 multicore processor. |
| Memory | 16 slots for DDR3 DIMMs. |
| Internal hard drives | Up to two hot-pluggable 2.5-inch SAS-2 hard drives. |
| REM | RAID expansion module (hard drive management) with RAID controller. Refer to the <i>SPARC T4-1B Server Module Product Notes</i> 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: <ul style="list-style-type: none"> • USB 2.0 (two connections) • Serial • VGA video • Local KVMs support |
| Architecture | SPARC V9 architecture, ECC protected. Platform group: sun4v. Platform name: ORCL,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 <i>SPARC T4-1B Server Module Product Notes</i> for details about supported FEMs. |
| System firmware | Preinstalled on the SP. Note - Refer to the <i>Server Module Product Notes</i> for details on the latest firmware. |
| Operating system | Oracle Solaris OS Note - Refer to the <i>Server Module Product Notes</i> 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 Blade 6000 modular system. Refer to the *Site Planning Guide for Sun Blade 6000 and Sun Blade 6048 Modular Systems*.

These topics help you plan installation of the server module.

- [“Physical Specifications” on page 7](#)
- [“Environmental Specifications” on page 8](#)
- [“Electrical Specifications” on page 8](#)

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 |
|---------|----------|----------|
| Width | 1.8 in. | 44.5 mm |
| Depth | 20.1 in. | 511.7 mm |
| Height | 12.9 in. | 327.2 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 8](#)

Environmental Specifications

| Condition | Requirement |
|--------------------------|---|
| Operating temperature | 5°C (41°F) to 35°C (95°F) noncondensing |
| Nonoperating temperature | -40°C (-40°F) to 65°C (149°F) |
| Operating humidity | 10% to 90% noncondensing, 27°C (80°F) max. wet bulb |
| Nonoperating humidity | 93% noncondensing, 38°C (100°F) max. wet bulb |
| Operating altitude | 3048 meters (10,000 feet) at 35°C (95°F) |
| Nonoperating altitude | 12,000 meters (40,000 feet) |

Related Information

- [“Physical Specifications” on page 7](#)
- [“Electrical Specifications” on page 8](#)

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

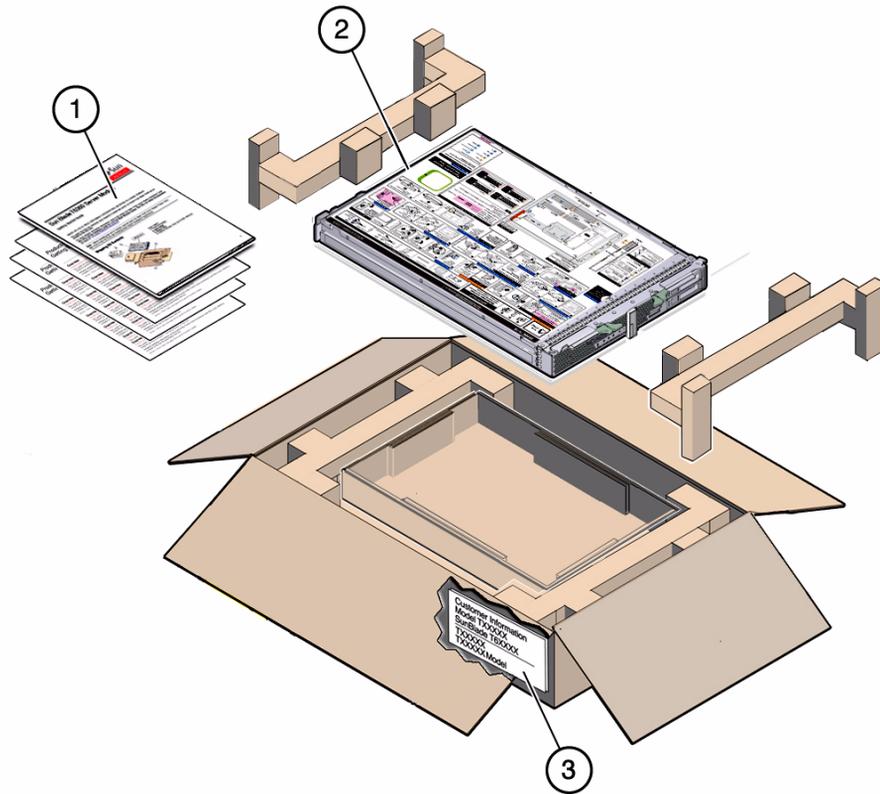
These topics help you prepare to install the server module.

- [“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](#)
- [“Dongle Cables” on page 17](#)

Related Information

- [“Installing the Server Module” on page 21](#)
- [“Installation Task Overview” on page 1](#)

Inventory



| No. | Description |
|-----|---|
| 1 | Printed documentation, including <i>Getting Started Guide</i> . |
| 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

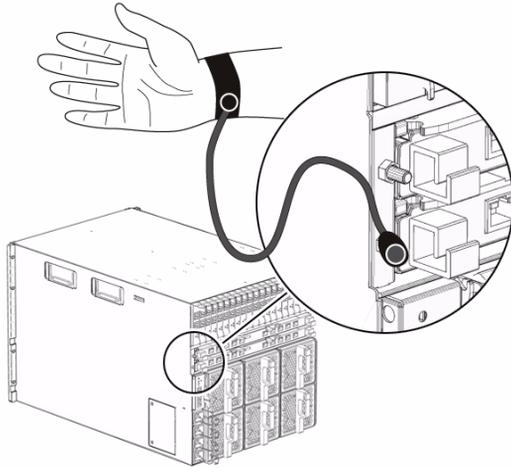
ESD Precautions

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

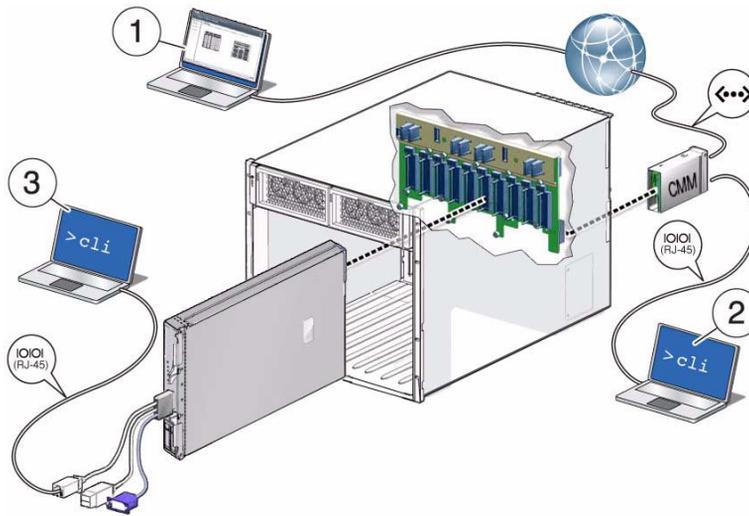
▼ Plan Communication With the Server Module During Installation

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 *Server Module 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 28 and “Method 1b – Power On the Host Through the CMM (CLI)” on page 29. | 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 31. | 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 34. | 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

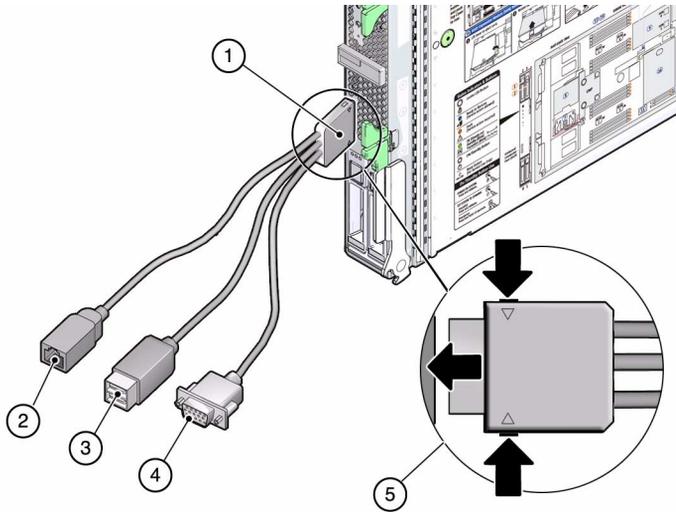


Figure Legend

-
- 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

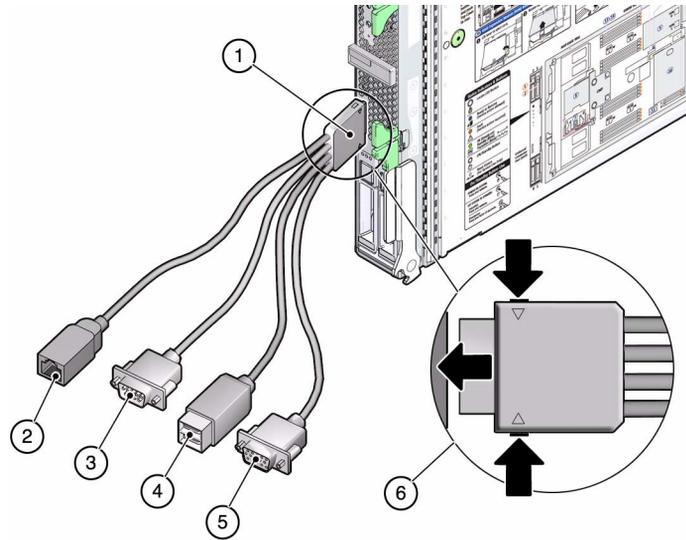


Figure Legend

-
- | | |
|---|---|
| 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 23 |
| 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 27](#)
- [“Installation Task Overview” on page 1](#)

▼ Prepare the Modular System and Server Module

You must install and configure the Sun Blade 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:

- 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 Blade 6000 Modular System Installation Guide*.

2. (If necessary) Upgrade all SAS-1 components.

This server module is a SAS-2 component. You must upgrade the firmware of all SAS-1 components (such as SAS-1 NEMs and disk modules) to a firmware version that supports SAS-1/SAS-2 coexistence. You must complete this firmware upgrade before you insert this server module or any other SAS-2 component into the modular system chassis. Refer to the *SAS-1/SAS-2 Compatibility Upgrade Guide* for more information. See [“Related Documentation” on page v](#).

3. Unpackage the server module.

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

4. Install any optional components.

See [“Install Optional Components” on page 23](#).

5. 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 23](#)
- [“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 *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 23

▼ 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 23.

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.

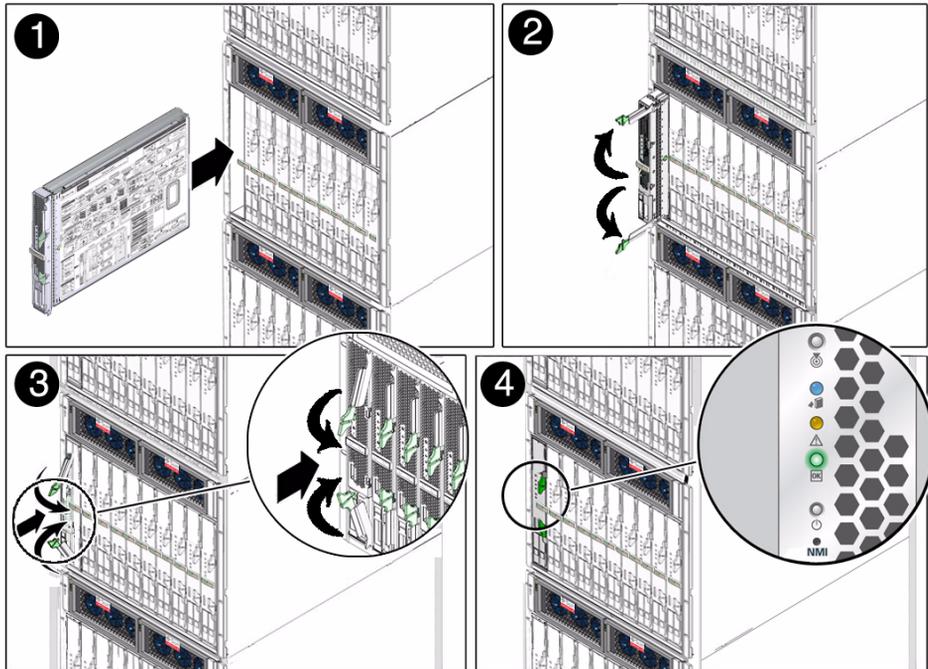
5. Remove the filler panel from the selected chassis slot.

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 23](#)
- [“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 28 |
| 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 29 |
| 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 31 |
| 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 34 |

Related Information

- [“Configuring the Oracle Solaris OS”](#) on page 37
- [“Installation Task Overview”](#) on page 1
- *Server Module 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 37.](#)

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 37](#).

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 37](#).

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 37](#).

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 37 “Oracle Solaris Configuration Parameters” on page 38 “Assign a Static IP Address to the SP” on page 40 |
| Install your own version of the Oracle Solaris OS. | “Install Oracle Solaris Software From the Network” on page 38 “Oracle Solaris Configuration Parameters” on page 38 “Assign a Static IP Address to the SP” on page 40 |

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 38](#).

Related Information

- “Install Oracle Solaris Software From the Network” on page 38
- “Oracle Solaris Configuration Parameters” on page 38
- “Assign a Static IP Address to the SP” on page 40

▼ 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 37
- “Oracle Solaris Configuration Parameters” on page 38
- “Assign a Static IP Address to the SP” on page 40

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 <code>root</code> 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 37](#)
- [“Install Oracle Solaris Software From the Network” on page 38](#)
- [“Assign a Static IP Address to the SP” on page 40](#)

▼ 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 37](#).

Related Information

- [“Configure the OS” on page 37](#)
- [“Install Oracle Solaris Software From the Network” on page 38](#)
- [“Oracle Solaris Configuration Parameters” on page 38](#)

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

A

altitude specifications, 8
antistatic mat and wrist strap (Installation), 14
architecture, processor, 2

C

cable, dongle, 17
chassis
 inserting the server module, 23
 preparation, 21
CLI for installation, 29
CMM NET MGT port, 15
CMM SER MGT port, 15
 using for installation, 31
communicating with the server module, 15
components, optional, 23
configuration settings for Oracle Solaris OS, 38
configuring the IP address, 40
configuring the Oracle Solaris OS, 37
connecting to the server
 CMM NET MGT port (CLI), 29
 CMM NET MGT port (Web Interface), 28
 CMM SER MGT port (CLI), 31
 UCP connector, 34
connection methods, 15
connector covers, 23
cooling, 2
customer information sheet, 12

D

data connector, 4
depth, 7
DHCP used to obtain IP address, 40
dimensions, 7
DIMM types, 2

documentation, related, v
dongle cable, 15, 34
dongle cables, 15, 17, 34

E

ejector arms, 23
electrical specifications, 8
environmental specifications, 8
ESD precautions, 13
Ethernet ports, 2

F

features, server module, 2
FEMs, 2
filler panels, 23
front panel components, 4

G

graphics, onboard, 2

H

handling precautions, 13
height, 7
humidity specifications, 8

I

ILOM root password, default, 28, 29, 31, 34
installation
 chassis preparation, 21
 planning, 7, 11
 task overview, 1
 tools required, 14
installing the server module, 21
inventory of shipping kit, 12
IP address of CMM, 28

IP address, configuring, 40

K

KVMS, 2

L

LEDs

- front panel, 4
- upon installation, 23

M

MAC address, 12

memory, 2

modular system chassis preparation, 21

O

optional components, 23

Oracle Solaris

- configuration settings, 38
- configuring, 37

Oracle Solaris OS configuration settings, 38

OS

- installing from the network, 38
- Oracle Solaris configuration settings, 38

overview, installation task, 1

P

PCIe EMs, 2

physical specifications, 7

planning the installation, 7, 11

power button, 4

power connector, 4

power specifications, 8

powering on the server module, 27

precautions

- ESD, 13
- handling, 13

processor architecture, 2

R

rear panel components, 4

related documentation, v

remote console, 28

REMs, 2

reset button, 4

root password, default, 28

S

serial cable pin assignments, 31

serial port connection, 15, 17

serial redirection, 28

server module

- configuring the OS, 37
- features, 2
- inserting into chassis, 23
- installing, 21
- installing the OS from the network, 38
- powering on, 27
- starting, 31
- understanding, 1

set command, 40

shipping kit inventory, 12

show command, 40

specifications

- electrical, 8
- environmental, 8
- physical, 7

ssh command, 29

start command, 29, 31

starting the server module, 31

static IP address, 40

system firmware, 2

T

task overview, installation, 1

temperature specifications, 8

tools required for installation, 14

U

UCP cables, 17

UCP connector, 2, 4, 34

understanding the server module, 1

USB connection, 17

V

VGA connection, 17

voltage specifications, 8

W

web interface, 28

weight, 7

width, 7

