SPARC S7-2L Server Installation Guide

Part No: E73200-02
June 2017

SPARC S7-2L Server Installation Guide

Part No: E73200-02

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit `http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info` or visit `http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs` if you are hearing impaired.

Référence: E73200-02

Accès aux services de support Oracle

Les clients Oracle qui ont souscrit un contrat de support ont accès au support électronique via My Oracle Support. Pour plus d'informations, visitez le site `http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info` ou le site `http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs` si vous êtes malentendant.

Contents

Using This Documentation

- **Overview** – Provides specifications and describes how to install and power on the SPARC S7-2L server from Oracle.
- **Audience** – Technicians, system administrators, and authorized service providers.
- **Required knowledge** – Advanced experience troubleshooting and replacing hardware.

Product Documentation Library

Documentation and resources for this product and related products are available at http://www.oracle.com/goto/s7-2l/docs.

Feedback

Provide feedback about this documentation at http://www.oracle.com/goto/docfeedback.

Understanding the Server

These topics list the installation tasks, provide an overview of the server, and highlight the key components.

Related Information

- "Installing the Server" on page 33
- "Connecting Cables" on page 59
- "Powering On the Server for the First Time" on page 75

Installation Task Overview

Perform these tasks to install and configure the server.

Step	Description	Links
1.	Review the product notes for any late-breaking news about the server.	*SPARC S7-2 and S7-2L Server Product Notes*

Step	Description	Links
2.	Review the server features, specifications, and site requirements.	“Server Overview” on page 12 “Confirming Specifications” on page 23
3.	Confirm that you received all of the items you ordered.	“Shipping Kit” on page 29
4.	Learn the server features, controls, and LEDs required for installation.	“Front Panel Components With Eight-Drive Backplane (Installation)” on page 14 “Front Panel Components With Twelve-3.5-Inch-Drive Backplane (Installation)” on page 15 “Front Panel Components With Twenty-Four-Drive Backplane (Installation)” on page 17 “Front Panel Components With Twelve NVMe Drive Backplane (Installation)” on page 19 “Rear Panel Components (Installation)” on page 20
5.	Take safety and ESD precautions and assemble the required tools.	“Handling Precautions” on page 30 “ESD Precautions” on page 31 “Installation Tools” on page 31
6.	Install any optional components into the server.	“Optional Components” on page 33
7.	Install the server into a rack.	“Installing the Server” on page 33
8.	Attach data and management cables to the server.	“Connecting Cables” on page 59
9.	Connect the power cords to the server, configure the Oracle ILOM on the SP, power on the server for the first time, and set up the operating system.	“Powering On the Server for the First Time” on page 75

Related Information

- *SPARC S7-2 and S7-2L Server Product Notes*
- *SPARC S7-2L Server Safety and Compliance Guide*
- *SPARC and Netra SPARC S7-2 Series Servers Administration Guide*
- *SPARC S7-2L Server Service Manual*

Server Overview

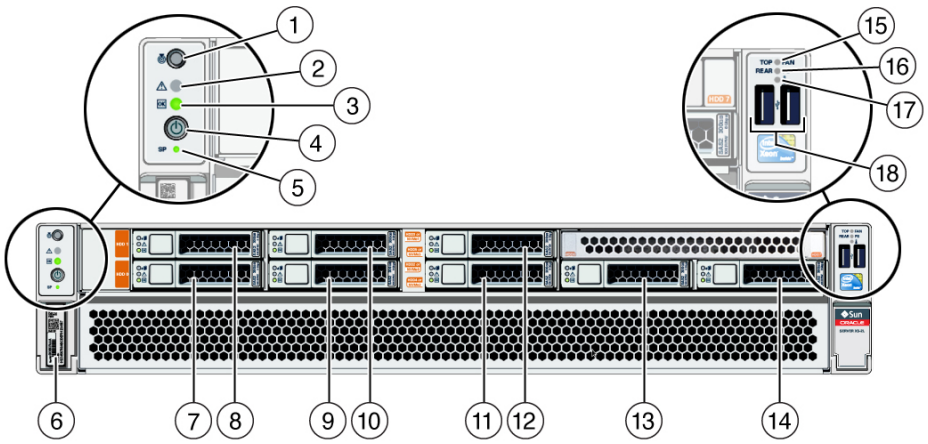
This topic provides a high-level introduction to the main components and capabilities of the server.

Component	Description
Chassis	Rack-mountable server.
CPU	Two processors installed on the motherboard assembly.
Memory	Sixteen DDR4 DIMMs connect to the motherboard. A server with 16 64-GB DIMMs supports 1024 GB of system memory.
I/O expansion	Seven PCIe Gen3 slots. Six slots are in the rear and one for drive support is internal. All slots support x8 PCIe cards.
Storage devices	For internal storage, the server provides several configurations, depending on the type of drive backplane: ■ Eight 2.5-inch SAS drives. Four slots can use 2.5-inch NVMe drives. ■ Twelve 3.5-inch SAS drives, plus two 2.5-inch SAS drives in the rear, above the power supplies. ■ Twenty four 2.5-inch SAS drives, plus two 2.5-inch drives in the rear, above the power supplies. ■ Twelve 2.5-inch NVMe drives.
USB ports	Two external USB 2.0 ports (front panel).
Ethernet ports	Four 10GbE 100/1000/10000 Mbps, RJ-45-based ports on the rear panel.
Power supplies	Two hot-swappable (1+1) AC 1100W power supplies.
Cooling fans	Four hot-swappable, redundant fan modules at chassis front (top-loading). Redundant fans in each power supply.
SP	Built into motherboard. Includes Oracle Integrated Lights Out Manager (Oracle ILOM).

Related Information

- *SPARC S7-2L Server Service Manual*
- Oracle ILOM documentation
- “Front Panel Components With Eight-Drive Backplane (Installation)” on page 14
- “Rear Panel Components (Installation)” on page 20

Front Panel Components With Eight-Drive Backplane (Installation)



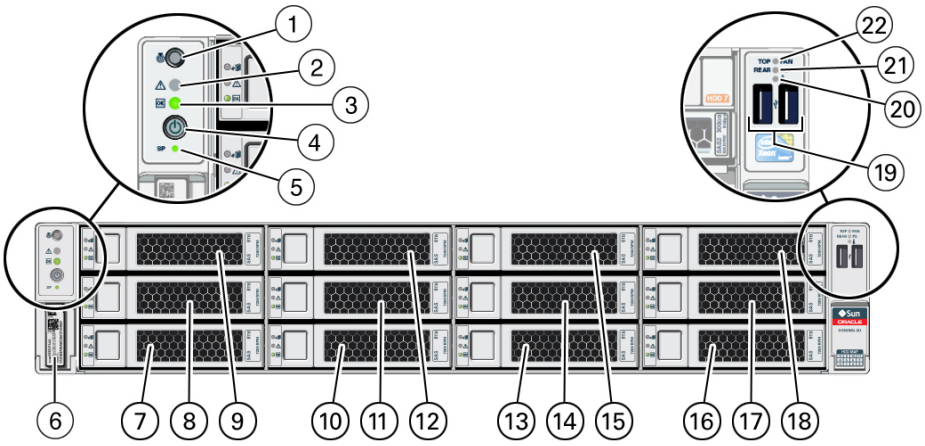
No.	Description
1	Locator button / Locator LED (white)
2	Service Required LED (amber)
3	Power LED (green)
4	Power button
5	SP Power OK button (green)
6	Server serial number
7	Drive 0
8	Drive 1
9	Drive 2 (or NVMe drive 0)

No.	Description
10	Drive 3 (or NVMe drive 1)
11	Drive 4 (or NVMe drive 2)
12	Drive 5 (or NVMe drive 3)
13	Drive 6
14	Drive 7
15	Fan Fault LED (amber)
16	PS Fault LED (amber)
17	Overtemp LED (amber)
18	USB 2.0 connectors (2)

Related Information

- “Server Overview” on page 12
- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59

Front Panel Components With Twelve-3.5-Inch-Drive Backplane (Installation)

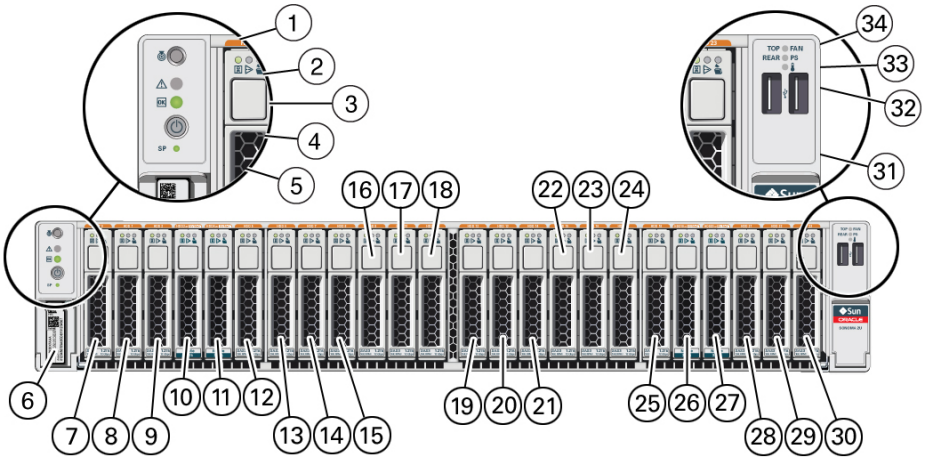


No.	Description
1	Locator button / Locator LED (white)
2	Service Required LED (amber)
3	Power LED (green)
4	Power button
5	SP Power OK button (green)
6	Server serial number
7	Drive 0
8	Drive 4
9	Drive 8
10	Drive 1
11	Drive 5
12	Drive 9
13	Drive 2
14	Drive 6
15	Drive 10
16	Drive 3
17	Drive 7
18	Drive 11
19	USB 2.0 connectors (2)
20	Overtemp LED (amber)
21	PS Fault LED
22	Fan Fault LED (amber)

Related Information

- “Server Overview” on page 12
- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59

Front Panel Components With Twenty-Four-Drive Backplane (Installation)



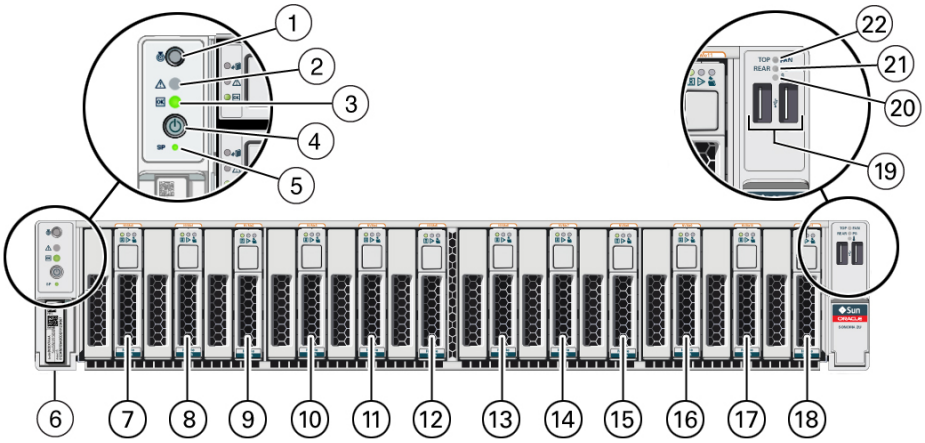
No.	Description
1	Locator button / Locator LED (white)
2	Service Required LED (amber)
3	Power LED (green)
4	Power button
5	SP Power OK button (green)
6	Server serial number
7	Drive 0
8	Drive 1
9	Drive 2
10	Drive 3 (or NVMe drive 0)
11	Drive 4 (or NVMe drive 1)
12	Drive 5
13	Drive 6
14	Drive 7
15	Drive 8
16	Drive 9

No.	Description
17	Drive 10
18	Drive 11
19	Drive 12
20	Drive 13
21	Drive 14
22	Drive 15
23	Drive 16
24	Drive 17
25	Drive 18
26	Drive 19 (or NVMe drive 2)
27	Drive 20 (or NVMe drive 3)
28	Drive 21
29	Drive 22
30	Drive 23
31	USB 2.0 connectors (2)
32	Overtemp LED (amber)
33	PS Fault LED (amber)
34	Fan Fault LED (amber)

Related Information

- “Server Overview” on page 12
- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59

Front Panel Components With Twelve NVMe Drive Backplane (Installation)



No.	Description
1	Locator button / Locator LED (white)
2	Service Required LED (amber)
3	Power LED (green)
4	Power button
5	SP Power OK button (green)
6	Server serial number
7	NVMe drive 0
8	NVMe drive 1
9	NVMe drive 2
10	NVMe drive 3
11	NVMe drive 4
12	NVMe drive 5
13	NVMe drive 6
14	NVMe drive 7
15	NVMe drive 8
16	NVMe drive 9

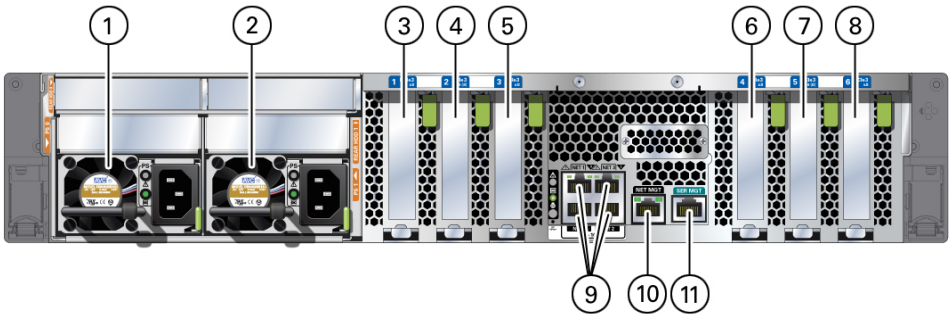
No.	Description
17	NVMe drive 10
18	NVMe drive 11
19	USB 2.0 connectors (2)
20	Overtemp LED (amber)
21	PS Fault LED (amber)
22	Fan Fault LED (amber)

Related Information

- “Server Overview” on page 12
- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59

Rear Panel Components (Installation)

Note - You must follow the proper sequence when connecting cables to the server. Do not connect the power cords until all data cables have been connected.



No.	Description
1	Power supply 0 (PS 0)
2	Power supply 1 (PS 1)

No.	Description
3	PCIe slot 1
4	PCIe slot 2
5	PCIe slot 3
6	PCIe slot 4
7	PCIe slot 5
8	PCIe slot 6
9	Network 100/1000/10000 ports: NET 0 to NET 3
10	NET MGT RJ-45 network port
11	SER MGT RJ-45 network port
Note	Some configurations provide slots for two rear 2.5-inch drives. RHDD 0 is above Power Supply 0. RHDD 1 is above Power Supply 1.

Related Information

- “Front Panel Components With Eight-Drive Backplane (Installation)” on page 14
- “Front Panel Components With Twelve-3.5-Inch-Drive Backplane (Installation)” on page 15
- “Front Panel Components With Twenty-Four-Drive Backplane (Installation)” on page 17
- “Front Panel Components With Twelve NVMe Drive Backplane (Installation)” on page 19
- “Cabling Requirements” on page 59
- “Attach the CMA to the Server” on page 49
- “Secure Cables to the CMA” on page 72

Confirming Specifications

These topics provide the technical information and airflow precautions you need to install the server.

Related Information

- “Server Overview” on page 12
- “Shipping Kit” on page 29
- “Identifying Ports” on page 60

Physical Specifications

Description	U.S.	Metric
Rack units	2U	2U
Height	3.45 in.	87.6 mm
Width	17.2 in.	436 mm
Depth	29 in.	737 mm
Weight fully populated (without rackmount kit)	67.4 lb	30.6 kg
Minimum service clearance (front)	48.5 in.	1232 mm
Minimum service clearance (rear)	36 in.	914.4 mm
Minimum airflow clearance (front)	2 in.	50.8 mm
Minimum airflow clearance (rear)	3 in.	76.2 mm

Description	U.S.	Metric
Shipping carton height	12.00 in.	30.40 cm
Shipping carton width	23.62 in.	60.00 cm
Shipping carton length	38.74 in.	98.40 cm

Related Information

- “Server Overview” on page 12
- “Handling Precautions” on page 30
- “Installing the Server” on page 33
- “Electrical Specifications” on page 24
- “Environmental Specifications” on page 25
- “Airflow Precautions” on page 26

Electrical Specifications

Description	Value
Voltage	200 to 240 VAC
Frequency	50 to 60 Hz
Maximum operating input current at 200 VAC (per cord)	5.2 A
Maximum operating input power at 200 VAC	1048W
Maximum standby power	23.8W
Idle AC input power (maximum configuration)	565W
Maximum server configuration specification under nominal temperature and voltage conditions (two 4.267-GHz S7 processors with sixteen 64GB DDR4 DIMMs, twenty-two SAS and four NVMe SFF drives, one internal HBA card, and 6 PCIe cards).	
Peak AC input power running MGRID (maximum configuration)	889W
Idle AC input power (minimum configuration)	298W
Minimum server configuration specification under nominal temperature and voltage conditions (two 4.267-GHz S7 processors, eight 16-GB DDR4 DIMMs, no drives, one internal HBA card, and no PCIe cards).	
Peak AC input power running MGRID (minimum configuration)	591W
Maximum heat dissipation	3576 BTU/hr 3772 KJ/hr

For information on power specifications, use the power calculator at:

http://www.oracle.com/us/products/servers-storage/sun-power-calculators

Related Information

- “Powering On the Server for the First Time” on page 75
- “Physical Specifications” on page 23
- “Environmental Specifications” on page 25
- “Airflow Precautions” on page 26

Environmental Specifications

This topic includes these specifications that apply to both server configurations:

- Temperature, humidity, and elevation
- Shock and vibration
- Acoustic

TABLE 1 Temperature, Humidity, and Elevation Specifications

Description	Operating		Nonoperating		Notes
	U.S.	Metric	U.S.	Metric	
Temperature (maximum)	41 to 95°F at 0 to 3000 ft	5 to 35°C at 900m	-40 to 149°F at 0 to 3000 ft	-40 to 65°C at 900m	Decrease in maximum temperature: above 3000 ft. (900m), 1.8°F/1000 ft (1°C/300m)
Relative humidity	10 to 90% at 81°F	10 to 90% at 27°C	Up to 93% at 100°F	Up to 93% at 38°C	Maximum wet bulb noncondensing
Altitude	0 to 9840 ft at 95°F†	0 m to 3000m at 40°C†	Up to 39,370 ft	Up to 12,000m	

†Except in China markets where regulations might limit installations to a maximum altitude of 2km.

TABLE 2 Shock and Vibration Specifications

Description	Operating	Notes
Shock	3G, 11 ms	Half-sine
Vibration (vertical)	0.15G	5 to 500 HZ swept-sine
Vibration (horizontal)	0.10G	

TABLE 3 Acoustic Specifications

Description	60% Fan Speed	100% Fan Speed
Sound Power Level - LwAd (1 B=10 dB)	7.9 B	8.6 B
Sound Pressure Level - LpA (energy average of four bystander positions)	65 dBA	72 dBA

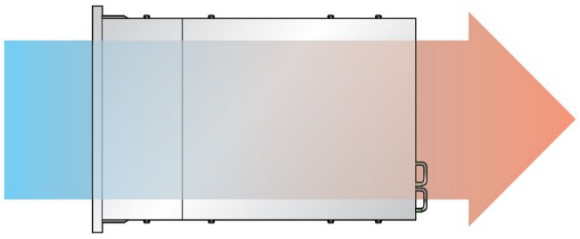
Related Information

- *SPARC S7-2L Server Safety and Compliance Guide*
- “Physical Specifications” on page 23
- “Electrical Specifications” on page 24
- “Environmental Specifications” on page 25
- “Airflow Precautions” on page 26

Airflow Precautions

Caution - Proper airflow is essential for keeping the server's internal temperatures within a safe operating range.

Air flows from the front to the rear of the server.



Follow these guidelines to ensure unrestricted airflow in the server:

- Adhere to the minimum airflow clearance specifications. See “Physical Specifications” on page 23.
- Install the server so the front faces the cool aisle and the rear faces the warm aisle.
- Do not direct warm air into the server.

- Prevent recirculation of air within a rack or cabinet.
- When servicing server internal components, ensure that air ducts, baffles, and filler panels are properly installed.
- Route cables so they do not interfere with airflow.

Related Information

- “Rack Cautions” on page 35
- “Physical Specifications” on page 23
- “Electrical Specifications” on page 24
- “Environmental Specifications” on page 25

Preparing for Installation

These topics detail the precautions to follow and the tools to assemble prior to installing the server.

Step	Description	Links
1.	Confirm that you received all the items you ordered.	“Shipping Kit” on page 29
2.	Review safety and ESD precautions	“Handling Precautions” on page 30 “ESD Precautions” on page 31
3.	Verify that you have the correct tools.	“Installation Tools” on page 31

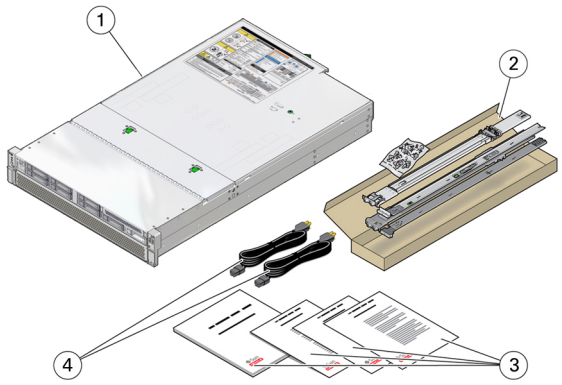
Related Information

- “Installing the Server” on page 33
- “Connecting Cables” on page 59
- “Powering On the Server for the First Time” on page 75

Shipping Kit

Note - When you receive your server, place it in the environment where you will install it. Leave it in its shipping crate at its final destination for 24 hours. This resting period prevents thermal shock and condensation.

Verify that you received all of the components that ship with your server.



No.	Description
1	Server
2	Rackmount kit
3	Printed documents
4	2 AC power cords

Note - The shipping kit might also contain PCIe fillers that were removed from the server when PCIe cards were installed in the factory. Save these PCIe fillers and use them to cover PCIe slots when cards are removed from the server.

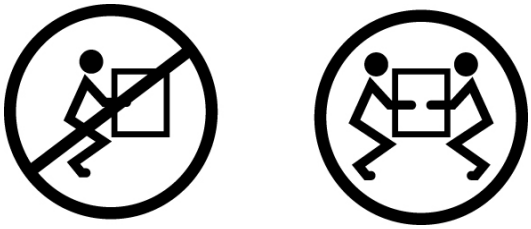
Related Information

- “Server Overview” on page 12
- “Preparing for Installation” on page 29

Handling Precautions

Caution - Deploy the antitilt bar on the equipment rack before beginning an installation.

Caution - The server weighs approximately 60 lb (27.22 kg). Two people are required to lift and mount this 2U server into a rack enclosure when using the procedures in this document.



Caution - When completing a two-person procedure, always communicate your intentions clearly before, during, and after each step to minimize confusion.

Related Information

- “Physical Specifications” on page 23
- “Installing the Server” on page 33
- *SPARC S7-2L Server Getting Started Guide*

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 electrostatic damage when you install or service the servers.

Caution - Electrostatic discharge can permanently disable the server or require repair by service techniciens. To protect electronic components from electrostatic damage, 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 server components.

Related Information

- “Handling Precautions” on page 30

Installation Tools

- No. 2 Phillips screwdriver

- ESD mat and grounding strap

In addition, you must provide a system console device, such as one of the following:

- ASCII terminal
- Workstation
- Terminal server
- Patch panel connected to a terminal server

Related Information

- “Handling Precautions” on page 30
- “ESD Precautions” on page 31
- *SPARC S7-2L Server Service Manual*

Installing the Server

These topics describe how to install the server into a rack using the rail assembly in the rackmount kit. Perform these procedures if you purchased the rail assembly.

Note - In this guide, the term "rack" means either an open rack or a closed cabinet.

Step	Description	Links
1.	Install optional components.	“Optional Components” on page 33
2.	Ensure that your rack is compatible with the server requirements.	“Rack Compatibility” on page 34
3.	Review the cautions for working with racks.	“Rack Cautions” on page 35
4.	Use antitilt mechanisms to ensure that the rack does not tip when the server is installed.	“Stabilize the Rack” on page 36
5.	Prepare the slide rails, mounting brackets, and slide rail assemblies for server installation.	“Install the Rackmount Hardware” on page 37 “Attach Slide Rail Assemblies to the Rack” on page 39
6.	Install the server in the rack.	“Install the Server Into the Slide Rail Assemblies” on page 43
7.	(Optional) Install the CMA.	“Attach the CMA to the Server” on page 49

Related Information

- “Preparing for Installation” on page 29
- “Connecting Cables” on page 59

Optional Components

Optional components, such as additional memory or PCIe cards that were ordered as part of the server, are installed in the server at the factory before the server is shipped. Any options

not ordered with the server are shipped separately. If possible, install these components prior to installing the server in a rack.

Except for the rackmount kits, if you ordered any options that are not factory-installed, refer to the service manual for the server and the component's documentation for installation instructions.

Note - The list of optional components can be updated without notice. Refer to the product web pages for the most current list of components supported in the server.

Related Information

- Optional component documentation
- *SPARC S7-2L Server Service Manual*

Rack Compatibility

Check that your rack is compatible with the slide rail and CMA options. The optional slide rails are compatible with a wide range of equipment racks that meet these standards.

Item	Requirement
Structure	4-post rack (mounting at both front and rear). 2-post racks are not compatible.
Rack horizontal opening and unit vertical pitch	Conforms to ANSI/EIA 310-D-1992 or IEC 60927 standards.
Rack rail mounting hole sizes	Only 9.5-mm square hole and M6 round mounting holes are supported. All other sizes, including 7.2-mm, M5, or 10-32 mounting holes, are *not* supported.
Distance between front and rear mounting planes	Minimum: 24.5 in. (622 mm). Maximum: 35.25 in. (895 mm).
Clearance depth in front of front mounting plane	Distance to front cabinet door is at least 1.06 in. (27 mm).
Clearance depth behind front mounting plane	Distance to rear cabinet door is at least 35.5 in. (900 mm) with the CMA, or 30.4 in. (770 mm) without the CMA.
Clearance width between front and rear mounting planes	Distance between structural supports and cable troughs is at least 18 in. (456 mm).
Server dimensions	Depth: 29.0 in. (737 mm). Width: 17.5 in. (445 mm).

Item	Requirement
	Height: 3.45 in. (87.6 mm).

Related Information

- “Physical Specifications” on page 23
- “Handling Precautions” on page 30
- “Rack Cautions” on page 35

Rack Cautions

Caution - Equipment Loading. Always load equipment into a rack from the bottom up so that the rack does not become top-heavy and tip over. Deploy the rack's antitilt bar to prevent the rack from tipping during equipment installation.

Caution - Elevated Operating Ambient Temperature. If the server is installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment might be greater than room ambient temperature. Therefore, install the equipment only in an environment compatible with the maximum ambient temperature (Tma) specified for the server.

Caution - Reduced Air Flow. Install the equipment in a rack so that the amount of air flow is adequate for the safe operation of the equipment.

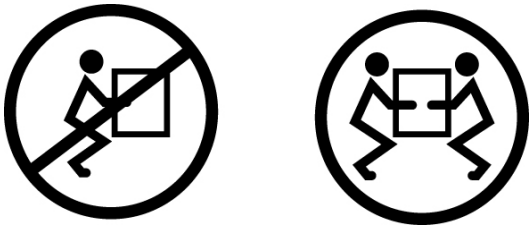
Caution - Mechanical Loading. Mount the equipment in the rack so that the weight is distributed evenly. A hazardous condition can exist with uneven mechanical loading.

Caution - Circuit Overloading. Do not overload the power supply circuits. Before connecting the server to the supply circuit, review the equipment nameplate power ratings and consider the effect that circuit overloading might have on overcurrent protection and supply wiring.

Caution - Reliable Grounding. Maintain reliable grounding of rackmounted equipment. Give particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

Caution - Do not use slide rail mounted equipment as a shelf or a work space.

Caution - The server weighs approximately 60 lb (27.22 kg). Two people are required to lift and mount this 2U server into a rack enclosure when using the procedures in this document.



Related Information

- “Physical Specifications” on page 23
- “Handling Precautions” on page 30
- “Stabilize the Rack” on page 36

▼ Stabilize the Rack

Caution - To reduce the risk of personal injury, stabilize the rack by extending all antitilt devices before installing the server.

Refer to the rack documentation for detailed instructions for the following steps.

1. **Read the rack cautions and stabilize the rack.**
   See “Rack Cautions” on page 35.
2. **Open and remove the front and rear doors from the rack.**
3. **Prevent the rack cabinet from tipping during the installation by stabilizing the cabinet using all antitilt mechanisms provided.**
4. **If there are leveling feet beneath the rack to prevent it from rolling, extend these leveling feet fully downward to the floor.**
5. **Install the rackmount hardware.**
   See “Install the Rackmount Hardware” on page 37.

Related Information

- Rack documentation
- *SPARC S7-2L Server Safety and Compliance Guide*
- “Rack Compatibility” on page 34
- “Rack Cautions” on page 35

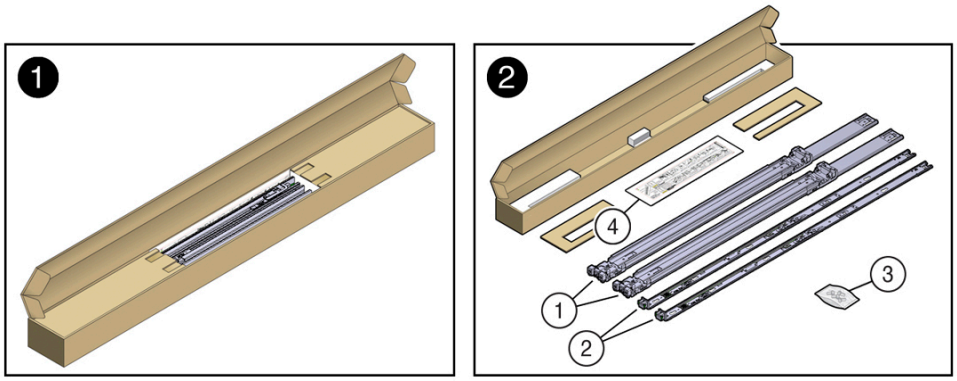
▼ Install the Rackmount Hardware

Complete the following task to remove the mounting brackets from the slide rail assemblies before installation.

1. **Unpack the slide rails.**

   The rackmount kit contains two slide rails, two mounting brackets, and optional securing screws.

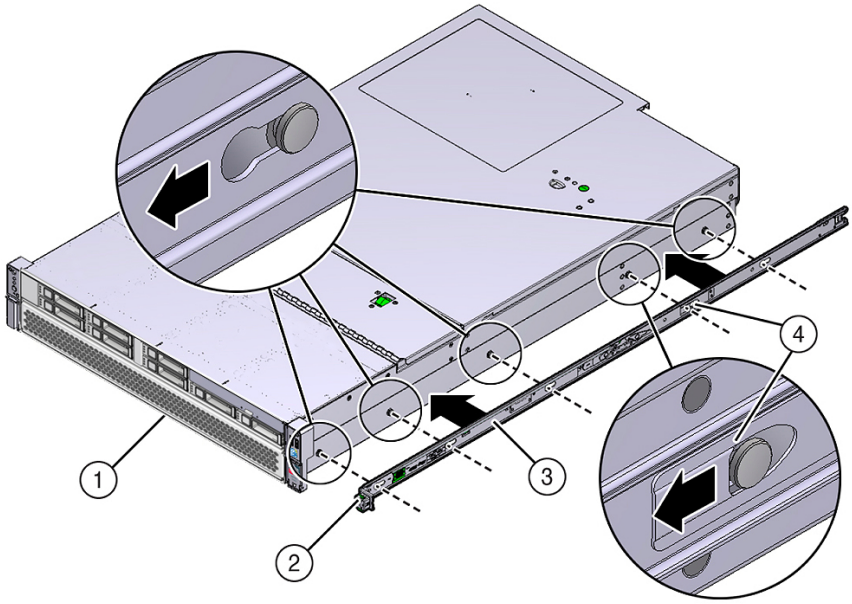
Note - Refer to the rackmount kit installation card for simplified instructions about installing your server into a 4-post rack, using the slide rail and CMA options.



No.	Description
1	Slide rails
2	Mounting brackets
3	Four M4 x 5 fine-pitch mounting bracket securing screws (not used)

No.	Description
4	Installation card

2. **Position a mounting bracket against the chassis so that the slide rail lock is at the server front, and the five keyhole openings on the mounting bracket are aligned with the five locating pins on the side of the chassis.**



No.	Description
1	Server front
2	Slide rail lock
3	Mounting bracket
4	Mounting bracket clip

3. **With the heads of the five chassis locating pins protruding through the five keyhole openings in the mounting bracket, pull the mounting bracket toward**

the front of the chassis until the mounting bracket clip locks into place with an audible click.

4. **Verify that the rear locating pin has engaged the mounting bracket clip.**

5. **Repeat Step 2 through Step 4 to install the remaining mounting bracket on the other side of the server.**

6. **Attach slide rail assemblies to the rack.**

   See "Attach Slide Rail Assemblies to the Rack" on page 39.

Related Information

- "Attach Slide Rail Assemblies to the Rack" on page 39

▼ Attach Slide Rail Assemblies to the Rack

Use the rackmount installation card to identify the correct mounting holes for the slide rails.

Note - Load the rack from bottom to top.

1. **Unpack the mounting brackets and installation card from the rackmount kit.**

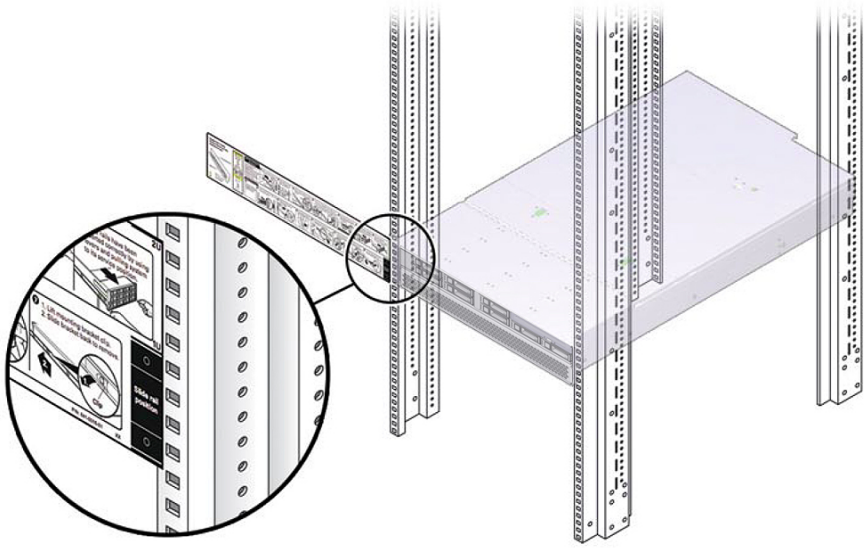
   See "Install the Rackmount Hardware" on page 37.

2. **Ensure that there is enough vertical space in the cabinet to install the server.**

   See "Rack Compatibility" on page 34.

3. **Place the rackmount installation card against the front rails.**

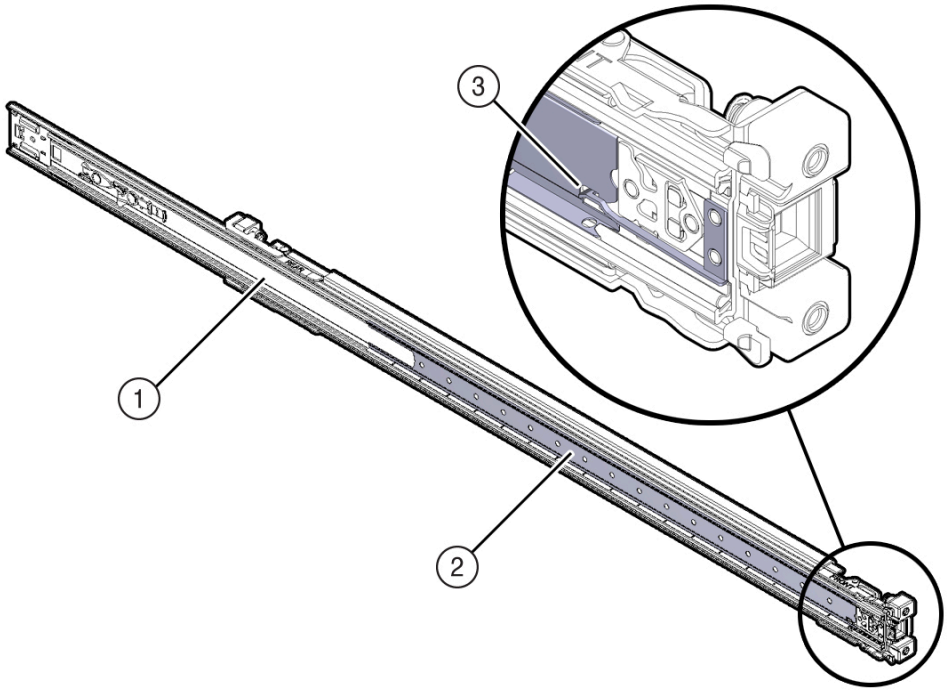
The bottom edge of the card corresponds to the bottom edge of the server. Measure up from the bottom of the installation card.



4. **Mark the mounting holes for the front slide rails.**

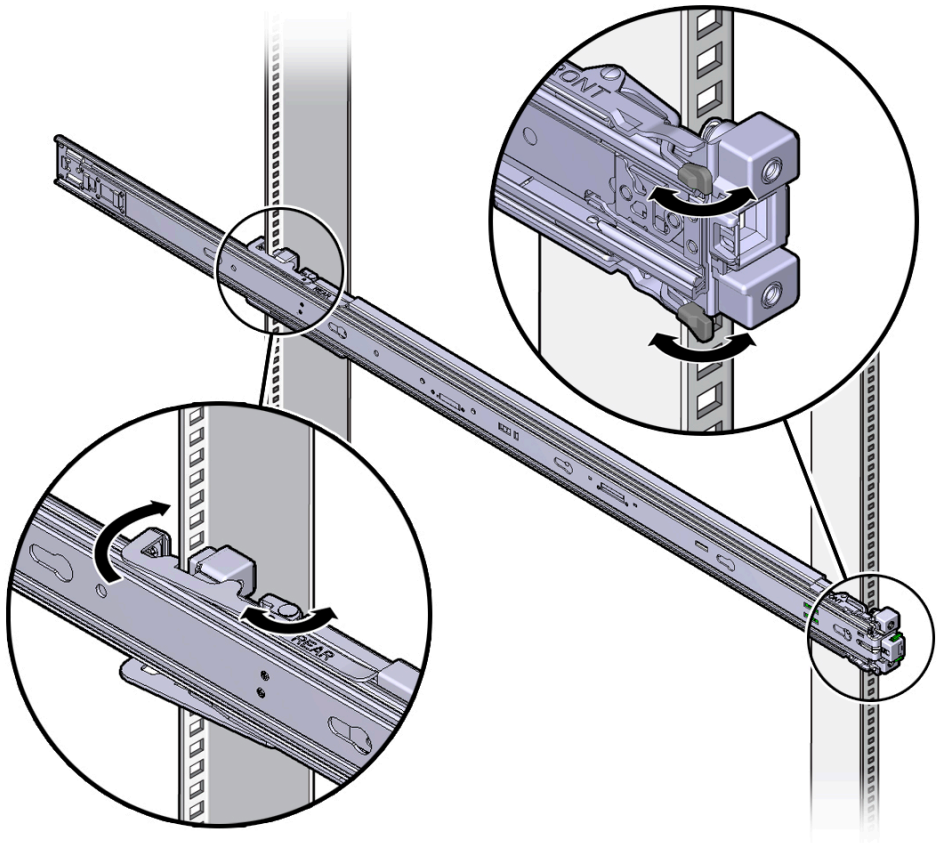
5. **Mark the mounting holes for the rear slide rails.**

6. **Orient the slide rail assembly so that the ball-bearing track is forward and locked in place.**



No.	Description
1	Slide rail
2	Ball-bearing track
3	Locking mechanism

7. **Starting with either the left or right side of the rack, align the rear of the slide rail assembly against the inside of the rear rack rail, and push until the assembly locks into place with an audible click.**



8. **Align the front of the slide rail assembly against the outside of the front rack rail, and push until the assembly locks into place with an audible click.**

9. **(Optional) If you chose to secure the slide rail assembly to the rack with screws, insert M6 mounting screws through both front and rear slide rail brackets and rack posts, and then secure the screws to the rack posts with the caged nuts.**

10. **Repeat this procedure to attach the slide rail assembly to the other side of the rack.**

11. **If available, extend the antitip legs or antitilt bar at the bottom of the rack.**

    Refer to the documentation for the rack for instructions.

12. **Install the server into the slide rail assemblies.**

    See “Install the Server Into the Slide Rail Assemblies” on page 43.

Related Information

- “Rack Compatibility” on page 34
- “Install the Rackmount Hardware” on page 37
- “Install the Server Into the Slide Rail Assemblies” on page 43

Install the Server Into the Slide Rail Assemblies

Use this procedure to install the server chassis, with mounting brackets attached, into the slide rail assemblies that are mounted to the rack.

Caution - This procedure requires a minimum of two people because of the weight of the server. Attempting this procedure alone could result in equipment damage or personal injury.

Caution - Always load equipment into a rack from the bottom up so that the rack does not become top-heavy and tip over. Extend the rack's antitilt bar to prevent the rack from tipping during equipment installation.

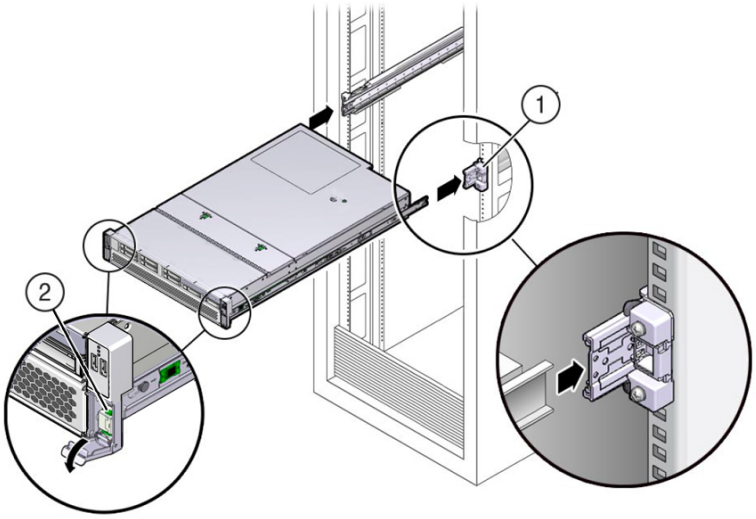
1. **Attach the rackmount hardware to the server and the rack.**

   See “Install the Rackmount Hardware” on page 37 and “Attach Slide Rail Assemblies to the Rack” on page 39.

2. **Push the slide rails into the slide rail assemblies in the rack as far as possible.**

3. **Position the server so that the rear ends of the mounting brackets are aligned with the slide rail assemblies that are mounted in the rack.**

4. **Insert the mounting brackets into the slide rails, and then push the server into the rack until the mounting brackets encounter the slide rail stops (approximately 12 inches, or 30 cm).**

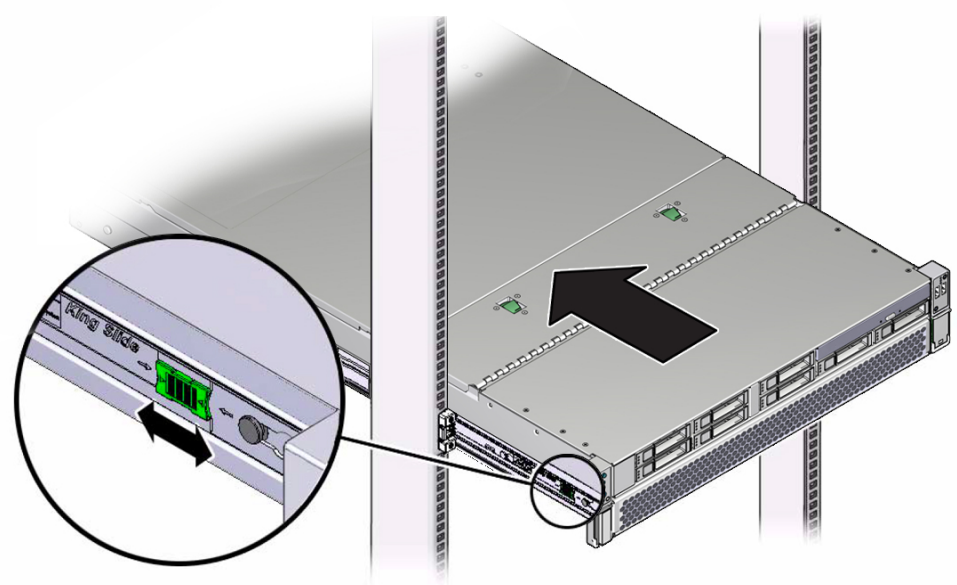


No.	Description
1	Inserting mounting bracket into slide rail
2	Slide rail release lever

5. **Simultaneously pull down and hold the slide rail release levers on each mounting bracket while you push the server into the rack.**

   Continue pushing the server into the rack until the slide rail locks (on the front of the mounting brackets) engage the slide rail assemblies.

You hear an audible click when the slide rail locks are engaged.



Caution - Verify that the server is securely mounted in the rack and that the slide rail locks are engaged with the mounting brackets before you install the optional CMA.

6. **(Optional) Attach the CMA.**

   See “Prepare the CMA for Installation” on page 47.

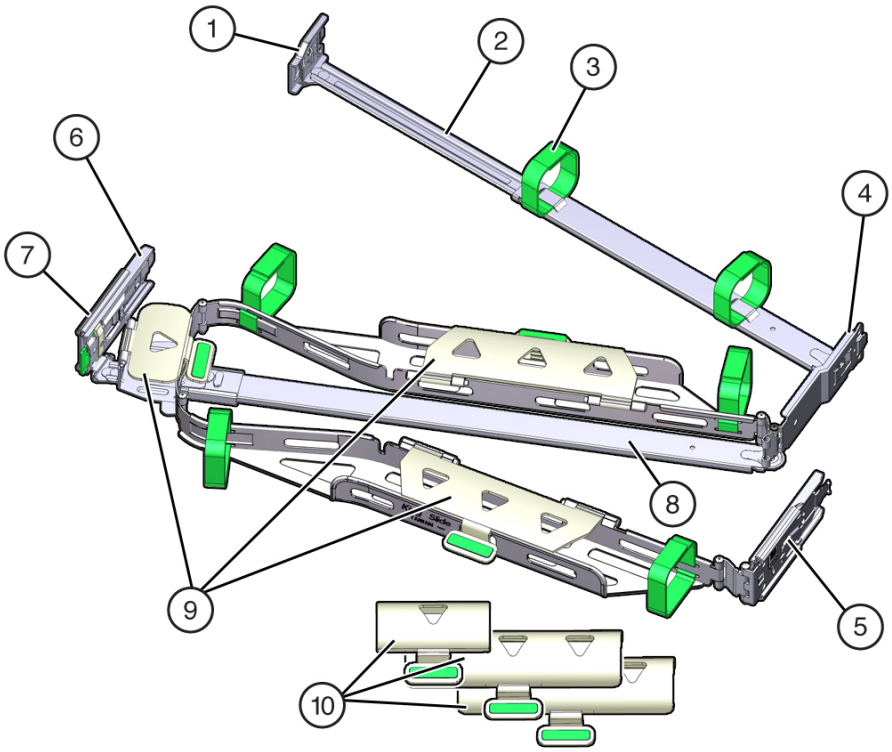
   If you are not using the CMA, see “Verify Operation of Slide Rails and CMA” on page 55.

Related Information

- “Prepare the CMA for Installation” on page 47
- “Attach the CMA to the Server” on page 49
- “Verify Operation of Slide Rails and CMA” on page 55

CMA Components

The following figure shows the components of the optional CMA.



No.	Description
1	Connector A
2	Front slide bar
3	Velcro straps (6)
4	Connector B
5	Connector C
6	Connector D
7	Slide rail latching bracket (used with connector D)

No.	Description
8	Rear slide bar
9	Flat cable covers (not used with this server)
10	Round cable covers

Related Information

- “Prepare the CMA for Installation” on page 47
- “Attach the CMA to the Server” on page 49
- “Verify Operation of Slide Rails and CMA” on page 55

▼ Prepare the CMA for Installation

Follow this procedure to prepare the optional CMA for installation at the rear of the server.

1. **Install the server in the rack before attaching the CMA.**
   See “Install the Server Into the Slide Rail Assemblies” on page 43.

2. **Unpack the CMA.**
   See "CMA Components"

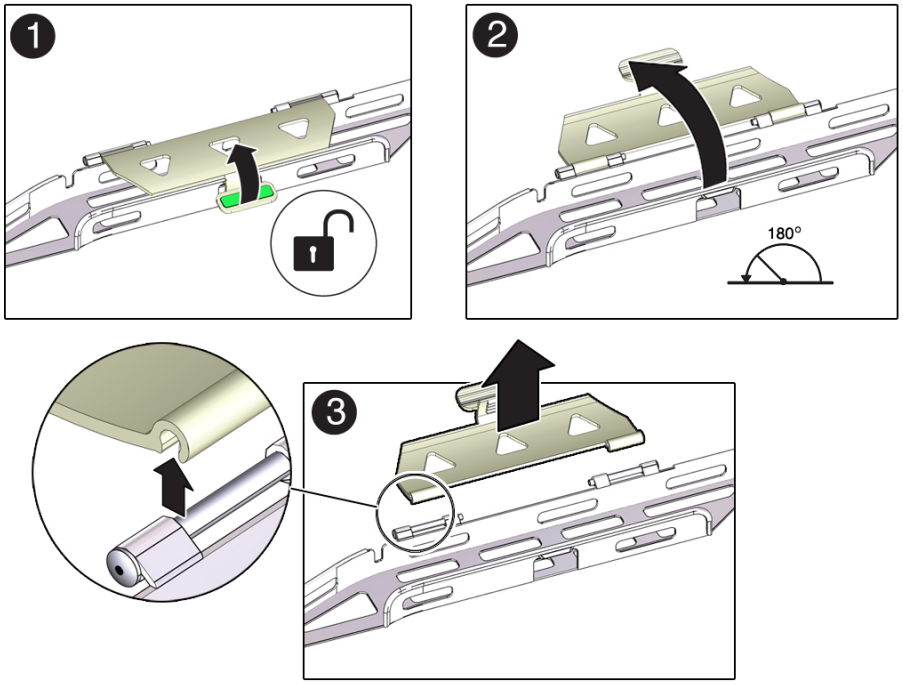
3. **Ensure that the correct cable covers for your server are installed on the CMA.**
   This server uses the round cable covers.

   Note - The CMA ships with three, flat cable covers installed. Before installing the CMA, you must replace the flat cable covers with the round cable covers. If the round cable covers are already on the CMA, skip the next step.

4. **(If needed) Remove the flat cable covers and install the round cable covers.**
   To remove the flat cable covers and install the round cable covers, perform these steps:

   a. **Lift up on the cable cover handle (the handle is green) and open it 180 degrees to the horizontal position (panels 1 and 2).**

Note - The CMA has two sets of three cable covers, two covers with two hinges (one of which is shown in the following figures), and one cover with a single hinge.



b. **Apply upward pressure to the outside edge of each hinge connector until the hinge connector comes off the hinge [(panel 3).**

c. **Repeat Step 4a and Step 4b to remove all three cable covers.**

d. **One at a time, position each round cable cover horizontally over the hinges, and align the hinge connectors with the hinges.**

e. **Using your thumb, apply downward pressure on each hinge connector to snap the hinge connector into place.**

f. **Swing the cable covers down and press down on the cable cover handle to lock them into the closed position.**

5. **Ensure that the six Velcro straps are threaded into the CMA as shown in Step 2.**

Note - Ensure that the two Velcro straps located on the front slide bar are threaded through the opening in the top of the slide bar as shown in Step 2. This action prevents the Velcro straps from interfering with the expansion and contraction of the slide bar when the server is extended out of the rack and returned into the rack.

6. **Attach the CMA to the server.**

See “Attach the CMA to the Server” on page 49.

Related Information

- “Attach the CMA to the Server” on page 49
- “Verify Operation of Slide Rails and CMA” on page 55

▼ Attach the CMA to the Server

Before attaching the CMA to the server, ensure that the correct cable covers are installed on the CMA.

1. **Prepare the CMA for installation on the server.**

See “Prepare the CMA for Installation” on page 47.

2. **To make it easier to install the CMA, extend the server approximately 13 cm (5 inches) out of the front of the rack.**

3. **Take the CMA to the back of the equipment rack, and ensure that you have adequate room to work at the back of the server.**

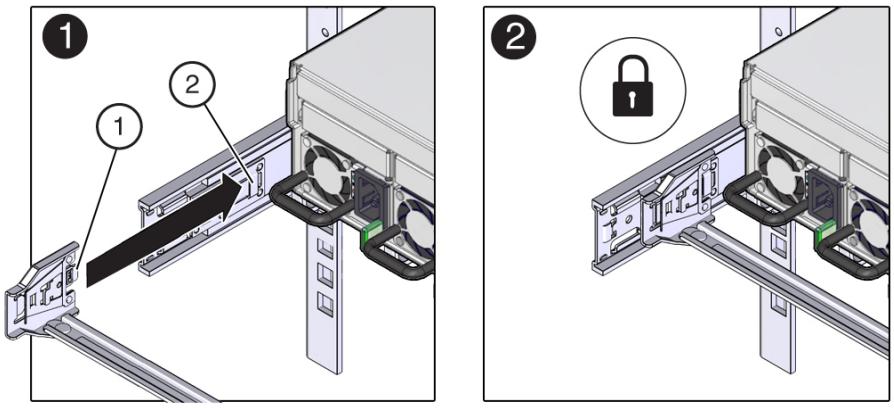
Note - References to “left” or “right” in this procedure assume that you are facing the back of the equipment rack.

Note - Throughout this installation procedure, support the CMA and do not allow it to hang under its own weight until it is secured at all four attachment points.

4. **Install the CMA's connector A into the left slide rail.**

   a. **Insert the CMA's connector A into the front slot on the left slide rail until it locks into place with an audible click (panels 1 and 2).**

The connector A tab goes into the slide rail's front slot (panel 1).



No.	Description
1	Connector A tab
2	Left slide rail front slot

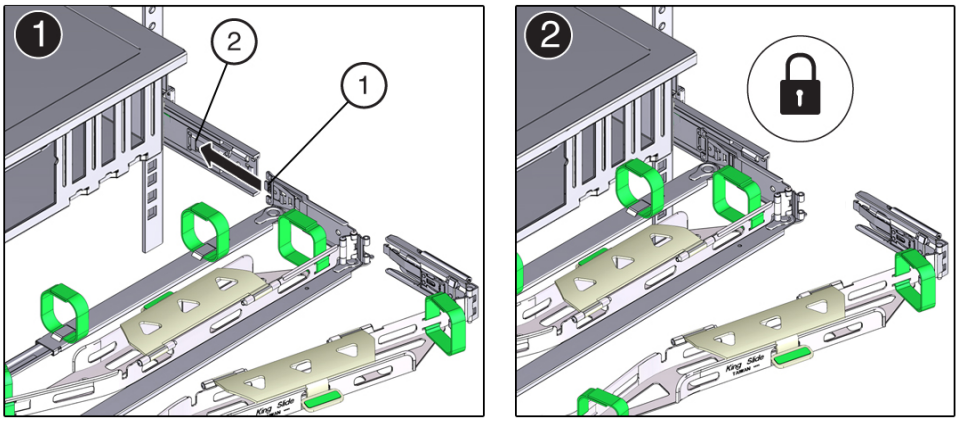
b. Gently tug on the right side of the front slide bar to verify that connector A is properly seated.

5. Install the CMA's connector B into the right slide rail.

a. Insert the CMA's connector B into the front slot on the right slide rail until it locks into place with an audible click (panels 1 and 2).

The connector B tab goes into the slide rail's front slot (panel 1).

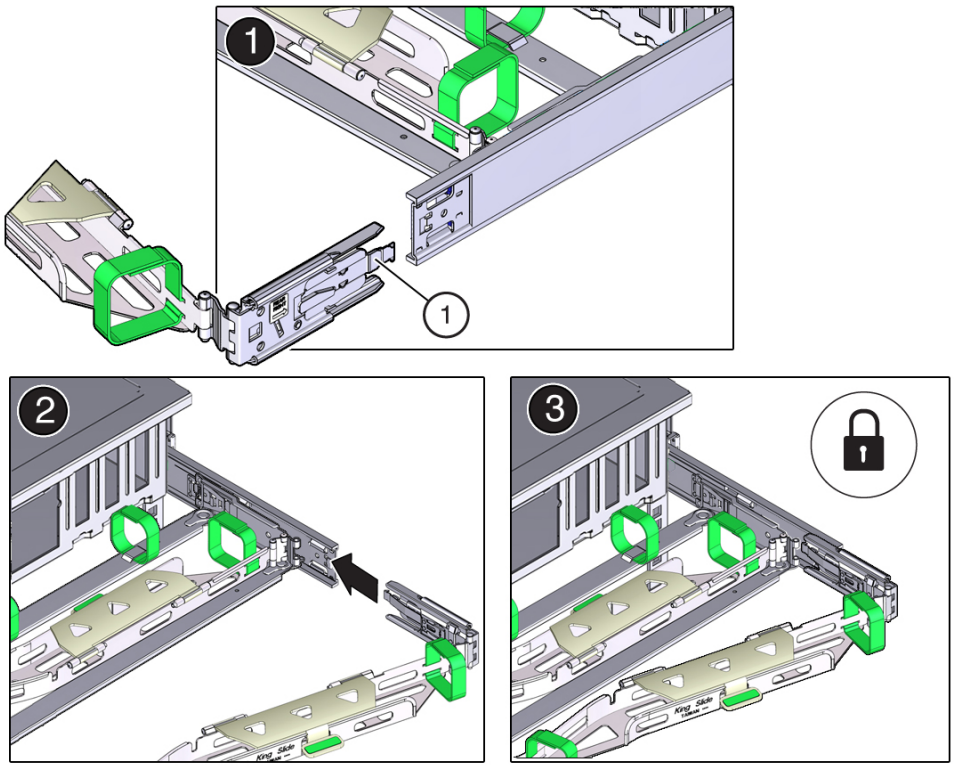
b. Gently tug on the right side of the front slide bar to verify that connector B is properly seated.



No.	Description
1	Connector B tab
2	Right slide rail front slot

6. Install the CMA's connector C into the right slide rail.

a. **Align connector C with the slide rail so that the locking spring (callout 1) is positioned inside (server side) of the right slide rail (panel 1).**



No.	Description
1	Connector C locking spring

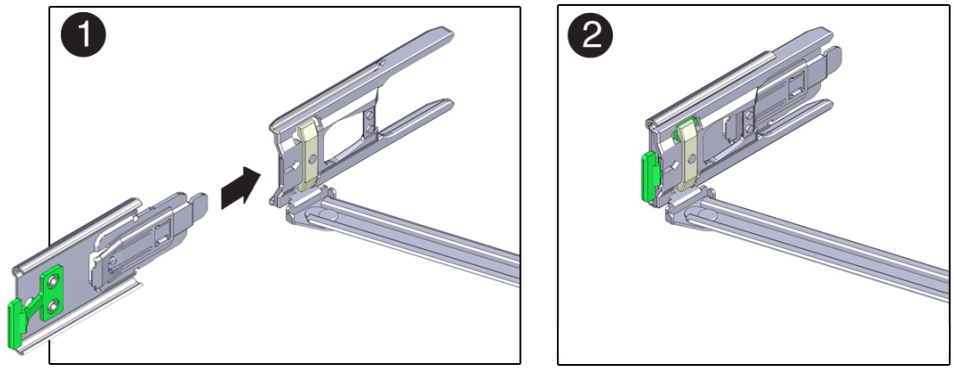
b. **Insert connector C into the right slide rail until it locks into place with an audible click (panels 2 and 3).**

c. **Gently tug on the right side of the CMA's rear slide bar to verify that connector C is properly seated.**

7. **Prepare the CMA's connector D for installation.**

Remove the tape that secures the slide rail latching bracket to connector D and ensure that the latching bracket is properly aligned with connector D (panels 1 and 2).

Note - The CMA is shipped with the slide rail latching bracket taped to connector D. You must remove the tape before you install this connector.



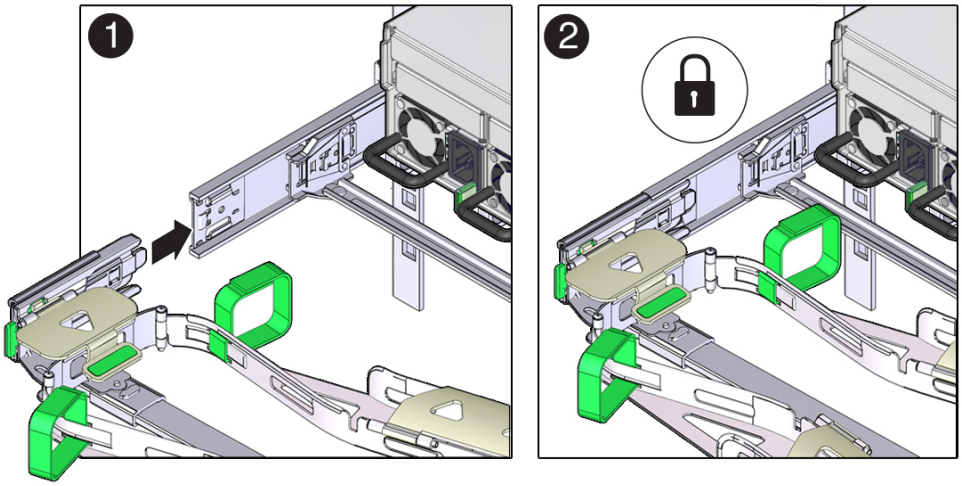
8. **Install the CMA's connector D into the left slide rail.**

   a. **While holding the slide rail latching bracket in place, insert connector D and its associated slide rail latching bracket into the left slide rail until connector D locks into place with an audible click (panels 1 and 2).**

Note - When inserting connector D into the slide rail, the preferred and easier method is to install connector D and the latching bracket as one assembly into the slide rail.

   b. **Gently tug on the left side of the CMA's slide bar to verify that connector D is properly seated.**

Note - The slide rail latching bracket has a green release tab. This tab is used to release and remove the latching bracket so that you can remove connector D.



9. **Gently tug on the left side of the CMA's slide bar to verify that connector D is properly seated.**

Note - The slide rail latching bracket has a green release tab. This tab is used to release and remove the latching bracket so that you can remove connector D.

10. **Gently tug on the four CMA connection points to ensure that the CMA connectors are fully seated before you allow the CMA to hang by its own weight.**

11. **Verify that the slide rails and CMA operate properly.**

    See "Verify Operation of Slide Rails and CMA" on page 55.

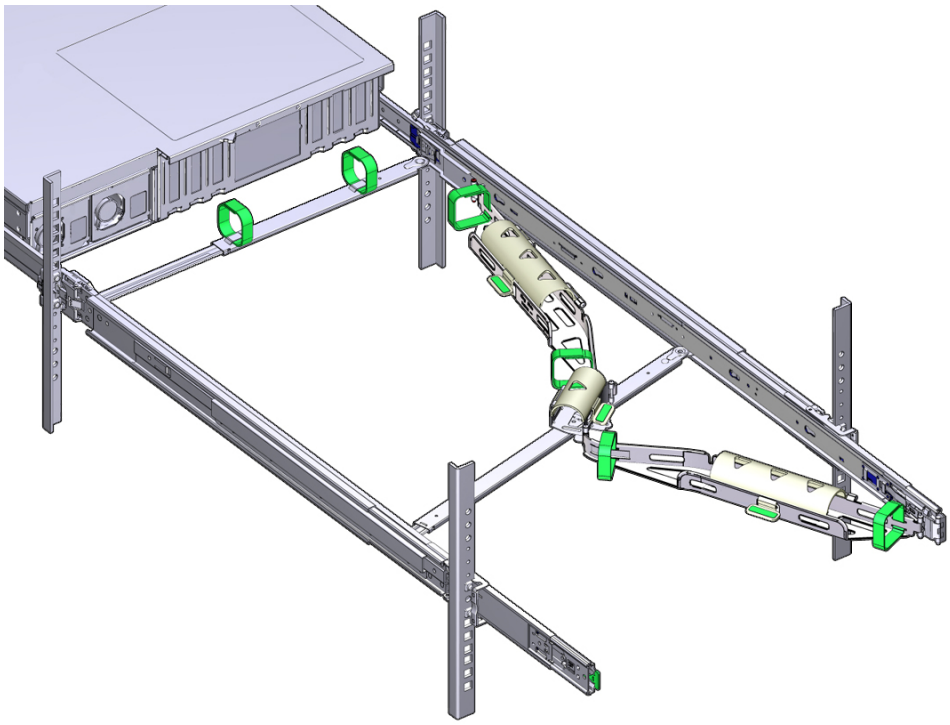
Related Information

- "Prepare the CMA for Installation" on page 47
- "Secure Cables to the CMA" on page 72

Verify Operation of Slide Rails and CMA

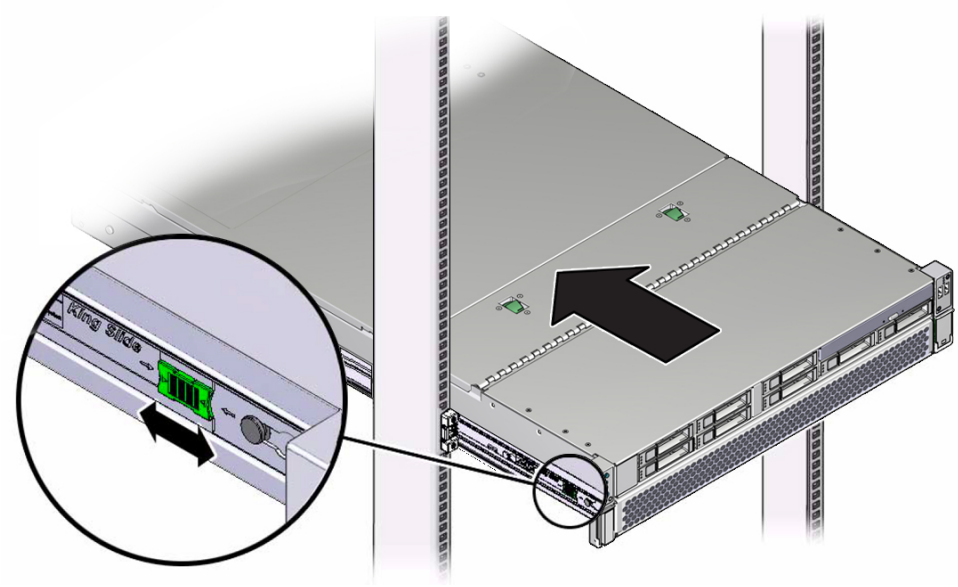
Note - Two people are recommended for this procedure, one to move the server in and out of the rack, and one to observe the cables and CMA.

1. **Slowly pull the server out of the rack until the slide rails reach their stops.**
2. **Inspect the attached cables for any binding or kinks.**
3. **Verify that the CMA extends fully from the slide rails.**



4. **Push the server back into the rack.**

When the server is fully extended, you must release two sets of slide rail stops to return the server to the rack.



a. Find and touch the first set of stops, which are levers located on the inside of each slide rail, just behind the rear panel of the server.

Push in both green levers simultaneously and slide the server toward the rack.

The server slides in approximately 18 inches (46 cm) and stop.

Verify that the cables and the CMA retract without binding before you continue.

b. Find and touch the second set of stops, which are the slide rail release buttons located near the front of each mounting bracket.

Simultaneously push both of the green slide rail release buttons, and push the server completely into the rack until both slide rail locks engage.

5. Adjust the cable straps and CMA, as required.

Related Information

- “Attach the CMA to the Server” on page 49
- “Secure Cables to the CMA” on page 72

Connecting Cables

These tasks describe how to connect cables before you attempt to boot the server.

Step	Description	Links
1.	Review the cabling requirements.	“Cabling Requirements” on page 59
2.	Review the front and rear panel connectors and ports.	“Front Panel Components With Eight-Drive Backplane (Installation)” on page 14 “Front Panel Components With Twelve-3.5-Inch-Drive Backplane (Installation)” on page 15 “Front Panel Components With Twenty-Four-Drive Backplane (Installation)” on page 17 “Front Panel Components With Twelve NVMe Drive Backplane (Installation)” on page 19 “Rear Panel Components (Installation)” on page 20 “Identifying Ports” on page 60
3.	Connect the management and data cables.	“Connecting Data and Management Cables” on page 66
4.	Secure the cables to the CMA.	“Secure Cables to the CMA” on page 72 “Verify Operation of Slide Rails and CMA” on page 55

Related Information

- “Rear Panel Components (Installation)” on page 20
- “Installing the Server” on page 33
- “Powering On the Server for the First Time” on page 75

Cabling Requirements

Prior to cabling and powering on the server, gather this network information:

- Netmask
- IP address for the SP
- Gateway IP address

At a minimum, you must connect cables to these ports before powering-on the server for the first time:

- SP SER MGT port
- SP NET MGT port (if you plan to use this port as soon as it is available)
- At least one system on-board Ethernet network port
- Power cables to the power supply inlet ports

Related Information

- “Connect the SER MGT Cable” on page 67
- “Connect the NET MGT Cable” on page 68
- “Connect Ethernet Network Cables” on page 70
- “Prepare the Power Cords” on page 76

Identifying Ports

These topics provide the pin descriptions of the ports.

- “Rear Panel Components (Installation)” on page 20
- “USB Ports” on page 61
- “SER MGT Port” on page 61
- “NET MGT Port” on page 63
- “10 Gigabit Ethernet Ports” on page 64
- “SAS Ports” on page 65

Related Information

- “Server Overview” on page 12
- “Front Panel Components With Eight-Drive Backplane (Installation)” on page 14
- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59

USB Ports

Two USB 2.0 ports can be accessed from the front of the server. See the location of the USB ports at “Front Panel Components With Eight-Drive Backplane (Installation)” on page 14. The USB ports support hot-plugging. You can connect and disconnect USB cables and peripheral devices while the server is running, without affecting server operations.

Each USB 2.0 port supplies 5V output at 500 mA.

Note - You can connect up to 126 devices to each of the two USB controllers for a total of 252 USB devices per server.

No.	Description
1	+5V supply
2	Data –
3	Data +
4	Ground

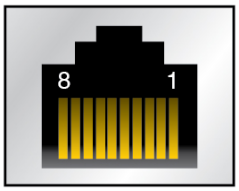
Related Information

- “Server Overview” on page 12
- “Front Panel Components With Eight-Drive Backplane (Installation)” on page 14
- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59

SER MGT Port

The SER MGT RJ-45 port, located on the rear panel, provides an TIA/EIA-232 serial Oracle/ Cisco standard connection to the SP. This port is the default connection to the Oracle ILOM

system controller. For DTE to DTE communications, use an RJ-45 cable that is set up for a null modem configuration, in which the transmit and receive signals cross over. You can use a crossover adapter with a standard RJ-45 cable to achieve the required null modem configuration. See “Rear Panel Components (Installation)” on page 20.

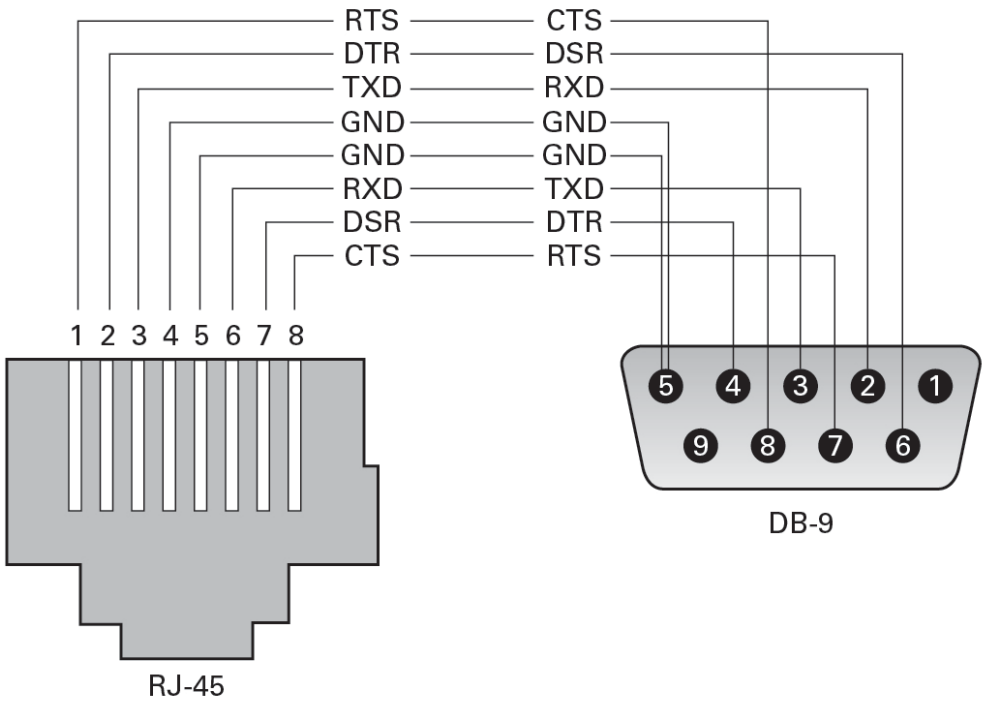


RJ-45 Crossover Pinouts

Use this table to identify the appropriate crossover cable or adapter. In this table, the RJ-45 column represents the connector on the system and the DB-9 and DB-25 columns refer to the connector on the terminal side.

	Server Side	Terminal Side		
Signal	**Console Port (DTE) RJ-45**	**Adapter DB-9 Pin**	**Adapter DB-25 Pin**	**Signal**
RTS	1	8	5	CTS
DTR	2	6	6	DSR
TxD	3	2	3	RxD
Ground	4	5	7	Ground
Ground	5	5	7	Ground
RxD	6	3	2	TxD
DSR	7	4	20	DTR
CTS	8	7	4	RTS

This diagram is an example of an RJ-45 to DB-9 conversion.

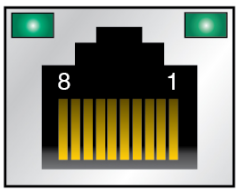


Related Information

- “Rear Panel Components (Installation)” on page 20
- “Connect the SER MGT Cable” on page 67
- “Connect a Terminal or Emulator to the SER MGT Port” on page 77

NET MGT Port

The NET MGT RJ-45 port, located on the rear panel, provides an optional Ethernet connection to the SP. The NET MGT port is an optional connection to Oracle ILOM on the SP. The SP NET MGT port uses an RJ-45 cable for a 10/100/1000BASE-T connection. If your network does not use a DHCP server, this port will not be available until you configure network settings through the SER MGT port.



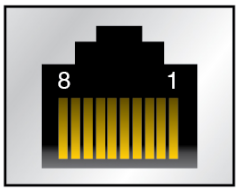
Pin	Signal Description	Pin	Signal Description
1	Transmit Data +	5	No Connect
2	Transmit Data –	6	Receive Data –
3	Receive Data +	7	No Connect
4	No Connect	8	No Connect

Related Information

- “Rear Panel Components (Installation)” on page 20
- “Connect the NET MGT Cable” on page 68
- “Assign a Static IP Address to the NET MGT Port” on page 87

10 Gigabit Ethernet Ports

Four RJ-45 Ethernet ports (NET 0, NET 1, NET 2, NET 3) can be accessed from the rear panel. See “Rear Panel Components (Installation)” on page 20. The Ethernet interfaces operate at 100 Mbps, 1000 Mbps, and 10000 Mbps.



Pin	Signal Description	Pin	Signal Description
1	Transmit/Receive Data 0 +	5	Transmit/Receive Data 2 –

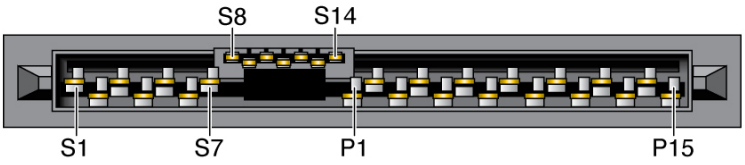
Pin	Signal Description	Pin	Signal Description
2	Transmit/Receive Data 0 –	6	Transmit/Receive Data 1 –
3	Transmit/Receive Data 1 +	7	Transmit/Receive Data 3 +
4	Transmit/Receive Data 2 +	8	Transmit/Receive Data 3 –

Related Information

- “Rear Panel Components (Installation)” on page 20
- “Connect Ethernet Network Cables” on page 70

SAS Ports

The eight SAS connectors are located on the drive backplane inside the server. Four of the connectors also can be used by NVMe drives.



This table lists the pinouts for the SAS connector.

Segment	Pin	Signal	Note
Signal segment	S1	Gnd	Second mate
(S1 to S7)	S2	TX+	Transmit from PHY to hard drive
	S3	TX-	
	S4	Gnd	Second mate
	S5	RX-	Receive from hard drive to PHY
	S6	RX+	
	S7	Gnd	Second mate
Back-side signal	S8	Gnd	Second mate
(S8 to S14)	S9		

Segment	Pin	Signal	Note
	S10		
	S11	Gnd	Second mate
	S12		
	S13		
	S14	Gnd	Second mate
Power segment	P1	3.3V	Not Supported
(P1 to P15)	P2	3.3V	Not Supported
	P3	3.3V	Not Supported
	P4	Gnd	First mate
	P5	Gnd	Second mate
	P6	Gnd	Second mate
	P7	5.0V	Pre-charge, second mate
	P8	5.0V	
	P9	5.0V	
	P10	Gnd	Second mate
	P11	Reserved	Should be grounded
	P12	Gnd	First mate
	P13	12.0V	Pre-charge, second mate
	P14	12.0V	
	P15	12.0V	

Related Information

- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59
- “Connecting Data and Management Cables” on page 66

Connecting Data and Management Cables

After you have connected these cables, see “Powering On the Server for the First Time” on page 75 before connecting the AC power cords.

- “Connect the SER MGT Cable” on page 67
- “Connect the NET MGT Cable” on page 68
- “Connect Ethernet Network Cables” on page 70
- “Connect Other Data Cables” on page 71

Related Information

- “Front Panel Components With Eight-Drive Backplane (Installation)” on page 14
- “Rear Panel Components (Installation)” on page 20
- “Cabling Requirements” on page 59
- “Identifying Ports” on page 60

▼ Connect the SER MGT Cable

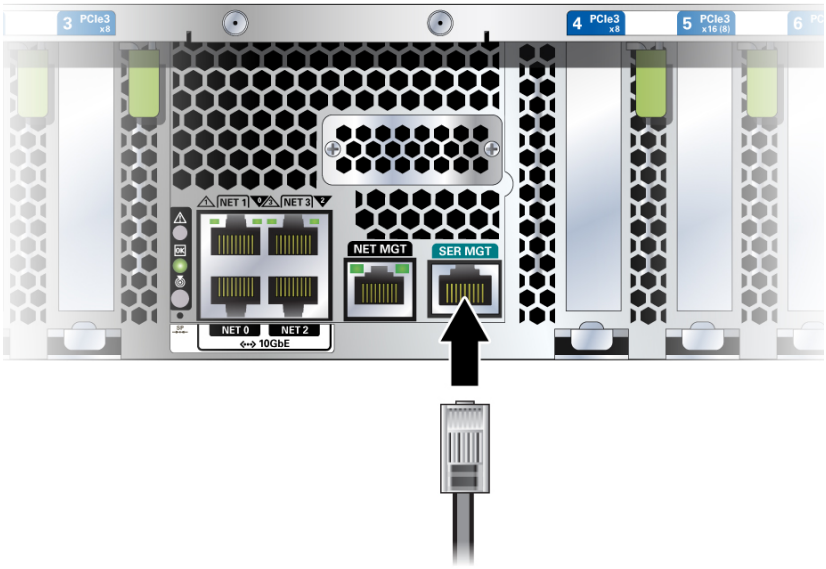
The SP serial management port is labeled SER MGT. Use the SER MGT port *only* for server management. This port is the default connection between the SP and a terminal or a computer.

Caution - Do not attach a modem to this port.

1. **Connect a Category 5 (or better) RJ-45 cable from the SER MGT port to a terminal device.**

   Use an RJ-45 cable that is set up for a null modem configuration, in which the transmit and receive signals cross over. You can use a crossover adapter with a standard RJ-45 cable

to achieve the required null modem configuration. See ADD LINK TO "RJ-45 Crossover Pinouts".



2. **Connect the NET MGT cable.**

   See “Connect the NET MGT Cable” on page 68.

Related Information

- “Connect the NET MGT Cable” on page 68
- “Connect a Terminal or Emulator to the SER MGT Port” on page 77
- “SER MGT Port” on page 61

▼ Connect the NET MGT Cable

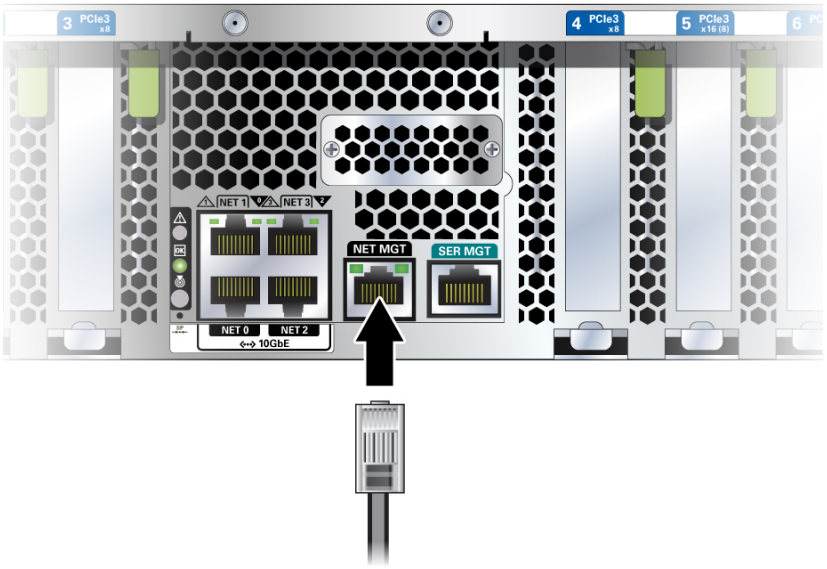
The SP network management port is labeled NET MGT. After the initial server configuration, you can connect to the SP over an Ethernet network using this NET MGT port.

If your network uses a DHCP server to assign IP addresses, the DHCP server assigns an IP address to this NET MGT port. With this IP address, you can connect to the SP using an SSH connection. If your network does not use DHCP, this NET MGT port is not accessible until you configure the network settings through the SER MGT port. For instructions, see “Assign a Static IP Address to the NET MGT Port” on page 87.

1. **Connect the SER MGT port to a terminal or computer first, if you are performing the initial server configuration.**

   See “Connect the SER MGT Cable” on page 67.

2. **Connect a Category 5 (or better) RJ-45 cable from the NET MGT port to your network switch or hub.**



3. **Connect other cables.**

Related Information

- “Connect Ethernet Network Cables” on page 70
- “Assign a Static IP Address to the NET MGT Port” on page 87

- “Connect the SER MGT Cable” on page 67

▼ Connect Ethernet Network Cables

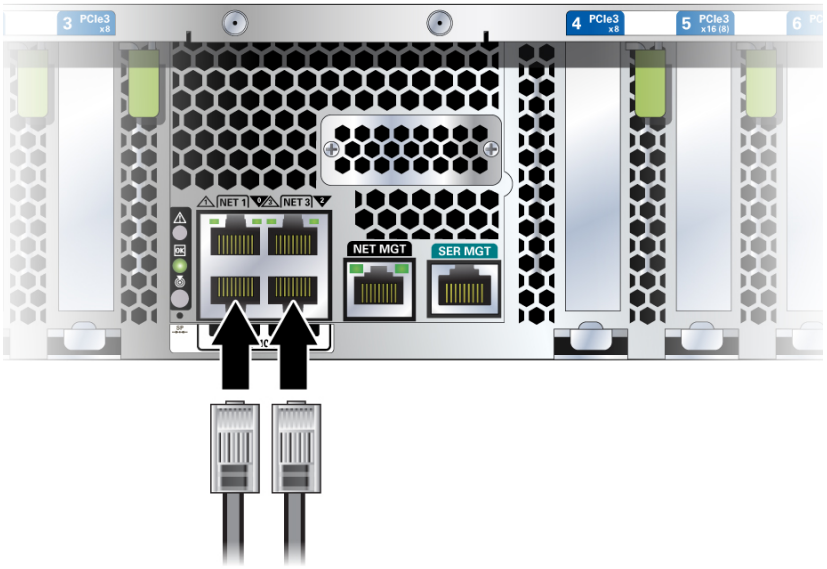
The server has four 10 Gigabit Ethernet network connectors, marked NET 0, NET 1, NET 2, and NET 3. Use these ports to connect the server to the network. The Ethernet interfaces operate at 100 Mbps, 1000 Mbps, and 10000 Mbps. See, “Connect Ethernet Network Cables” on page 70.

Note - The Oracle ILOM sideband management feature enables you to access the SP using one of these Ethernet ports. Refer to “Connecting to the SP (In-band)” in *SPARC and Netra SPARC S7-2 Series Servers Administration Guide*.

Note - To achieve 10GbE network speeds, use Category 6A (or better) cables and network devices that support 10000BASE-T networks.

---

1. **Connect a Category 5 (or better) cable from your network switch or hub to Ethernet Port 0 (NET 0) on the rear of the chassis.**



2. **Connect Category 5 (or better) cables from your network switch or hub to the remaining Ethernet ports (NET 1, NET 2, and NET 3), as needed.**

Related Information

- "Configuring SP and Host Network Addresses" in *SPARC and Netra SPARC S7-2 Series Servers Administration Guide*
- "Powering On the Server for the First Time" on page 75

▼ Connect Other Data Cables

- **If your server configuration includes optional PCIe cards, connect the appropriate I/O cables to their connectors.**

  Refer to the PCIe card documentation for specific instructions.

Related Information

- PCIe card documentation
- *SPARC S7-2L Server Service Manual*

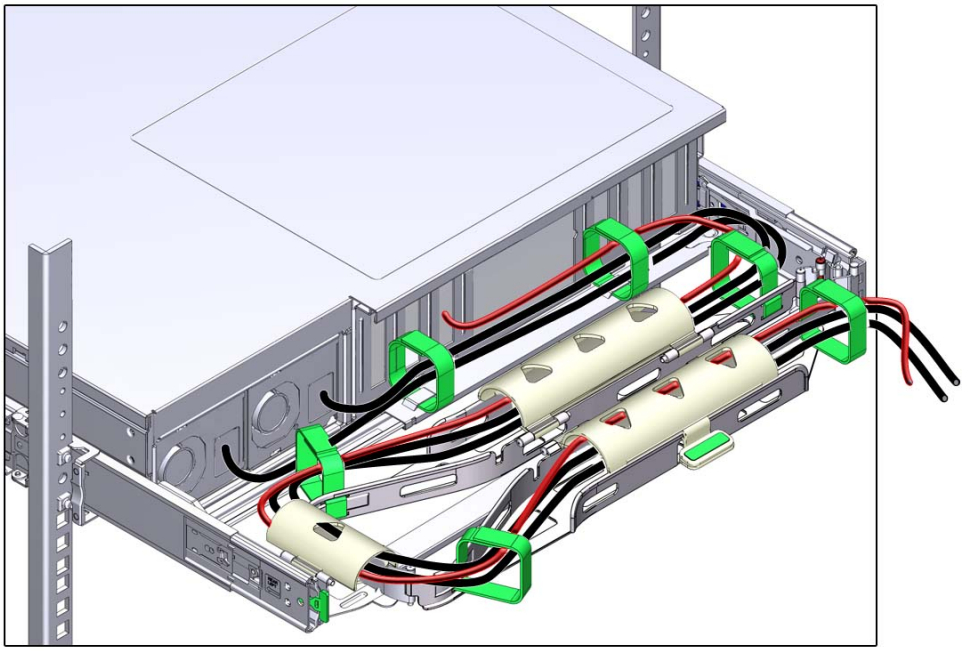
Secure Cables to the CMA

After connecting the server cables, secure them to the CMA if an optional CMA was installed.

1. **Attach the CMA to the server in the rack.**

   See “Prepare the CMA for Installation” on page 47 and “Attach the CMA to the Server” on page 49.

2. **Open the cable covers and straps on the CMA.**



3. **Route the server cables through the CMA cable covers and straps.**

4. **Secure the cables to the CMA by closing the covers and tightening the straps.**

5. **Verify the operation of the slide rails and CMA.**

   See "Verify Operation of Slide Rails and CMA" on page 55.

Related Information

- "Attach the CMA to the Server" on page 49
- "Verify Operation of Slide Rails and CMA" on page 55
- "Rear Panel Components (Installation)" on page 20

Powering On the Server for the First Time

These topics include instructions for powering on the server for the first time and configuring the Oracle Solaris OS.

Step	Description	Links
1.	Prepare the power cords.	“Prepare the Power Cords” on page 76
2.	Connect a serial terminal device or terminal server to the SER MGT Port.	“Connect a Terminal or Emulator to the SER MGT Port” on page 77 “Oracle ILOM System Console” on page 79
3.	Power on the server and start the Oracle ILOM system console.	“Power on the System for the First Time” on page 80 or “Configure the Preinstalled OS” on page 82
4.	Configure the preinstalled OS, or install a fresh OS.	“Configure the Preinstalled OS” on page 82 or “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84
5.	Set the configuration parameters for the Oracle Solaris OS.	“Oracle Solaris OS Configuration Parameters” on page 86
6. (Optional)	Configure the NET MGT port to use a static IP address.	“Assign a Static IP Address to the NET MGT Port” on page 87
7. (Optional)	Activate Oracle Auto Service Request for the server.	“Oracle Auto Service Request Software Activation” on page 89

Related Information

- “Preparing for Installation” on page 29
- “Installing the Server” on page 33
- “Connecting Cables” on page 59

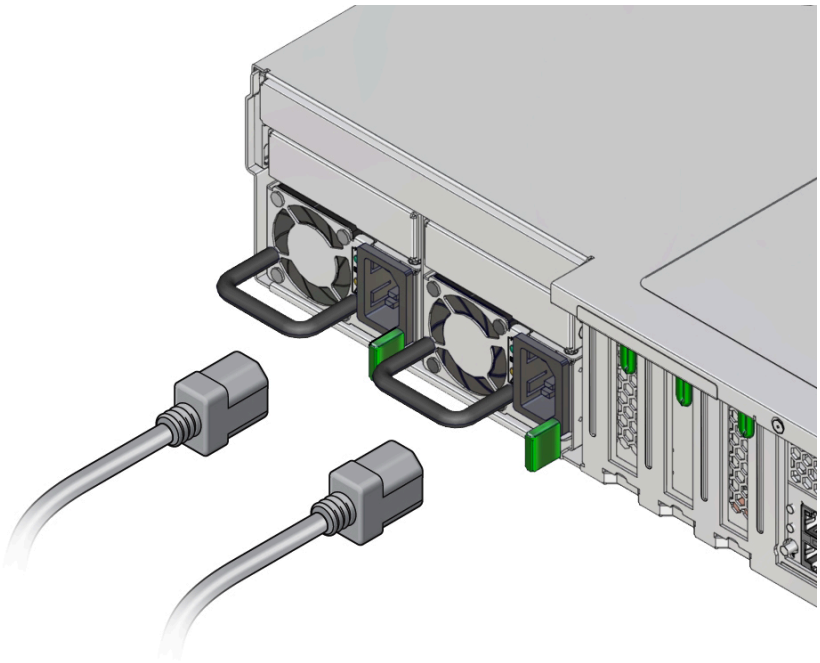
Prepare the Power Cords

Prepare the power cords by routing them from the AC power source to the server.

Caution - Do not attach power cables to the power supplies until you have connected the server to a serial terminal or a terminal emulator (PC or workstation). The server goes into Standby mode and Oracle ILOM on the SP initializes as soon as a power cable connects a power supply to an external power source. System messages might be lost after 60 seconds if a terminal or terminal emulator is not connected to the SER MGT port before power is applied.

Note - Oracle ILOM signals a fault if both power supplies are not cabled at the same time, since it will be a nonredundant condition. Do not be concerned with this fault in this situation.

1. **Route the power cords from the AC power source to the rear of the server.**
   Do not attach the power cords to the power supplies at this time.



2. **Connect a device to the SER MGT port.**

See “Connect a Terminal or Emulator to the SER MGT Port” on page 77.

Related Information

- “Rear Panel Components (Installation)” on page 20
- “Powering On the Server for the First Time” on page 75

▼ Connect a Terminal or Emulator to the SER MGT Port

Prior to powering on the server for the first time, make a serial connection to the SP. After making this serial connection, you will be able to view the system messages when you connect the power cords.

1. **Confirm that you have completed the following tasks.**

   a. **Completed the preparation for installation.**
   See “Preparing for Installation” on page 29.

   b. **Completed the installation of the server in a rack.**
   See “Installing the Server” on page 33.

   c. **Connected the necessary cables.**
   See “Connecting Cables” on page 59.

2. **Connect a terminal or a terminal emulator (PC or workstation) to the server SER MGT port.**

3. **Configure a terminal or terminal emulator with these settings:**

   - 9600 baud
   - 8 bits
   - No parity
   - 1 Stop bit
   - No handshake

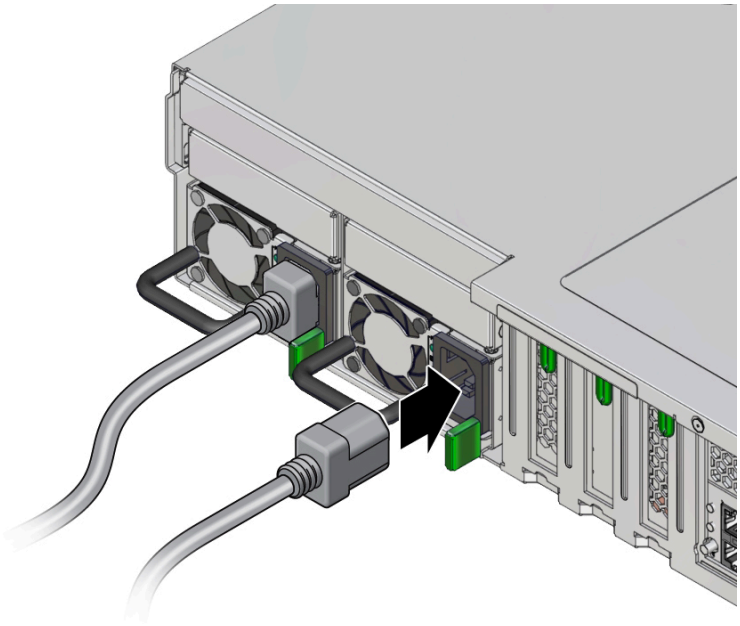
   A null modem configuration is needed, meaning the transmit and receive signals are reversed (crossed over) for DTE to DTE communications. You can use the supplied RJ-45 crossover adapters with a standard RJ-45 cable to achieve the null modem configuration.

Note - If you power on the server for the first time and do not have a terminal or terminal emulator (PC or workstation) connected to the SP SER MGT port, you will not see system messages.

4. **(Optional) Connect an Ethernet cable between the server's NET MGT port and the network to which future connections to the SP and host will be made.**
   Configure the system for the first time through the SER MGT port. After the initial configuration, you can set up communication between the SP and host through this Ethernet interface.

5. **Connect an Ethernet cable between one of the server's NET ports and the network to which the server will communicate.**

6. **Connect the power cords to the power supplies and to separate power sources.**



When the power cords are connected, the SP initializes and the power supply LEDs illuminate. After a few minutes, the SP login prompt is displayed on the terminal device. At this time, the host is not initialized or powered on.

7. **Continue with the installation by powering on the server for the first time.**

   See “Powering On the Server for the First Time” on page 75.

Related Information

- “Connect the SER MGT Cable” on page 67
- “Configure the Preinstalled OS” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM CLI)” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84

Oracle ILOM System Console

When you power on the server, the boot process begins under the control of the Oracle ILOM system console. The system console displays status and error messages generated by firmware-based tests that are run during system startup.

Note - To see these status and error messages, connect a terminal or terminal emulator to the SER MGT before applying power to the server. See “Connect a Terminal or Emulator to the SER MGT Port” on page 77.

After the system console finishes its low-level system diagnostics, the SP initializes and runs a suite of higher level diagnostics. When you access the SP using a device connected to the SER MGT port, you see the output of the Oracle ILOM diagnostics.

By default, the SP configures the NET MGT port automatically, retrieving network configuration settings using DHCP and allowing connections using SSH.

For a more detailed discussion on configuring the system console and connecting terminals, refer to the administration guide for your server.

Related Information

- *SPARC and Netra SPARC S7-2 Series Servers Administration Guide*
- Oracle ILOM documentation
- “Configure the Preinstalled OS” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM CLI)” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84
- “Assign a Static IP Address to the NET MGT Port” on page 87

Power on the System for the First Time

1. **Connect a terminal device to the server's SER MGT port.**

   See "Connect a Terminal or Emulator to the SER MGT Port" on page 77.

2. **At the terminal device, log in to the SP.**

```
login: root
Password: changeme
. . .
->
```

   After a brief delay, the Oracle ILOM prompt is displayed (`->`).

   Note - The server is provided with a default Administrator account (`root`) and a default password (`changeme`) to enable first-time login and access to Oracle ILOM. To build a secure environment, you must change the default password of the default Administrator account as soon as possible after your initial login to Oracle ILOM. If you find this default Administrator account has already been changed, contact your system administrator to obtain an Oracle ILOM user account with Administrator privileges.

   For more information about the administration tasks such as changing passwords, adding accounts, and setting account privileges, refer to the Oracle ILOM documentation.

   Note - By default, the SP is configured to use DHCP to obtain an IP address. If you plan to assign a static IP address to the SP, see "Assign a Static IP Address to the NET MGT Port" on page 87 for more instructions.

3. **Power on the server using one of the following methods.**

   - **Press the System Power button.**
   - **At the Oracle ILOM prompt, type:**

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

   The server initialization might take several minutes to complete.

   To cancel the initialization, press the #. (Hash+Dot) keys to return to the Oracle ILOM prompt. Then type: **`stop /System`**

4. **(Optional) Redirect the host output to display on the serial terminal device.**

```
-> start /HOST/console
Are you sure you want to start /SP/console (y/n)? y
Serial console started.
. . .
```

5. **(Optional) Execute other Oracle ILOM commands while the server initializes.**

   a. **To display the Oracle ILOM prompt, press the #. (Hash+Dot) keys.**

   b. **To see information about available Oracle ILOM commands, type:** `help`

      To see information about a specific command, type help command-name

   c. **To return to displaying host output from the server initialization, type:**

      ```
      -> start /HOST/console
      ```

6. **Continue with the installation by installing the OS.**

   See “Installing the OS” on page 81.

Related Information

- “Connect the SER MGT Cable” on page 67
- “Oracle ILOM System Console” on page 79
- “Configure the Preinstalled OS” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM CLI)” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84

Installing the OS

Use these topics to either configure the preinstalled OS or use an alternative OS.

- “Configure the Preinstalled OS” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM CLI)” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84

Related Information

- “Oracle Solaris OS Configuration Parameters” on page 86

Configure the Preinstalled OS

1. **Determine which OS you will use.**

   - **If you plan to use the preinstalled OS, proceed to step 2.**
   - **If you do not plan to use the preinstalled OS, go to "Reach a State to Install a Fresh OS (Oracle ILOM CLI)" on page 82 or "Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)" on page 84.**

2. **When prompted, follow the onscreen instructions for configuring the Oracle Solaris OS on your host.**

   You are prompted to confirm the configuration several times, enabling confirmation and changes. If you are not sure how to respond to a particular value, you can accept the default and make future changes when the Oracle Solaris OS is running. See "Oracle Solaris OS Configuration Parameters" on page 86 for a description of the Oracle Solaris OS parameters you must provide during initial configuration.

3. **Log in to the server.**

   You can now enter Oracle Solaris OS commands at the prompt. For more details, refer to the Oracle Solaris 11 OS man pages and documentation at:

   `http://www.oracle.com/goto/solaris11/docs`

Related Information

- "Prepare the Power Cords" on page 76
- "Connect a Terminal or Emulator to the SER MGT Port" on page 77
- "Power on the System for the First Time" on page 80
- "Oracle Solaris OS Configuration Parameters" on page 86

Reach a State to Install a Fresh OS (Oracle ILOM CLI)

If you do not plan to use the preinstalled OS, use this procedure to prevent the server from booting from the preinstalled OS.

1. **Prepare the appropriate boot media according to your installation method.**

There are many methods by which you can install the OS. For example, you can boot and install the OS from USB flash media or from another server on the network.

For more information about the methods, refer to *Installing Oracle Solaris 11 Systems*, comparing installation options at:

http://www.oracle.com/goto/solaris11/docs

2. From Oracle ILOM, set the OpenBoot `auto-boot?` parameter to `false`.

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

This setting prevents the server from booting from the preinstalled OS. When you use `bootmode`, the change applies only to a single boot and expires in 10 minutes if the power on the host is not reset.

3. When you are ready to initiate the OS installation, reset the host.

```
-> reset /System
Are you sure you want to reset /System (y/n)? y
Performing reset on /System
```

4. Switch communication to the server host.

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

The server might take several minutes to complete POST, and then the OpenBoot prompt (`ok`) is displayed.

5. Boot from the appropriate boot media for your installation method.

For more information, refer to the section on comparing installation methods in *Installing Oracle Solaris 11 Systems* that corresponds to your desired release at:

http://www.oracle.com/goto/solaris11/docs

For a list of valid boot commands that you can enter at the OpenBoot prompt, type:

```
{0} ok help boot
boot <specifier>  ( -- )    boot kernel ( default ) or other file
  Examples:
    boot                    - boot kernel from default device.
                              Factory default is to boot
                              from DISK if present, otherwise from NET.
    boot net                - boot kernel from network
    boot cdrom              - boot kernel from CD-ROM
    boot disk1:h            - boot from disk1 partition h
```

```
    boot tape               - boot default file from tape
    boot disk myunix -as    - boot myunix from disk with flags "-as"
dload <filename>  ( addr -- )     debug load of file over network at address
  Examples:
     4000 dload /export/root/foo/test
     ?go        - if executable program, execute it
                  or if Forth program, compile it
```

6. **During the installation, supply the configuration parameters as directed.**

   See “Oracle Solaris OS Configuration Parameters” on page 86.

Related Information

- “Configure the Preinstalled OS” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM CLI)” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84
- “Assign a Static IP Address to the NET MGT Port” on page 87

▼ Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)

If you do not plan to use the preinstalled OS, use this procedure to prevent the server from booting from the preinstalled OS.

1. **Prepare the appropriate boot media according to your installation method.**

   There are many methods by which you can install the OS. For example, you can boot and install the OS from DVD media or from another server on the network.

   For more information about the methods, refer to *Installing Oracle Solaris 11 Systems*, comparing installation options at:

   `http://www.oracle.com/goto/solaris11/docs`

2. **If you have not done so, perform these tasks to access the Oracle ILOM web interface on the server.**

   a. **In a browser on the same network as the system, type the IP address.**

   b. **Log in to Oracle ILOM by typing your user name and password.**

3. **In the Oracle ILOM web interface, in the left navigation pane, choose Host Management → Host Boot Mode.**
   The Host Boot Mode page is displayed.

4. **For Script, type: `setenv auto-boot? false`**
   This setting configures the host to stop at the `ok` prompt instead of automatically booting the preinstalled OS.
   Click Save to save this new setting.

5. **Select Use Serial Redirection, and choose Launch Remote Console.**
   As the host resets, messages are displayed in the serial console. The reset activity takes a few minutes to complete. When the `ok` prompt is displayed, continue to the next step.

6. **At the `ok` prompt, boot from the appropriate boot media for your installation method.**
   For more information, refer to the *Installing Oracle Solaris 11 Systems*, comparing installation options at:
   `http://www.oracle.com/goto/solaris11/docs`
   For a list of valid boot commands that you can enter at the OpenBoot prompt, type:

```
{0} ok help boot
boot <specifier>  ( -- )    boot kernel ( default ) or other file
  Examples:
    boot                    - boot kernel from default device.
                              Factory default is to boot
                              from DISK if present, otherwise from NET.
    boot net                - boot kernel from network
    boot cdrom              - boot kernel from CD-ROM
    boot disk1:h            - boot from disk1 partition h
    boot tape               - boot default file from tape
    boot disk myunix -as    - boot myunix from disk with flags "-as"
dload <filename>  ( addr -- )     debug load of file over network at address
  Examples:
     4000 dload /export/root/foo/test
     ?go        - if executable program, execute it
                  or if Forth program, compile it
```

7. **During the installation, supply the configuration parameters as directed.**
   See "Oracle Solaris OS Configuration Parameters" on page 86.

Related Information

- "Configure the Preinstalled OS" on page 82

- "Reach a State to Install a Fresh OS (Oracle ILOM CLI)" on page 82
- "Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)" on page 84
- "Assign a Static IP Address to the NET MGT Port" on page 87

Oracle Solaris OS Configuration Parameters

When configuring the Oracle Solaris OS, you are prompted for the following configuration parameters. For more information about these settings, refer to the Oracle Solaris documentation.

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 one in the list.
DHCP?	Select Yes or No according to your network environment.
Host Name	Type the host name for the server.
IP Address	Type the IP address for this Ethernet interface.
Subnet?	Select Yes or No according to your network environment.
Subnet Netmask	If your answer to Subnet? was Yes, type 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. 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 derived by the system`.
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	Type 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

- Oracle Solaris OS documentation
- “Configure the Preinstalled OS” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM CLI)” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84

▼ Assign a Static IP Address to the NET MGT Port

If you plan to connect to the SP through its NET MGT port, the SP must have a valid IP address.

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

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

This procedure sets a static ipv4 address. If you are using an ipv6 address or a dual-stack (IPv4 and IPv6) network configuration, refer to "Modify Default Connectivity Configuration in *Oracle ILOM Administrator's Guide for Configuration and Maintenance*.

1. **Connect to the Oracle ILOM on the SP using the SER MGT port.**

   If you are not already connected through the SER MGT port, perform steps as needed in “Connect a Terminal or Emulator to the SER MGT Port” on page 77.

2. **Set the SP to accept a static IP address.**

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

3. **Set the IP address for the SP.**

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

4. **Set the IP address for the SP gateway.**

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

5. **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.

6. **Verify that the parameters were set correctly.**

This example shows parameters that have been set to convert a SP from a DHCP configuration to a static configuration.

```
-> show /SP/network -display properties
  /SP/network
     Targets:
     Properties:
        commitpending = (Cannot show property)
        dhcp_clientid = xxx.xxx.xxx.xxx
        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 = xx:xx:xx:xx:xx:xx
       managementport = MGMT
       outofbandmacaddress = xx:xx:xx:xx:xx:xx
        pendingipaddress = service-processor-IPaddr
       pendingipdiscovery = static
        pendingipgateway = gateway-IPaddr
       pendingipnetmask = 255.255.255.0
       pendingmanagementport = MGMT
       sidebandmacaddress = xx:xx:xx:xx:xx:xx
       state = enabled
->
```

7. **Set 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.

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

See "Configure the Preinstalled OS" on page 82.

Related Information

- *Server Administration*
- “Configure the Preinstalled OS” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM CLI)” on page 82
- “Reach a State to Install a Fresh OS (Oracle ILOM Web Interface)” on page 84
- “Oracle Solaris OS Configuration Parameters” on page 86
- Oracle ILOM documentation

Oracle Auto Service Request Software Activation

When you have completed initial installation and Oracle Solaris configuration, you can activate Oracle Auto Service Request (Oracle ASR) software for the server.

Oracle ASR software provides the ability to resolve problems faster by automatically opening service requests for Oracle's qualified server, storage, and Engineered System products when specific faults occur.

Parts are dispatched upon receipt of a service request sent by Oracle ASR. In many cases, Oracle engineers are already working to resolve an issue before you're even aware that a problem exists.

Oracle products with Oracle ASR securely transport electronic fault telemetry data to Oracle automatically to help expedite the diagnostic process. The one-way event notification requires no incoming Internet connections or remote access mechanism. Only the information needed to solve a problem is communicated to Oracle.

Oracle ASR is a feature of the Oracle hardware warranty, Oracle Premium Support for Systems, and Oracle Platinum Services.

- `https://www.oracle.com/support/premier/`
- `https://www.oracle.com/support/premier/engineered-systems/`

Oracle ASR is integrated with My Oracle Support (`https://support.oracle.com`). You must use My Oracle Support to activate your ASR assets, such as a new server.

To activate automated support for a server, download software and find additional information at:

`http://www.oracle.com/us/support/auto-service-request/index.html`

Some of resources available for Oracle ASR through that site are:

- Oracle Auto Service Request Documentation

  http://docs.oracle.com/cd/E37710_01/index.htm
- *How to Approve Pending ASR Assets In My Oracle Support* (DOC ID 1329200.1)

  https://support.oracle.com/rs?type=doc&id=1329200.1

Related Information

- Oracle Auto Service Request Documentation

  http://docs.oracle.com/cd/E37710_01/index.htm

Index

R

S

T

U

V

W