

Hitachi Compute Blade 2500 Series System Installation Guide

FASTFIND LINKS

[Document Organization](#)

[Product Version](#)

[Getting Help](#)

[Contents](#)

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Contents

Preface	vii
Safety Information	viii
Safety precautions	viii
Common precautions concerning safety	viii
General safety precautions	ix
Precautions against damage to equipment	xii
Safety and warning labels	xvi
Intended audience	xvii
Product Version	xvii
Release notes	xvii
Document Organization	xvii
Document conventions	xviii
Getting help	xix
Comments	xix
1 Planning the installation	1-1
Verifying the pallet contents	1-2
2 Overview and part identification	2-1
System overview	2-2
Location	2-3
Server blade numbering	2-3
Management module numbering	2-3
Management lan module numbering	2-4
Switch module numbering	2-4
I/O board module numbering	2-5
Power supply module numbering	2-5
Cooling fan module numbering	2-6
Cooling fan control module numbering	2-6
Removable components	2-6
Switches, indicators and connectors	2-7
Server chassis	2-8
Server blade	2-9
Disk drive	2-11
Management module	2-11

Management lan module	2-12
1/10Gb LAN switch module	2-13
Brocade 10Gb DCB switch module	2-14
I/O board module	2-15
Power supply module	2-16
Cooling fan module for system	2-17
Cooling fan module for switch module	2-17
Cooling fan control module	2-18
Color code for maintenance	2-18
3 Installation	3-1
Installation overview	3-2
Installation procedure	3-3
Rack rail installation	3-3
Confirming the rack rail type	3-4
Installing rack rails of option kit 1	3-4
Installing rack rails of option kit 2	3-6
Installing server chassis	3-8
Disassembling the server chassis	3-15
Cabling and powering up the server chassis	3-15
Connect the AC cord	3-15
Cabling in the Rack cabinet	3-16
Connect the outlet box	3-17
Checking the status indicators	3-18
4 Removing and reinstalling components	4-1
Preventing electrical discharge	4-2
Server blade	4-2
Removing a half-wide server blade	4-3
Installing a half-wide server blade	4-3
Removing a full-wide server blade	4-3
Installing a full-wide server blade	4-4
Removing a dummy SMP connection module	4-4
Installing a dummy SMP connection module	4-5
Removing an SMP connection board	4-6
Installing an SMP connection board	4-8
Management module	4-10
Removing a management module	4-10
Installing a management module	4-11
Management lan module	4-11
Removing a management lan module	4-11
Installing a management lan module	4-12
Switch module	4-12
Removing a switch module	4-12
Installing a switch module	4-13
I/O board module	4-13
Removing a I/O board module	4-13
Installing a I/O board module	4-14
Removing a low profile PCIe card	4-14
Installing a low profile PCIe card	4-15
Power supply module	4-15

Removing a power supply module	4-15
Installing a power supply module	4-15
Fan module	4-16
Removing a fan module	4-16
Installing a fan module	4-16
Dummy module	4-16
Removing a server blade dummy	4-17
Removing a switch module dummy	4-17
Removing a power supply dummy	4-17
Installing any of the dummies	4-18
Removing a I/O board module dummy	4-18
Server chassis shelf	4-19
Removing a shelf	4-19
Installing a shelf	4-19



Preface

This document describes how to use the Compute Blade 2500 series.

Notice: The use of Compute Blade 2500 series and all other Hitachi Data Systems products is governed by the terms of your agreement(s) with Hitachi Data Systems.

This preface includes the following information:

- [Safety Information](#)
- [Intended audience](#)
- [Product Version](#)
- [Release notes](#)
- [Document Organization](#)
- [Document conventions](#)
- [Getting help](#)
- [Comments](#)

Safety Information

Safety precautions

This document uses the following symbols to emphasize certain information.

Symbol	Label	Description
 WARNING	WARNING	This indicates the presence of a potential risk that might cause death or severe injury.
 CAUTION	CAUTION	This indicates the presence of a potential risk that might cause relatively mild or moderate injury.
NOTICE	NOTICE	This indicates the presence of a potential risk that might cause severe damage to the equipment and/or damage to surrounding properties.
	Fire Hazard	This warns fire hazard. Take appropriate precautions to prevent the risk of catching a fire.
	Electric Shock Hazard	This warns electric shock hazard. Failure to take appropriate precautions could result in serious injury or death.
	Hot Surface	Hot Surface indicates the risk of a serious burn by high temperature.
	Laser Hazard	This warns laser hazard. Failure to take appropriate precautions could result in invisible laser radiation.
	General Prohibition Sign	This indicates the general prohibition.
	Disassembly Prohibition Sign	This indicates not to allow customer to disassemble component.
	General Mandatory Sign	This indicates a general action to take. Action by following the instructions in this guide.
	Unplug Power cord	This indicates unplugging the power cable from the outlet to avoid electric shock and fire.

Common precautions concerning safety

Please carefully read through these safety instructions to follow:

- When operating the equipment, follow the instructions and procedures provided in the manual.
- Be sure to follow notes, cautionary statements and advice indicated on the equipment or in the manual.
- Referring to manuals attached to other products which you install in or connect to the equipment, follow the instructions described in those manuals.

Failure to follow those instructions can cause injury, fire or damage to property including the equipment.

General safety precautions

Handling power cables

Always use the power cables shipped with the equipment, and follow the instructions below: Failure to follow the correct handling practices lead to damaging the power cables to expose the copper wires and to overheat due to short-circuiting or partial disconnection, which may cause electric shock or fire.

- Do not place any object on the power cables.
 - Do not use the power cables near heat-generating appliances.
 - Do not heat the power cables.
 - Do not bundle the power cables.
 - Do not subject the power cables to ultraviolet or strong visible light continuously.
 - Keep the power cables from contact with alkali, acid, fat and oil, or humidity.
 - Do not use the power cables in a high-temperature environment.
 - Do not use the power cables above their specified rating.
 - Do not use the power cables for other devices.
 - Do not touch the power plug with moistened hands.
 - Do not place any objects around the electrical outlets in order to allow users to quickly unplug the power cables.
-
-

Poor contact and tracking

Comply with the following instructions when handling the power plug. Otherwise, tracking or poor contact may cause overheating and a fire.

- Make sure that the power plug is fully and securely inserted into the electrical outlet.
 - Before inserting the power plug, confirm that there is no dust or a water droplet on the plug. If any dust or water droplet is found, wipe it off with a dry cloth and then insert it.
-
-

Requirements for power outlets

- Use a grounding 2-pole plug-in power outlet. Outlets of any other types would cause an electric shock or fire.
- In order to prevent an electric shock, connect the outlet's grounding electrode to a grounding terminal installed by a qualified electrician.

Without connection to the grounding terminal, an electric shock can occur in the event of a failure in power supply modules.

   Plugging and unplugging

When inserting the power plug into the electrical outlet or removing it, be sure to hold the plug section. Do not pull the cable; it can partially break the wire, overheat the broken part and lead to a fire.

   Power supply module

Since the power supply module has a high-voltage area in it, do not open the cover. If you do, it can result in an electric shock or equipment failure.

   Installing power supply slot cover

When removing a power supply unit, do not insert your hand or tool inside the power slot. After removing a power supply unit, install a power slot cover. Inside the power slot, some conductors are exposed. If you touch them with your hand or tool, it may cause electric shock or equipment failure.

    Abnormal heat, smoke, abnormal noise, or abnormal smell

Should you find anything abnormal occurring, turn off the power and unplug all the power cables of the equipment (maximum of 4) from the electrical outlets.

    Do not repair, remodel or disassemble

Do not attempt to repair, remodel or disassemble the equipment on your own, except for performing expansion work in accordance with the instructions in this manual. Work performed by unqualified persons can lead to an electric shock, fire, or burns. Especially it is hazardous if you touch areas inside the high-voltage power unit.

    Removal of the cover or bracket

Do not remove the cover or bracket. It can result in an electric shock, burns or equipment failure.

  High temperature at a power supply module

When a power supply module is in operation, the cover and handle get hot. Be careful when replacing a failed module. You can get burned.

   Adding and replacing parts

The cover and internal parts are hot immediately after the power is turned off. You must wait for about 30 minutes before adding or removing internal parts unless otherwise specified in this manual. If not, the hot equipment causes you to get burned.

   Laser beam

- On this product, a Class 1 laser product is installed. Do not look directly at the laser beam. Do not look at the laser beam using an optical instrument.
 - Under the laser module cover, a laser beam is being emitted. Do not remove the cover of an unused board.
-
-

 Requirements for the product

Install the product on a fixed rack. Do not lean against the product or stand on it. Do not install the product in a place with weak floors and walls.

Do not subject the product to excessive vibration. That can drop and fall the product, leading to failure.

  Installing the equipment in a rack

To install or remove the system equipment in or from the rack cabinet, always get help from at least one other person or use tools. If the system equipment has to be installed on 31U and above of the rack cabinet or it is already installed there, call for maintenance personnel instead of attempting to install or remove it. Defective installation may cause the system equipment to fall, resulting in injury or equipment failure.

  Using a rack cabinet

When using a rack cabinet, do not place anything on the system unit mounted on the cabinet and do not use the top of the system unit mounted on the cabinet as a work bench. A heavy object placed on top of the system unit on the cabinet may fall, resulting in injury.

 Contact with metal edges

When moving the equipment or adding parts, take care not to hurt yourself on the metal or plastic edges. You can wear cotton gloves to protect your hands.

  Improper battery type

Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

   Handling of batteries

Since maintenance personnel should change batteries, do not change them yourself. Follow the instructions described below. Inappropriate handling can result in injury because the battery can overheat, burst, and catch fire.

- Do not put the battery on charge.
 - Do not short out the battery.
 - Do not disassemble the battery.
-
-

  Storing batteries

When storing batteries, apply adhesive tape on the terminals for insulation. If the batteries are stored without insulation, the terminals can contact each other to cause a short-circuit and overheat or burst, leading to injury or fire.

Precautions against damage to equipment

 Insertion of foreign objects into the equipment

Do not allow clips, pins or any other metal items or flammable items to enter the equipment through a vent or by any other means. Continuing to operate the equipment with foreign objects could cause failure.

 Impact from falling

Do not fall the equipment or hit it against another object. It can cause internal deformation and deterioration. Operating the equipment under such defective conditions can cause failure.

 Vent

A vent is used for preventing rise in temperature inside the equipment. Do not block the vent by placing or leaning an object. If you do, the temperature rises, which can cause failure. Check and clean ventilation holes periodically to keep the dust from gathering on them.

 Contact with connection terminals

Do not touch connection terminals, such as a connector with your hand or any metal item. Do not insert any objects such as wire into them. Do not place the equipment in a place with metal pieces. If you do, a short circuit can be developed, causing equipment failure.

 Moving between two locations with a temperature differential

When you move the equipment from one location to another, a significant temperature gap between the two locations may cause condensation on the surface or inside the equipment. Operating the equipment with condensation inside can cause a failure in equipment. Leave the equipment at the new location for several hours until the equipment temperature conforms to that of the new environment before you start using it. When you move the equipment from an environment with temperature 5°C to that with 25°C, for example, leave it for about two hours.

 Adding and connecting to peripheral devices

Use only peripheral devices which are explicitly listed as supported in the manual, and always follow the instructions in the manual. Using devices other than those mentioned above would cause a failure in peripheral devices and equipment due to the difference in connection specifications.



Radio interference

When you install the equipment next to another electronic device, the radio waves may interfere with each other. In particular, a television set or a radio in the vicinity may make a noise.



Magnetism generator

Do not place a device that generates strong magnetism, such as a magnet or a speaker, near the equipment. Doing so can cause a system unit failure.



Handling hard disks

A hard disk is a precision instrument. Handle it carefully when you use it. Inappropriate handling could result in hard disk failure.



Faulty disk

If you attempt to replace faulty disks using an incorrect procedure or faulty alternative disk, data on the disk can be corrupted. Before replacing the disk, back up the data.



Aluminum electrolytic capacitors

An aluminum electrolytic capacitor has a limited service life. Do not use it past its service life. Otherwise, leakage or depletion of the electrolyte may cause smoke or electric shock. To avoid such hazardous situations, replace limited-life parts once they are past their designated service life.



Distribution board

Install a distribution board close to an entrance/exit to protect the devices in your computer system and to serve as an emergency power breaker.



Signal cables

- Route cables not to trip over them. Tripping over cables could cause injury or failure of devices connected to the equipment, and also could cause loss of valuable data.
 - Do not place heavy items on the cables. Avoid routing cables close to a thermal appliance. If you do, it could cause damage to cable sheaths, resulting in failure of the connected devices.
-
-

 Before turning off the power

- Follow the prescribed procedure for power operation. Power input or output not according to the prescribed procedure may cause problems on the system equipment.
 - Before turning off the power, confirm that all devices connected to the equipment stop. Turning off the power during operation of the equipment may cause equipment failure or data loss.
 - When you are using an OS which requires the shut down procedure, be sure to finish the shut down procedure before turning off the power. Otherwise, data may be lost.
-
-

 Rack Mount Safety Consideration

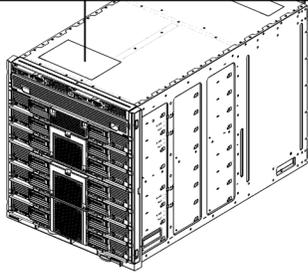
- Elevated Ambient Temperature
If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Use care not to exceed the rated maximum ambient temperature of the unit.
- Reduced Air Flow
Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.
- Mechanical Loading
Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- Circuit Overloading
Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- Reliable Earthing
Reliable earthing of rack-mounted equipment should be maintained. Pay particular attention to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

Safety and warning labels

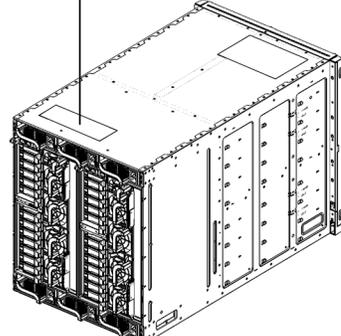
Server chassis

The location and content of the warning and safety labels on the server chassis.

注意	WARNING	注意	AVERTISSEMENT	注意	ПРЕДУПРЕЖДЕНИЕ
注意	Heavy Load Weight: 25.0kg (Energy absorber: 25kg)	注意	Charge Load Power: 250W Current: 10A (25kg)	注意	Weight: 25.0kg (Energy absorber: 25kg)
注意	Lift the equipment on the front panel handles.	注意	Do not touch equipment and cables on the left side.	注意	Do not touch equipment and cables on the left side.
注意	Do not touch the front panel handles.	注意	Do not touch equipment and cables on the right side.	注意	Do not touch equipment and cables on the right side.
注意	Do not touch the front panel handles.	注意	Do not touch equipment and cables on the right side.	注意	Do not touch equipment and cables on the right side.

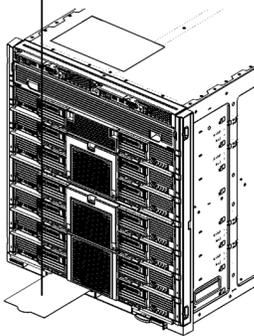


注意	WARNING	注意	AVERTISSEMENT	注意	ПРЕДУПРЕЖДЕНИЕ
注意	Electric Shock To avoid risk of electric shock, do not disassemble the equipment. Power to the equipment is supplied by multiple power sources.	注意	Choc électrique Ne pas démontez l'équipement pour éviter tout risque de choc électrique. L'équipement est alimenté par de multiples sources.	注意	Подразметивание техники может вызвать опасность поражения электрическим током. Оборудование питается от нескольких источников.
注意	Discharge eléctrica Para evitar riesgos de descarga eléctrica, no desmonte el equipo. La alimentación al equipo es suministrada por múltiples fuentes de energía.	注意	Stromschlag Demontieren Sie das Gerät nicht, um das Risiko eines Stromschlags zu vermeiden. Das Gerät wird durch mehrere Stromquellen mit Energie versorgt.	注意	Обслуживание должно осуществляться только квалифицированным персоналом.

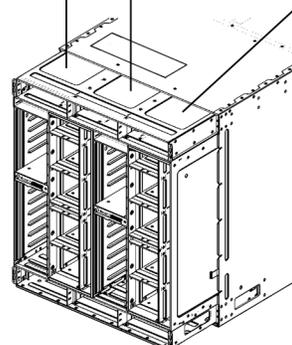


HITACHI
CB 2500 Server Chassis 1 中国語仕様書

MODEL: CB 2500
REV: 1.0
MFG No: 0001



注意	CAUTION	注意	ATTENTION	注意	ACHTUNG
注意	Drop potential There is a risk of injury if the unit is dropped.	注意	Charge Load Power: 250W Current: 10A (25kg)	注意	Charge Load Power: 250W Current: 10A (25kg)
注意	Do not touch the front panel handles.	注意	Do not touch equipment and cables on the left side.	注意	Do not touch equipment and cables on the left side.
注意	Do not touch the front panel handles.	注意	Do not touch equipment and cables on the right side.	注意	Do not touch equipment and cables on the right side.

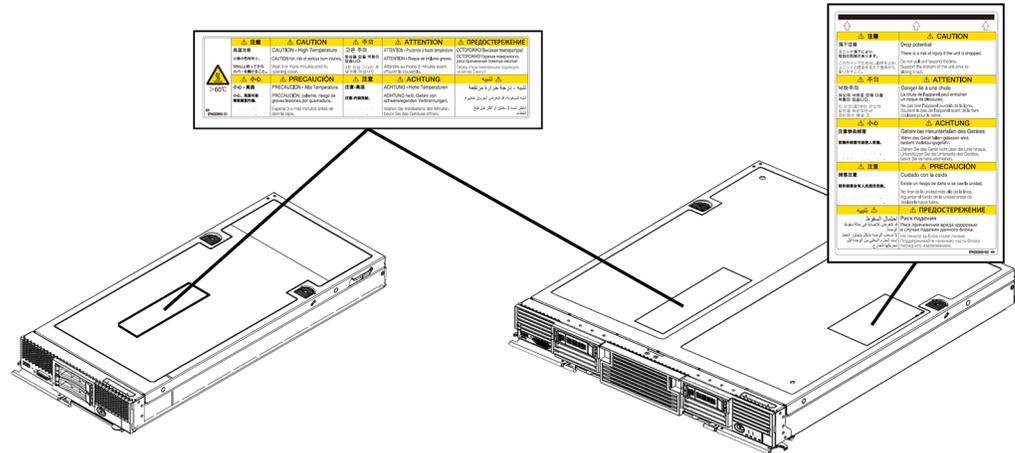


Server blade

The following figures show the location and content of the safety and warning label on the server blades.

Half-wide server blade

Full-wide server blade



Intended audience

This document is intended for the personnel who are involved in planning, managing, and performing the tasks to prepare your site for Compute Blade installation and to install the same.

This document assumes the following:

- The reader has a background in hardware installation of computer systems.
- The reader is familiar with the location where the Compute Blade will be installed, including knowledge of physical characteristics, power systems and specifications, and environmental specifications.

Product Version

This document revision applies to Compute Blade 2500 Series CB 520H B3.

Release notes

Read the release notes before installing and using this product. They may contain requirements or restrictions that are not fully described in this document or updates or corrections to this document.

Document Organization

The table below provides an overview of the contents and organization of this document. Click the chapter title in the left column to go to that chapter. The first page of each chapter provides links to the sections in that chapter.

Chapter	Description
Chapter1: Planning the installation	Describes the verifying the pallet contents for the Hitachi Compute Blade 2500 Series.
Chapter2: Overview and part identification	Describes the overview and identifies each component.
Chapter3: Installation	Describes the installing method, cabling, and powering up method.
Chapter4: Removing and reinstalling components	Describes how to remove and reinstall components of the Hitachi Compute Blade 2500 Series.

Document conventions

The term "Compute Blade" refers to all the models of the Compute Blade, unless otherwise noted.

The Hitachi Virtualization Manager (HVM) name has been changed to Hitachi logical partitioning manager (LPAR manager, or LP). If you are using HVM based logical partitioning feature, substitute references to Hitachi logical partitioning manager (LPAR manager, or LP) with HVM.

This document uses the following typographic conventions:

Convention	Description
Regular text bold	In text: keyboard key, parameter name, property name, hardware labels, hardware button, hardware switch. In a procedure: user interface item
<i>Italic</i>	Variable, emphasis, reference to document title, called-out term
Screen text	Command name and option, drive name, file name, folder name, directory name, code, file content, system and application, user input
< > (angled brackets)	Variable (used when italic is not enough to identify variable).
[] (square brackets)	Optional values
{ } braces	Required or expected value
vertical bar	Choice between two or more options or arguments

This document uses the following icons to draw attention to information:

Icon	Meaning	Description
 WARNING	WARNING	This indicates the presence of a potential risk that might cause death or severe injury.
 CAUTION	CAUTION	This indicates the presence of a potential risk that might cause relatively mild or moderate injury.

Icon	Meaning	Description
NOTICE	NOTICE	This indicates the presence of a potential risk that might cause severe damage to the equipment and/or damage to surrounding properties.
 Note	Note	Calls attention to important or additional information.
 Tip	Tip	This indicates advice on how to make the best use of the equipment.

Getting help

The Hitachi Data Systems customer support staff is available 24 hours a day, seven days a week. If you need technical support log on to the Hitachi Data Systems Portal for contact information: <https://hdssupport.hds.com>.

Comments

Please send us your comments on this document: doc.comments@hds.com. Include the document title, number, and revision, and refer to specific sections and paragraphs whenever possible. All comments become the property of Hitachi Data Systems.

Thank you!

Planning the installation

This chapter provides the verifying the pallet contents for the Hitachi Compute Blade system.

This chapter covers the following key topics:

- [Verifying the pallet contents](#)

Verifying the pallet contents

Verifying the pallet contents

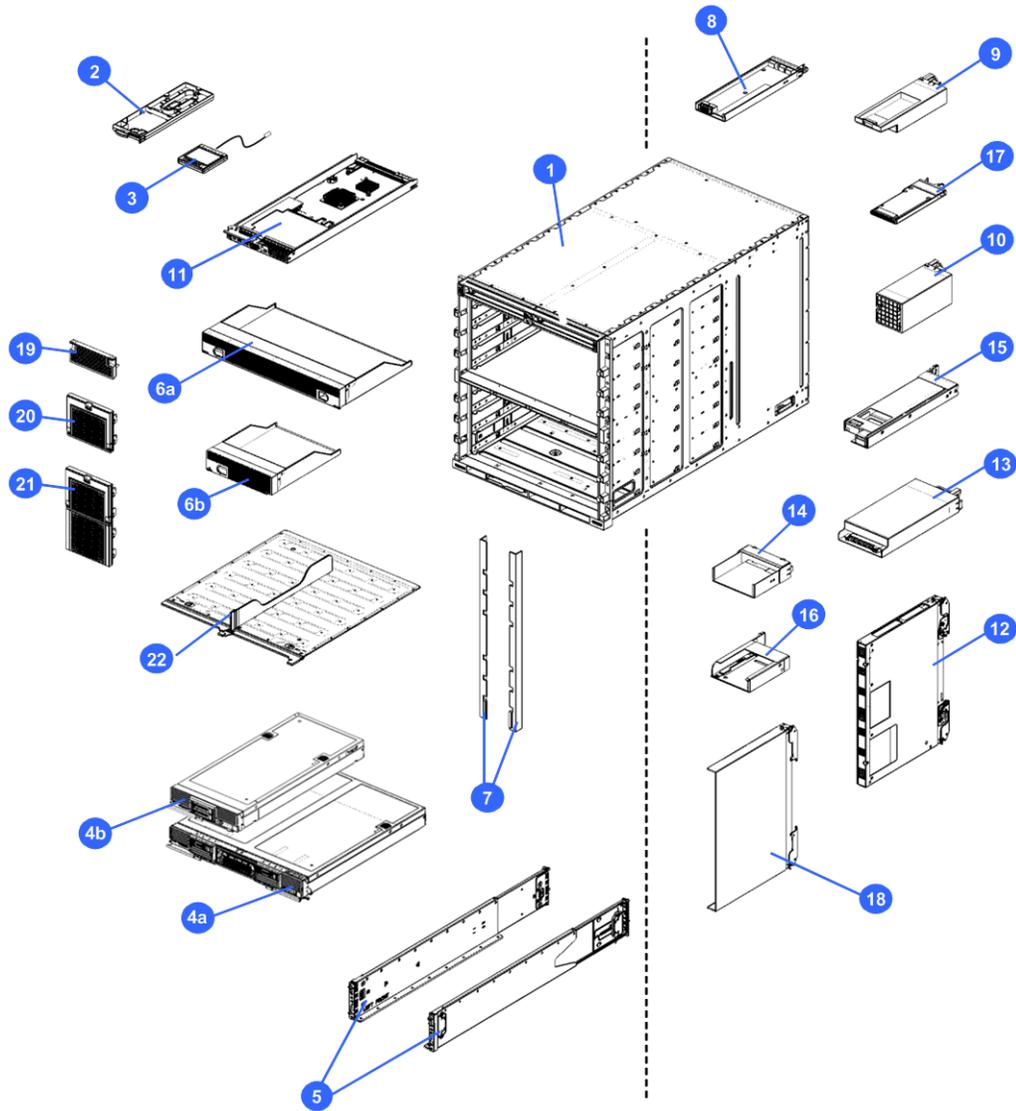


Figure 1-1 Verifying the pallet contents

Table 1-1 Verifying the pallet contents

Symbol	Component	Description	Min.	Max.
1	Server chassis	The Hitachi Compute Blade system enclosure.	1	1
2	LCD touch console case	A case to store the LCD touch console and cable.	1	1
3	LCD touch console (option)	A touch console to set the configuration and to display the state of the system.	0	1

Symbol	Component	Description	Min.	Max.
4a	Full-wide server blade ¹ (option)	A full-wide server blade.	0	8
4b	Half-wide server blade ¹ (option)	A half-wide server blade.	0	14
5	Rack mount rail	A pair of rails to mount the server chassis in the rack cabinet.	1	1
6a	Dummy full-wide server blade ²	A full-wide insert that must be installed in slot 15.	1	1
6b	Dummy half-wide server blade ²	A half-wide insert that must be installed in any unused server blade bay.	0	14
7	Mounting Ear cover	A pair of cover for the rack mount angle.	1	1
8	Management lan module	A management module connect to management lan	2	2
9	Cooling fan module for switch module	A fan used to cool switch module.	2	2
10	Cooling fan module for system	A fan used to cool the components installed in the server chassis.	8	8
11	Management module	A module to manage the components installed in the server chassis.	2	2
12	Switch module ¹ (option)	A LAN switch module or a DCB switch module.	0	2
13	Power supply module ¹	A server chassis power supply.	2	6
14	Dummy power supply module	An insert that must be installed in any unused power supply module bay.	0	4
15	I/O board module	A module to connect PCI cards to the server blade.	0	28
16	Dummy I/O board module	An insert that must be installed in any unused I/O board module bay.	0	28
17	Cooling fan control module	A module control to cooling fan module.	2	2
18	Dummy switch module	An insert that must be installed in any unused switch module bay.	0	2
19	Dummy SMP Connection module	A non-SMP dummy module for CB 520X.	0	7
20	2blade-SMP connection board ¹	A 2blade-SMP connection board for CB 520X.	0	4
21	4blade-SMP connection board ¹	A 4blade-SMP connection board for CB 520X.	0	2

Symbol	Component	Description	Min.	Max.
22	Shelf for half-wide blade	A shelf to mount up to two half-wide server blades.	0	7
23	Cage nut template ³	A plate to guide installation of the cage nut.	1	1
24	Safety and compliance Information ³	Document concerning safety and compliance.	1	1
25	Documentation CD ³	A CD containing detailed documentation on using the Hitachi Compute Blade system.	1	6
26	Screws and Cage nuts ³	A set of sixteen screws and twelve cage nuts used for rack mounting.	1	1
27	KVM cable ^{1, 3} (option)	A cable to connect the server blade, USB, and video monitor.	0	2
<p>Notes:</p> <ol style="list-style-type: none"> 1. Quantity as ordered. 2. A full-wide dummy server blade inserts in the slot 15 only. A half-wide dummy server blade inserts in the slot 1-14. 3. Not shown. 				

Overview and part identification

This chapter provides an overview and identifies each component.

It covers the following key topics:

- [System overview](#)
- [Location](#)
- [Removable components](#)
- [Switches, indicators and connectors](#)
- [Color code for maintenance](#)

System overview

The Hitachi Compute Blade system can contain up to eight server blades and multiple switch modules. Compared with multiple 1U server chassis using rack mount network switches and Fibre Channel switches, the 12U server chassis offers improved features together with reduced space, cabling, and weight. The system has functions to replace existing PC server systems, to consolidate servers and to operate servers in a data center. A range of switch modules are available to meet customer demands. Management modules, switch modules, power supply modules and fan modules can be configured to provide redundancy, in which case the system continues to operate even if a failure occurs in one of the modules.

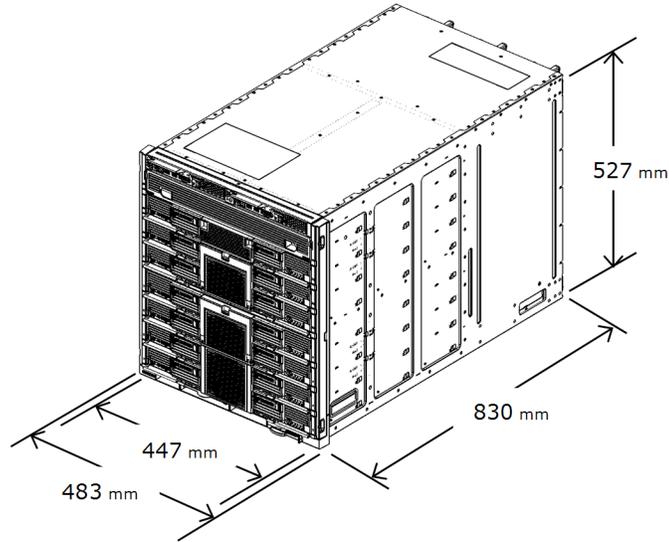


Figure 2-1 Server chassis Overview

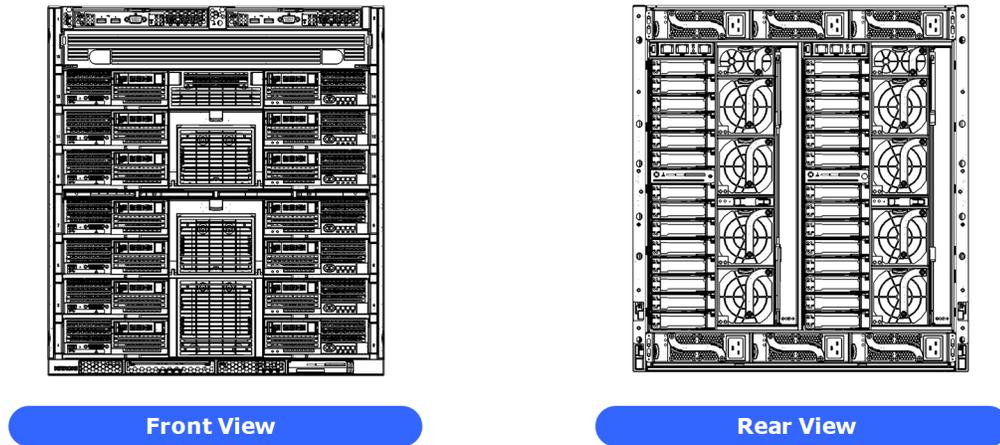


Figure 2-2 Blades and modules installed in a server chassis

Location

Server blade numbering

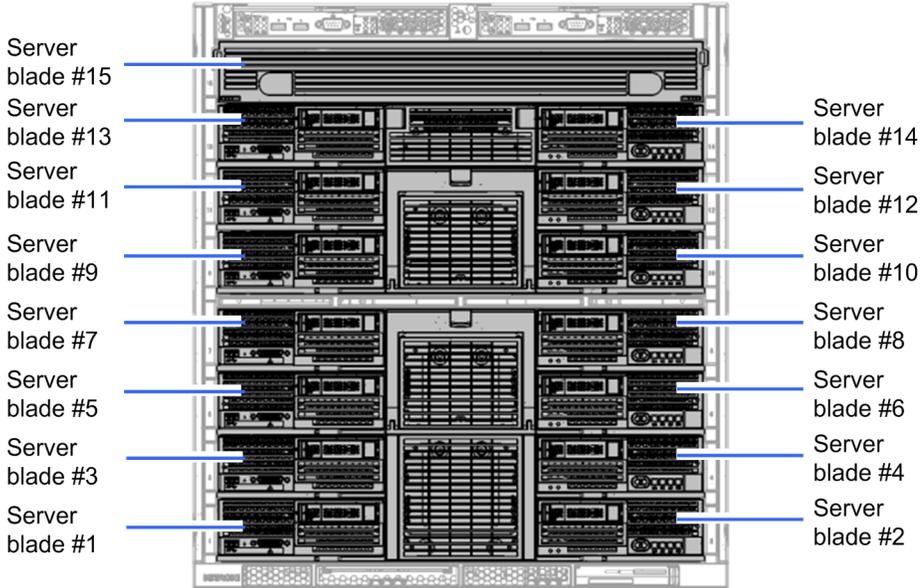


Figure 2-3 Location of the server blades in the server chassis

Management module numbering

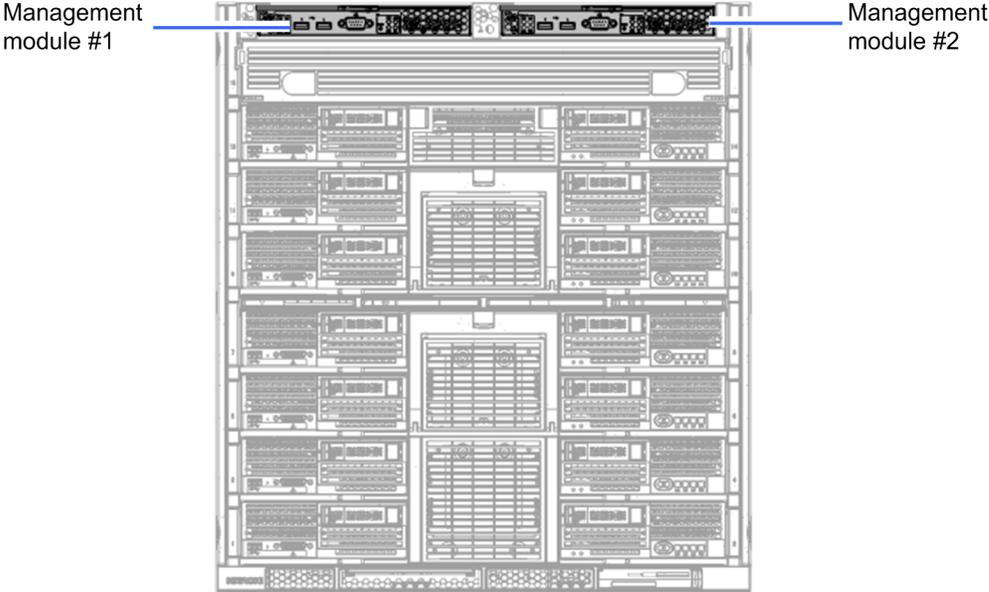


Figure 2-4 Location of the management modules in the server chassis

Management lan module numbering

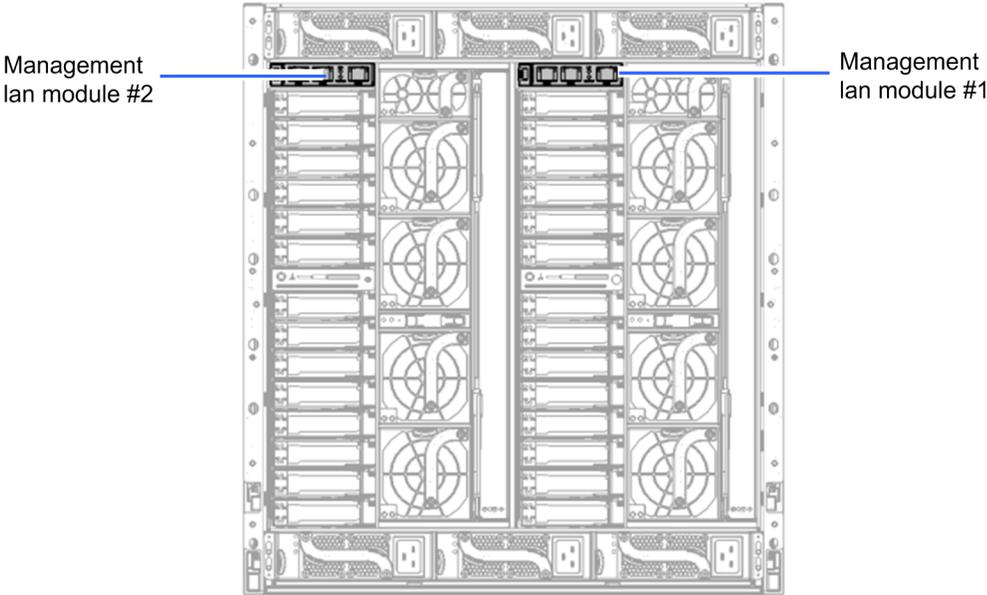


Figure 2-5 Location of the management lan module in server chassis

Switch module numbering

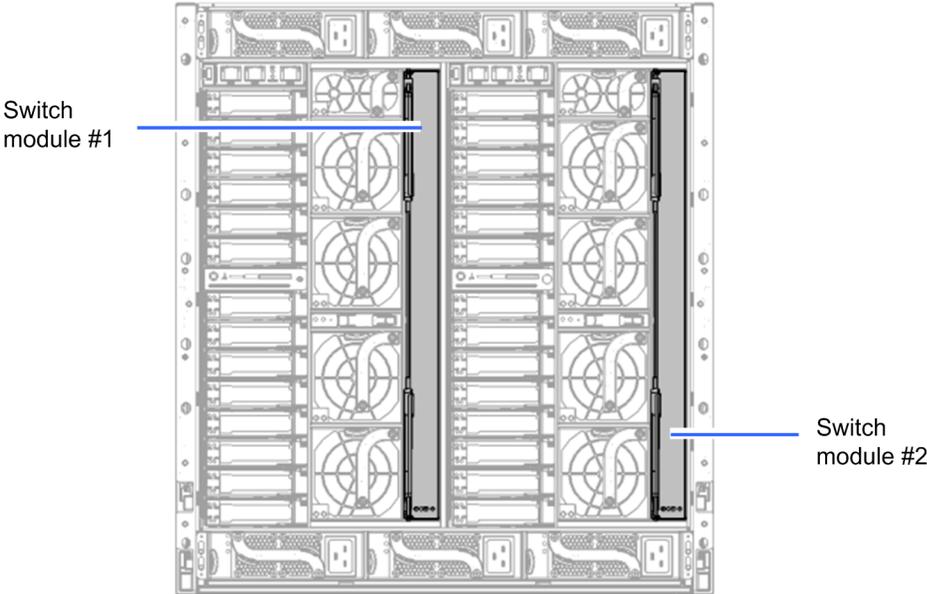


Figure 2-6 Location of the switch modules in the server chassis

I/O board module numbering

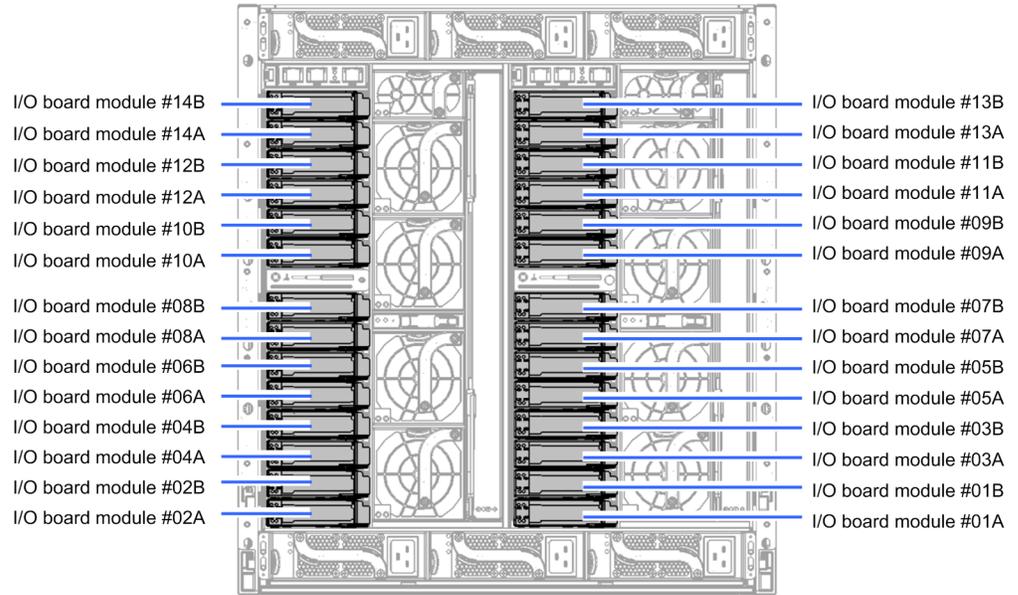


Figure 2-7 Location of the I/O board module in server chassis

Power supply module numbering

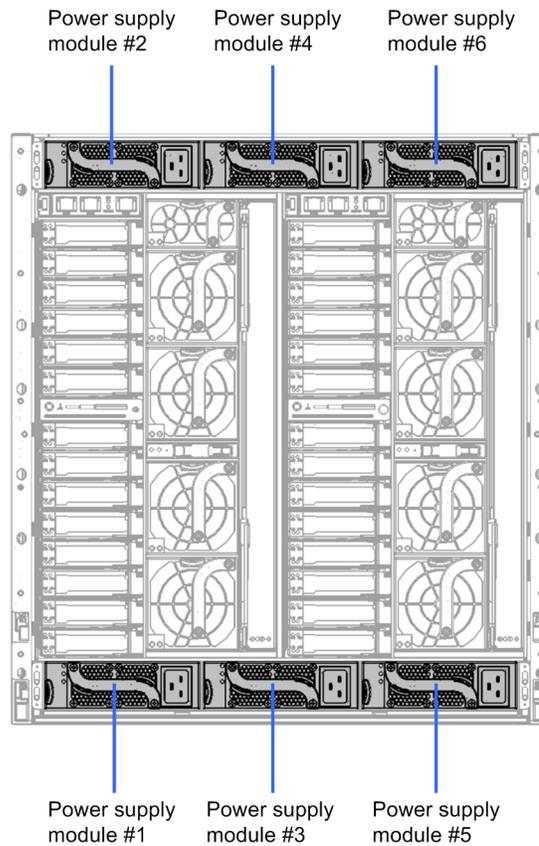


Figure 2-8 Location of the power supply modules in the server chassis

Cooling fan module numbering

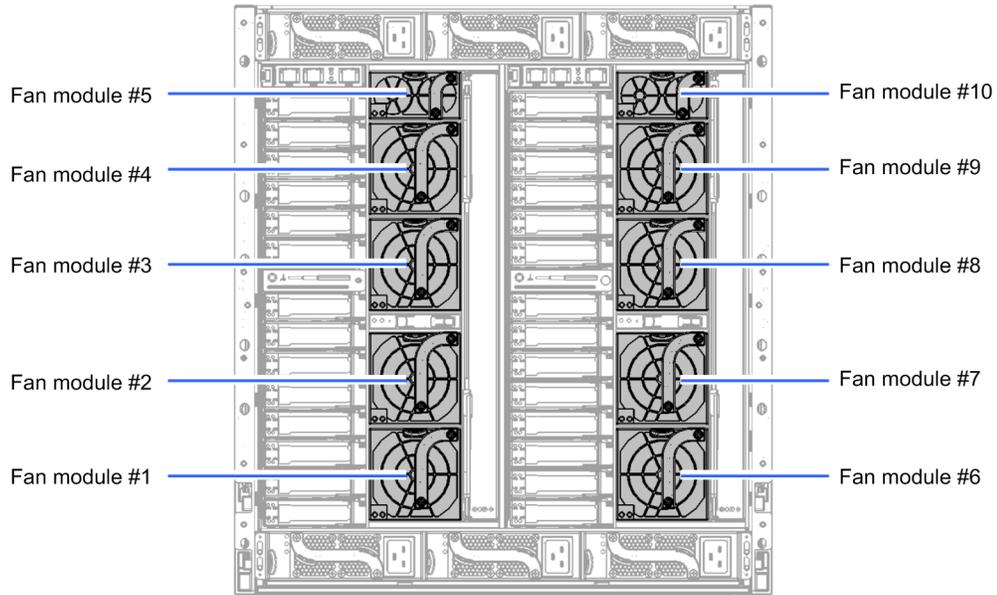


Figure 2-9 Location of the fan modules in the server chassis

Cooling fan control module numbering

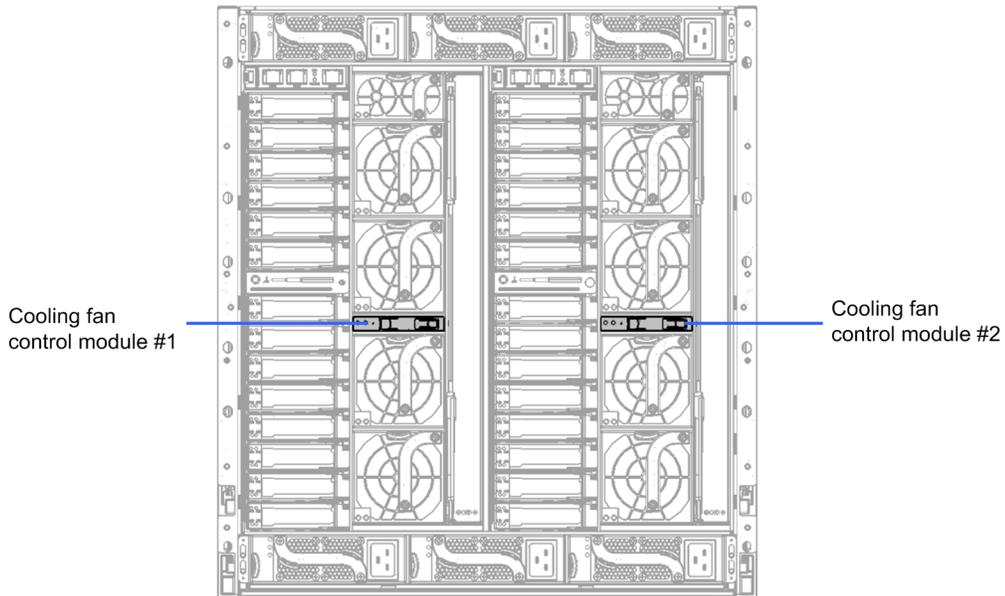


Figure 2-10 Location in server chassis

Removable components

All installed components are structured to be removable from either the front or the rear of the chassis. The following shows the direction of removal for each blade or module.

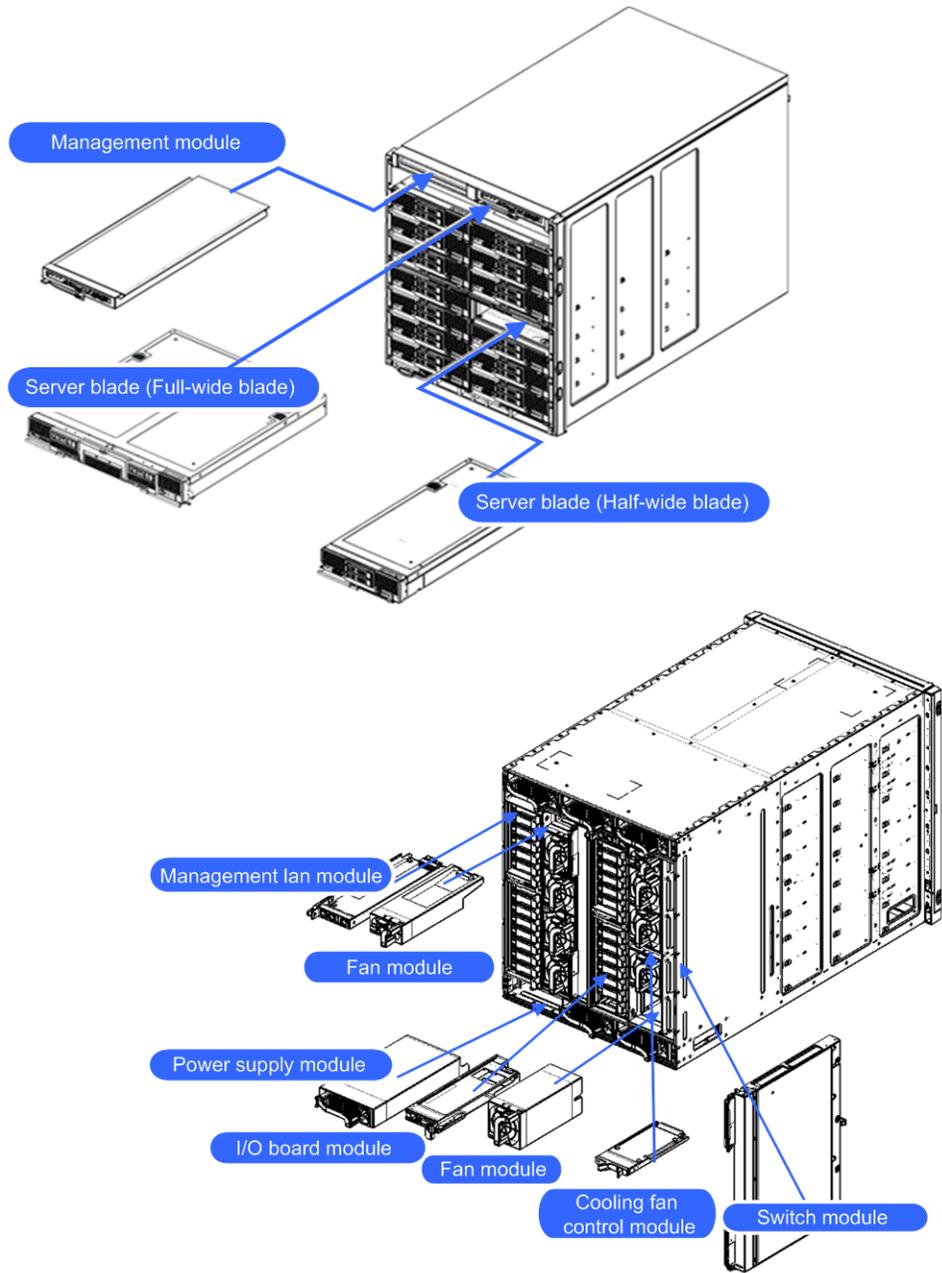


Figure 2-11 Removable Components

Switches, indicators and connectors

This section describes the switches, connectors, and LEDs on the Hitachi Compute Blade 2500 series system.

Server chassis

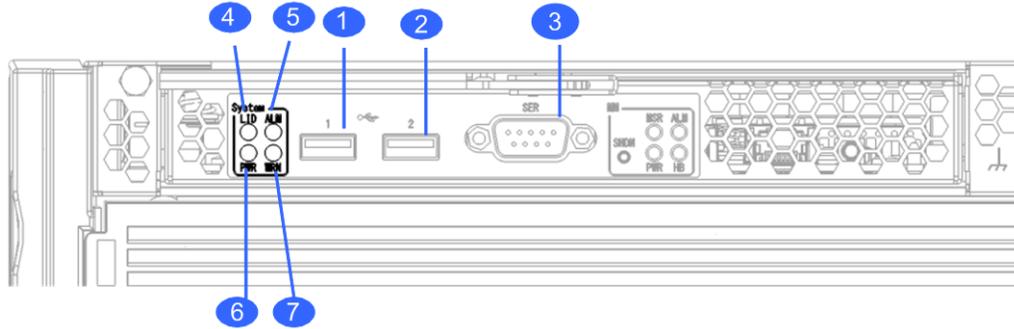


Figure 2-12 Front panel in management module

Table 2-1 LEDs, switches, and connectors on front panel

No.	Name	State	Description
1	USB port 1 (USB1)	-	<ul style="list-style-type: none"> Shared USB ports in the chassis Supported device: <ul style="list-style-type: none"> - LCD touch console - USB Memory and USB DVD-ROM drive
2	USB port 2 (USB2)	-	
3	Serial Port	-	Serial port for the management module Console.
4	Identify LED (LID)	Blue-On	The chassis is identified.
5	Alarm LED (ALM)	Red -On	A serious error has occurred in the server chassis. Please contact Hitachi Data Systems Technical Support. See the Getting help on page xix section in the Preface of this manual.
6	Power LED (PWR)	Green-On	Main powers of any server blades are turned on.
		Green-Blink	The system is shutting down by the management module. Keep blink until all main powers are turned off in all server blades.
		Amber-On	All server blades are under stand-by condition
		Amber-Blink	Initializing process below; <ul style="list-style-type: none"> The management module is booting. The server blade is initializing The switch module is booting.
		Off	Normal operation, or power is not supplied to the server chassis.
7	Warning LED (WRN)	Amber-On	Non-serious error has occurred. The server chassis can continue to operate, but any modules have warning or error status. See the Getting help on page xix section in the Preface of this manual.
		Off	Normal operation, or the chassis is not identified.

Server blade

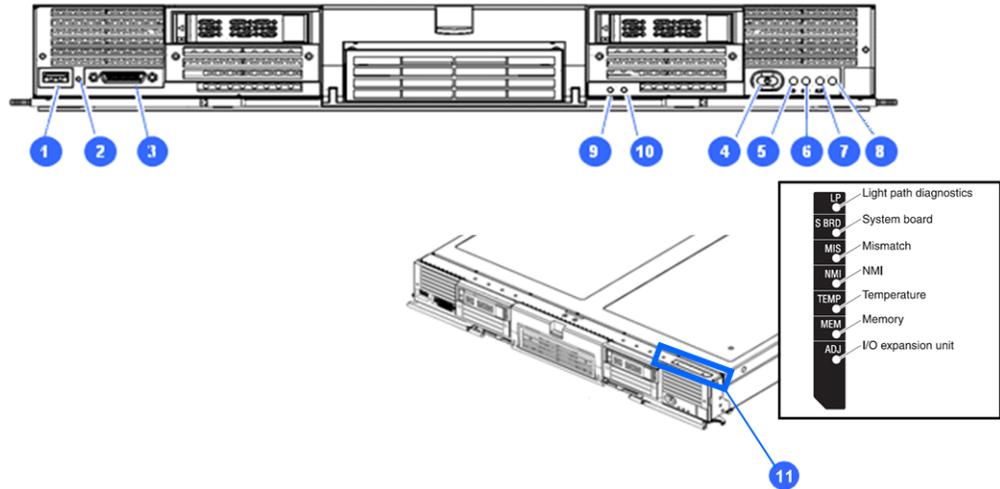


Figure 2-13 Full-wide Server blade (CB 520X)

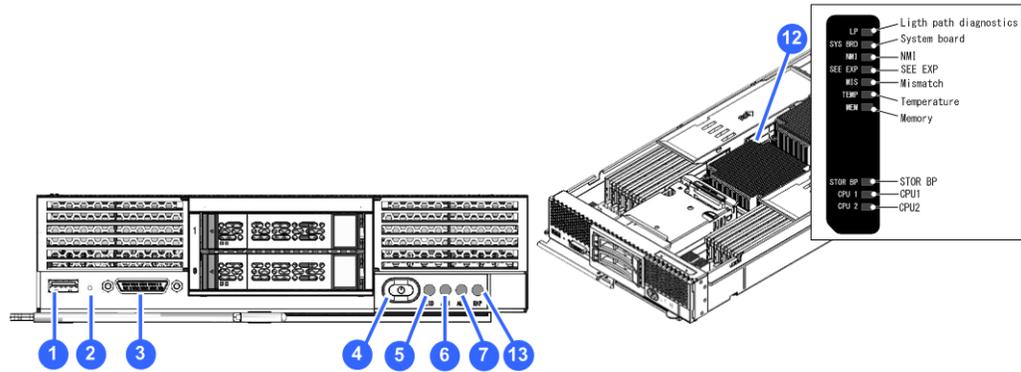


Figure 2-14 Half-wide Server blade (CB 520H B3)

Table 2-2 Server blade switches, indicators, and connectors

No.	Name	State	Description
1	USB port	-	USB port in the server blade.
2	NMI reset switch	-	Press this switch to issue Non- Maskable Interrupt (NMI) of the server blade.
3	KVM port ¹	-	Provides VGA, serial port and 2 USB port outputs. Connect a KVM cable to this port.
4	Power switch with Power LED	-	Press this switch to power-on. Press and hold this switch for four seconds or more, it will force the main power-off.
		Green-On	Main power of the server blade is turned on.

No.	Name	State	Description	
		Green-Blink	Main power of the server blade is turned off.	
5	Location Identify LED (LID)	Blue-On	The server blade is identified.	
6	Attention LED (ATN)	Amber-On	Errors are detected in the server blade.	
7	Alarm LED (ALM)	Amber-On	Any failure that the hardware needs to be replaced is detected.	
8	Primary LED ²	White-On	Indicates the blade is primary blade. (Only for 2/4 SMP CB 520X)	
9	QPI Link Fault LED ²	Amber-On	An error is detected on QPI link in SMP configuration. (Only for 2/4 SMP CB 520X)	
10	QPI Link Status LED ²	Green-On	QPI Link is linked up in SMP configuration. (Only for 2/4 SMP CB 520X)	
11	Diagnostic Panel	LP	Green-On	The LEDs on the diagnostic panel are active.
		S BRD	Amber-On	The mainboard needs to be replaced.
		MIS	Amber-On	Unsupported combination of the DIMMs, CPUs, or HDDs.
		NMI	Amber-On	A NMI was generated.
		TEMP	Amber-On	The maximum temperature limit was exceeded.
		MEM	Amber-On	A memory failure was detected.
		ADJ	Amber-On	An expansion blade failure was detected.
12	Diagnostic Panel	LP	Green-On	The LEDs on the diagnostic panel are active.
		SYS BRD	Amber-On	The mainboard needs to be replaced.
		NMI	Amber-On	A NMI was generated.
		SEE EXP	Amber-On	Not supported
		MIS	Amber-On	Unsupported combination of the DIMMs, CPUs, or HDDs.
		TEMP	Amber-On	The maximum temperature limit was exceeded.
		MEM	Amber-On	A memory failure was detected.
		STOR BP	Amber-On	SAS Backplane failure was detected.
		CPU1	Amber-On	CPU1 failure was detected.
		CPU2	Amber-On	CPU2 failure was detected.

No.	Name	State	Description
13	Expansion LED	Amber-On	Indicates a fault that requires an expansion blade to be exchanged was detected.
Notes:			
1. When using the USB ports of KVM cable except for a keyboard and a mouse, you should use devices with a rated maximum current limit 500 mA for two ports, or a USB device that can be externally powered.			
2. The LEDs are equipped only on CB 520X server blade.			

Disk drive

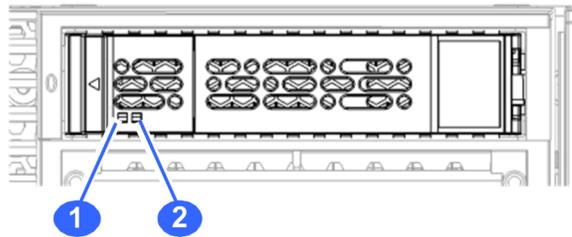


Figure 2-15 Disk drive

Table 2-3 LEDs on disk drive

No.	Name	State	Description
1	Active LED	Green-On	Disk drive is present.
		Green-Blink	Disk drive is accessing or rebuilding.
2	Fault LED	Amber-ON	A serious error has occurred.
		Amber-Blink	5Hz: The host is locating the position of the disk drive. 1Hz: Disk drive is rebuilding.

Management module

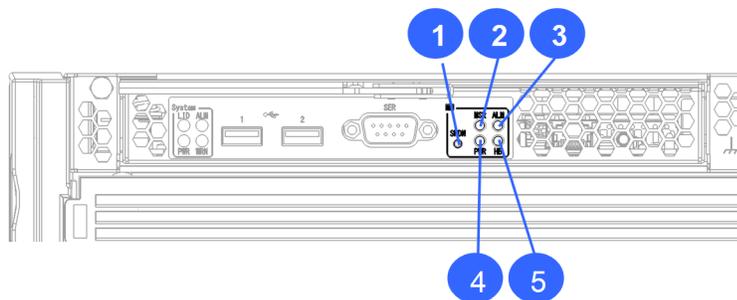


Figure 2-16 Management module

Table 2-4 LEDs, switches, and connectors on management module

No.	Name	State	Description
1	Shutdown switch (SHDN)	-	Press it for four seconds or more to turn off the power.
2	Primary LED (MSR)	Green-On	The management module operated as primary
		Off	The management module is under standby condition as secondary.
3	Alarm LED (ALM)	Red-On	A serious error has occurred in the management module.
4	Power LED (PWR)	Green-On	Normal operation.
5	Heartbeat LED (HB)	Green-Blink	F/W is activated. If this LED is not blinking, the management module does not work properly.
		Green-On	F/W is not activated.
		Off	
		Green-Blink	The system is shutting down or booting
		Off	Power is not supplied to the server blade.

Management lan module

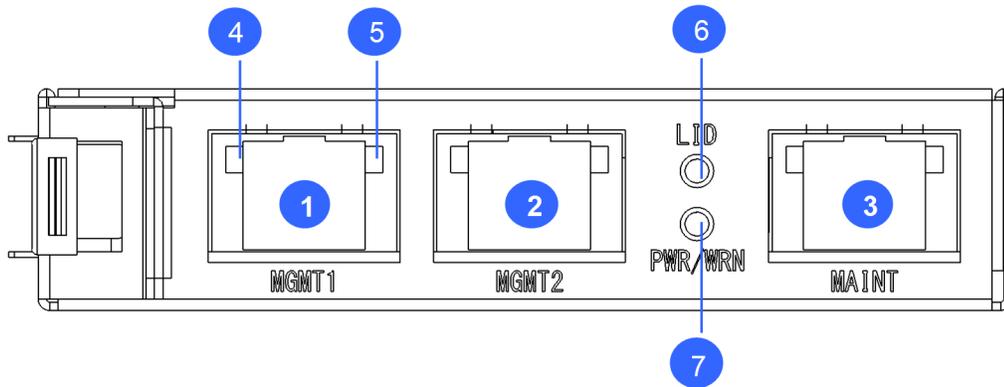


Figure 2-17 Management lan module

Table 2-5 LEDs, switches, and connectors on management lan module

No.	Name	State	Description
1	Management LAN Port #1 (MGMT1)	-	-
2	Management LAN Port #2 (MGMT2)	-	-
3	Maintenance LAN Port	-	For maintenance personnel.

No.	Name	State	Description
	(MAINT)		
4	LAN Link LED	Green-On	Indicating LAN Linked-up.
5	LAN Activity LED	Green-Blink	Indicating there are traffics thru LAN.
6	Identify LED (LID)	Blue-On	The management lan module is identified.
7	Power/Warning LED (PWR/WRN)	Green-On	Indicating the Management Module normally operating.
		Amber-On	Indicating failures on the Management Module detected.
		Off	Indicating the Management LAN Module does not have power.

1/10Gb LAN switch module

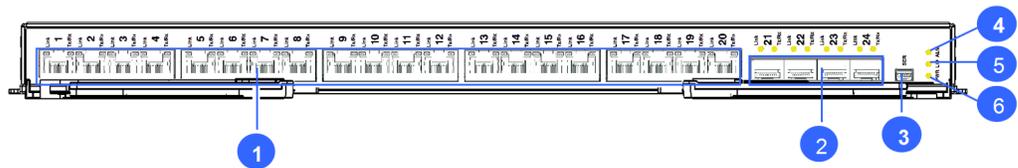


Figure 2-18 1/10Gb LAN switch module

Table 2-6 LEDs, switches, and connectors on 1/10 Gb LAN switch module

No.	Name	State	Description
1	RJ-45 ports 1 to 20	Green-On	Link is established
		Green-Off	No signal or link is down
		Yellow -On/ Blink	Link activity. Port is sending or receiving data.
		Yellow -Off	No signal or no link activity
2	SFP+ module ports 21 to 24	-	Slots for 10GBASE-SR transceiver: Each slot has a link LED on the upper left and a Activity LED on the upper right.
3	Mini-USB serial port	-	Uses as a console port for management purpose. Do not connect any devices other than the serial management cable.
4	Alarm LED (ALM)	Yellow -On	A serious error has occurred in the switch module.
5	Location identify LED (LID)	Blue-On	The switch module is identified
6	Power LED (PWR)	Green-On	Power-on and normal operation.

No.	Name	State	Description
		Off	The power fails or no power supplied.
		Off	A serious error has occurred in the switch module , if Alarm LED is lit.

Brocade 10Gb DCB switch module



Figure 2-19 Brocade 10Gb DCB switch module

Table 2-7 LEDs and connectors on 10Gb DCB switch module

No.	Name	State	Description
1	SFP+ connectors	-	SFP+/QSFP connectors are divided into three different groups. These groups support the ability to group "trunk ports." A trunk port is a set of individual ports that are grouped collectively to simulate a single port with much faster data transmission. For detail, refer to DCBSW admin guide. <ul style="list-style-type: none"> Trunk Group A consists of ports 43 through 50. Trunk Group B consists of ports 51 through 56. Trunk Group C consists of QSFP ports 57 and 58.
2	Tx/Rx LED (One LED per port)	Green-On	Port status is online (link up).
		Green-Blink	Port status is active (link activity).
3	Fault LED(One LED per port)	Amber -On	Port status is fault.
4	Mini-USB serial port	-	One mini-USB serial port connector for console port use (management purposes) only. Do not attach any devices to this connector other than the serial management cable (optional).
5	RJ-45 Ethrnet connectors	-	A connector is Ethernet port.
6	Alarm LED ¹	Yellow -On	A POST failure or critical alert.
7	Identify LED ¹	Blue-On	The switch module is identified
8	Power LED ¹	Green-On	The switch is on.

No.	Name	State	Description
		Off	The switch is critical alert, if Alarm LED is lit.
		Off	The switch is off.
<p>Note:</p> <ol style="list-style-type: none"> An LED test occurs whenever the switch main power is turned on. All LEDs are lit and remain lit during POST sequence, and then all the LEDs except the OK LED turn off when POST sequence is completed normally. 			

I/O board module

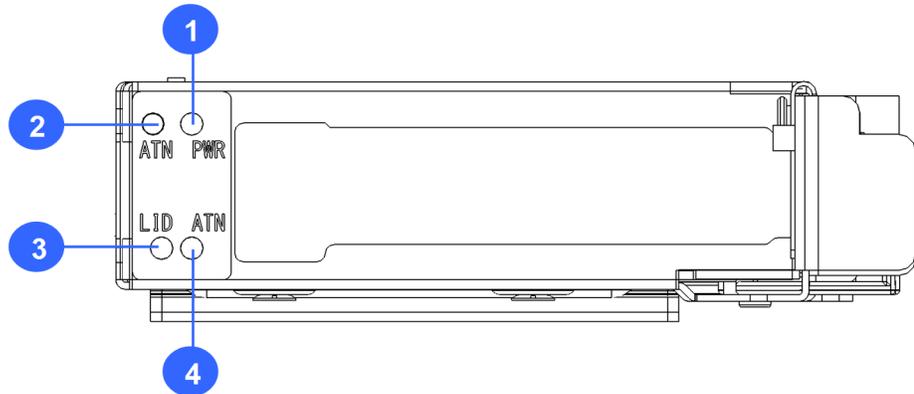


Figure 2-20 I/O board module

Table 2-8 LEDs and switch on I/O board module

No.	Name	State	Description
1	Power LED (PWR)	Green-On	Power-On and normal operation.
		Green-blink	During power on process or power off process.
		Off	Abnormal power state (Power failure or no power is supplied).
2	Attention (Switch)	-	Notify the system to start Hot Plug process (Hot remove/ Hot add).
3	Identify LED(LID)	Blue-On	The I/O Board Module is identified.
4	Attention (LED)	Amber-On	Alarm, an error was detected.
		Off	Normal operation.

Power supply module

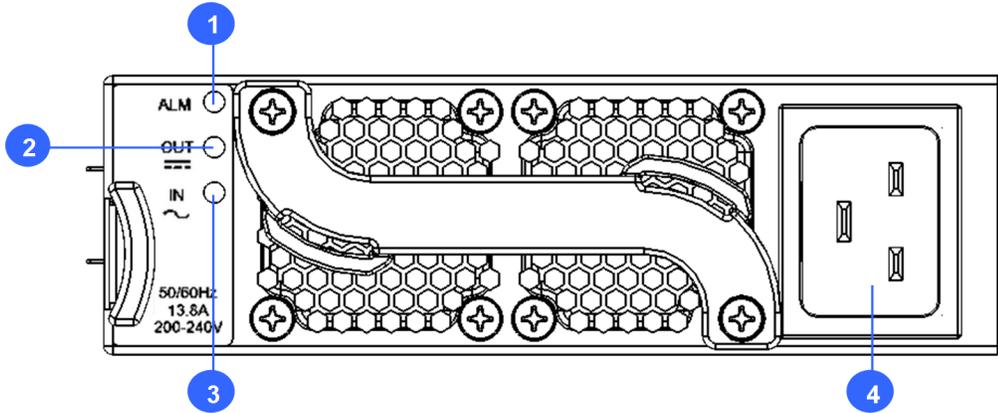


Figure 2-21 Power supply module

Table 2-9 LED and connector on power supply module

No.	Name	State	Description
1	Alarm LED	Amber-On	The power supply module is in one of the following states: <ul style="list-style-type: none"> The voltage exceeded the prescribed level. There is insufficient voltage due to a reason other than an overcurrent. The module has reached an abnormally high temperature. A fan in the power module failed. A failure occurred in the power module due to a reason other than the above.
		Amber-Blink	A command from the system unit is being executed.
		Off	The power supply module is running correctly.
2	Out LED	Green-On	The prescribed power is being correctly supplied from the power supply module to the system unit.
		Green-Fast Blink	The power of the server chassis is being turned off.
		Green-Slow Blink	The firmware is being updated.
		Off	Power is not being supplied to the system unit.
3	IN LED	Green-On	The AC line voltage is within the operating range of the power supply.
		Off	No AC input.
4	Inlet	-	This is an IEC60320/C20-compliant connector.

Cooling fan module for system

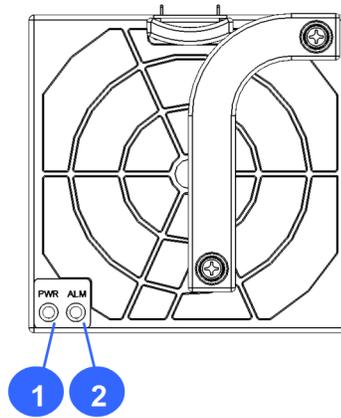


Figure 2-22 Cooling fan module for system

Table 2-10 LED on cooling fan module for system

No.	Name	State	Description
1	Status LED	Green-On	The power supplied.
		Off	No power supplied.
2	Alarm LED	Amber-On	Occurring failure.
		Off	Normal operation.

Cooling fan module for switch module

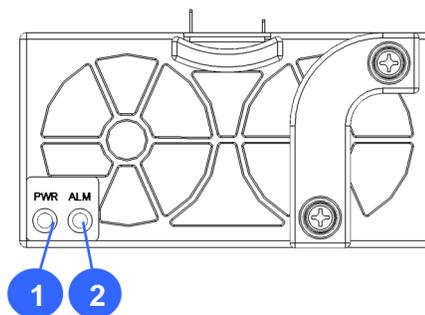


Figure 2-23 Cooling fan module for switch module

Table 2-11 LED on cooling fan module for switch module

No.	Name	State	Description
1	Status LED	Green-On	The power supplied.
		Off	No power supplied.
2	Alarm LED	Amber-On	Occurring failure.
		Off	Normal operation.

Cooling fan control module

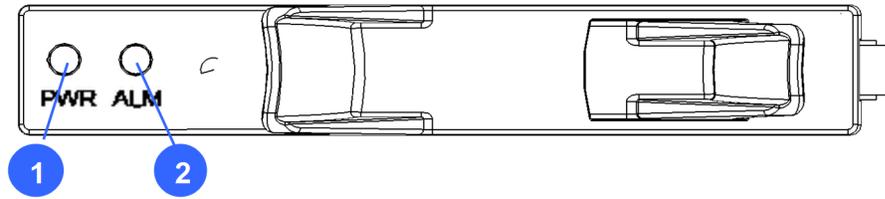


Figure 2-24 Cooling fan control module

Table 2-12 LED on cooling fan control module

No.	Name	State	Description
1	Status LED	Green-On	The power supplied.
		Off	No power supplied.
2	Alarm LED	Amber-On	Occurring failure.
		Off	Normal operation.

Color code for maintenance

The replaceable components such as server blade, HDD, management module, switch module, fan module and power supply module are defined the color code (blue) that makes the general maintenance action visible to each component.

Table 2-13 Color code description

Color	Description	Components
Blue	The components indicated with blue color code are hot-swappable or hot-pluggable . Required: Follow the replacement instruction in this manual.	<ul style="list-style-type: none"> • Server blade • Management module • Management lan module • I/O board module • Switch module • Fan module • Cooling fan control module • Power supply module • Disk drive

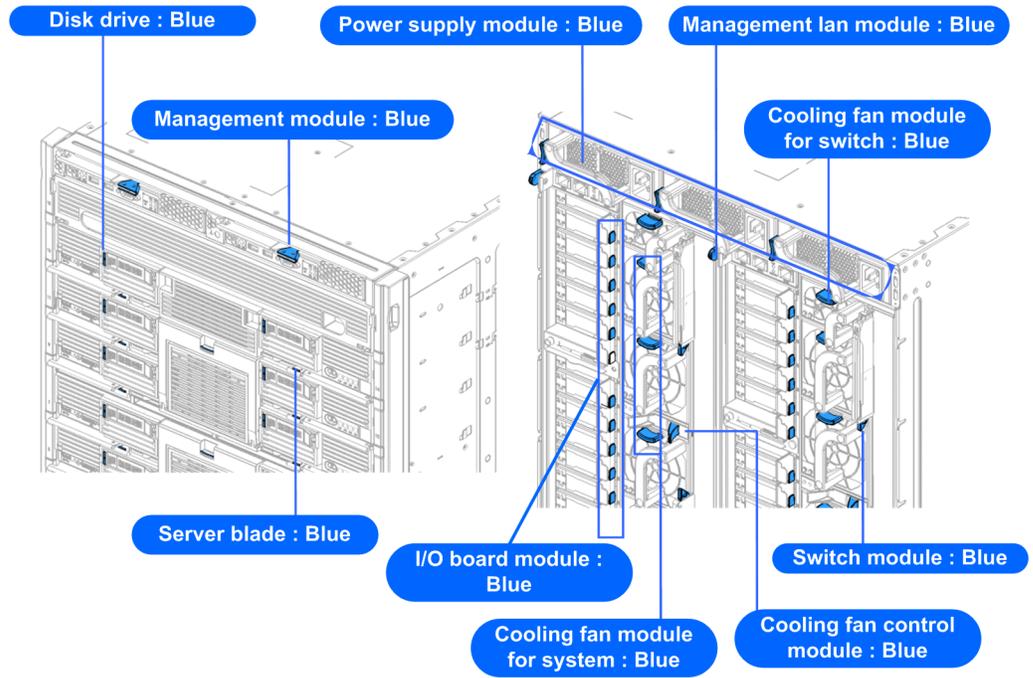


Figure 2-25 Color code for maintenance

Installation

This chapter provides the installing method, cabling, and powering up method.

This chapter covers the following key topics:

- [Installation overview](#)
- [Installation procedure](#)
- [Rack rail installation](#)
- [Installing server chassis](#)
- [Disassembling the server chassis](#)
- [Cabling and powering up the server chassis](#)
- [Checking the status indicators](#)

Installation overview

To set up and install the server chassis:

- For the detail of installation method for the rack cabinet, see;
 - *Hitachi Compute Blade 2500 Series Site Planning Guide*
- For the detail of installation settings of each component, see;
 - *Hitachi Compute Blade 2500 Series Getting Started Guide*
- Determine the mounting position of the server chassis in the rack and install the rack rails. See the "[Rack rail installation on page 3-3](#)" section in this chapter.
- Prepare a lift because the server chassis can weight up to 250 kg. When not using a lift, first remove all components and then reinstall them after the chassis has been mounted in the rack cabinet. See the "[Disassembling the server chassis on page 3-15](#)" section for how to remove each component.
- See the "[Installing server chassis on page 3-8](#)" section for how to mount the server chassis in the rack cabinet.
- See the "[Cabling and powering up the server chassis on page 3-15](#)" section for how to cable the AC cord and other cables, and how to connect them.
- After connecting the AC cord the server will automatically boot up. Check the LEDs of the power supply module and the server chassis to ensure functionality. See the "[Checking the status indicators on page 3-18](#)" section for how to check LED lighting.

Installation procedure

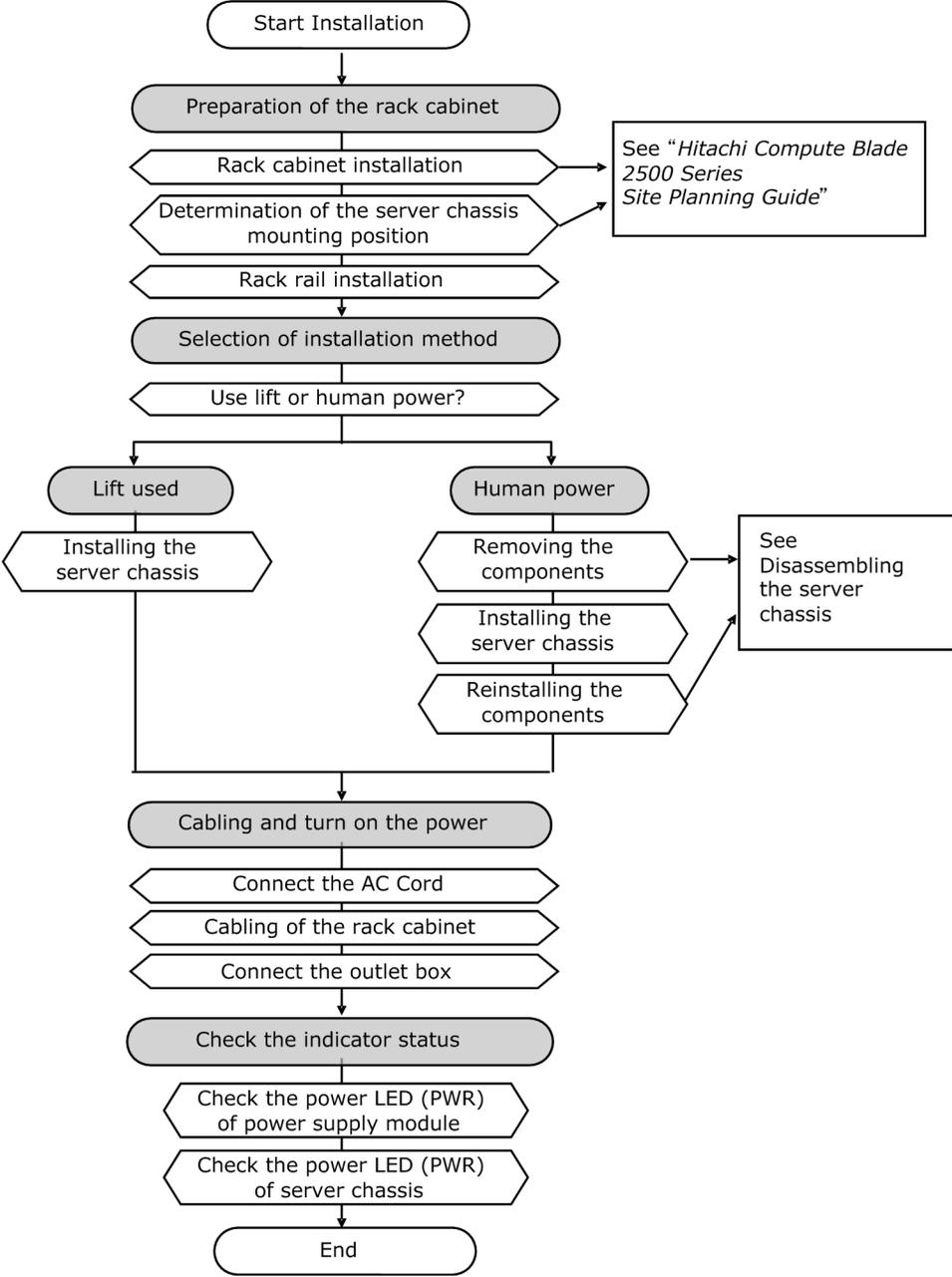


Figure 3-1 Installation procedure

Rack rail installation

When you mount the server chassis in the rack cabinet, use the rack rails provided for exclusive use with the server chassis. Use a Hitachi rack cabinet or an EIA standard rack. The following describes the procedure to install the rack rails in the rack cabinet.

Confirming the rack rail type

Confirm the rack option kit type by the aspect of the rack rail in accordance with the [Table 3-1 Side aspect of rack rail on page 3-4](#).

Table 3-1 Side aspect of rack rail

Rack rail option kit 1	Rack rail option kit 2
<ul style="list-style-type: none">Inner side aspect of rack rail  <ul style="list-style-type: none">Outer side aspect of rack rail 	<ul style="list-style-type: none">Inner side aspect of rack rail  <ul style="list-style-type: none">Outer side aspect of rack rail 

Installing rack rails of option kit 1

Perform the following procedure.

1. Perform this step only when the mounting angles of the rack have round holes. Remove a protrusion locating on the lowest position of the front side of the right and left rack rails, respectively.

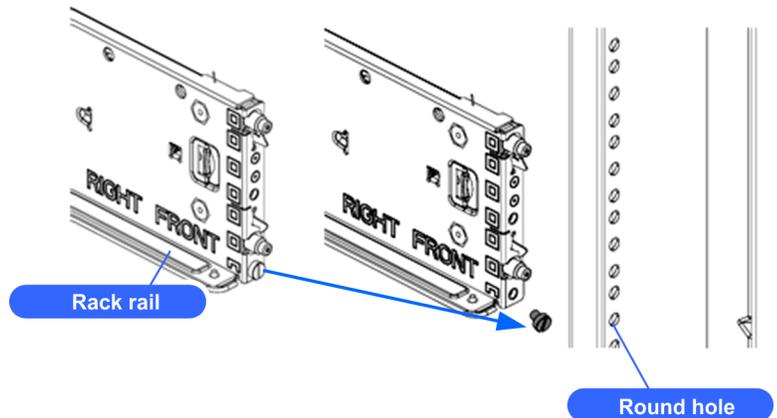


Figure 3-2 Replace of the protrusions

2. Install a rack rail (RACK RAIL_R/L) on a mounting angle of front side indicated in the previous step 1. (The following figure shows "RACK RAIL_L")
3. Confirm that hooks of rack rail hang on the holes of mounting angle.

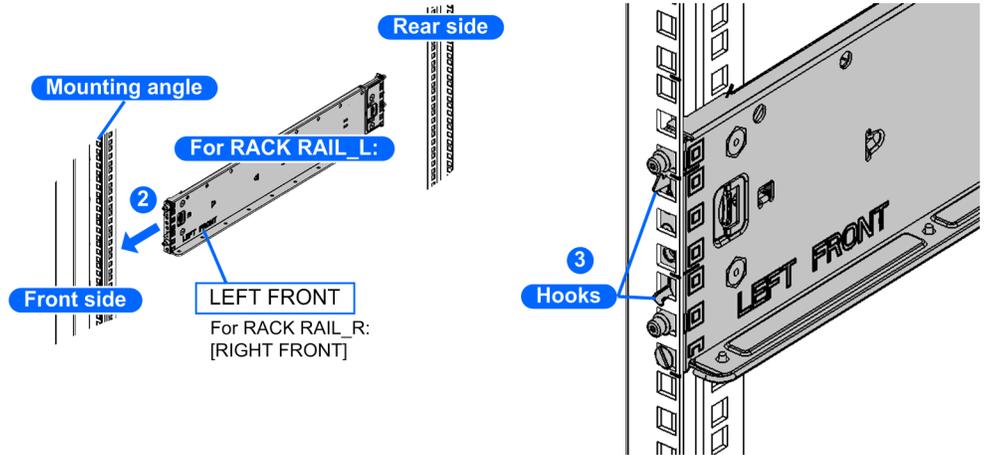


Figure 3-3 Rack rail installation (front side)

4. Pull out the rear side of rack rail, and then fix it in the holes of mounting angle of rear side.
5. Confirm that hooks of rack rail hang on the holes of mounting angle.

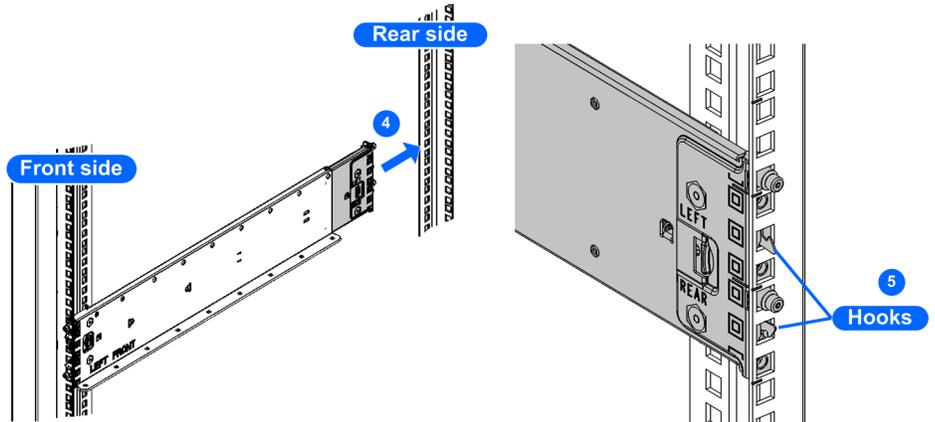


Figure 3-4 Rack rail installation (rear side)

6. Perform this step only when the mounting angles of the rack have square holes. Install the ten M6 cage nuts to the front side and ten M5 cage nuts to the rear side of the expected position according to the template in shipping bracket set.

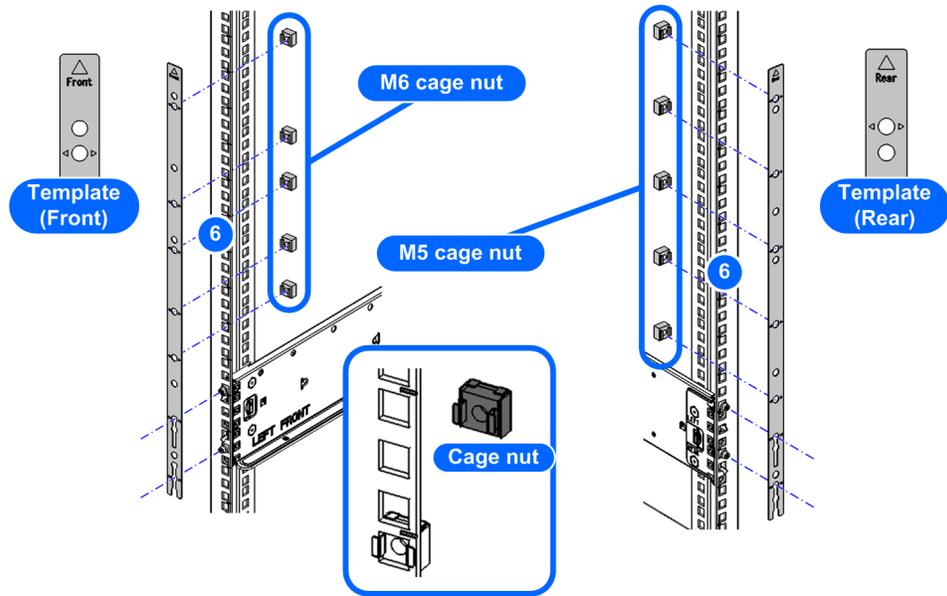


Figure 3-5 Cage nuts installation of the rack have square holes

7. Perform this step only when the mounting angles of the rack have round holes. Install the twenty rack nuts to the front and rear side of the expected position according to the template in shipping bracket set.

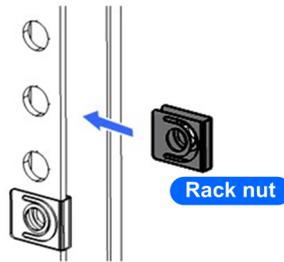


Figure 3-6 Rack nuts installation of the rack have round holes

Installing rack rails of option kit 2

Perform the following procedure.

1. Perform this step only when the mounting angles of the rack have round holes. Remove eight $\Phi 9.3$ mm rail pin screws locating on the front and rear side of the right and left rack rails, respectively by using a screwdriver. Install the adjunctive eight $\Phi 6.3$ mm rail pin screws into as same location as removed.

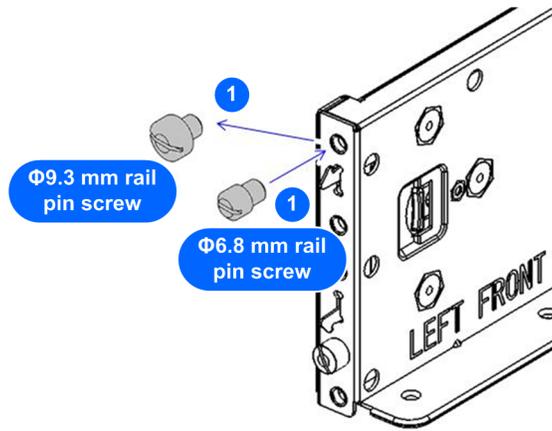


Figure 3-7 Remove and install rail pin screws

2. Install a rack rail (RACK RAIL_R/L) on a mounting angle of front side indicated in the previous step 1. (The following figure shows "RACK RAIL_L")
3. Confirm that hooks of rack rail hang on the holes of mounting angle.

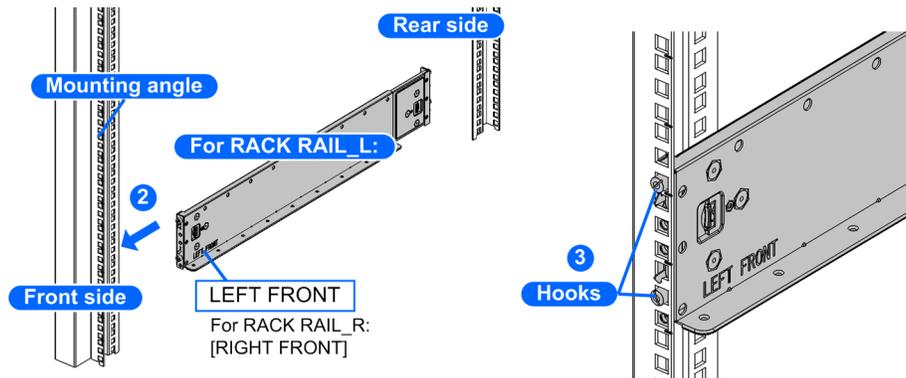


Figure 3-8 Rack rail installation (front side)

4. Pull out the rear side of rack rail, and then fix it in the holes of mounting angle of rear side.
5. Confirm that hooks of rack rail hang on the holes of mounting angle.

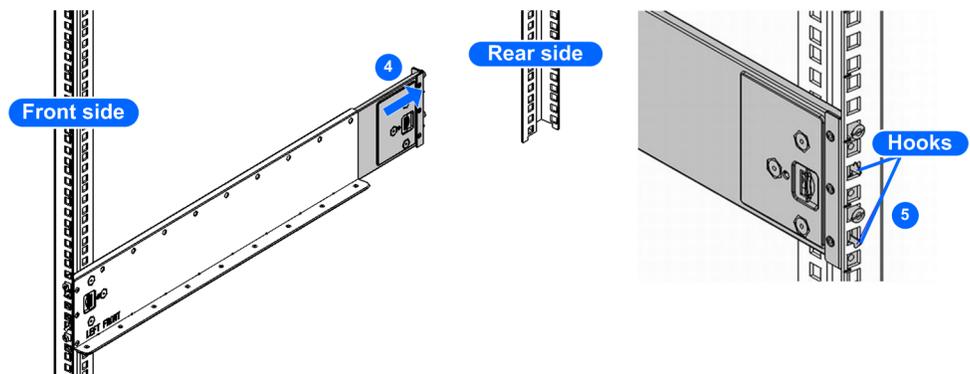


Figure 3-9 Rack rail installation (rear side)

- Perform this step only when the mounting angles of the rack have square holes. Install the twenty M6 cage nuts to the front and rear side of the expected position according to the template in shipping bracket set.

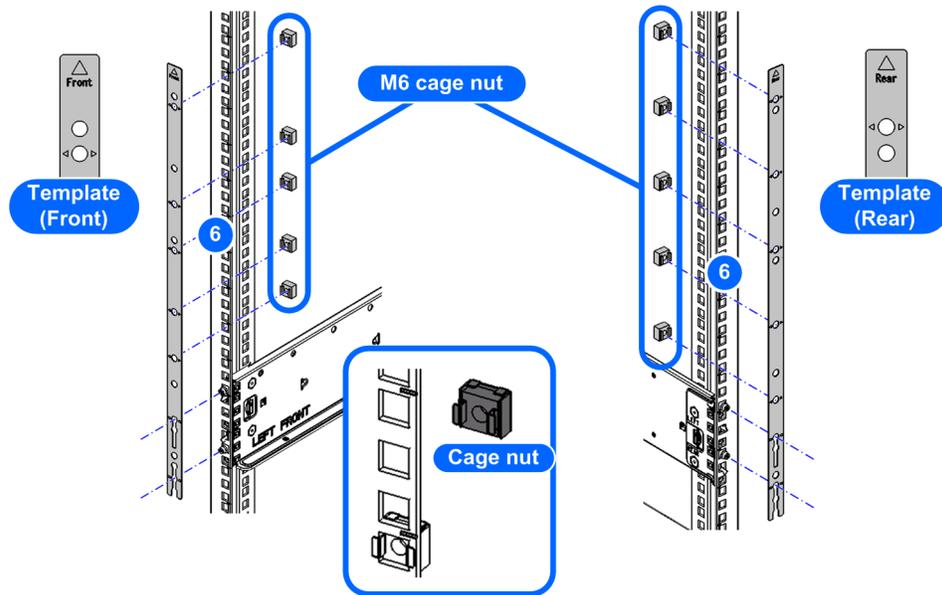


Figure 3-10 Cage nuts installation of the rack have square holes

- Perform this step only when the mounting angles of the rack have round holes. Install the twenty rack nuts to the front and rear side of the expected position according to the template in shipping bracket set.

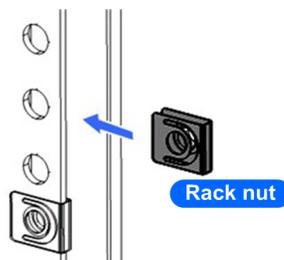


Figure 3-11 Rack nuts installation of the rack have round holes

Installing server chassis



CAUTION: The server chassis weighs up to 250kg (552lbs). Use a lift to avoid injuries of your back or others. Alternatively, remove all of the components and shelves and perform the *work by three or more persons*. The empty chassis with rear cage weighs about 47kg (104lbs).



Note: When you use a lifter to mount the server chassis in the rack cabinet, it is not necessary to remove any components except a *Dummy server blade* in server slot #15. Remove a *Dummy server blade* in server slot #15 first. Mount the server chassis according to the following step 2 to step 5, and then install the removed dummy server blade.

Perform the following procedure.

1. While holding the hand holes, lift up the server chassis.
2. Place the rear side of server chassis on the L-shaped frames of the rack rails.
3. Slide the server chassis to the rear side of the rack cabinet until the chassis contact to the mount angles of the rack cabinet.

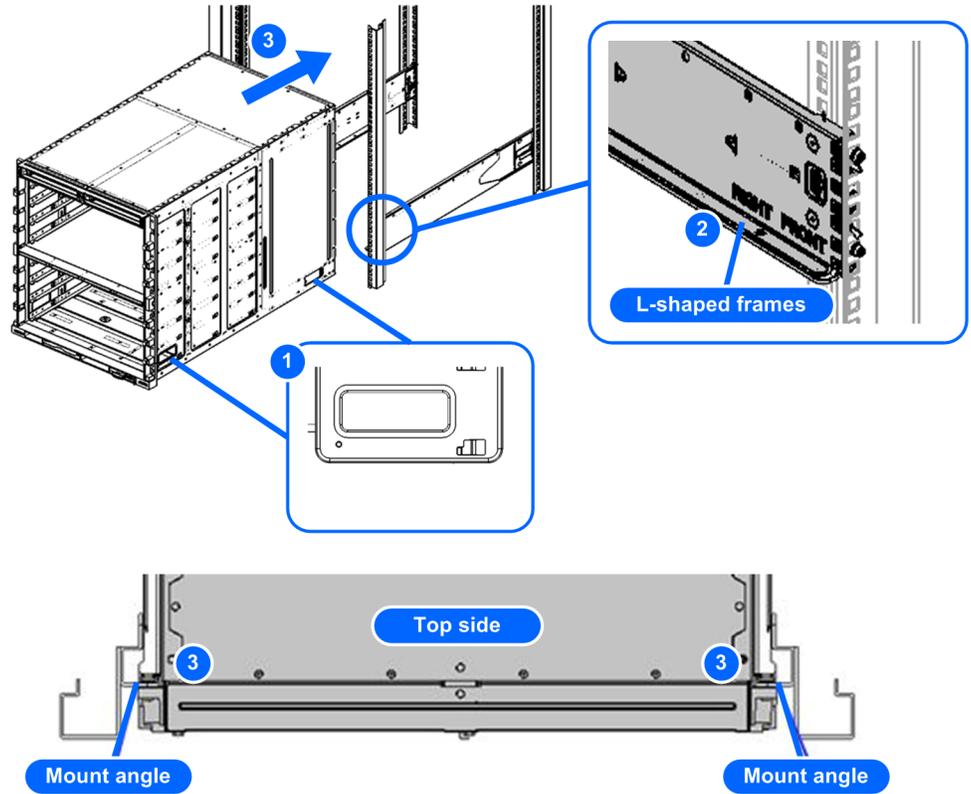


Figure 3-12 Chassis to the rack cabinet

4. Perform this step only when the mounting angles of the rack have square holes. Fasten the chassis to the mount angles of the rack cabinet with ten Rack screws (M6×16) and two HEX screws (M5×16).

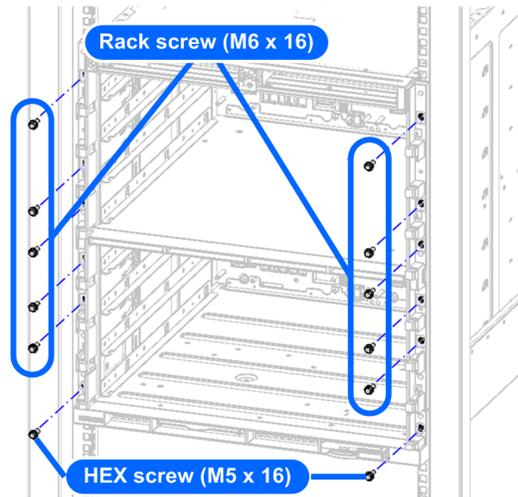


Figure 3-13 Chassis to the mount angles of the rack cabinet (rack have square holes)

5. Perform this step only when the mounting angles of the rack have round holes. Fasten the chassis to the mount angles of the rack cabinet with twelve HEX screws (M5×16).

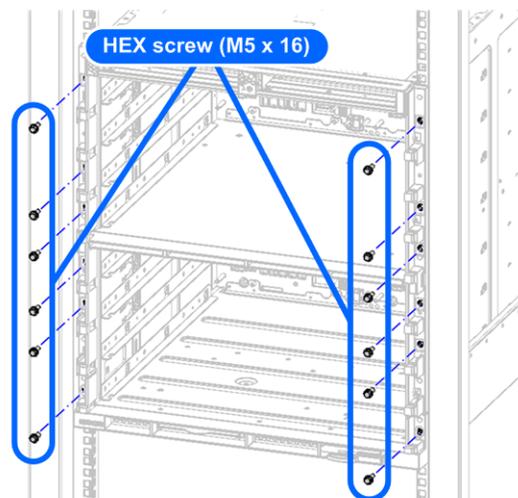


Figure 3-14 Chassis to the mount angles of the rack cabinet (rack have round holes)

6. Insert the front cover to the server chassis. When you need to install a dummy server blade into server slot #15, install it after installing the front cover. Confirm that the dummy server blade is fixed to the front cover.

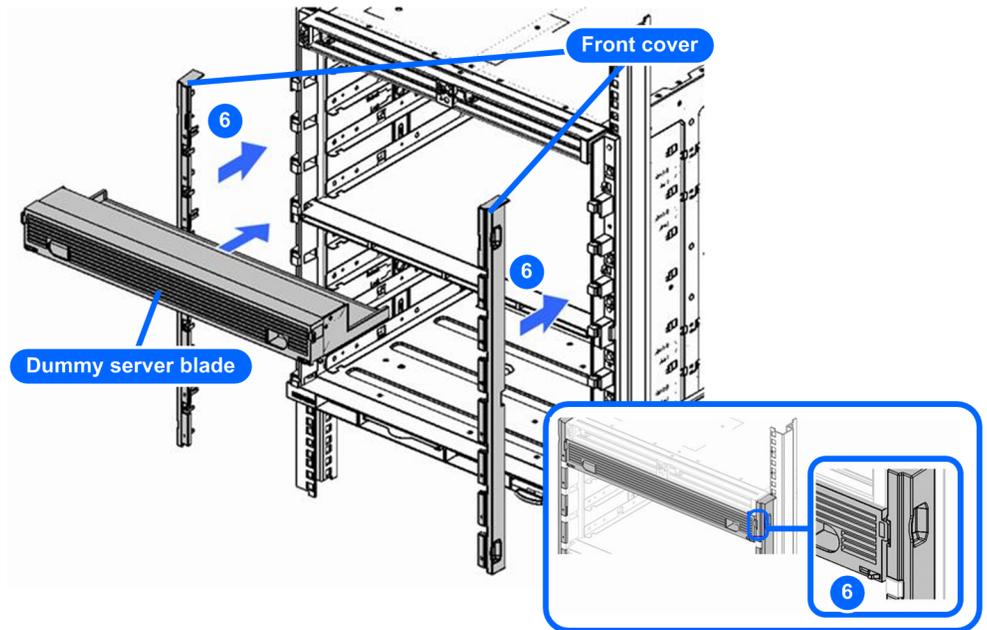


Figure 3-15 Insert the front cover

7. Connect side bracket and rack spacer of the shipping brackets with three bind screws (M3 x 5). Insert two holes of the adjust bracket into two projections on the top side of the side bracket.

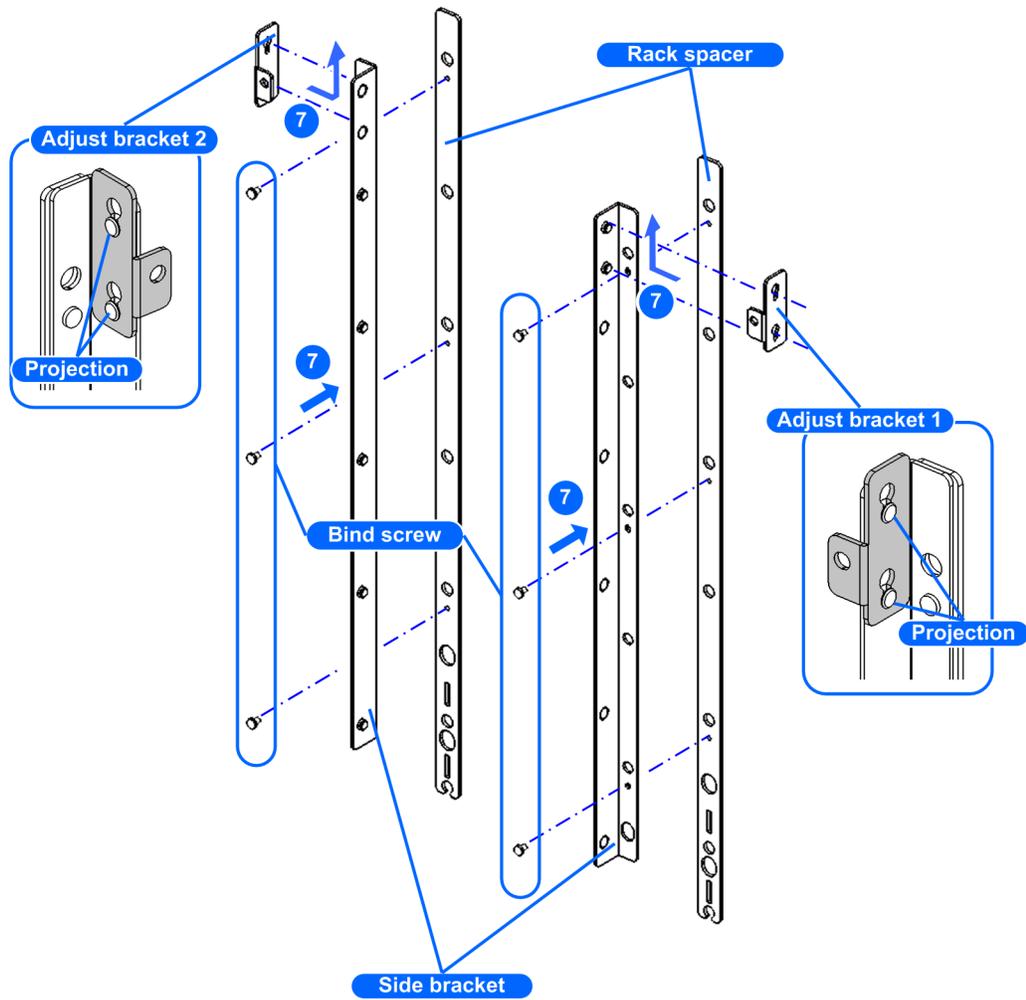


Figure 3-16 Connect shipping brackets

8. While holding the screw hole portion of the adjust bracket and bottom side of the side bracket, insert the projections on the side bracket into the slits on the back side edge of the server chassis. Confirm that projections are hanging on the server chassis. Fasten the two side brackets with two HEX screws (M4×10).

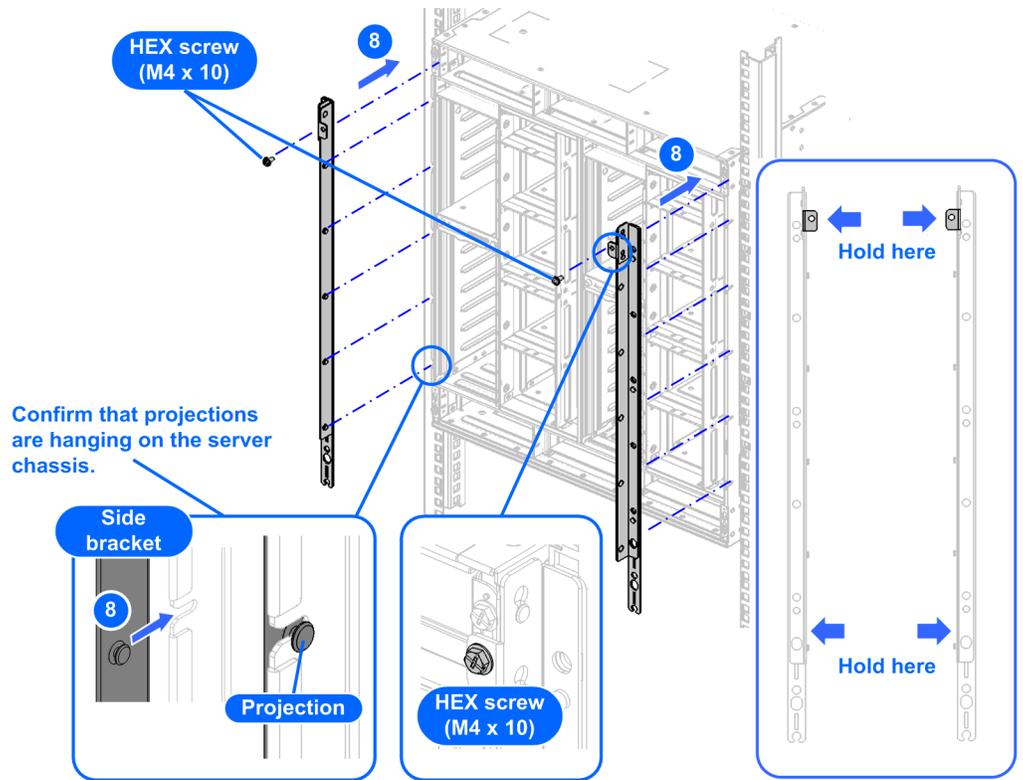


Figure 3-17 Fix the shipping brackets to the rack cabinet

9. Insert two holes of the adjust bracket into two projections of the bottom bracket.

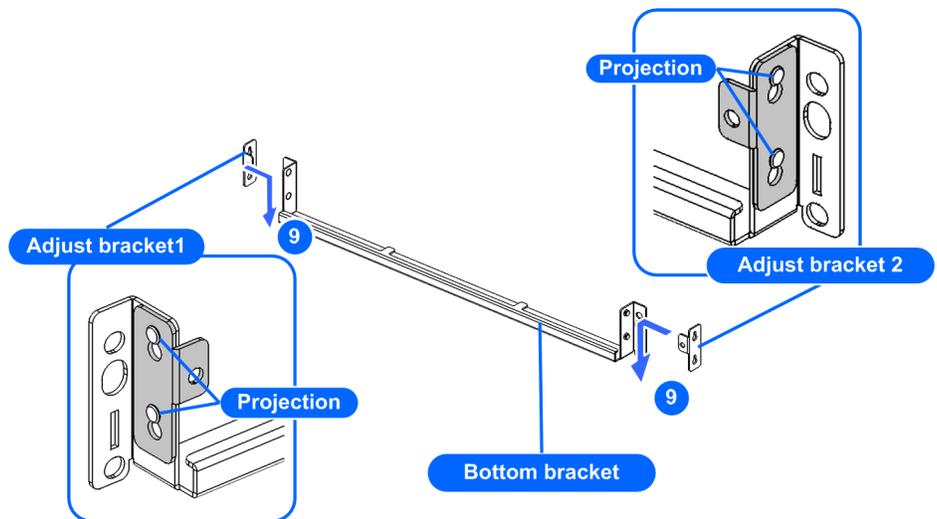


Figure 3-18 Adjust bracket to bottom bracket

10. Insert bottom bracket into the back side of server chassis, and then fasten it with two HEX screws (M4×10) to the server chassis.

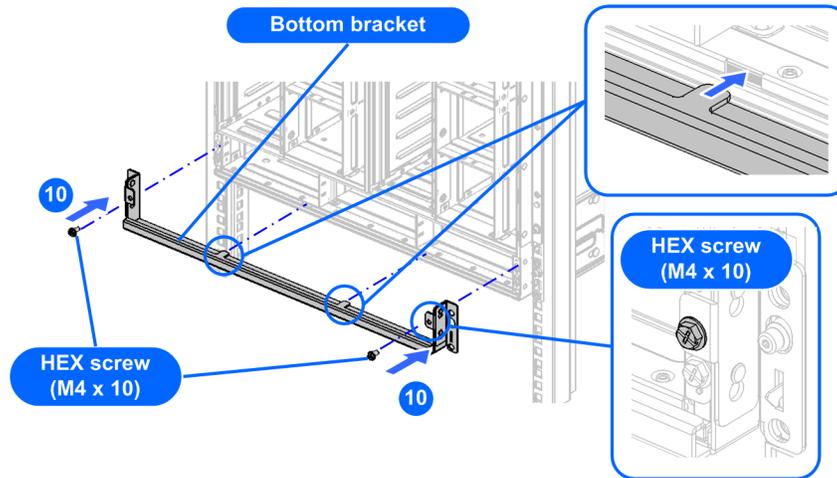


Figure 3-19 Bottom bracket to chassis

11. When the rack rail option kit 1, fasten the side brackets to the mount angles of the rack cabinet with fourteen HEX screws (M5×16).
When the rack rail option kit 2, and the mounting angles of the rack have square holes, fasten the side brackets to the mount angles of the rack cabinet with ten rack screws (M6×16) and four HEX screws (M5×16).
When the rack rail option kit 2, and the mounting angles of the rack have round holes, fasten the side brackets to the mount angles of the rack cabinet with fourteen HEX screws (M5×16).

- For rack option kit1
- For rack option kit 2 and rack have round holes

- For rack option kit 2 when rack have square holes

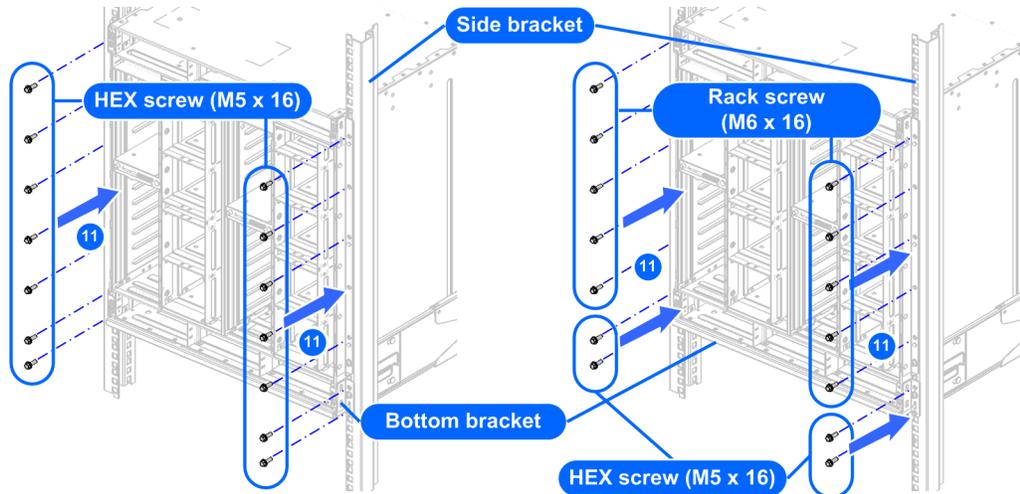


Figure 3-20 Chassis to cabinet

Disassembling the server chassis



CAUTION: The server chassis weighs up to 250 kg. To avoid back or other injury use a lift. Alternatively, remove all components and shelves and perform the work by two or more persons.

When not using a lift, make sure that you remove all components and shelves before installing the server chassis in a rack cabinet. (See [Chapter 4, Removing and reinstalling components](#))

Cabling and powering up the server chassis

Connect the AC cord

1. Connect the AC cord to the power supply module
2. Fix the power cord to the cable clamp so that it cannot accidentally become unplugged.

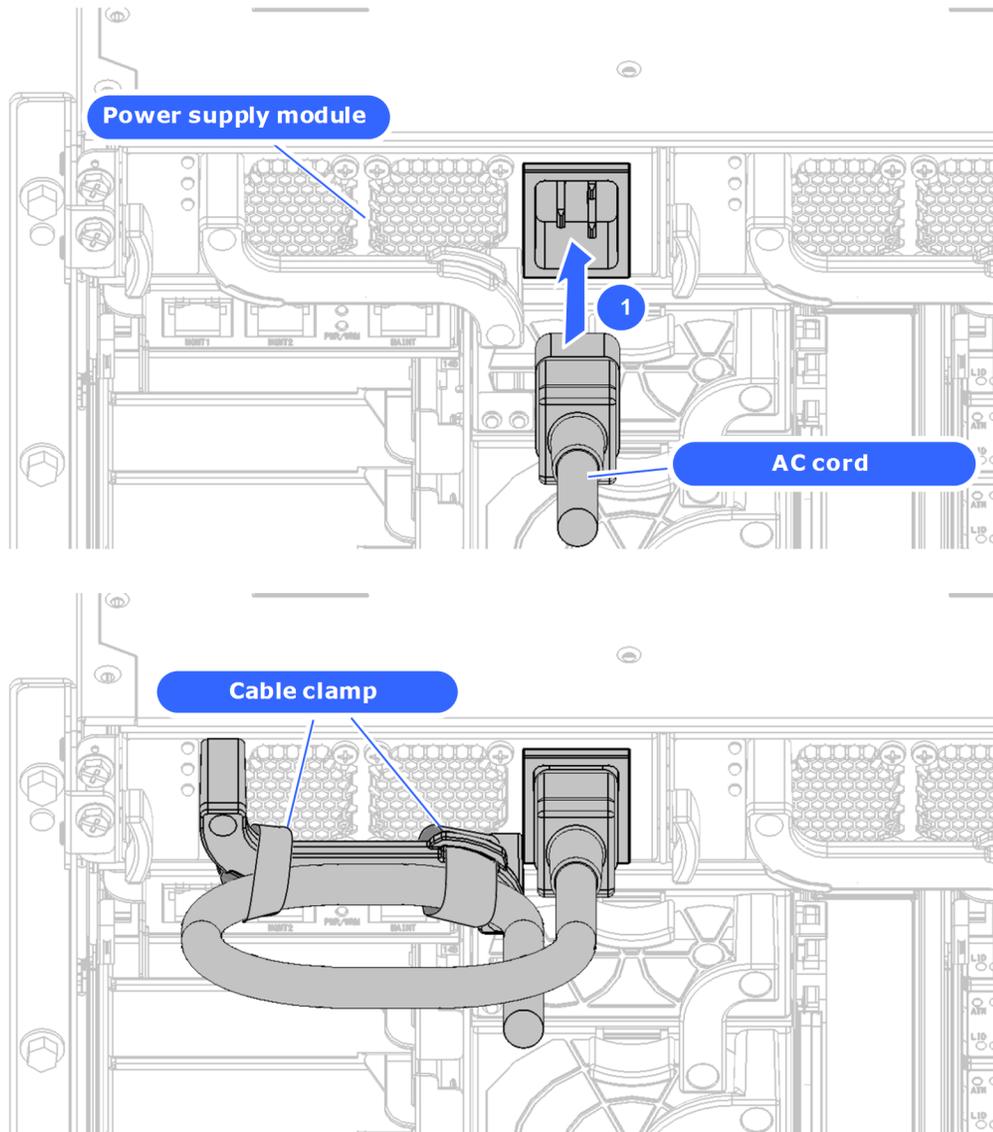


Figure 3-21 Connect the AC cord

Cabling in the Rack cabinet

Precautions for cabling inside the rack cabinet include the following:

- Route cables through the cable routing area of the cabinet.
- Route cables so as not to block the exhaust vents.
- Consider the replaceability of components; particularly, for components that may require hot replacement.
- Route cables with an appropriate margin. Bend and tension can damage cables.
- To prevent accidental cable removal, tie them to the rack cabinet.

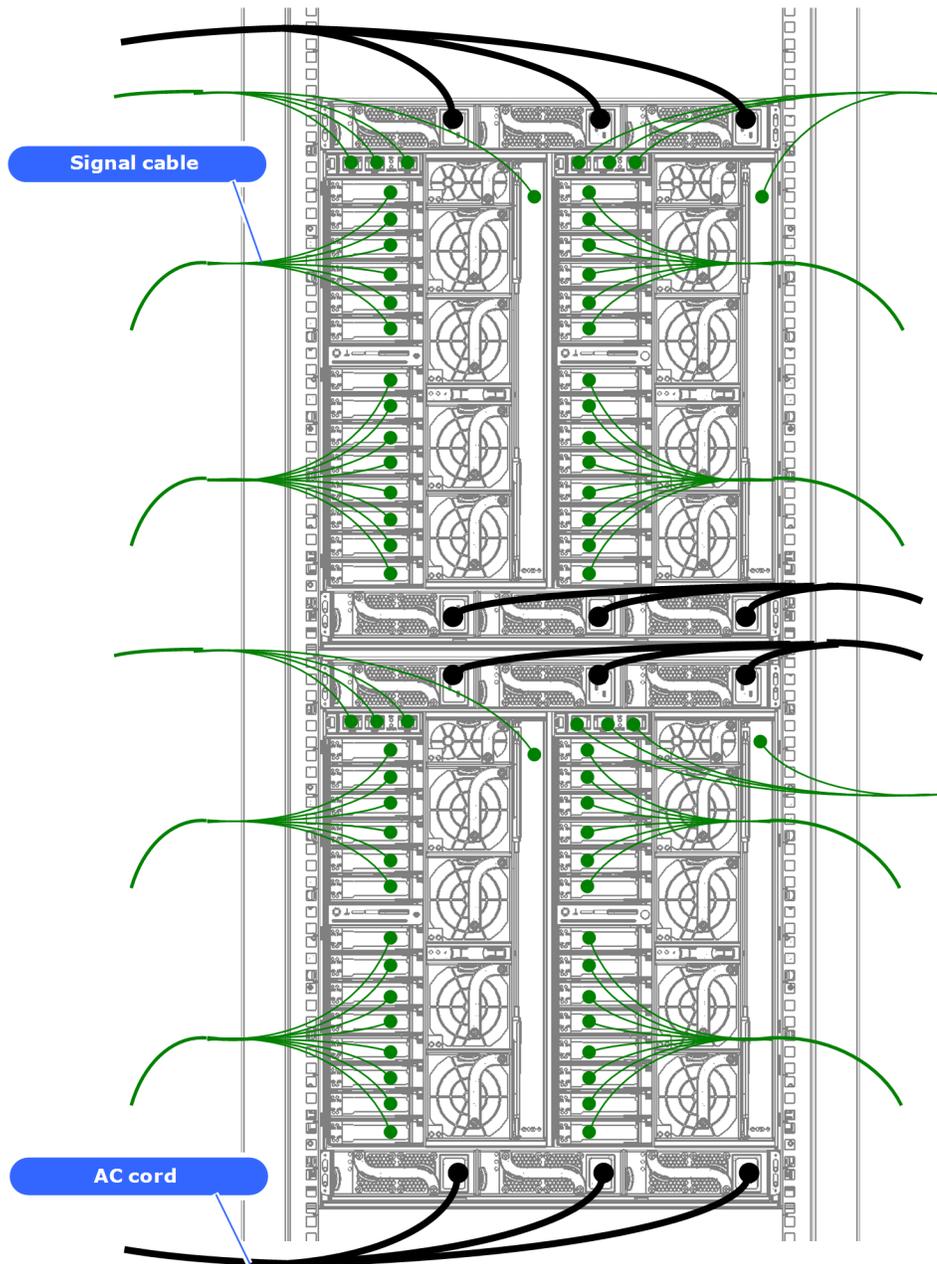


Figure 3-22 Cabling in the rack cabinet

Connect the outlet box

After routing the AC cord inside the rack cabinet, you need to connect the AC cord plug to an outlet to boot up the server system.

When using an outlet box, connect the AC cord from the power supply module to the outlet box. You will also need to connect the AC cord of the outlet box to the customer power outlet. If the outlet box has a circuit breaker, turn it on.

After connecting the AC cord, or after turning on the circuit breaker, the power supply module will start up.

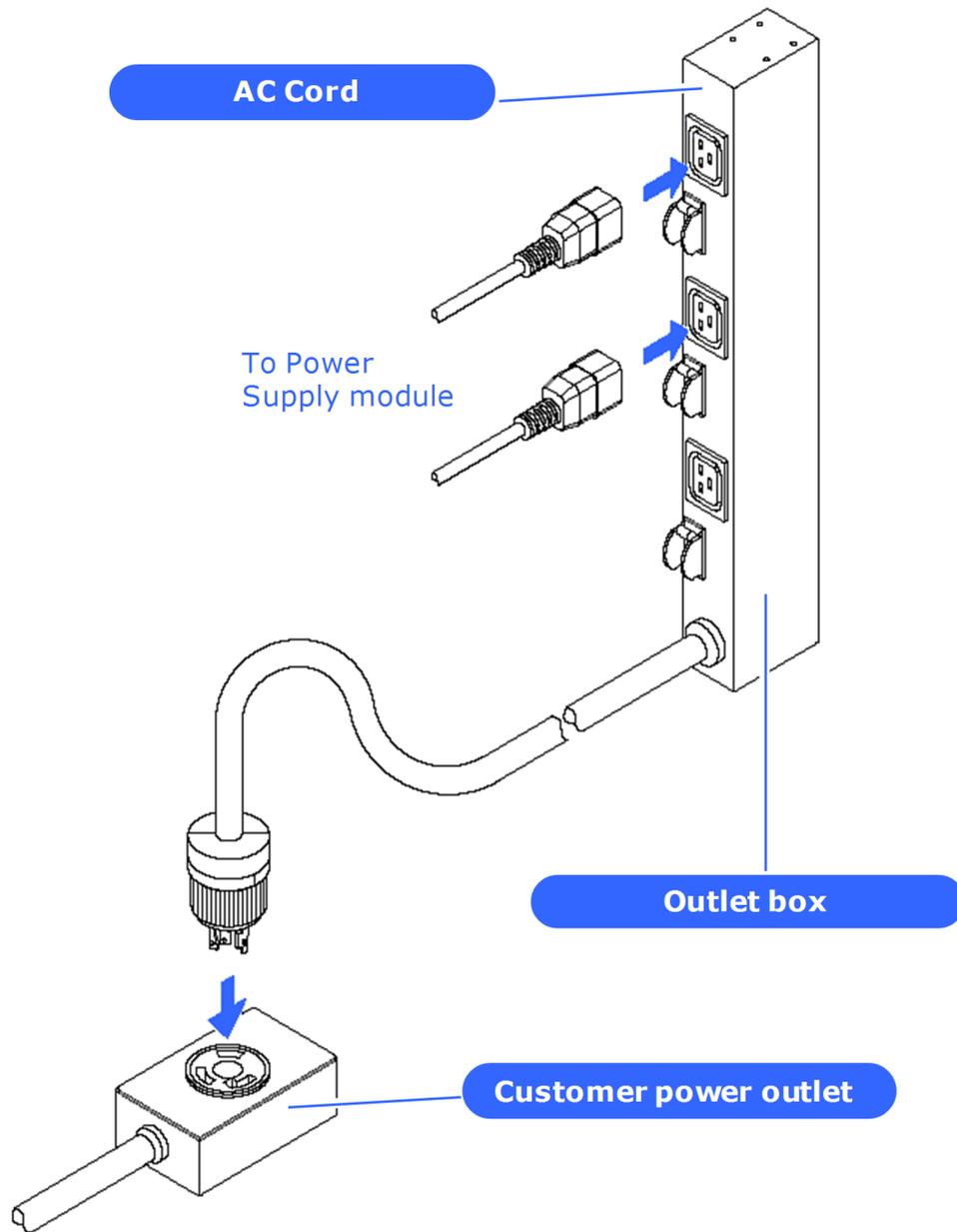


Figure 3-23 Connect the outlet box

Checking the status indicators

After connecting the AC Cord, or after turning on the circuit breaker, the LED indicates the state of the power supply module.

The power LED (PWR) of the power supply module will start blinking green soon after the AC Cord is connected or the circuit breaker is turned on. After the management module boots up, the LED will be a continuous green.

The power LED (PWR) on the front panel of the server chassis will blink amber soon after the AC cord is connected or the circuit breaker is turned on. After the management module boots up, the LED will be continuous amber.



Note: If the power supply LED does not go green, or the front panel LED does not go amber, see:

- *Hitachi Compute Blade 2500 Series System Service Manual*

POWER LED (PWR)

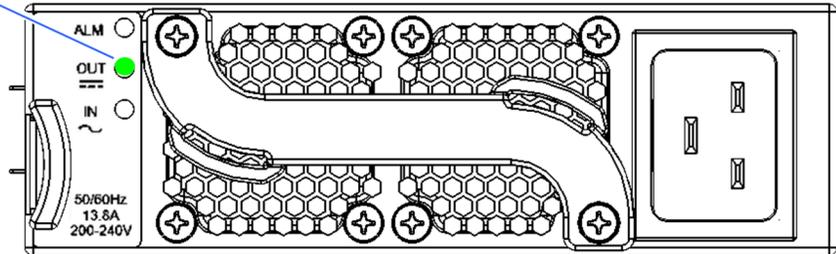


Figure 3-24 Power supply module

POWER LED (PWR)

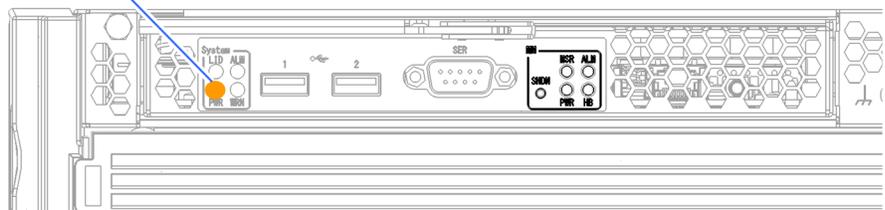


Figure 3-25 Server chassis front panel

Removing and reinstalling components

This chapter describes how to remove and reinstall components of the Hitachi Compute Blade system. The following key topics are covered:

- [Preventing electrical discharge](#)
- [Server blade](#)
- [Management module](#)
- [Management lan module](#)
- [Switch module](#)
- [I/O board module](#)
- [Power supply module](#)
- [Fan module](#)
- [Dummy module](#)
- [Server chassis shelf](#)

Preventing electrical discharge

Whenever removing or reinstalling components, you **MUST** put on an anti-static wrist strap. A ground point for the anti-static wrist strap is available at both the front and rear of the chassis. Before performing work, connect the anti-static wrist strap to the server chassis as follows.

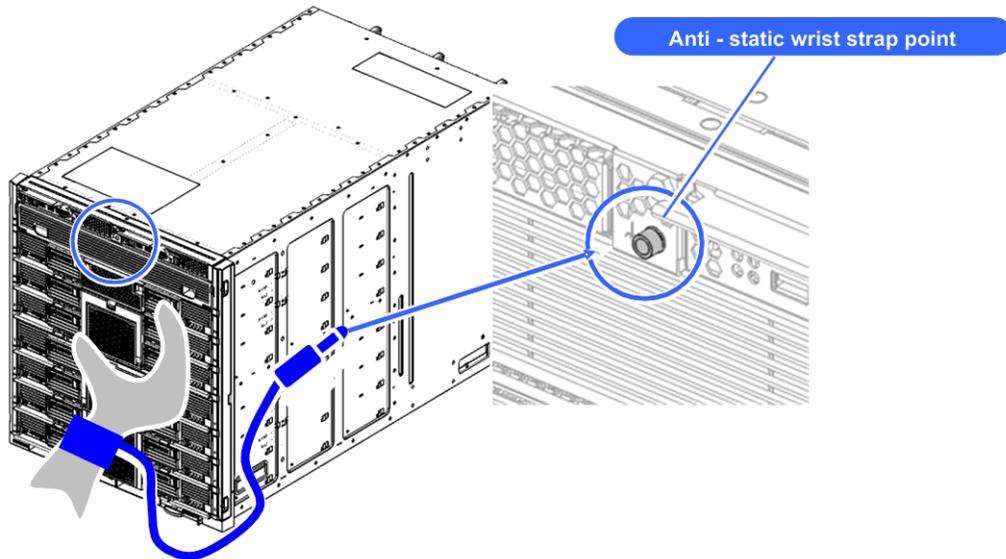


Figure 4-1 Anti-static ground point at the front of the server chassis

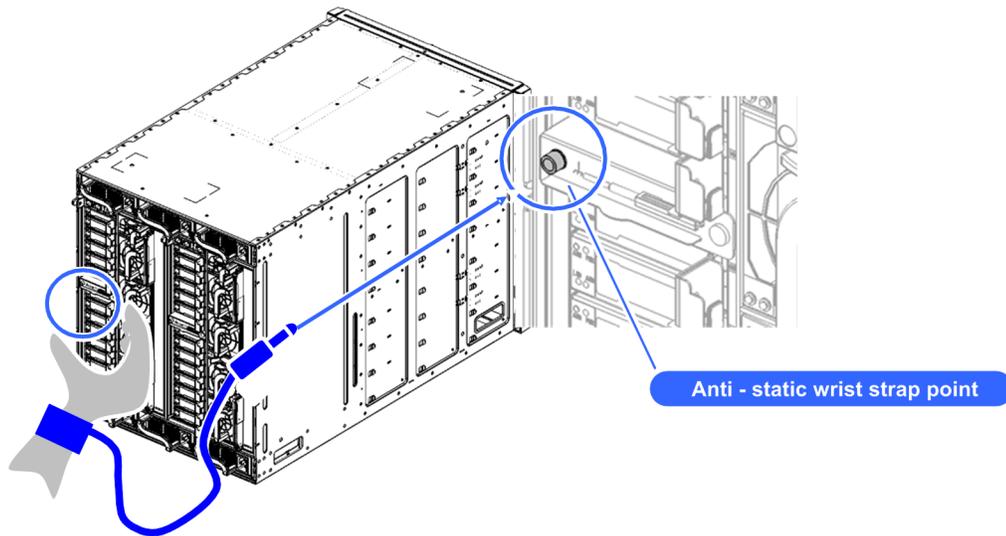


Figure 4-2 Anti-static ground point at the rear of the server chassis

Server blade



Note: Typically, you should record the bay location of each server blade so that it can be reinstalled back in the same bay.

Removing a half-wide server blade

1. Put on an anti-static wrist strap.
2. Release the blue lock tab and pull the lever, as shown below.
3. Holding the server blade, carefully slide out the server blade from the chassis and place it on an anti-static mat.

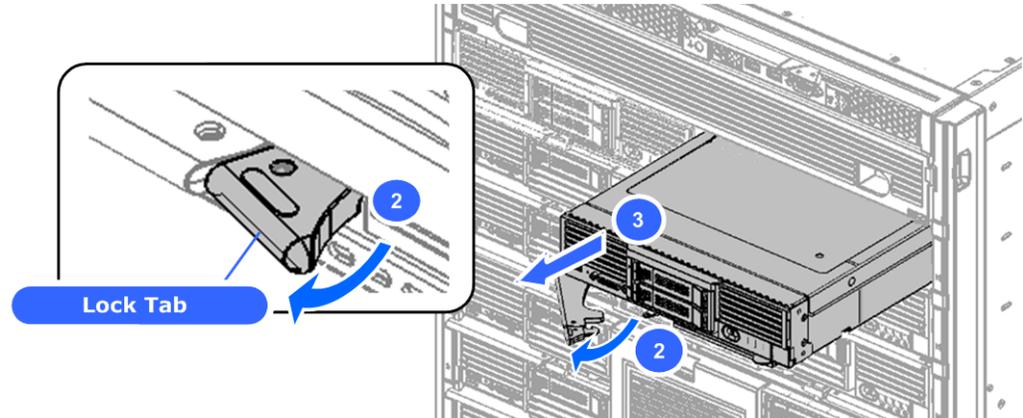


Figure 4-3 Removing the half-wide server blade

NOTICE: Do not leave a slot open for a long time. Leaving it open can cause the overheat problem for other components.

Installing a half-wide server blade

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.

NOTICE: Do not install the server blade without the top cover. The server chassis has a mechanical security to prevent installation without the top cover. Bypassing this security feature can cause serious server chassis or server blade damage.

Removing a full-wide server blade

1. Put on an anti-static wrist strap.
2. When you remove a CB 520X blade in 2/4-blade SMP configuration, remove the 2/4-blade SMP connection board. See [Removing an SMP connection board on page 4-6](#) section.
3. Release the blue lock tab and pull the lever, as shown below.
4. Holding the server blade, carefully slide out from the chassis and place it on an anti-static mat.

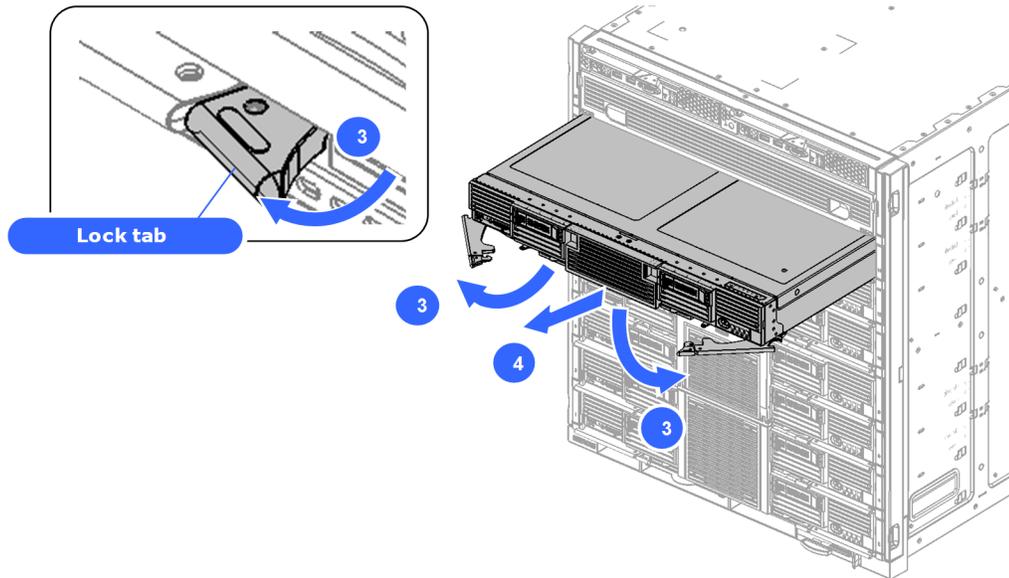


Figure 4-4 Removing the full-wide server blade

NOTICE: Do not leave a slot open for a long time. Leaving it open can cause the overheat problem for other components.

Installing a full-wide server blade

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.
3. When you install a CB 520X blade in 2/4-blade SMP configuration, install the 2/4-blade SMP connection board. See [Installing an SMP connection board on page 4-8](#) section.

Removing a dummy SMP connection module

1. Put on an anti-static wrist strap.
2. Grab the dummy SMP connection module shown as arrows A.
3. Pull out the dummy SMP connection module straight to the front from the Server Blade.

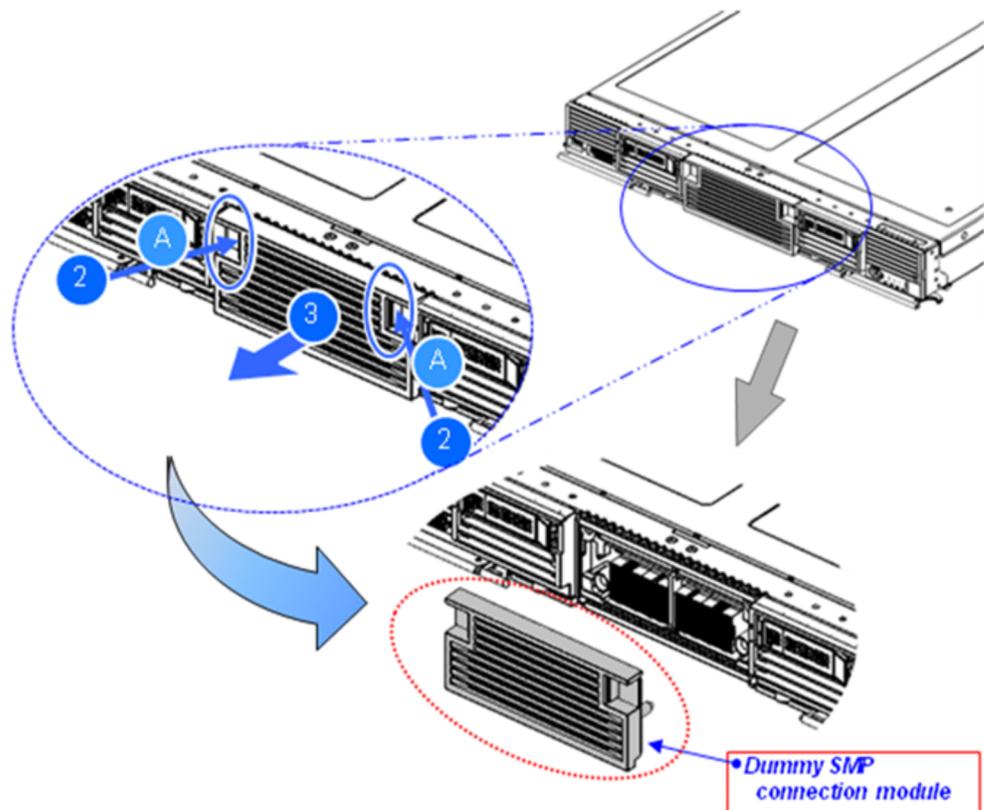


Figure 4-5 Removing dummy SMP connection module

Installing a dummy SMP connection module

1. Put on an anti-static wrist strap.
2. Grab the dummy SMP connection module shown as arrows A.
3. Insert the projections of the dummy SMP connection module to 2 holes of server blade.

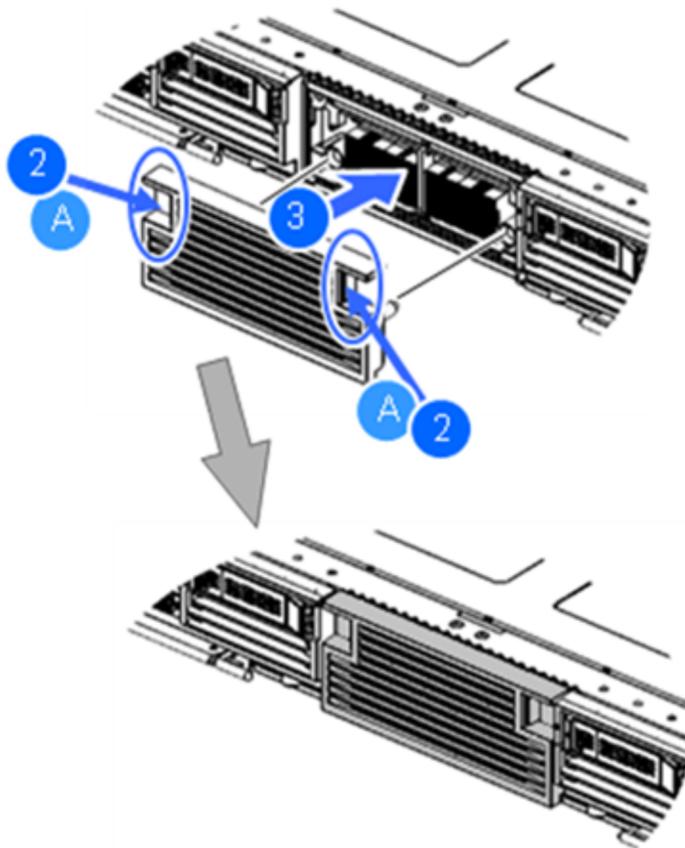


Figure 4-6 Installing dummy SMP connection module

Removing an SMP connection board

1. Put on an anti-static wrist strap.
2. Press a release latch on the SMP connection board.
3. Open a lever.
4. Pull out the SMP connection board straight forward.

NOTICE:

1. Do not release your hands from the lever until you put the SMP connection board on an antistatic matt. If you release your hands, the board may fall on the floor.
2. Do not pull out the SMP connection board at a tilt. Connectors in the board may be damaged.
3. Do not touch the socket pins. The pins are physically sensitive.

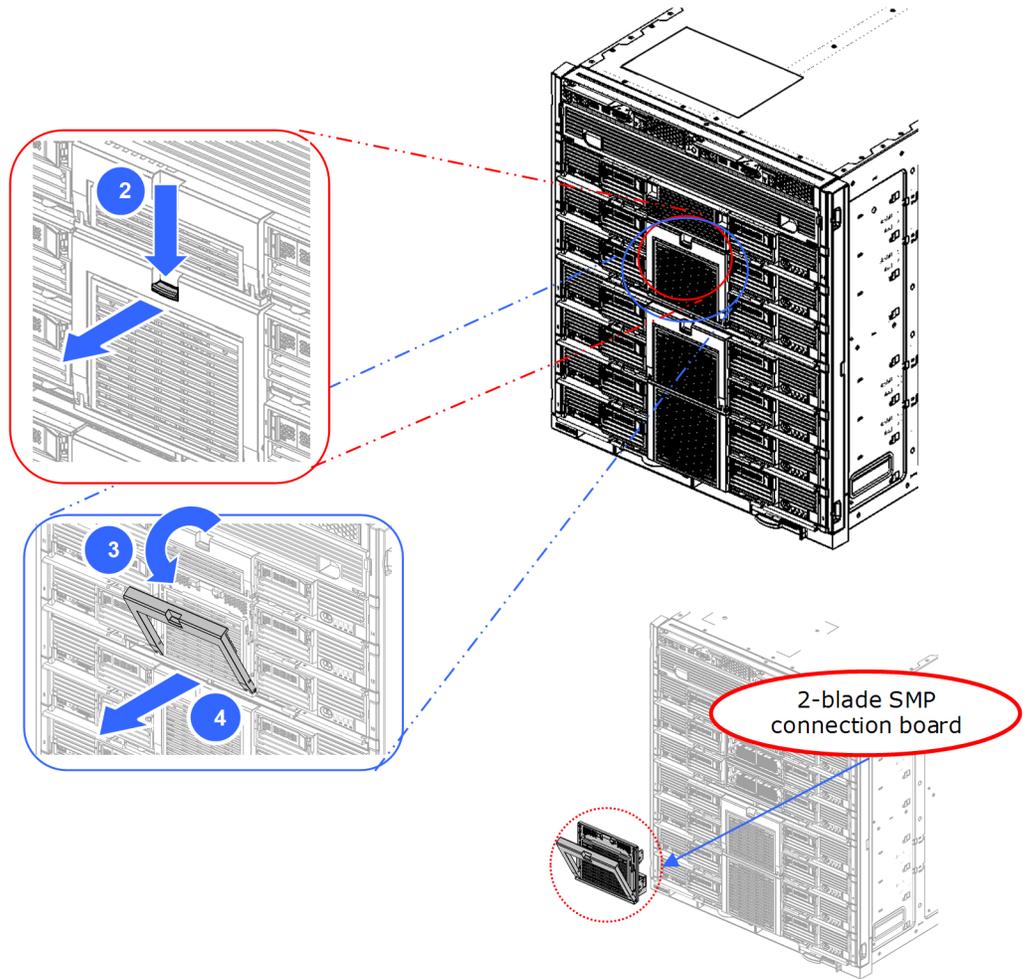


Figure 4-7 Removing 2-blade SMP connection board

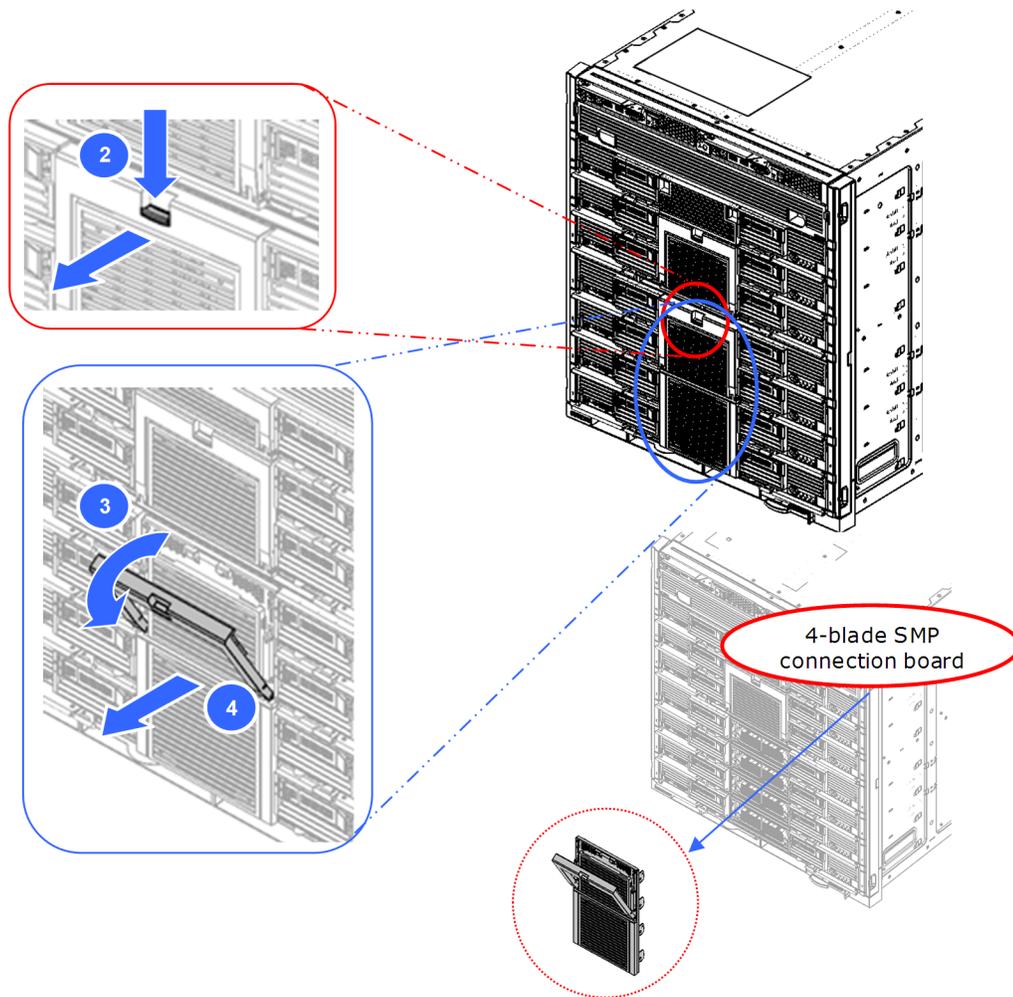


Figure 4-8 Removing 4-blade SMP connection board

Installing an SMP connection board

1. Put on an anti-static wrist strap.
2. Insert four guide pins on the 2-blade SMP connection board or eight guide pins on the 4-blade SMP connection board into the holes in the server blades until the gap between the SMP connection board and blades becomes about 10 mm with the lever fully open.
3. Close a lever to the lever latched.

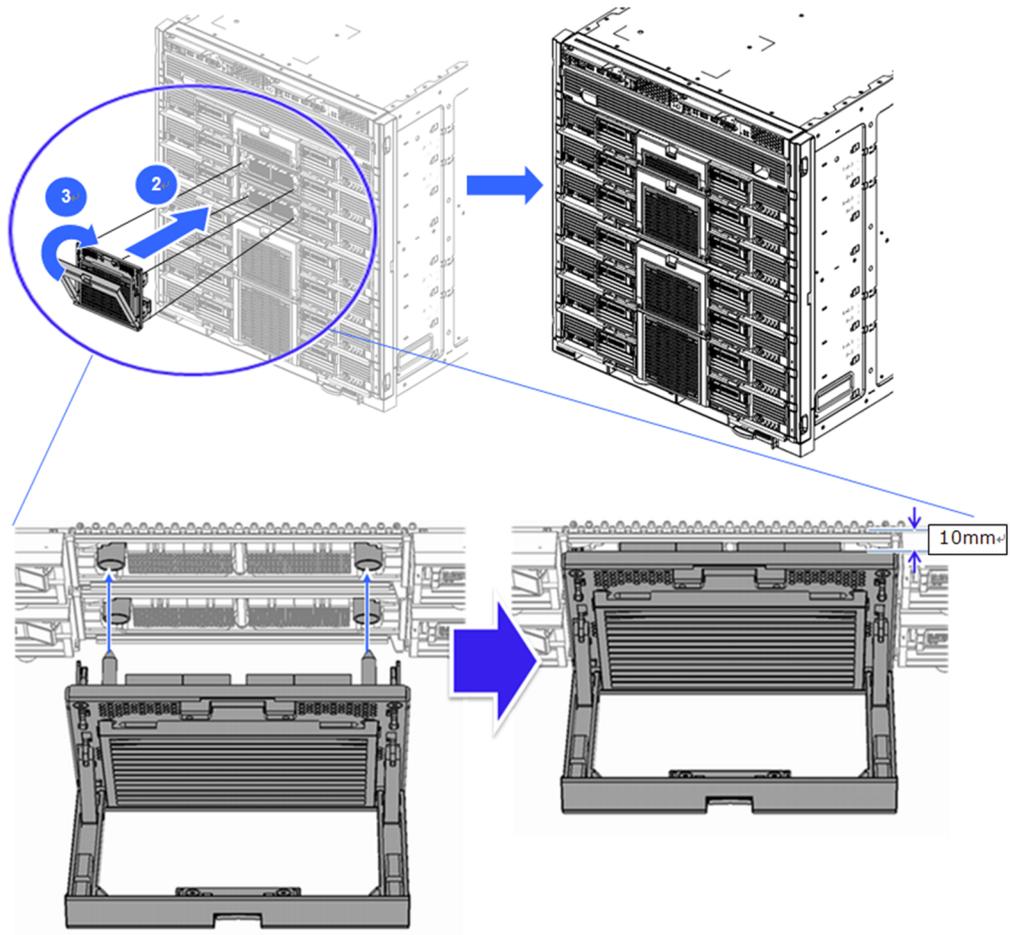


Figure 4-9 Installing 2-blade SMP connection board

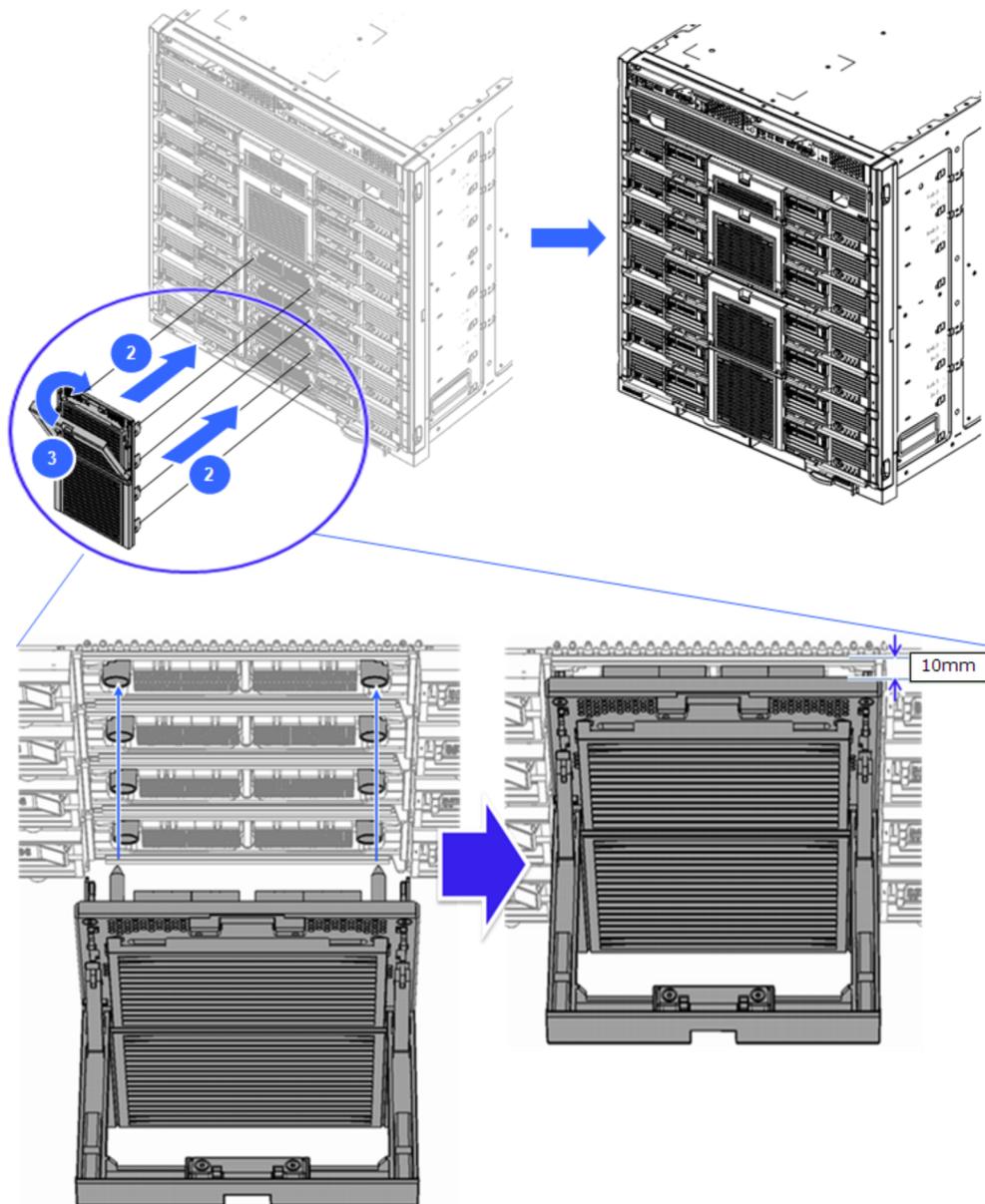


Figure 4-10 Installing 4-blade SMP connection board

Management module

Removing a management module

1. Put on an anti-static wrist strap.
2. Release the blue lock tab and then pull the lever as shown below.
3. Holding the management module, carefully slide the management module out of the chassis and place it in a static protective sheet.

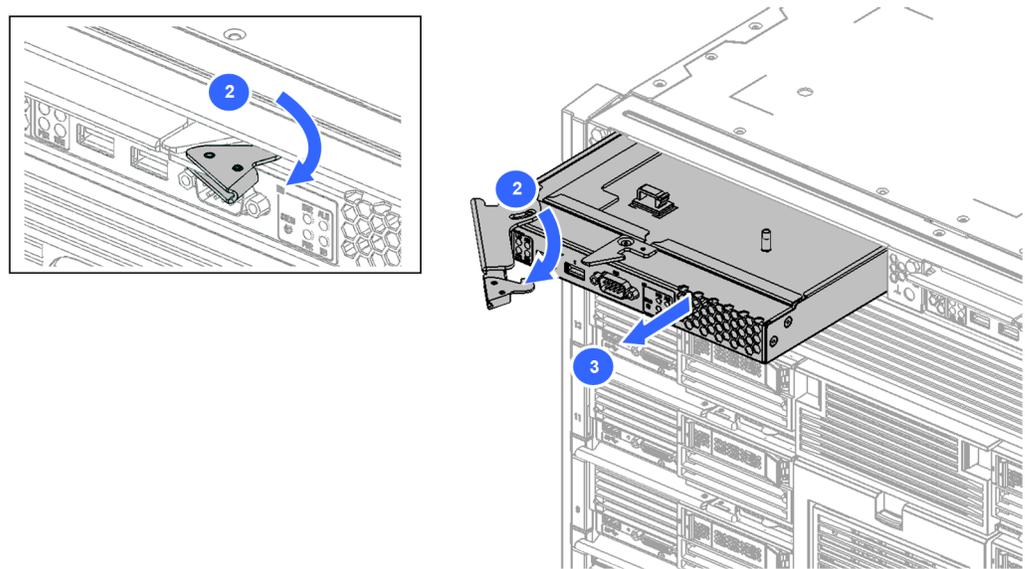


Figure 4-11 Removing the management module



CAUTION: Be careful not to touch any components in the management module as it does not have a top cover. Touching any components in the management module can cause an electrical discharge and damage them.

Installing a management module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the management module.

Management lan module

Removing a management lan module

1. Put on an anti-static wrist strap. Release the blue lock tab and then pull the lever as shown below.
2. Holding the management lan module, carefully slide the management lan module out of the chassis and place it in a static protective sheet.

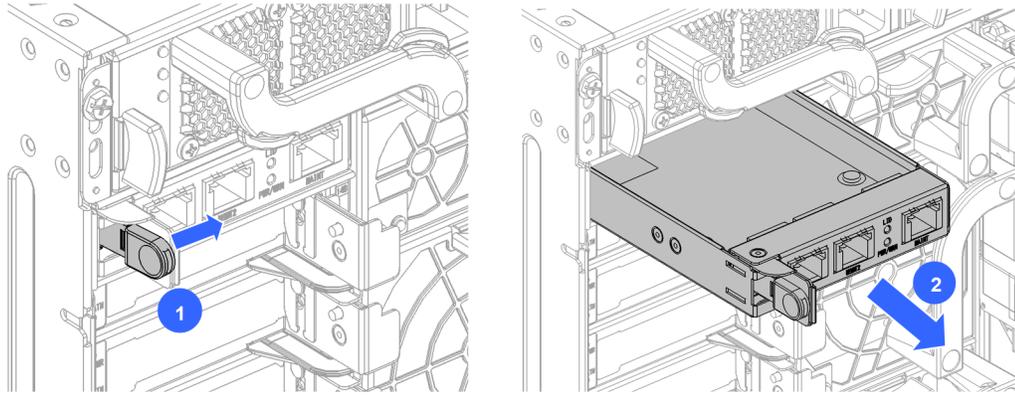


Figure 4-12 Removing the management lan module

Installing a management lan module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the management lan module.

Switch module

Removing a switch module

1. Push the blue lock tab towards the back to release the lever.
2. Pull the lever as shown below.
3. Holding the switch module, carefully slide the switch module out of the chassis and place it in a static protective sheet.

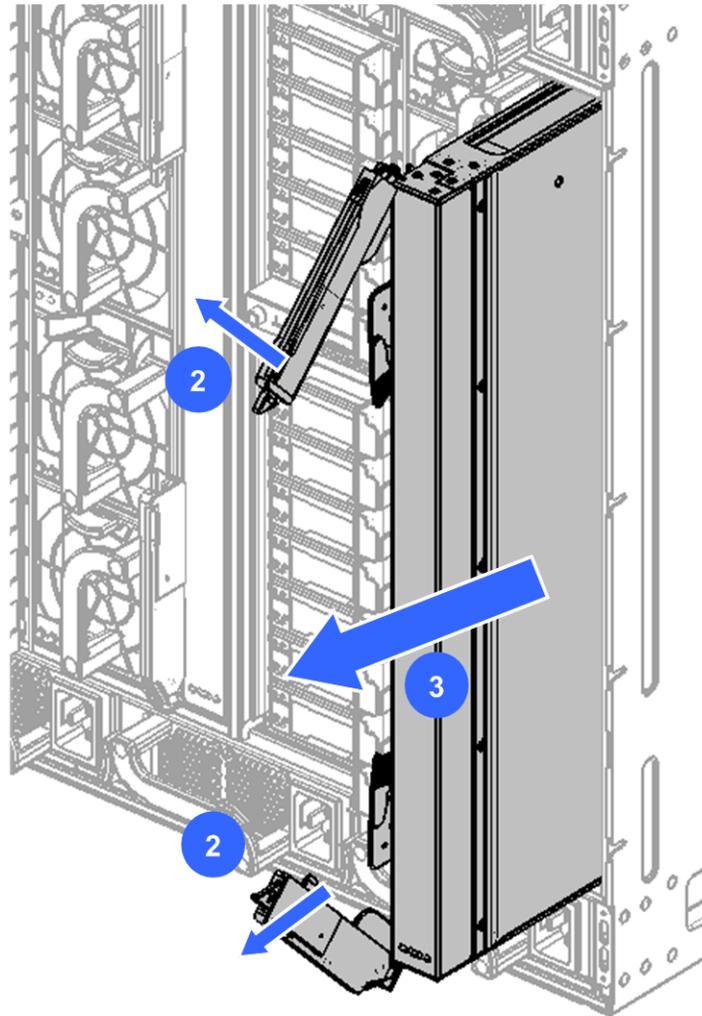


Figure 4-13 Removing the switch module

Installing a switch module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the switch module.

I/O board module

Removing a I/O board module

1. Put on an anti-static wrist strap. Release the blue lock tab and then pull the lever as shown below.
2. Holding the I/O board module, carefully slide the I/O board module out of the chassis and place it in a static protective sheet.

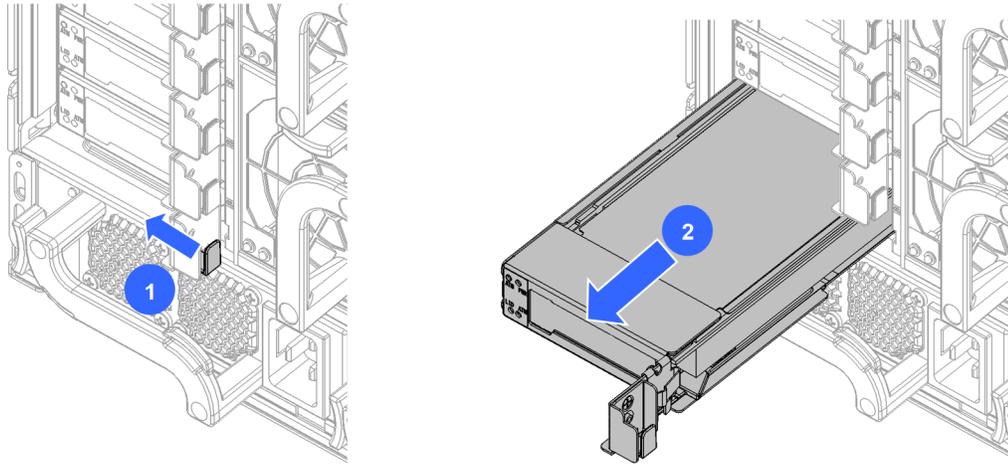


Figure 4-14 Removing the I/O board module

Installing a I/O board module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the I/O board module.

Removing a low profile PCIe card

1. Put on an anti-static wrist strap. Release the blue lock tab and then pull the lever as shown below.
2. Holding the I/O board module, carefully slide the low profile PCIe card out of the chassis and place it in a static protective sheet.

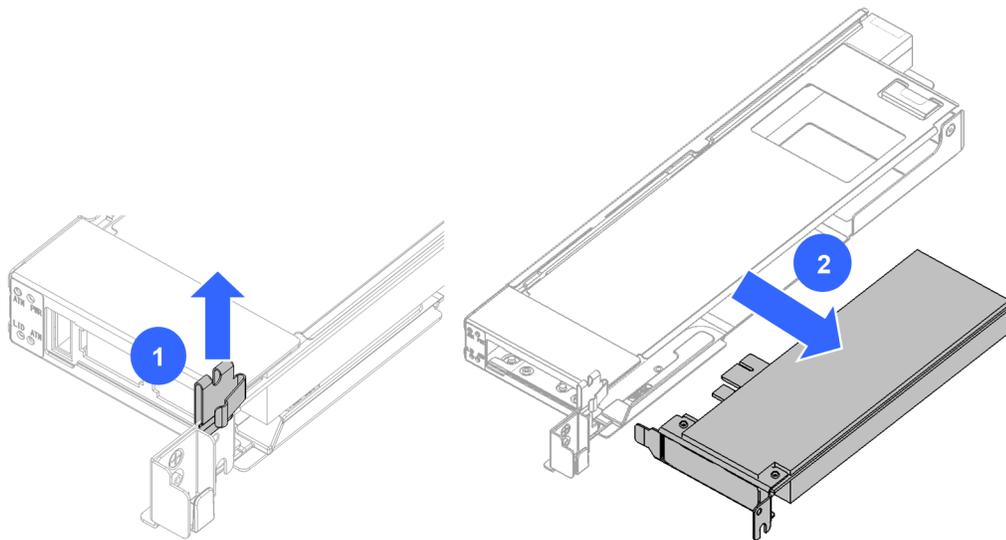


Figure 4-15 Removing the low profile PCIe card

Installing a low profile PCIe card

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure to install the low profile PCIe card.

Power supply module

Removing a power supply module

1. Put on an anti-static wrist strap.
2. Open the cable retainer and unplug the AC code.
3. Pushing the lock tab to unlock the module.
4. Pull the handle to slide the power supply module out.

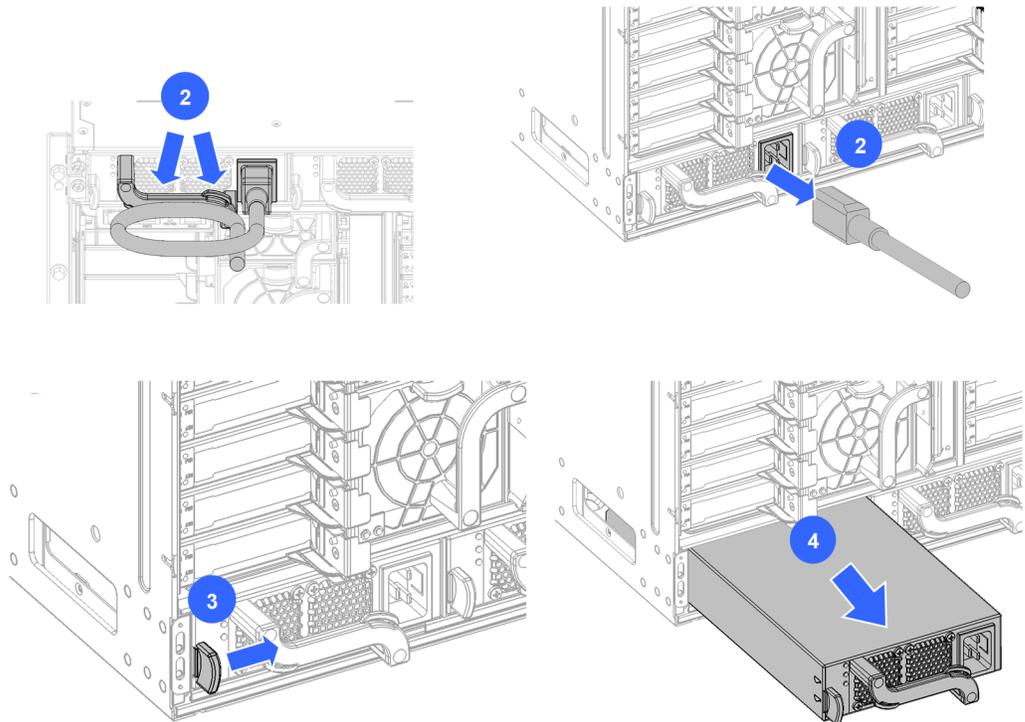


Figure 4-16 Removing the power supply module

Installing a power supply module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.

Fan module

Removing a fan module

1. Put on an anti-static wrist strap.
2. While pushing the lock tab to one side to unlock the module, slide the fan module out.

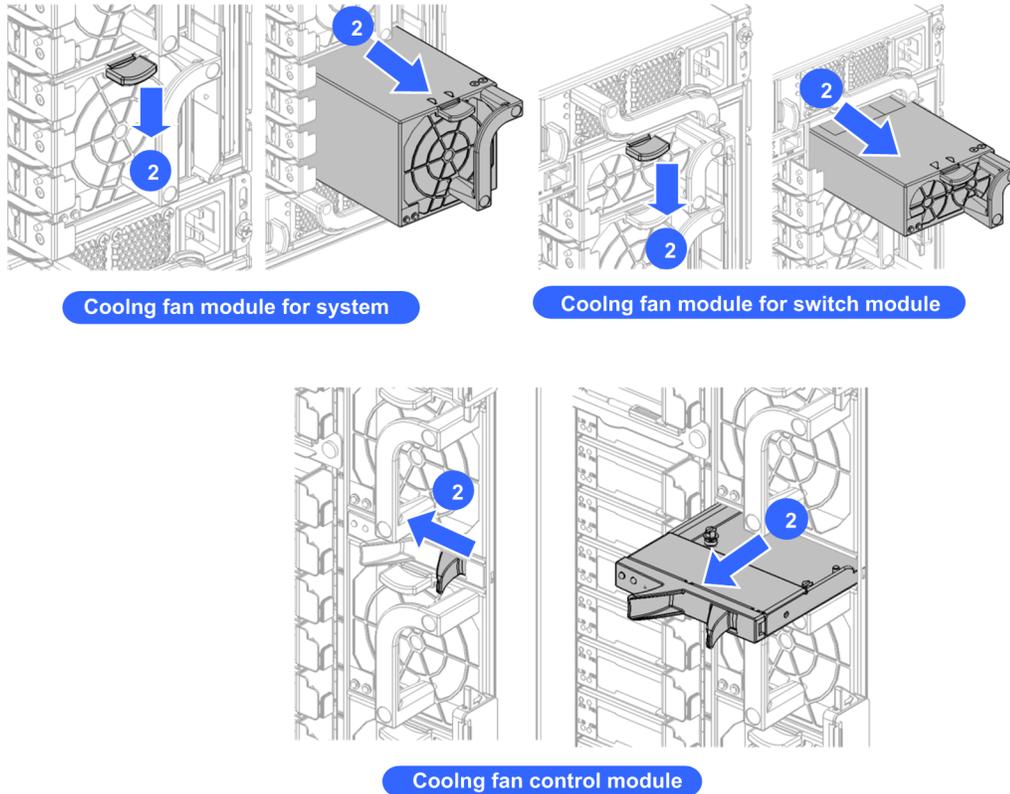


Figure 4-17 Removing the fan module

Installing a fan module

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.

Dummy module

NOTICE: The dummy module must be installed in all empty bays in the server chassis. Operating the server chassis without the dummies can cause the improper cooling and can lead to thermal damage for the modules.

NOTICE: Do not leave a slot open for a long time. Leaving it open can cause the overheat problem for other components.

Removing a server blade dummy

1. Put on an anti-static wrist strap.
2. Slide the lock lever to the unlock position as shown below. Full-wide blade needs to be operated latch on either side.
3. Pull the dummy out and remove it from the bay.

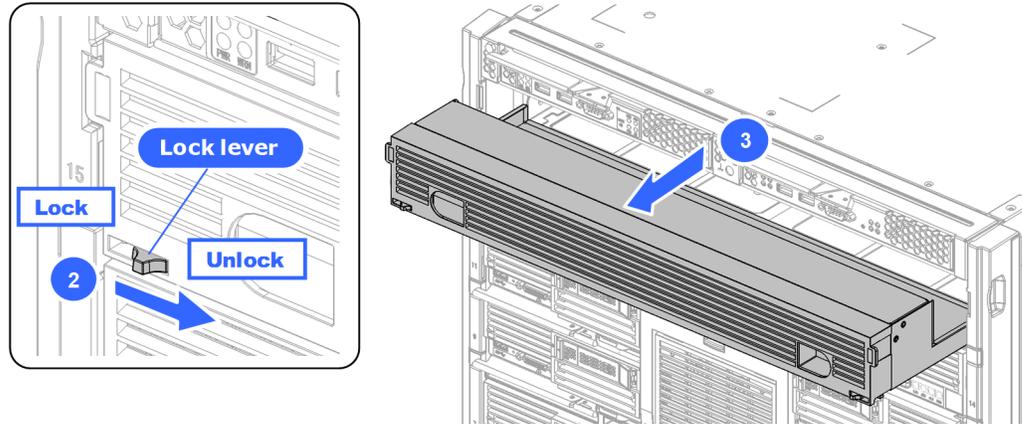


Figure 4-18 Removing the server blade dummy

Removing a switch module dummy

1. Put on an anti-static wrist strap.
2. Pull the switch module dummy from the bay while releasing the lock tab as shown below.

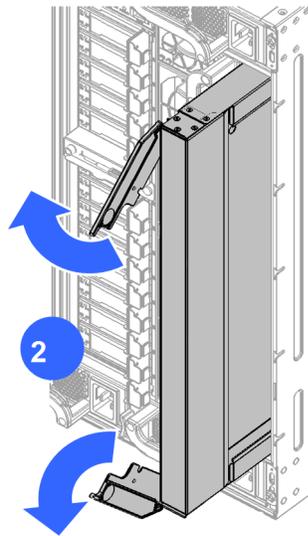


Figure 4-19 Removing the switch module dummy

Removing a power supply dummy

1. Put on an anti-static wrist strap.

2. Pull the power supply dummy from the bay while releasing the two lock tabs as shown below.

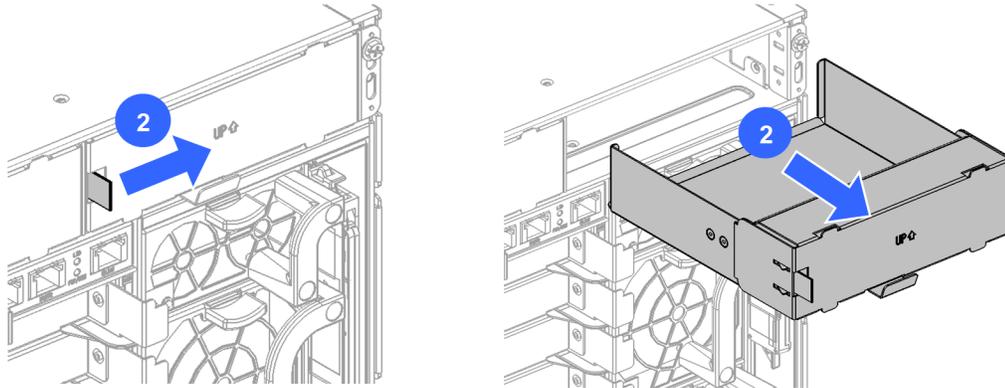


Figure 4-20 Removing the power supply dummy

Installing any of the dummies

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.

Removing a I/O board module dummy

1. Put on an anti-static wrist strap.
2. Pull out the I/O board dummy module from the bay while releasing the a lock tab as shown below.

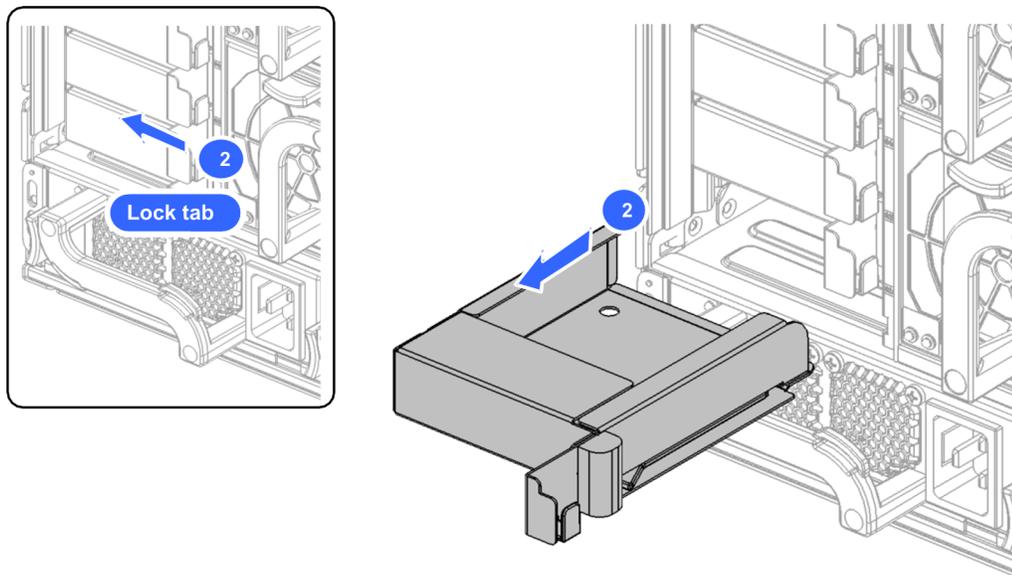


Figure 4-21 Removing the I/O board module dummy

Server chassis shelf

Removing a shelf

1. Put on an anti-static wrist strap.
2. Pull the shelf while releasing both locks as shown below.

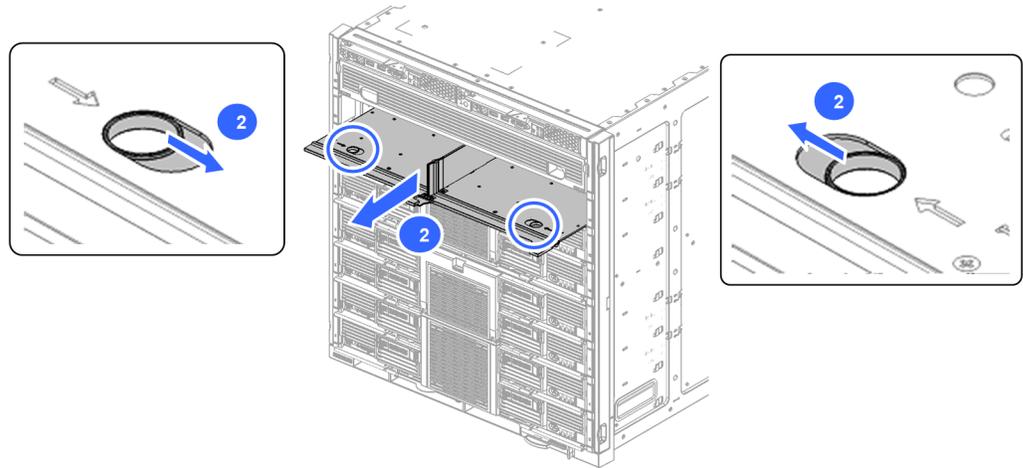


Figure 4-22 Removing the shelf

Installing a shelf

1. Put on an anti-static wrist strap.
2. Reverse the removal procedure.

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